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GAZETTE

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# U.S. DEPARTMENT OF COMMERCE

## OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

May 7, 1968

Volume 850

Number 1

### PATENTS

### NOTICES

#### Board of Appeals Decisions Rendered in the Month of March 1968

|                                 |     |
|---------------------------------|-----|
| Examiner affirmed .....         | 162 |
| Examiner affirmed in part ..... | 32  |
| Examiner reversed .....         | 58  |
| Total .....                     | 252 |

#### TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

##### Chapter 1—Patent Office, Department of Commerce

##### PART 1—RULES OF PRACTICE IN PATENT CASES

##### PART 3—FORMS FOR PATENT CASES

##### *Amendment of Rules re New Defensive Publication Program; Additional Form*

Sections 1.11, 1.14, 1.101, 1.103 and 1.108 of Title 37 CFR (Patent Rules 11, 14, 101, 103 and 108) are amended or revised and a new § 1.130 (Patent Rule 130) is added to take effect May 1, 1968, for the purpose of instituting a new defensive publication program. A new section 3.50 is added for the purpose of implementing the new program.

The general substance of the proposed revisions and additions was published in the Federal Register of February 20, 1968 (33 F.R. 3189). A hearing was held on March 27, 1968, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations or suggestions. Both oral and written comments were carefully considered. The sections are being revised substantially as published with a few additional changes.

This program is intended to provide better service to the public by making available the technical disclosure of certain applications in which the owner may prefer to publish an abstract in lieu of obtaining an examination by the Patent Office. The defensive publication would be in the form of an abstract of the technical disclosure, printed in the OFFICIAL GAZETTE and made a part of the Patent Office search files.

This program will be open to any applicant having an application awaiting action by the Patent Office and who files a written request no later than eight (8) months after the earliest U.S. effective filing date of the designated application and agrees to the conditions of the program, including waiving his patent rights based on the designated application, opening the complete application to inspection by the general public upon publication of the abstract, expressly abandoning his application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated, and waiving his rights to a patent on a continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of the designated application. *Until November 1, 1968, this program will be open*

*to any pending application awaiting first action by the Patent Office at the time of the request without regard to the filing date of that application.*

In accordance with existing rules and procedures interferences may be declared with applications and patents. During the period beginning with the suggestion of claims by the Patent Office or the filing of claims by the applicant copied from a patent and ending with the termination of proceedings if an interference is declared or the mailing of a decision refusing to declare the interference, abandonment by reason of the expiration of the five year period will be stayed. Since the applicant has waived his patent rights and agreed to a defensive publication, termination of interference proceedings in his favor would render the express abandonment ineffective but would not result in the issuance of an enforceable patent. Instead, a normal Notice of Allowance would be issued except that the applicant would be notified that when the issue fee is remitted a disclaimer of the entire term of the patent to be granted in accordance with the second paragraph of 35 U.S.C. 253 should be included.

No special fees will be required for entrance into this program. The applicant will be permitted to include with his request a replacement or expanded abstract of the technical disclosure of up to two hundred (200) words. Acceptance of a request to enter this program will be contingent upon screening by the Patent Office to exclude such material that may be considered advertising, frivolous, scandalous, against public policy, subject to national security controls, etc. Acceptance of a designated application in this program is not intended to preclude the examination of any continuing application filed under 35 U.S.C. 120 within thirty (30) months after the earliest effective U.S. filing date of the designated application.

Upon receipt and approval of the request the application abstract will be published in the OFFICIAL GAZETTE. Publication of the abstract in the OFFICIAL GAZETTE would be in a separate section identifying the application as being open for inspection by the general public and indicating that it is subject to the New Defensive Publication Program.

Following publication the application would be filed in the Record Section of the Patent Reference Branch where it will be available for inspection upon written request. Copies of the application will be furnished by the Patent Office upon request and payment of fee. The application abstract and suitable drawing copies would then be made a part of the official search files.

After the defensive publication has appeared in the OFFICIAL GAZETTE the abstract and suitable drawing copies will be available as prior art from the date of publication under 35 U.S.C. 102(a) or 102(b) as a printed publication. Also, at this time the application will be available as prior art under 35 U.S.C. 102(a) as evidence of prior knowledge from the actual date of filing the application in the Patent Office.

The changes follow:

1. In § 1.11, delete "Patent" from the title. Identify the one paragraph now in the section as paragraph "(a)" and

#### New Applications Received During March 1968

|                     |      |
|---------------------|------|
| Patents .....       | 7926 |
| Designs .....       | 431  |
| Plant Patents ..... | 9    |
| Reissues .....      | 20   |
| Total .....         | 8386 |

#### Issue—May 7, 1968

|                |  |
|----------------|--|
| Patents .....  | 1200—No. 3,381,303 to No. 3,382,502, incl. |
| Designs .....  | 65—No. 210,926 to No. 210,990, incl.       |
| Reissues ..... | 5—No. 26,385 to No. 26,389, incl.          |
| Total .....    | 1270                                       |



follow with a new paragraph "(b)", so that the section reads as follows:

**§ 1.11 Files open to the public.**

(a) After a patent has been issued, the specification, drawings, and all papers relating to the case in the file of the patent are open to inspection by the general public, and copies may be furnished upon paying the fee therefor. The file of any terminated interference involving a patent, or an application on which a patent has subsequently issued, is similarly open to public inspection and procurement of copies. See § 2.27 for trademark files.

(b) Applications in which the Office has accepted a request filed under § 1.139 are open to inspection by the general public, and copies may be furnished upon paying the fee therefor.

2. In § 1.14, insert "Except as provided in § 1.11(b)" at the beginning of the first sentence of both paragraphs (a) and (b), so that these paragraphs read:

**§ 1.14 Patent applications preserved in secrecy.**

(a) Except as provided in § 1.11(b) pending patent applications are preserved in secrecy. No information will be given by the Office respecting the filing by any particular person of an application for a patent, the pendency of any particular case before it, or the subject matter of any particular application, nor will access be given to or copies furnished of any pending application or papers relating thereto, without written authority of the applicant, or his assignee or attorney or agent, unless it shall be necessary to the proper conduct of business before the Office or as provided by this part.

(b) Except as provided in § 1.11(b) abandoned applications are likewise not open to public inspection, except that if an application referred to in a United States patent is abandoned and is available, it may be inspected or copies obtained by any person on written request, without notice to the applicant. Abandoned applications may be destroyed after twenty years from their filing date, except those to which particular attention has been called and which have been marked for preservation. Abandoned applications will not be returned.

3. In § 1.101, add "except for those applications in which the Office has accepted a request filed under § 1.139" at the end of the last sentence of paragraph (a), so that it reads:

**§ 1.101 Order of examination.**

(a) Applications filed in the Patent Office and accepted as complete applications (§§ 1.53 and 1.55) are assigned for examination to the respective examining divisions having the classes of inventions to which the applications relate. Applications shall be taken up for examination by the examiner to whom they have been assigned in the order in which they have been filed except for those applications in which the Office has accepted a request under § 1.139.

4. In § 1.103, add a new paragraph (d) to read as follows:

**§ 1.103 Suspension of action.**

(d) Action on applications in which the Office has accepted a request filed under § 1.139 will be suspended for the entire pendency of these applications except for purposes relating to proceedings under § 1.201(b).

5. In § 1.108, delete "and forfeited" in the title and the first sentence, and add "except those which have become abandoned as a result of the filing and acceptance of a request under § 1.139" at the end of the first sentence, so that it reads as follows:

**§ 1.108 Abandoned applications not cited.**

Abandoned applications as such will not be cited as references except those which have become abandoned as a result of the filing and acceptance of a request under § 1.139.

6. A new § 1.139 is added, the full text of which reads as follows:

**§ 1.139 Waiver of patent rights.**

An applicant may waive his rights to an enforceable patent based on a pending patent application by filing in the Patent Office a written waiver of patent rights, a consent to the publication of an abstract, an authorization to open the complete application to inspection by the general public, and a declaration of abandonment signed by the applicant and the assignee of record or by the attorney or agent of record.

7. A new § 3.50 is added to read as follows:

**§ 3.50 Waiver of patent rights.**

To the Commissioner of Patents:  
The undersigned having on \_\_\_\_\_ filed an application for patent, Serial No. \_\_\_\_\_, hereby waives his right to an enforceable patent based on said application or on any continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of said application and subject to acceptance by the Commissioner, and requests that an abstract of the disclosure thereof be published in the OFFICIAL GAZETTE, that the complete application be opened to inspection by the general public upon publication of said abstract, and that the application be considered pending for the purpose of interference; and further the undersigned expressly abandons said application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated.

(Sec. 1, 66 Stat. 792; 35 U.S.C. 6)

EDWARD J. BRENNER,  
Commissioner of Patents.

Approved: Apr. 9, 1968.

JOHN F. KINCAID,  
Assistant Secretary for  
Science and Technology.

Published in 35 F.R. —; Apr. 11, 1968

**Patents Available for Licensing or Sale**

2,920,206. METHOD AND APPARATUS FOR CONTINUOUS MEASUREMENT OF MOISTURE. John H. Heller, P.O. Box 308, Ridgefield, Conn., 06877.

3,331,389. SAFETY CUT-OFF VALVE. Raymond H. Kirk, Rte. 1, Box 86, McAllister, N. Mex., 88427.

3,371,061. COMPOSITION OF MATTER FOR DECORATIVE ARTICLES USING EGGSHELLS AS FILLERS. Audra E. Pickett, 2635 Las Casas Way, Rancho Cordova, Calif., 95670.

Commercial Solvents Corporation is prepared to grant non-exclusive licenses under the following patent.

Applications for license may be addressed to: Patent Counsel, Commercial Solvents Corporation, Terre Haute, Ind., 47808.

3,300,404. ANAEROBIC TREATMENT OF ORGANIC INDUSTRIAL WASTES IN AN ARTIFICIAL LAGOON.

Radio Corporation of America offers to grant non-exclusive licenses on reasonable terms and conditions under the following 21 patents.

Inquiries respecting licenses under these patents should be addressed to: Radio Corporation of America, Staff Vice President, Domestic Licensing, 30 Rockefeller Plaza, New York, N.Y., 10020.

3,367,790. METHOD OF MAKING COLOR KINESCOPES OF THE LINE-SCREEN SENSING VARIETY.

3,368,033. VIDEO SIGNAL PROCESSING SYSTEM.

3,368,034. DELAY COMPENSATION CIRCUIT ARRANGEMENT.

3,368,035. DELAY COMPENSATION CIRCUIT ARRANGEMENT.

3,368,084. CASCADED THERMIONIC ENERGY CONVERTER TUBE.

3,368,095. FOUR IDENTICAL PRINTED COILS FOR HORIZONTAL AND VERTICAL DEFLECTION ON FLEXIBLE DIELECTRIC.

3,368,098. SHADOW MASK WELDED TO FRAME AT TWELVE POINTS.

3,368,103. RESISTOR COMPRISING SPACED METAL COATINGS ON A RESISTIVE LAYER AND TRAVELING WAVE TUBE UTILIZING THE SAME.

3,368,124. SEMICONDUCTOR DEVICES.

3,368,125. SEMICONDUCTOR GALLIUM ARSENIDE WITH GERMANIUM CONNECTING LAYER.

3,369,157. SELF-REGULATED POWER SUPPLY.

3,368,200. SIGNAL SWITCHING APPARATUS WITH INTERLOCK CIRCUITRY.

3,369,290. METHOD OF MAKING PASSIVATED SEMICONDUCTOR DEVICES.

3,369,291. METHOD OF MAKING REED SWITCHES.

3,370,193. ELECTROLYSIS-RESISTANT ELECTRON DISCHARGE DEVICE.

3,370,204. COMPOSITE INSULATOR-SEMICONDUCTOR WAFER.

3,370,276. COMPUTER PERIPHERAL DEVICE CONTROL.

3,371,160. TELEVISION CIRCUIT FOR NON-ADDITIVELY COMBINING A PAIR OF VIDEO SIGNALS.

3,371,232. HIGH CURRENT, SHORT DURATION PULSE GENERATOR.

3,371,276. APPARATUS RESPONSIVE TO RADIO FREQUENCY NOISE FOR NON-DESTRUCTIVELY TESTING A REVERSELY BIASED TRANSISTOR FOR SECOND BREAKDOWN.

3,371,287. HIGH POWER LASER INCORPORATING SELF-HEALING MIRROR MEANS.

General Electric Company is prepared to grant non-exclusive licenses under the following 53 patents upon reasonable terms to domestic manufacturers.

Application for license under the following 3 patents may be addressed to: Patent Counsel, Contractor Equipment Division, General Electric Company, 1285 Boston Ave., Bldg. 21-ES, Bridgeport, Conn., 06602.

3,336,545. ELECTRIC CIRCUIT BREAKER WITH THERMAL-MAGNETIC TRIPPED MEANS.

3,357,727. JOINT ASSEMBLY FOR FRAMEWORK STRUCTURES.

3,360,690. CIRCUIT BREAKER PANELBOARD OR LOAD CENTER.

Applications for license under the following 12 patents may be addressed to: General Electric Company, Patent Counsel, Insulating Materials Department, Building 33, Room 209, One River Road, Schenectady, N.Y., 12305.

2,914,426. METHOD OF RENDERING MICA PAPER MOISTURE RESISTANT AND ARTICLE PRODUCED THEREBY.

2,948,640. METHOD OF IMPREGNATING MICA PAPER WITH AN ALKYL ORTHOTITANATE, AND PRODUCT PRODUCED THEREBY.

3,036,991. POLYESTERS FROM HYDROQUINONE, DI-HYDROXYBIPHENYL AND ISOPHTHALIC ACID REACTANTS.

3,036,992. AMORPHOUS AROMATIC POLYESTER CONTAINING NO ALIPHATIC CHAIN UNITS.

3,160,602. PROCESS OF PRODUCING AROMATIC POLYESTERS.

3,160,603. WHOLLY AROMATIC POLY-P-PHENYLENE CHLOROISOPHTHALATES.

3,160,604. WHOLLY AROMATIC POLY-M-PHENYLENE TEREPHTHALATES.

3,160,605. POLYMERIC ISOPHTHALATE ESTERS OF HYDROQUINONE AND METHOD OF MAKING THE SAME.

3,259,688. HIGH VOLTAGE INSULATED ELECTRICAL CABLE WITH LAYER OF IRRADIATED SEMICONDUCTIVE ETHYLENE COPOLYMER.

3,309,334. POLYMERIC COPOLYESTERS OF PHTHALIC ACIDS, A BIS-(HYDROXYPHENYL) ALKANE AND A BIPHENOLIC ACID.

3,325,325. METHOD OF MAKING POLYETHYLENE INSULATED ELECTRICAL CONDUCTORS.

3,371,237. COIL RETAINING STRUCTURE.

Applications for license under the following 14 patents may be addressed to: General Electric Company, Nuclear Energy Division, 175 Curtner Ave., San Jose, Calif., 95125. Attention: Patent Counsel.

2,994,604. OXIDATION RESISTANT IRON-CHROMIUM ALLOY.

3,002,833. OXIDATION RESISTANT IRON-CHROMIUM ALLOY.

3,018,265. OXIDATION RESISTANT IRON-CHROMIUM ALLOY.

3,020,952. OXIDATION RESISTANT IRON-CHROMIUM ALLOY.

3,031,297. OXIDATION RESISTANT ALLOY.

3,113,083. PLATE ASSEMBLY AND METHOD OF FABRICATION.

3,115,450. NUCLEAR REACTOR CONTAINMENT APPARATUS.

3,141,227. METHOD OF NUCLEAR FUEL AND CONTROL ELEMENT FABRICATION.

3,141,828. NUCLEAR REACTOR EQUIPMENT.

3,165,446. NUCLEAR REACTOR POWER MONITOR.

3,166,481. HETEROGENEOUS NUCLEAR POWER REACTOR CORE STRUCTURE.

3,176,223. UNIDIRECTIONAL CURRENT MEASURING CIRCUIT USING A CONTROLLED FIRING RELAXATION OSCILLATOR.

3,234,100. FILM BOILING INDICATOR.

3,234,387. APPARATUS FOR IDENTIFYING MATERIALS BY ACTIVATION ANALYSIS.

Applications for license under the following 24 patents may be addressed to: Patent Counsel, Electronic Components Division, General Electric Company, 316 E. 9th St., Owensboro, Ky.

3,256,455. CAMERA TUBE TARGET WINDOW EPOXY SEAL.

3,265,926. IMAGE FIELD FLATENER FOR IMAGE CONVERTER TUBES.

3,275,883. EMISSION CURRENT REGULATOR FOR ION GAUGE.

3,292,090. ION GAUGE SYSTEM HAVING OVERLOAD PROTECTION.

3,300,659. FAIL SAFE OVERVOLTAGE ALARM CIRCUIT.

3,319,110. ELECTRON FOCUS PROJECTION AND SCANNING SYSTEM.

3,320,435. AVERAGE POWER REGULATED POWER SUPPLY FOR CONTROLLING THE INPUT POWER TO NON-LINEAR UTILIZATION MEANS.

3,320,455. IONIZATION VACUUM GAUGE HAVING X-RAY SHIELDING MEANS.

3,20,474. EMISSION CURRENT REGULATED POWER SUPPLY FOR THERMIONIC FILAMENT.

3,320,532. LOGARITHMIC MICRO-MICROAMMETER HAVING FIELD EFFECT TRANSISTOR IN FEEDBACK PATH.

3,320,533. HYBRID ELECTROMETER AMPLIFIER HAVING PROTECTIVE MEANS IN FEEDBACK PATH TO LIMIT POSITIVE EXCURSIONS OF NEGATIVE FEEDBACK SIGNAL.

3,321,655. PHOTOCONDUCTIVE PICKUP TUBE FIELD MESH SUPPORT.

3,323,004. DISTRIBUTED AMPLIFIER WITH INDUCTANCE-CONNECTED ANODE SEGMENTS.

3,325,086. TRIODE IONIC VACUUM PUMP.

3,325,678. MAGNETICALLY SHIELDED STRUCTURE WITH ADJUSTABLE COVER MEMBER SUPPORTING A MAGNETRON.

3,326,512. METAL VALVE.

3,327,160. ELECTROSTATIC ELECTRON OPTICAL SYSTEM.

3,327,929. GETTER VACUUM PUMP.

3,327,930. IONIC GETTER PUMP ELECTRODE.

3,334,407. METHOD OF MAKING RUPTURABLE CONTAINERS.

3,335,310. ELECTRON IMAGE TUBE FIBER OPTICAL FACE PLATE SEAL STRUCTURE.

3,343,781. IONIC PUMP.

3,350,559. MONOPOLE MASS SPECTROMETER HAVING ONE CERAMIC ELECTRODE COATED WITH METAL TO WITHIN A SHORT DISTANCE OF EACH END.

3,350,590. MINIATURE IONIZATION GAGE INCLUDING A GRID HAVING MULTITUDINOUS DISCRETE OPENINGS.

**Disclaimer and Dedication**

3,365,271.—Edward Cornell, Jr., Shirley E. Hatch, Le Roy S. Ladd and William F. Parsons, Rochester, N.Y. MAGNESIUM FLUORIDE OPTICAL ELEMENT. Patent dated Jan. 25, 1968. Disclaimer and dedication filed Nov. 9, 1967, by the assignee, Eastman Kodak Company.

Hereby disclaims and dedicates to the Public the terminal portion of the term of said patent subsequent to Dec. 27, 1983.

**Disclaimers**

3,086,161.—Charles J. De Carbo, Cleveland Heights, and John W. Korda, East Cleveland, Ohio. ELECTRIC GENERATING SYSTEMS. Patent dated Apr. 16, 1963. Disclaimer filed Mar. 25, 1968, by the assignee, The Leco-Neville Company.

Hereby enters this disclaimer to claims 1, 3, 7 and 8 of said patent.



3,268,956.—Robert H. Benneville, Chicago, Ill., and Harland R. Hedlund, St. Paul, Minn. THERMAL HARDENING OF RAILS. Patent dated Aug. 16, 1966. Disclaimer filed Feb. 26, 1968, by the assignee, Union Carbide Corporation. Hereby enters this disclaimer to claims 1, 3, 4, 8, 9, 10, 11, 12, 13 and 14 of said patent.

#### Applications To Be Taken Up Special

Hereafter the existence of the following facts will place. Feb. 20, 1968.

the application concerned in the category of special cases, i.e., those to be advanced out of regular order for examination. Once a case is taken up for action by an Examiner according to its effective filing date, it should be treated as special by any Examiner, Art Unit or Group to which it may subsequently be transferred. Exemplary situations include: (1) new cases transferred as the result of a telephone election, and (2) cases transferred as the result of a timely response to any official action.

RICHARD A. WAHL,  
Assistant Commissioner.

## PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

### CONDITION OF PATENT APPLICATIONS AS OF MARCH 25, 1968

| PATENT EXAMINING OPERATIONS AND GROUPS  | Actual Filing Date of Oldest Case Awaiting Action |          |
|---|---|----------|
|   | New   | Amended  |
| * Denotes date of oldest application for each Operation.  |   |          |
| <b>CHEMICAL EXAMINING OPERATION—L. MARCUS, Director.</b>  |   |          |
| GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager.<br>Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.  | *2-18-65  | *8-22-62 |
| GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager.<br>Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carbonylic Acid Esters; Acid Anhydrides; Acid Halides.   | 6-21-65   | 12-28-62 |
| HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Manager.<br>Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.  | 6-24-65   | 3-22-63  |
| COATING AND LAMINATING, BLEACHING, DYING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager.<br>Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.   | 3-3-65  | 8-7-64   |
| SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager.<br>Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes. | 3-19-65   | 1-29-64  |
| <b>ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.</b>  |   |          |
| INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager.<br>Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.  | 8-3-65  | 12-31-63 |
| SECURITY, GROUP 220—S. BOYD, Manager.<br>Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.  | 10-25-65  | 8-20-64  |
| INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager.<br>Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.   | 11-3-64   | 6-18-62  |
| ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager.<br>Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.  | *10-20-64   | *4-10-62 |
| PHYSICS, GROUP 260—R. L. EVANS, Manager.<br>Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.   | 10-1-64   | 3-22-65  |
| DESIGNS, GROUP 290—S. BOYD, Manager.<br>Industrial Arts; Household, Personal and Fine Arts.   | 5-24-67   | 6-3-66   |
| <b>MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.</b>   |   |          |
| HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager.<br>Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.            | 10-31-66  | 2-4-65   |
| MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager.<br>Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.                            | 5-2-64  | 1-2-64   |
| AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager.<br>Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Type-writers; Stationery; Information Dissemination.  | *11-9-65  | 5-14-64  |
| HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager.<br>Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.   | 10-28-64  | 8-5-65   |
| FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager.<br>Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.   | 9-20-64   | 10-22-64 |
| TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager.<br>Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.  | 4-6-66  | *5-20-63 |
| Total number of pending applications (excluding Designs)  |   | 173,841  |
| Total number of Design applications pending   |   | 3,687    |

Expiration of patents: The patents within the range of numbers indicated below expire during May 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the Annual Index of Patents—1963.

Patents..... Numbers 2,550,000 to 2,555,234, inclusive  
Plant Patents..... Number 1,012



# DECISIONS IN PATENT AND TRADEMARK CASES

## In the United States Patent Office Before the Board of Patent Interferences

ROSEN AND WILLIAMS AND HUGHES AIRCRAFT COMPANY

v.

THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Patent Interference No. 8/64. Decided September 30, 1966

1. NATIONAL AERONAUTICS AND SPACE ACT OF 1958, SECTION 305—REDUCTION TO PRACTICE—ACTUAL REDUCTION TO PRACTICE DURING PERFORMANCE OF CONTRACT—35 U.S.C. 102(g).

"In a priority contest between independent inventors, the filing of a complete and allowable application is a 'constructive reduction to practice' and evidence that the applicant 'made his invention, that is reduced his invention to practice, at least as early as that date' . . . . The section of the U.S. Code relating to the determination of priority in such a conflict, 35 U.S.C. 102(g), uses the term 'reduction to practice' which includes such a 'constructive' reduction to practice as well as an actual reduction to practice. As the petitioners realize, however, the present proceeding is not a contest between rival inventors . . . and section 305 of the National Aeronautics and Space Act of 1958 specifically provides in subsection (j) (3) that as used in this section the term 'made,' when used in relation to any invention, means the 'conception or first actual reduction to practice of such invention' . . . . Since the last quoted words restrictively exclude a constructive reduction to practice, the filing date of petitioners' application can not be determinative of this proceeding in their favor."

2. SAME—SAME—TESTS—COMPLEX APPARATUS.

"Even in those cases where tests of an article have been considered unnecessary in order to establish an actual reduction to practice, it has been held that the device relied on must be a completed device capable of actual use . . . we agree with the respondent . . . that a complex apparatus of the type here involved must be tested before it can be considered to have been actually reduced to practice."

3. SAME—SAME—EVIDENCE—BURDEN OF PROOF—RULE 257.

"The petitioners urge that the burden of proof is on the respondent [in a proceeding to determine whether the Administrator of the National Aeronautics and Space Administration is entitled to receive the patent to be issued] . . . . As a general rule the burden of proof in any proceeding rests on the party against whom judgment would be rendered if no evidence were adduced on either side . . . . Rule 257 of the Rules of Practice (formerly Rule 116) is based upon a presumption that the parties made their inventions in the chronological order of their filing dates, and where this presumption is not applicable by reason of the parties filing their applications on the same day, the burden of proof rests equally on each of the parties . . . . Since only one application is involved in the present proceeding, the presumption stated in Rule 257 does not apply to it. Under the general rule in any proceeding above referred to, if no evidence is presented in a proceeding of the nature before us, it would appear to be tantamount to an applicant's failure to request a hearing before us, in which case the statute is clear that the Commissioner 'shall issue such patent to the Administrator' . . . . In other words if an applicant requests a hearing before us and we institute an inter partes proceeding, he should present some evidence for us to consider."

4. SAME—SAME—TESTS—TESTED APPARATUS NOT ENCOMPASSED BY CLAIMS—*In re Cottrell v. Shafer* CONSTRUED.

"In *Cottrell v. Shafer*, 25 CCPA 1171, 97 F(2) 121, 1938 CD 585, 496 OG 864, where appellant contended that tests, made by his assignee on apparatus not embodying the construction described in the counts, include a reduction to practice of the 'principle' of his construction, he did not allege in his preliminary statement an actual reduction to practice, and the tests were held not to constitute even diligence. Even if it be assumed, as testified by Williams, that the testing of the dynamic model 'proved a number of features that were

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also common between the attitude control and the velocity control' . . . we are not concerned here with broad claims to such common features, readable on either a system of attitude control or a system of linear velocity control. The claims involved here are drawn to an apparatus for changing the linear velocity of a spinning body traversing a path, and the limitations thereof simply do not read on the dynamic model, as admitted in the above quotation from petitioners' brief. It is accordingly held that the tests on the dynamic model do not establish an actual reduction to practice of the invention defined in the claims before us."

5. SAME—SAME—SAME—TESTS OF INDIVIDUAL COMPONENTS INSUFFICIENT.

"Various components and subassemblies of the Comsat satellite were tested before and after it was completed. . . . However, it is 'axiomatic that the evidence must show reduction to practice of a device meeting every limitation of the count' or claims in issue, and that tests of parts or sections of the complete device claimed are insufficient."

6. SAME—SAME—SAME—ACCEPTED PRACTICES FOR TESTING.

" . . . . Petitioners have cited and quoted from *Rogers v. Willoughby et al.*, 55 App. DC 65, 1 F(2) 824, 1924 CD 342, 329 OG 266, which held tests on a simulated submarine a reduction to practice where it was 'impossible for the inventor to make his tests under service conditions.' However, as petitioners state, a different result was reached in a subsequent action under RS 4915, *Willoughby et al. v. Rogers*, 20 (F2) 981. In this later case it was stated (page 901 top of first column), 'In any event, the installation of the simulated submarine cannot be regarded as a reduction of the invention to practice, no matter what difficulty Rogers may have had in securing the use of a real submarine for the purpose.' The earlier case was cited in *Larsen v. Marzall*, 195 F(2) 200, 1952 CD 22, 658 OG 933 where a well-drilling was involved. There was no actual use of the fluid in an oil well but the fluid (not a simulation of it) was used 'in accordance with the Recommended Practice on Standard Field Procedure for Testing Drilling Fluids theretofore established by the American Petroleum Institute,' the court noting that 'it was impossible to conduct those tests at the bottom of the well or along the well bore' in concluding that what was done constituted a sufficient reduction to practice. However, we have here no such previously accepted practice for testing apparatus for changing the linear velocity of a spinning body; the art of satellites was admittedly in its infancy . . . . Accordingly, we believe that these cases do not excuse the petitioners from testing the complete system defined in the count as a combination, to establish a reduction to practice . . . ."

7. SAME—SAME—SAME—SUFFICIENCY OF TESTS.

"The opinion in *Sinko Tool & Mfg. Co. v. Automatics Device Corp.*, 157 F(2) 974, 71 USPQ 199 considered whether a test under service conditions was necessary, apparently not questioning that the complete invention as claimed was satisfactorily given laboratory tests demonstrating that it performed as intended (see the earlier decision 136 F(2) 180, 57 USPQ 356 particularly the first column of page 358). Other cases . . . also appear to involve a similar question, that is, when the combination of a count has been put into a device and tested, of whether the tests are sufficient. They are not deemed to justify a holding of reduction to practice where the complete combination recited in the claims was not tested, and where such tests as were made did not accomplish the explicitly stated object of the invention."

8. SAME—SAME—SAME—UTILITY.

"Since the tests of the dynamic model and the Comsat satellite [relied on for an actual reduction to practice] were deficient in these respects [tests were not of complete combination and did not accomplish stated object of invention], it is deemed unnecessary to decide whether tests under conditions of actual service are necessary. In their reply brief petitioners point out that claims 21 and 27 are not limited to space craft or to the use of the velocity control in space craft, citing cases . . . . However, the devices the petitioners built and tested clearly were intended for such use, and no other use and utility for it has been proven by tests prior to the contract."

9. SAME—SAME—SAME—ACTUAL—PARTIAL TESTING INSUFFICIENT.

"Conception must be of an operative invention as it is thereafter to be applied in practice . . . and such partial testing and theoretical considerations are pertinent to establish that petitioners were in possession of an operative concept. They are also highly desirable when the invention is to be used in a



program involving considerable risk . . . and the expenditure of a very large amount of money. However . . . an actual reduction to practice of an invention requiring tests must be established by demonstration in fact as distinguished from a demonstration in theory. The renown of an expert in his field cannot be utilized to cover a deficiency in evidence."

10. SAME—EVIDENCE—STIPULATED OPINIONS AND CONCLUSIONS.

"Certain stipulated testimony of Jones for the respondent . . . is capable of being interpreted to mean that in his opinion certain ground tests of the Syncom satellite before launching were a reduction to practice . . . For reasons similar to those previously stated in regard to the Comsat satellite, we do not believe the ground tests of the Syncom satellite established a reduction to practice of the invention defined in claims 21 and 27. The stipulation, so far as [it] may deal with Jones' opinion and conclusions as to tests prior to launching, is not binding upon us . . . In accord with our prior holdings, accordingly, the successful orbital maneuvers in the summer of 1963 would be the first actual reduction to practice of the invention of claims 21 and 27, if it occurred in the United States."

11. SAME—REDUCTION TO PRACTICE—OPERATION OF INTEGRATED SATELLITE SYSTEM AMOUNTS TO USE IN UNITED STATES.

" . . . we are inclined to view the operation of the integrated instrumentality including parts of the satellite and its control point, the latter being in the United States, as not removed from the United States by reason of the satellite being necessarily distant from the several states of the United States."

12. SAME—SAME—INVENTIVE ACT EXTENDING BEYOND THE SEVERAL STATES.

" . . . we believe our Appellate Court would favorably consider a submission that where an inventive act involved an invention of such magnitude that it necessarily extended beyond the several states, the inventive act would be considered as occurring in the United States."

13. SAME—SAME—USE IN SPACE IS USE IN UNITED STATES.

" . . . it is believed that the National Aeronautics and Space Act of 1958, in speaking of an actual reduction to practice, meant to include the actual use of an invention extending into space, for such inventions obviously come within the scope of the act, and enormous governmental expenditures are involved in putting them into use."

Before CASANOVA, WILLIAMS and CAPELLI, *Examiners of Interferences*  
CASANOVA, *Examiner of Interferences*.

On December 30, 1959 Harold A. Rosen and Donald D. Williams filed an application for patent, Serial No. 862,921, for Method and Apparatus for Orienting a Satellite, which was assigned to the Hughes Aircraft Company. Under the provisions of section 305(c) of the National Aeronautics and Space Act of 1958, they filed in the application on November 14, 1963, a statement of the character required by that section. On December 16, 1963 they filed another such statement, requesting that the concurrently filed amended affidavits be substituted for those filed November 14, 1963. A request that the patent on the application be issued to the Administrator of the National Aeronautics and Space Administration, on behalf of the United States, was filed in the application on March 27, 1964. In a paper filed April 22, 1964 in the application, the applicants requested a hearing before a Board of Patent Interferences on the question of whether the Administrator is entitled to receive the patent to be issued on the application. Accordingly, on June 22, 1964 the present proceeding was declared. Both parties have taken testimony, and both have filed briefs for, and appeared at, final hearing.

After the declaration of this proceeding an amendment was filed in the application on January 19, 1965 directing the cancellation of claims 2 to 11, 22, and 24 to 26, which would leave only claims 21 and 27 in the application. On June 23, 1965 there was filed in this proceeding on behalf of the National Aeronautics and Space Administration

a statement (paper 7) that it "has no objection to the cancellation of claims other than claims 21 and 27 from patent application Serial No. 862,921 inasmuch as there is no contest between the parties on claims other than claims 21 and 27 in the present inter partes proceeding." The amendment thereafter was entered (see paper 27 in the application) leaving only claims 21 and 27 in contest herein.

The application describes the invention as having utility in a communication satellite equipped to receive and retransmit radio waves. Such a satellite is shown in Figure 4 as having a pair of antenna elements 50 and 51, and is provided with solar cells 52 as a source of power. The satellite is intended to hover above a single point on the earth in a circular orbit in the plane of the earth's equator. To increase the antenna gain, the satellite spins about the antenna axis oriented to be parallel to the earth's axis. Figure 1 shows the satellite with the propulsion rockets to carry it through the trajectory shown in Figure 11, and the specification describes in detail the steps to place it in the intended orbit with the desired spin.

Beginning at line 17 of page 23, the specification explains that deviation of the satellite from its desired position may be detected from the earth and corrected by remote control. The linear velocity of the satellite may be changed by the reactive force developed by firing one or more of the guns 62 as shown in Figure 16. The barrels of the guns are arranged so that this force is in a line, normal to the spin axis, that passes through the center of gravity of the satellite. To insure that the force is applied at the proper time in the rotation of the satellite, solar sensors, having slits 70, 72, periodically admitting sunlight onto solar cells 71, 73 (see Figure 9), develop a periodic orientation signal and are connected to means for sending that periodic signal to a control point on earth (see Figure 10). From this signal, the instant that the guns will be oriented in the proper direction to apply the reactive force may be predicted, and the guns are fired by transmitting a control signal from the earth, making due allowance for the transit time of radio signals between the earth and the satellite (see the full paragraph on page 24 of the specification).

The specification states that jets of compressed gas could be utilized as the means for applying force (last full paragraph on page 25) and claims 21 and 27 are broad enough to embrace either the guns or the jets. Those claims read as follows:

21. Apparatus for changing the linear velocity of a spinning body traversing a path comprising: a body adapted to traverse a path with a predetermined linear velocity and adapted to spin about an axis extending through the center thereof transverse to said path; means disposed in said body for developing a periodic orientation signal synchronized with the spin of said body; means disposed within said body and electrically connected to said last-named means for transmitting said orientation signal to a control point; means disposed in said body for receiving control signals from the control point; and means disposed within said body and coupled to said last-named means for applying impulses of a predetermined magnitude to said body during a predetermined portion of the spin cycle of said body about said axis and in a direction along a line normal to said axis that passes through the center of gravity of said body.

27. Apparatus for changing the linear velocity of a spinning body traversing a path comprising: a body adapted to traverse a path with a predetermined linear velocity and adapted to spin about an axis extending through the center thereof transverse to said path; means disposed in said body for developing a periodic orientation signal synchronized with the spin of said body; control means electrically coupled to said last-named means for developing control signals in response to said orientation signal; and means disposed within said body and coupled to said last-named means for applying impulses of a predetermined magnitude to said body during a predetermined portion of the spin cycle of said



body about said axis and in a direction along a line normal to said axis that passes through the center of gravity of said body.

It will be noted that both claims define apparatus for changing the linear velocity of a spinning body moving linearly and rotatively as stated in the above claims.

In their brief, Rosen and Williams, and their assignee the Hughes Aircraft Company, hereinafter called the petitioners, quote portions of section 305 of The National Aeronautics and Space Act of 1958 (42 U.S.C. 2457) and point out that they apply only when the "invention is made in the performance of any work under any contract of the Administration" (paper 41, pages 63 and 64). Earlier in the brief (pages 11 and 12) after referring to the Stipulated Facts and their filing date the petitioners submit that "under ordinary circumstances, the inventors would be deemed to have completed their invention as of December 30, 1959." Items 1 to 4 of the Stipulated Facts (papers 28 and 38) read as follows:

1. That the only subject matter, the date of the actual reduction to practice of which is in issue, is defined in claims 21 and 27 of U.S. Patent application, S.N. 862,921 filed December 30, 1959, in the names of Harold A. Rosen and Donald D. Williams and hereinafter identified as "said application."

2. That the invention defined by claims 21 and 27 of said application was conceived on or about September 23, 1959.

3. That on or about June 15, 1960, Hughes Aircraft Company (hereinafter called "Hughes"), the assignee of the entire right and interest in said application submitted voluntarily and without request or solicitation a proposal dated June 10, 1960, a true copy of which is attached hereto and made a part hereto and identified as Exhibit 1 to the National Aeronautics and Space Administration (hereinafter called "NASA").

4. That said Exhibit 1 ultimately led to a contract between Hughes and NASA identified as NAS 5-1560, the effective date of which is August 21, 1961 a true copy of which is attached hereto and made a part hereof and identified as Exhibit 2.

[1] In a priority contest between independent inventors, the filing of a complete and allowable application is a "constructive reduction to practice" and evidence that the applicant "made his invention, that is, reduced his invention to practice, at least as early as that date" (*Automatic Weighing Machine Co. v. Pneumatic Scale Corp.*, 166 Fed. 288, 1909 C.D. 498, 139 O.G. 991). The section of the U.S. Code relating to the determination of priority in such a conflict, 35 U.S.C. 102(g), uses the term "reduction to practice" which includes such a "constructive" reduction to practice as well as an actual reduction to practice. As the petitioners realize, however, the present proceeding is not a contest between rival inventors (paper 41, pages 66 et seq.) and section 305 of the National Aeronautics and Space Act of 1958 specifically provides in subsection (j) (3) that as used in this section the term "made," when used in relation to any invention, means the "conception or first actual reduction to practice of such invention" (paper 41, page 64). Since the last quoted words restrictively exclude a constructive reduction to practice, the filing date of petitioners' application can not be determinative of this proceeding in their favor. On the other hand the stipulated facts quoted above preclude an award adverse to them on the ground that the invention was conceived in the performance of any work under any contract of the National Aeronautics and Space Administration (hereinafter called the respondent). This leaves for our consideration the question of whether in the course of such work the invention of claims 21 and 27 was first actually reduced to practice. In section 1 of the stipulated facts quoted

above the parties recognize that the date of the first actual reduction to practice is involved in the determination of which party will prevail, rather than the date of conception or the filing of the application.

[2] Even in those cases where tests of an article have been considered unnecessary in order to establish an actual reduction to practice, it has been held that the device relied on must be a completed device capable of actual use (*Birmingham v. Randall*, 36 CCPA 780, 171 F(2) 957, 1949 CD 66, 620 OG 683, citing *Lindemeyer v. Hoffman*, 18 App. D.C. 1, 1901 CD 353, 95 OG 838). Moreover claims 21 and 27 define a device that is obviously more complex than those involved in *Fridolph v. Bechik*, 33 CCPA 940, 154 F(2) 198, 1946 CD 278, 589 OG 4 and *Gray v. Fortunato*, 36 CCPA 1185, 175 F(2) 585, 1949 CD 468, 625 OG 1137 and we agree with the respondent (see paper 45, page 14) that a complex apparatus of the type here involved must be tested before it can be considered to have been actually reduced to practice.

[3] The petitioners urge that the burden of proof is on the respondent (section C beginning on page 68 of their brief paper 41). As a general rule the burden of proof in any proceeding rests on the party against whom judgment would be rendered if no evidence were adduced on either side (*Arnold v. Vaughn et al. v. Arnold et al.*, 1904 CD 78, 109 O.G. 805). Rule 257 of the Rules of Practice (formerly Rule 116) is based upon a presumption that the parties made their inventions in the chronological order of their filing dates, and where this presumption is not applicable by reason of the parties filing their applications on the same day, the burden of proof rests equally on each of the parties (*Van Otteren v. Hafner et al.*, 47 CCPA 993, 278 F(2) 728, 1960 CD 331, 757 OG 1026). Since only one application is involved in the present proceeding, the presumption stated in Rule 257 does not apply to it. Under the general rule in any proceeding above referred to, if no evidence is presented in a proceeding of the nature before us, it would appear to be tantamount to an applicant's failure to request a hearing before us, in which case the statute is clear that the Commissioner "shall issue such patent to the Administrator" (subparagraph (d) quoted at the bottom of page 65 of the petitioner's brief). In other words if an applicant requests a hearing before us and we institute an inter partes proceeding, he should present some evidence for us to consider.

In the present proceeding both parties have offered evidence and on pages 70 and 71 of the petitioners' brief it is stated:

It is our position that, even though NASA has been aligned as Senior Party in these proceedings, it nevertheless has the burden of proof on both of the principal issues in this case.

First, on the issue of Hughes' reduction to practice; since the extensive testing by Hughes of its Comsat satellite showed to the satisfaction of all of the experts, both governmental and private, that Comsat was fully operational and would perform satisfactorily in space, the burden is on NASA to prove that said testing was not an actual reduction to practice under the applicable provisions of the Space Act, as it was intended by Congress to be construed. If NASA does not sustain its burden of proof on this issue, then the patent must issue to Hughes.

However, even if NASA should prevail on the first issue, it still has the burden of proving that its operation of the velocity control apparatus of Syncom 2 in outer space and outside the United States constituted a reduction to practice, in the face of the provisions of 35 U.S.C. Sec. 102 and 104. Unless NASA can also sustain its burden of proof on this second issue, the patent must issue to Hughes on the basis of its conception and constructive reduction to practice long prior to the NASA contract.



The term burden of proof is sometimes used to refer to the duty or obligation of a party to proceed with the testimony after some evidence has been offered. For instance *Meyer v. Sarfert*, 1901 CD 91, 96 OG 1037 states (emphasis ours):

In *Best on Evidence*, vol. I, page 498, paragraph 268, the following principle of law is laid down: In order to determine on which of two litigant parties the burden of proof lies, . . . the test ought in strict accuracy to be expressed thus, viz. "which party would be successful, if no evidence at all, or no more evidence, as the case may be, were given."

Similarly, in the last two paragraphs quoted above from petitioners' brief, the "burden of proof" on the first issue is submitted as arising, in effect, after a consideration of the evidence of "extensive testing by Hughes," and on the issue stated in the final paragraph quoted as conditioned on the respondent prevailing on the first issue. Thus the "burden" as used in the quoted paragraphs is stated to arise after the evidence of testing by the petitioners "of its Comsat satellite" has been offered; and such a burden of going forward arises, if it does arise, from the sufficiency of the evidence of testing.

Beginning at page 14 of the petitioners' brief the structure and intended operation of the Comsat satellite is described. It is shown completely assembled in the photograph Exhibit 12. The velocity control apparatus employs a jet designated D in the exhibit, aimed along a line normal to and passing through the spin axis and also passing through the center of gravity of the satellite. Gas would be emitted momentarily from the jet at a predetermined point in the spin cycle to speed up or slow down the satellite in its orbital path, and the jet would be pulsed repeatedly at the same point in successive cycles to cause the desired amount of change in velocity. To determine the proper point of the spin cycle solar sensors such as B in Exhibit 12 would be used to develop a periodic orientation signal to be transmitted to the earth (last half of page 17 of petitioners' brief, paper 41, and top of page 18). Ground equipment to be used is described on pages 22 to 25 of the brief, and includes a synchronous controller to receive the solar sensor pulses and generate the command signals to be transmitted to the satellite. In addition certain other equipment was used in demonstrating the operation of the satellite on the ground, in laboratories or other locations (pages 25 and 26). Comparison of this structure and that of the Comsat satellite, described in more detail in the brief, to claims 21 and 27 is made on pages 28 to 31 thereof.

The Comsat satellite was also provided with orientation control apparatus including a jet designated E on Exhibit 12, aimed parallel to the spin axis of the satellite and displaced from it; and to re-orient the satellite by precession a succession of pulses of gas would be emitted from the axial jet in synchronism with the spin of the satellite (paper 41, bottom of page 15 and top of page 16). The device shown in Exhibit 12, also called the "Prototype" was completed by Hughes prior to September 1960 according to item 24 of the Stipulated Facts, which describes in item 27 its structure including jet nozzles aimed in the two different manners described in this and the preceding paragraph (paper 38, pages 5 and 6).

Previously, during March of 1960 construction of the apparatus shown in the photograph Exhibit 3 was "completed for the purpose of demonstrating that a pulsed jet gas stream and system could be employed to precess a spinning body," and was operated on April 2, 1960. (Stipulated Facts, paper 38, page 3, items 5 and 6.) Petitioners' brief refers to this apparatus as the Comsat dynamic model (paper

41, pages 36 et seq.). Exhibit 91 is a photograph of a chart recently made and used during the examination of the witness Andrews (record for petitioners, paper 30, volume 3, pages 261 et seq.) to illustrate how the Comsat dynamic model was tested. Exhibit 4 is an unedited copy of a motion picture film showing operation of the device on April 8, 1960 (Stipulated Facts, paper 38, items 14 to 16), while Exhibit 92 is a recent narrated version using the script of Exhibit 87 (paper 30, volume 1, page 4, volume 3, page 299). The petitioners' brief beginning on page 37 explains how the dynamic model was operated in numerous demonstrations. However, Williams testifies (paper 30, volume 2, page 190).

XQ-4. What was tested in the dynamic model, more than one jet? A. Really, only one jet was tested, excluding the spin control jet, which I think is irrelevant.

XQ-5. All right now, the one jet that was tested there was for which purpose? That is, velocity control or attitude control? A. Attitude control.

Claims 21 and 27 are drawn to apparatus "for changing the linear velocity of a spinning body." Andrews testifies (paper 30, volume 3, pages 266 and 267 with emphasis added by us):

XQ-8. Was the purpose of the demonstration with the dynamic model to illustrate attitude control? A. Yes. As I understood it, that's what they were trying to achieve.

XQ-9. Did it demonstrate velocity control? A. No. By velocity, do you refer to the spin rate velocity or—

XQ-10. No. I refer to the motion in a linear path. A. No. I understood it merely to demonstrate the ability to reposition by overcoming the gyroscopic action of the object in question.

XQ-11. To change the angle of the tilt? A. To change the angle, yes.

See also on Exhibit 5 prepared by Williams and dated April 8, 1960, "Model constructed (attitude control only)." In the brief for the petitioners, it is urged (page 79, with emphasis added by us)

While the dynamic model tests standing alone are not a complete reduction to practice, since the jet used in these tests was not aimed in a radial direction as called for in the claims, these tests proved conclusively the accuracy of control of the solenoid valve to pulse in a manner which demonstrates the operating principles of both the velocity control system and the attitude control system.

[4] In *Cottrell v. Shafer*, 25 CCPA 1171, 97 F(2) 121, 1938 CD 585, 496 OG 864, where appellant contended that tests, made by his assignee on apparatus not embodying the construction described in the counts, include a reduction to practice of the "principle" of his construction, he did not allege in his preliminary statement an actual reduction to practice, and the tests were held not to constitute even diligence. Even if it be assumed, as testified by Williams, that the testing of the dynamic model "proved a number of features that were also common between the attitude control and the velocity control" (pages 185 and 186, Q. 213), we are not concerned here with broad claims to such common features, readable on either a system of attitude control or a system of linear velocity control. The claims involved here are drawn to an apparatus for changing the linear velocity of a spinning body traversing a path, and the limitations thereof simply do not read on the dynamic model, as admitted in the above quotation from petitioners' brief. It is accordingly held that the tests on the dynamic model do not establish an actual reduction to practice of the invention defined in the claims before us (*Bijur v. Rushmore*, 46 App. D.C. 395, 1918 CD 122, 246 OG 301; *Whitehouse v. Saurer*, 25 CCPA 894, 94 F(2) 821, 1938 CD 308, 494 OG 3).

[5] Various components and subassemblies of the Comsat satellite were tested before and after it was completed, as set forth at length



in the petitioners' brief (see particularly section H on pages 33 to 35, section A on pages 44 and 45, section C on pages 47 and 48, and section I on pages 57 and 58). However, it is "axiomatic that the evidence must show reduction to practice of a device meeting every limitation of the count" or claims in issue, and that tests of parts or sections of the complete device claimed are insufficient (*Kirkham et al. v. Arden et al.* 50 CCPA 1205, 316 F(2) 242, 1963 CD 430, 794 OG 753). The evidence concerning tests of the velocity and orientation control apparatus in the Comsat satellite is reviewed in section B of the petitioners' brief (pages 45 and 46) and sections E to H and J (pages 49 to 58). However, the brief frankly admits (page 56 with emphasis added by us):

As was ably pointed out by the respondent's cross-examination of Williams and others, the velocity control apparatus was not operated with the satellite traversing a linear path about the earth. In all of the test work, the satellite was either stationary or mounted upon a spin fixture which was stationary with respect to the earth. No tests were made with the satellite traversing a path about the earth for the simple reason that they could not be made by Hughes or by anyone outside of Government, and only by Government in a multi-million dollar venture.

See, for instance, Williams' answer to cross-question 28 on page 197 of his testimony. In *Crane et al. v. Carlson* 29 CCPA 879, 125 F(2) 709, 1942 CD 323, 540 OG 707 the court stated in holding that certain testimony did not establish an actual reduction to practice, "This could have been true, and yet, even though the parts worked perfectly, they might not have accomplished the results which were the object of the invention." The first lines of claims 21 and 27 recite "Apparatus for changing the linear velocity of a spinning body traversing a path." In view of the underlined admission in the above quotation, the tests could not have accomplished the result which is the explicitly stated object of the invention defined in claims 21 and 27.

Exhibit 11 is a copy of a memorandum dated August 25, 1964, prepared by a patent attorney then representing the Respondent (Item 23 of the Stipulated Facts, paper 28 or 38). It states (page 4 final paragraph with emphasis added by us):

From the foregoing, it can be seen that Hughes constructed, prior to December of 1960, a prototype which, if dynamically tested, would have constituted a reduction to practice of claims 21 and 27. However, Hughes does not allege that at any time this prototype was operated in such a manner that a signal from the solar cells controlled the operation of the jet valve solenoids.

In the first sentence quoted, former counsel is apparently referring to the deficiency in the tests which we have just pointed out. In the second, he is referring to another. Williams testifies (page 178):

Q-172. Was any test ever made of the Syncom satellite with all of the components of the velocity control apparatus operating at the same time? A. No. The system as a whole was never operated with everything operating simultaneously.

Q-173. Why not? A. It's really impractical to make such a test.

Rosen testifies (page 69):

Q-322. Was any system test of the velocity control apparatus in the Syncom satellite ever made with all the components operating at the same time? A. If you mean a complete system test, no. It was impractical to do that.

On the next page of his testimony following his answer to question 327 he defines what he means by a complete system test as follows:

By complete system test, I would mean having the satellite spinning, preferably in a vacuum, exposed to the sunlight so that the solar pips could be transmitted while the controller was synchronized to these pips and generating commands retransmitted to the satellite.

It thus appears further that parts of the system corresponding to the elements of claims 21 and 27 were not tested acting in combination with each other to accomplish the object stated in the initial lines of the claims.

References have been made in the above quoted testimony to certain tests being "impractical." Williams further testifies (page 176, after his answer to question 159):

I might comment that the presence of gravity and the necessity to support the satellite or the model against it in the laboratory makes it very difficult, if not impossible, to make a direct demonstration, especially, of the velocity control as such.

On pages 16 and 17 of their reply brief [6] petitioners have cited and quoted from *Rogers v. Willoughby et al.*, 55 App. DC 65, 1 F(2) 824, 1924 CD 342, 329 OG 266, which held tests on a simulated submarine a reduction to practice where it was "impossible for the inventor to make his tests under service conditions." However, as petitioners state, a different result was reached in a subsequent action under RS 4915, *Willoughby et al. v. Rogers*, 20 F(2) 981. In this later case it was stated (page 991, top of first column), "In any event, the installation of the simulated submarine cannot be regarded as a reduction of the invention to practice, no matter what difficulty Rogers may have had in securing the use of a real submarine for the purpose." The earlier case was cited in *Larsen v. Marzall*, 195 F(2) 200, 1952 CD 22, 658 OG 933 where a well-drilling was involved. There was no actual use of the fluid in an oil well but the fluid (not a simulation of it) was used "in accordance with the Recommended Practice on Standard Field Procedure for Testing Drilling Fluids theretofore established by the American Petroleum Institute," the court noting that "it was impossible to conduct those tests at the bottom of the well or along the well bore" in concluding that what was done constituted a sufficient reduction to practice. However, we have here no such previously accepted practice for testing apparatus for changing the linear velocity of a spinning body; the art of satellites was admittedly in its infancy (petitioners' brief, middle of page 85). Accordingly, we believe that these cases do not excuse the petitioners from testing the complete system defined in the count as a combination, to establish a reduction to practice (see the quotations above from Rosen's testimony on pages 69 and 70 of volume 1).

In their brief petitioners quote at length from *Farrand Optical Co. v. United States*, 325 F(2) 328, 139 USPQ 249 (paper 41, pages 79 to 81). In that opinion, it was further stated (139 USPQ 254):

This court has no desire to disregard or weaken the uniform body of law that has developed for generations in reduction to practice cases, particularly in the "airplane" cases (see the forceful criticism of Judge Ryan's decision by Nemerovski, in *Reduction to Practice: The Farrand Optical Illusion*, 43 J. Pat. Off. Soc'y 99 (1961)). However, Tripp's invention can be considered to have been sufficiently reduced to practice if the scope of that invention is limited to the components embodied in the mock-up, namely, to claim 4.

Claim 4 is quoted in the opinion of the District Court (175 F. Supp. 230 at page 233, 122 USPQ 454 at page 457) which points out that the mock-up embodied each and every element of that claim and performs the functions claimed and set forth. The Court of Appeals further stated (139 USPQ 251):

The device had never been incorporated into a gunsight or a bombsight, had never been tested in such a sight and had never been subjected to any of the actual conditions in or out of an airplane which it would have to meet in use.



The trial court, however, held that the brown box mock-up constituted "reduction to practice" under the law. The court's theory was expressed as follows: "After it was inspected, examined and operated, the invention was found by these men skilled in the art to be a satisfactory answer and a solution of the problem the Air Force could not resolve. Nothing more is required to constitute reduction to practice, and more could not be asked for or expected of an inventor. There was nothing conjectural about being able to look through plaintiff's device and being able to scan a 180° hemisphere. What the Air Force was searching for had reached its point of consummation in plaintiff's device." 175 F. Supp. at 243, 122 USPQ at 465. The court concluded that the mock-up performed "the functions claimed for it and in the manner claimed." 175 F. Supp. at 244, 122 USPQ at 466. And so it did.

In the present case, as we have previously shown, the elements of the count were not tested as a combination on the ground, and those tests did not demonstrate the functions claimed for it in the manner claimed.

[7] The opinion in *Sinko Tool & Mfg. Co. v. Automatics Devices Corp.*, 157 F(2) 974, 71 USPQ 199 considered whether a test under service conditions was necessary, apparently not questioning that the complete invention as claimed was satisfactorily given laboratory tests demonstrating that it performed as intended (see the earlier decision 136 F(2) 186, 57 USPQ 356 particularly the first column of page 358). Other cases cited on pages 82 to 85 and 92 of petitioners' brief also appear to involve a similar question, that is, when the combination of a count has been put into a device and tested, of whether the tests are sufficient. They are not deemed to justify a holding of reduction to practice where the complete combination recited in the claims was not tested, and where such tests as were made did not accomplish the explicitly stated object of the invention.

[8] Since the tests of the dynamic model and the Comsat satellite were deficient in these respects, it is deemed unnecessary to decide whether tests under conditions of actual service are necessary. In their reply brief petitioners point out that claims 21 and 27 are not limited to space craft or to the use of the velocity control in space craft, citing cases (paper 49, page 14). However, the devices the petitioners built and tested clearly were intended for such use, and no other use and utility for it has been proven by tests prior to the contract (*Chandler v. Mock*, 32 CCPA 1183, 150 F(2) 563, 1945 CD 467, 580 OG 159; *Powell v. Poupitch*, 35 CCPA 1080, 167 F(2) 514, 1948 CD 436, 613 OG 804).

The petitioners urge that ground tests were sufficient to convince experts in the field that the invention worked, and rely particularly upon the testimony of Dr. Fletcher, a consultant to the United States on space programs, and his report, Exhibit 93, on the Comsat proposal for the Department of Defense. His most pertinent testimony is quoted in the petitioners' brief (pages 84 and 85) as follows (emphasis added by us):

"Q-41. And in the letter, Exhibit 93 in the reservations sections, I see no reservation concerning the velocity-control system of the satellite. Was this in fact your opinion that you had no reservations concerning that at that time?"

"A. That's correct. I thought that the velocity-control system and the attitude-control system were in excellent shape, so I said nothing about them."

"Q-46. Now, did the tests that Hughes Aircraft Company made on the Comsat satellite and the dynamic model which we made reference to in the movie, successfully demonstrate all the operating principles of the velocity control system to your satisfaction?"

"A. Yes."

"Q-47. And were any further ground tests required to demonstrate the operation of the velocity control system?"

"A. No. I think they did as many tests as they could on the ground to demonstrate the basic principles that are involved here."

It will be noted that the above testimony does not state that the tests demonstrated that the velocity control system worked. Previously he had testified as to the components of the velocity control system, and asserted that the performance characteristics of the components as reported in the tests "indicated" that they "would" perform in the appropriate fashion (volume 5, pages 328 and 329). In *Henderson v. Gulpin*, 39 App. DC 428, 1913 CD 310, 187 OG 231 it was stated (emphasis ours):

It is not enough, as contended by appellant, that these shop tests indicated that the operation of the device *would be successful*. To constitute reduction to practice a test must amount to a demonstration *in fact*, as contradistinguished from one *in theory*.

[9] Conception must be of an operative invention as it is thereafter to be applied in practice (*Townsend v. Smith*, 17 CCPA 647, 36 F(2) 292, 1930 CD 63, 391 OG 753) and such partial testing and theoretical considerations are pertinent to establish that petitioners were in possession of an operative concept. They are also highly desirable when the invention is to be used in a program involving considerable risk (see the last paragraphs of Exhibit 93) and the expenditure of a very large amount of money. However, as pointed out in the above quotation, and actual reduction to practice of an invention requiring tests must be established by demonstration in fact as distinguished from a demonstration in theory. The renown of an expert in his field cannot be utilized to cover a deficiency in evidence (*Chandler v. Mock*, previously cited).

It is urged in petitioners' reply brief that the decisions by NASA based upon the Hughes construction and testing of the Comsat satellite establish reduction to practice (pages 8 and 9). However, the cases cited use such factors, as decisions, to use the invention in devices produced for sale, merely as enhancing a conclusion based on evidence of testing. In *Bedford v. Boothroyd et al.*, 51 CCPA 715, 319 F(2) 200, 1963 CD 693, 796 O.G. 287 such factors were considered after a statement that certain tests "in fact" indicate that the invention of the counts "worked as intended to work in is practical contemplated use." In *Gaiser v. Linder*, 45 CCPA 846, 253 F(2) 433, 1958 CD 226, 730 OG 533 it was stated:

• • • The Board was of the opinion that actual flight tests of the windshields were not necessary, apparently because it might be difficult in such tests to subject them to the extreme weather conditions which might sometimes be met with in practice, and because "Laboratory testing also comprehends testing to failure which cannot be done without hazard in flight." Those reasons certainly suggest the desirability of adequate laboratory tests before flight tests, but they are not convincing that flight tests are not necessary.

Gaiser's record contains testimony to the effect that shortly after the Boeing tests referred to above, Libby-Owens-Ford became an approved source of supply for windshields and made a number of them on order for Boeing in 1949. The mere fact that Boeing ordered such windshields would not be evidence that they had been reduced to practice, since they might well have been ordered for the purpose of further testing and, in fact, the first paper referring to such an order in 1949 states that the windshields "will be used for test purposes."

Petitioners Exhibit 1 states on its first page that it is a "proposed NASA Experimental Program" and their Exhibit 2 states on its first page that it is a contract for the "testing" among other things of a



spacecraft. Petitioners had spent a great deal of money on the Comsat satellite development prior to the contract (paper 32 or 39) but it appears that much more money would have to be expended by the Government as represented by the respondent before experimentation was completed.

For the reasons above set forth we hold that the invention defined by claims 21 and 27 was not actually reduced to practice prior to the date of the contract, Exhibit 2.

Under the contract five Syncom satellites were to be built, three of which were to be flyable models; after delivery, the first was accidentally destroyed during its launch; the second was injected into orbit and the velocity control apparatus operated in space in the summer of 1963 as reported in detail in respondents' Exhibit C, a Hughes report (petitioners' brief page 60). Similarities and differences between the Syncom satellite and the Comsat satellite are set forth on the preceding page of the cited brief, and the devices built under the contract embody all the elements of claims 21 and 27. Page 2 of the petitioners' reply brief (paper 49) states:

There is no dispute that Syncom 2 was successfully launched July 26, 1963, and that the velocity control apparatus was operated between July 27, 1963 and August 15, 1963. But, there is no evidence that the launch or the maneuvers were made by Hughes in the performance of work under Contract NAS 5-1500; to the contrary, both the launching and operation of Syncom 2 were under the direction and control of NASA. Except for advisory, technical support and preparation of reports, all Hughes work had been completed. Moreover, at the time of the successful orbital maneuvers, Syncom 2 was irretrievably located 22,000 miles in space and over South America.

Aside from the important question of whether it occurred in the United States, the successful use of the velocity control would constitute a reduction to practice.

[10] Certain stipulated testimony of Jones for the respondent (paper 23 or 26, item 6) is capable of being interpreted to mean that in his opinion certain ground tests of the Syncom satellite before launching were a reduction to practice (see petitioners' reply brief, top of page 11). For reasons similar to those previously stated in regard to the Comsat satellite, we do not believe the ground tests of the Syncom satellite established a reduction to practice of the invention defined in claims 21 and 27. The stipulation, so far as may deal with Jones' opinion and conclusions as to test prior to launching, is not binding upon us (*Pines v. McAllister*, 38 CCPA 981, 188 F(2) 388, 1951 CD 300, 650 O.G. 624). In accord with our prior holdings, accordingly, the successful orbital maneuvers in the summer of 1963 would be the first actual reduction to practice of the invention of claims 21 and 27, if it occurred in the United States.

In prior Interference No. 84,143 involving the Alford Patent No. 2,419,525, we stated in a decision dated November 30, 1955:

• • • The party Alford challenges the sufficiency of the evidence to support a finding of conception and reduction to practice in behalf of Loomis. He makes also the specific point that the three line fixes obtained by Watson required the use of transmitter stations at Boccaro and Deming which are located in Canada, and consequently it cannot be said that the practice or test of the invention was within the United States.

We have considered those arguments but are satisfied that the evidence supports the findings with respect to the inventive acts of Loomis. With particular regard to the question as to whether the tests of the system are to be considered as performed within the United States, we notice that two of the transmitters were in the United States and that the receiver was on a United States craft and therefore effectively under United States jurisdiction. The other two stations,

while within the political jurisdiction of Canada, were established and operated in the beginning by the agency of the United States, and by intergovernmental agreement. Under these circumstances we must hold that the coordinated operation of those five elements was in effect within the United States. We are inclined to view the operation of an integrated instrumentality, a substantial portion of which is within the United States, and which is operated by and for residents of the United States, as not removed from the United States by reason of the projection of some elements of the instrumentality beyond the political boundaries of the United States because of the space requirements of the instrumentality in its field of practical application. However, in this particular case, such acts as were in fact beyond the political boundaries of the United States appear to be saved by the provisions of the Act of August 8, 1946.

The decision was reversed on other grounds, the court finding it unnecessary to consider the question of reduction to practice (*Alford v. Loomis*, 45 CCPA 807, 252 F(2) 571, 1958 CD 187, 729 O.G. 727). A somewhat similar jurisdictional question was involved in *Marconi Wireless Telegraph Co. of America v. The United States*, 53 USPQ 246, 81 CC1 671 in which it was stated:

The item in this group identified as "Montcalm" refers to a group of receivers which were made and used at the United States Naval Radio Station at the American Legation in Peking and within the legation grounds. This item, which is trivial, as it involves only 10 receivers out of a total of 4,007, presents an apparently new issue in patent law. Does manufacture and use in such a location violate the monopoly created by the patent and which extends "throughout the United States, and the Territories thereof," as expressed by section 4884 of the Revised Statutes?

We know of no case directly in point. *Gardiner v. Howe*, 9 Fed. Cases 1157, however, is a patent case in which the master of a vessel under American registry applied a device to a sail and used the same while on the high seas between Liverpool and New York. The owner of the vessel was made the defendant in a patent suit for this act. The court held that use of the invention of a United States patent on a vessel of American registry, while it is on the high seas and without the jurisdiction of the United States, constitutes infringement of the patent. Justice Clifford said:

The patent laws of the United States afford no protection to inventions beyond or outside of the jurisdiction of the United States; but this jurisdiction extends to the decks of American vessels on the high seas, as much as it does to all the territory of the country, and for many purposes is even more exclusive.

The converse of this proposition is set forth in *Brown v. Duchesne*, 19 How. 183, where Mr. Justice Taney held that the exclusive rights granted to a patentee do not extend to a foreign vessel lawfully entering one of our ports and that the use of the patented improvement in the construction, fitting out, or equipment of such vessel, while she is coming into or going out of a port of the United States, is not an infringement of the rights of an American patentee provided such use is lawful under the laws of the country to which the vessel belongs.

We think from these two cases the use of a United States patent on the grounds of the American Legation at Peking constitutes infringement thereof, and the ten receiving sets are properly within the accounting.

The case of *Gardiner et al. v. Howe* (Federal Case No. 5,219) also is reported in 2 Clifford 462. When the *Marconi* case was before the Supreme Court (320 U.S. 1, 1943 CD 781, 556 OG 339) the question of infringement on the grounds of the American Legation was not considered.

Claim 21 refers to "a control point" and claim 27, to "control means." Williams testifies as follows (volume 2, pages 179 and 180):

Q-178. Were you present at some control point in which the velocity control system of the Syncom satellites was operated? A. Yes, I was. I was present at the Goddard Space Flight Center, which was the control point. I did the calculations necessary for the pulse maneuvers of the Syncom vehicles and prepared messages giving instructions to the command stations for the transmission of commands for satellite velocity control maneuvers.



Mr. LAURENCE: Mr. Lee, would you fix the time when this occurred?

Q-179. By Mr. LEE. When did that occur? A. That would have been in July of 1963. It would be near the end of July. I can't fix the exact date when we first did that. Possibly very early in August.

Q-180. Prior to actually operating the controls of the Syncom satellite, did you have an opinion as to whether or not they would work? A. Yes, I had every expectation that the control system would function properly.

Q-181. What was that opinion based on? A. That was based largely on the testing that we had done on the Comsat program and on the dynamic model, and of course, on the additional testing on Syncom hardware.

Q-182. Was the testing on the Syncom hardware of any different kind than the testing on the Comsat hardware? A. No.

Goddard Space Flight Center (see answer to Q. 178 above) was in Maryland (see the address on the letter of transmittal, sheet 2 of respondent's Exhibit A). [11] As in the decision in Interference No. 84,143, we are inclined to view the operation of the integrated instrumentality including parts of the satellite and its control point, the latter being in the United States, as not removed from the United States by reason of the satellite being necessarily distant from the several states of the United States. We know of no decision of our Appellate Court on this matter in regard to actual reduction to practice. However the case of *Wilson et al. v. Sherts et al.*, 23 CCPA 914, 81 F(2) 755, 1936 CD 264, 467 OG 724 where diligence was involved, refers to a decision by the Board of Appeals in Interference No. 51,743, *Hall v. O'Connor*, as giving Hall the benefit of activities in Canada when coupled with activities in the United States, but the court expressed no opinion on that question since in the case being decided there were no activities in the United States for foreign activities to be coupled to. By specifically reserving their opinion on this question (see their statement to this effect in *Broos v. Barton*, 31 CCPA 1089, 142 F(2) 690, 1944 CD 428, 568 OG 11) [12] we believe our Appellate Court would favorably consider a submission that where an inventive act involved an invention of such magnitude that it necessarily extended beyond the several states, the inventive act would be considered as occurring in the United States.

[13] Furthermore it is believed that the National Aeronautics and Space Act of 1958, in speaking of an actual reduction to practice, meant to include the actual use of an invention extending into space, for such inventions obviously come within the scope of the act, and enormous governmental expenditures are involved in putting them into use.

Accordingly, and consonant with our prior holdings, we hold that the invention of claims 21 and 27 were first actually reduced to practice by the successful operation of the Syncom 2 satellite in the summer of 1963.

The respondents contend that the successful orbital maneuvers of Syncom 2 were not made in the performance of work under contract NAS 5-1560 (reply brief, pages 2 et seq.). According to item 4 of the Stipulated Facts previously quoted herein, Exhibit 2 is a true copy of that contract. Sheet 2 of the exhibit in the paragraph designated "1" incorporates into the contract "Exhibit A," which begins on sheet 24 of Exhibit 2. Exhibit A provides in Article III that the contractor shall be responsible for the design, analysis, development, fabrication, assembly, injection motor integration of five spacecraft; and shall provide the necessary personnel and test equipment for inplant and field checkout, as well as launch and orbital control technical support

for the spacecraft, three of which were to be flight models (see also Article I of Exhibit A). The contractor was the Hughes Aircraft Company (heading of sheet 1 of Exhibit 2) herein referred to as Hughes. While the flight models were generally similar to the Comsat design, certain design changes were made (see respondent's brief, page 59). Details were changed on the solenoid valves (Williams testimony pages 198 and 199, XQ 39) and quadrature mode control equipment was added (Jones testimony page 315, Q. 12). Ground tests were "conducted by Hughes under the NASA contract" (pages 197 et seq. beginning with XQ 33) as well as by NASA. While the satellite belonged to NASA at the time of the reduction to practice, under Article III "Statement of Work and Specifications," Hughes was responsible for the design, development, fabrication and assembly of the physical embodiment of the invention, and such work of Hughes was under the contract.

Appendix A in Article I of Exhibit 2, concerning "Services and Items to be Performed and Delivered" refers in item 5 to three "ground synchronous control computers for field operations" (Exhibit 2, sheet 24). Article III provides that all ground control equipment relating to the operation of the satellite in orbit with the exception of these synchronous control computers shall be Government furnished and operated (Exhibit 2, middle of sheet 26). Thus it appears that the synchronous controller was furnished and operated, not by the Government but by Hughes (note also in Exhibit C, pages 1-2 that the telemetry and command ground control stations are furnished by Hughes).

Exhibit 25 shows a synchronous controller to which the solar sensor pulses are applied and which generates the command signals transmitted to the satellite to control the operation of the jet valves (petitioners' brief, paragraph bridging pages 23 and 24). It is a part of a complete system test (see Rosen's testimony page 70, Q. 327). We have previously quoted Williams' testimony (page 179) stating that he did the calculations necessary for the pulse maneuvers of the Syncom vehicles and that he "prepared messages giving instructions to the command stations for the transmission of commands for the satellite velocity control maneuvers." Such commands originated in the synchronous controller furnished and operated by Hughes (see the preceding paragraph).

It thus appears that as to the first actual reduction to practice of the invention, the petitioners under the contract worked on the development of the physical embodiment put into actual use, and calculated and executed the command signals to change the linear velocity of the satellite. Although there was a contribution by the Government of the use of Government facilities, etc., the National Space Act provides that such a contribution by the Government will not preclude the invention being the exclusive property of the United States.

On pages 30 et seq. of the respondent's brief it is urged that the petitioners be held to their first statement under section 305(c) where in it was stated in affidavits of Rosen and Williams "That the invention covered by claims 21 and 27 was first reduced to practice in connection with contract NAS 5-1560 entered into with the National Aeronautics and Space Administration." (Paper 12 in their application file, see particularly the pages numbered in pencil 77 and 80.) However, under the circumstances presented here we prefer not to



place such a restriction upon them and to consider the evidence offered in support of their subsequent view on the matter in their second statement.

The petitioners urge that in the Directive (paper 18 of the application file) reference is made to the results of the investigation to date, the investigation having been only partially completed. While we deem that no statement as to a complete investigation need be filed in the Patent Office under 42 U.S.C. 2457 section (d), it seems obvious that one has been made since petitioners were permitted to exclude certain claims from this proceeding (see paper 7 herein) and respondent's position was urged with zeal at final hearing.

The respondent moved orally at the hearing to reopen this case for further evidence as to work under the contract, if it were found necessary, and has since filed a report of the argument at final hearing (paper 53, pages 54, 57 etc.). Since further evidence for respondent's case has not been found necessary by us, the contingent motion is dismissed.

In accordance with our reasons set forth above, we hold that the invention of claims 21 and 27 was made in performance of work under the contract between the parties, and that the respondent is entitled to prevail.

It is hereby held that the Administrator of the National Aeronautics and Space Administration, on behalf of the United States, is entitled to receive a patent upon the application involved herein.

### U.S. Court of Customs and Patent Appeals

IN RE MARVIN C. VAN WANDERHAM, WARREN W. WORTHLEY  
AND CARL R. COMOLLI

No. 7781. Decided June 15, 1967

[54 CCPA 1487; 378 F.2d 981; 154 USPQ 20]

1. APPLICATION—DISCLOSURE—CLAIMS DEFINE THE INVENTION—35 U.S.C. 112.  
"At the onset there is a dispute between the parties as to what precisely is appellants' invention. For reasons developed more fully hereafter, the Patent Office terms the invention as 'means to accelerate cooling of a metal by a liquid' while appellants argue it is a 'cryogenic liquid propellant flow system' for missiles. No objection was made by the Patent Office as to the form of the claims or that they fail to meet the requirements of 35 U.S.C. 112 in particularly pointing out and distinctly claiming the subject matter which appellants regard as their invention. There is, therefore, no issue here as to whether the appealed claims define appellants' invention, in accordance with section 112. Accordingly, appellants' invention is the subject matter set forth in the appealed claims."
2. PATENTABILITY—REFERENCE—NON-ANALOGOUS ART—*In re Lobl* AND *In re Shapleigh* CONSTRUED.  
"In *Lobl* the invention related to a flexible closure for a container and one of the references relied on under section 103 related to a door buffer. In holding that the latter reference was in nonanalogous art, we stated: 'It does not seem likely to us that one seeking to produce an improved closure for containers would look to the door buffer art for suggestions.' 43 CCPA at 738, 108 USPQ at 231. In *Shapleigh* the invention related to a tube-type reaction furnace having outer and inner tubes suitable for catalytic or non-catalytic treatment of hydrocarbons. One reference related to an apparatus for manufacturing alkali cyanid having outer and inner tubes and a second reference related to an apparatus for cracking hydrocarbons. The court found the reference teachings to be pertinent under section 103, citing *Lobl*."
3. SAME—SAME—SAME.  
On the matter of non-analogous art, Held that "Appellants are of course not charged with the teachings in all arts."

#### 4. SAME—SAME—SAME—*In re Kylstra* CONSTRUED.

"This court had occasion to comment on *Potts* in *In re Kylstra*, 24 CCPA 938, 87 F.2d 487, 32 USPQ 382. It held that while a street car register may be non-analogous to a machine gun ammunition counter, the invention related to the counting art. Consequently, 'the patentability of appellants' device must be tested by the modifications requisite to adapt the [prior art] \* \* \* device to use in the ammunition counting field in the manner proposed.' 24 CCPA at 941, 32 USPQ at 384. See *In re Miller*, 50 CCPA 885, 311 F.2d 955, 136 USPQ 205."

#### 5. SAME — SAME — SAME — HINDSIGHT RECONSTRUCTION FORBIDDEN—35 U.S.C. 103.

"Closely related to the doctrine of nonanalogous art is the doctrine forbidding hindsight reconstruction, also discussed in *Potts*, supra. In applying section 103, the Supreme Court recently cautioned against 'slipping into hindsight.' *Graham v. John Deere Co.*, 383 U.S. 1, 86; 148 USPQ 459, 474, citing *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412; 141 USPQ 549, 555 (1964), cert. denied 379 U.S. 888, 143 USPQ 465."

#### 6. SAME—SAME—SAME—*Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.* AND *In re Sporck* CONSTRUED.

"In *Monroe Auto* the reference related to a brake cylinder and the invention concerned auxiliary suspension devices designed for installation on the rear of an automobile. The court cautioned against the use of hindsight, citing *In re Sporck*, 49 CCPA 1039, 301 F.2d 686, 133 USPQ 360. In this latter case we stated, section 103 'requires us to view the prior art without reading into that art the teachings of appellants' invention.' *In re Murray*, 46 CCPA 905, 208 F.2d 226, 122 USPQ 364."

#### 7. SAME—SAME—SAME—ADAPTATION OF KNOWN SCIENTIFIC PRINCIPLES—*Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.* CONSTRUED.

"The opinion in *Monroe Auto* also cautions, concerning the doctrine of non-analogous art, that a reference may be used if it is 'illustrative of the adaptation of well known scientific principles to practical uses,' \* \* \*."

#### 8. SAME—SAME—SAME.

"Appellants' invention is manifestly far removed from the art of manufacturing Japanese cutlery. Applying the test stated supra, in *Lobl*, it does not seem to us that one seeking to eliminate pump cavitation problems and the problem of vapor in cryogenic liquid propellant flow system would turn to the cutlery art."

#### 9. SAME—OBVIOUSNESS—APPLICATION OF A SCIENTIFIC PRINCIPLE.

"While one may not patent a principle, the application of a principle to an environment may result in a patentable invention. *Tilghman v. Proctor*, 102 U.S. 707 (1880)."

#### 10. SAME—PARTICULAR SUBJECT MATTER—CRYOGENIC LIQUID SYSTEMS.

The refusal of certain claims to a cryogenic liquid propellant flow system, as unpatentable over the prior art, is reversed.

#### REVERSED.

Gerald E. Smallwood, John B. Farmakides for appellants.

Joseph Shimmel (Jere W. Sears, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, RICH, SMITH, and ALMOND, Associate Judges, and Judge WILLIAM H. KIRKPATRICK<sup>1</sup>

SMITH, J., delivered the opinion of the court.

The issue presented is whether, in view of the facts of record, appellants' invention, relating to cryogenic liquid systems, is obvious within the meaning of 35 U.S.C. 103. The real party in interest, by virtue of an assignment, is the National Aeronautics and Space Administration.

All three of the appealed claims were considered together. Appealed claim 22 describes a cryogenic liquid system as follows:

22. In a rocket propelled missile booster cryogenic liquid propellant flow system for uniformly supplying a cryogenic liquid propellant from a propellant

<sup>1</sup> Senior District Judge, Eastern District of Pennsylvania, sitting by designation.



storage tank to the combustion chamber in said rocket engine with minimal delay and waste of said fluid in stabilizing said uniform flow, the combination comprising:

1. conduit means for containing and directing the flow of said cryogenic liquid propellant from said tank to said rocket engine combustion chamber;
2. a thin substantially uniform layer of thermal insulating plastic material on the internal surfaces of said conduit means in contact with said cryogenic liquid propellant flowing therethrough;
3. means for producing and maintaining the flow of said cryogenic liquid propellant from said tank to said combustion chamber of said rocket engine;
4. whereby, the flow of said cryogenic liquid propellant from said tanks to said rocket engine combustion chamber is stabilized.

[1] At the onset there is a dispute between the parties as to what precisely is appellants' invention. For reasons developed more fully hereafter, the Patent Office terms the invention as "means to accelerate cooling of a metal by a liquid" while appellants argue it is a "cryogenic liquid propellant flow system" for missiles. No objection was made by the Patent Office as to the form of the claims or that they fail to meet the requirements of 35 U.S.C. 112 in particularly pointing out and distinctly claiming the subject matter which appellants regard as their invention. There is, therefore, no issue here as to whether the appealed claims define appellants' invention, in accordance with section 112. Accordingly, appellants' invention is the subject matter set forth in the appealed claims.

A second dispute arises between the parties as to what teachings were "prior art" at the time appellants made their invention. The Patent Office, in discharging its burden to show that the invention is obvious within the meaning of section 103, argues the prior art includes certain alleged admissions by appellants in their specification and the following article:

Sato, On the Effect of "Facing" on the Cooling Velocity of a Specimen During Quenching, 295th Report of the Research Institute for Iron, Steel and Other Metals, 21 Science Reports 565-74 (No. 4, 1932).

We will first consider the disclosure in Sato. This article states:

A method of quenching, which has been the practice of Japanese cutlery makers for a long time, is to face the surface of the specimen to be hardened with a mixture of "tonoko" i.e. the very fine powder of a razor whetstone and water, and to dry the specimen prior to the quenching operation. This process is said to be absolutely indispensable to obtain a perfect hardening. Since "tonoko" is powdered clay slate and a bad conductor of heat, a coating of this material even though a very thin layer, may at first be thought to have the effect of preventing the quick cooling of the specimen. . . . It was confirmed [by tests] that the velocity of cooling is much greater in the case of a faced than in that of an unfaced specimen, and that the slow cooling in the latter case is caused by the vapour film which forms on the surface of the specimen during the first period of immersion in the cooling liquid.

Sato discloses quenching specimens, the surface of which is roughened "to obtain a firm adhesion for the facing material." This is referred to "as the standard surface condition, whether faced or unfaced, for quenching." Sato concludes:

The present investigation may be summarized as follows:

(1) By comparing cooling curves during quenching . . . it was ascertained that a more drastic and uniform quenching may be effected in the case of specimens with facing than in the case of those without facing.

(2) An unfaced specimen heated to a high temperature, is, when quenched, at once covered with a vapour envelope given off by the cooling medium, and as the vapour is a bad conductor of heat, the cooling of the specimen is thereby greatly retarded, until the envelope begins to break and a direct contact of the

specimen with the cooling medium takes place; then an abrupt increase in the cooling velocity which is indicated by a break in the temperature-time curve results.

(3) Faced specimens are never enveloped by vapour film and, therefore, their cooling is very rapid and uniform throughout the specimen. Thus, the old technique of quenching steel specimens with facing is very useful; it gives them an intense and uniform hardening.

In addition to the teachings of Sato, the Examiner relied on statements in appellants' specification as establishing facts which were known to those of ordinary skill in the art at the time the invention was made. Appellants stated:

In a cryogenic, that is extremely low temperature, liquid containing and flow system such as the rocket fuel supply system shown in Fig. 1, it is essential to cool down or lower the temperature of the cryogenic liquid containing and flow defining walls as rapidly as possible so as to stabilize the flow of cryogenic liquid to such apparatus as rocket thrust chambers and thereby stabilize the operation of such apparatus as rapidly as possible.

In the past, efforts have been made to accelerate this wall cool-down time including the proper selection of cryogenic fluid and wall metal, providing heat conducting layers therebetween and so forth but none have been acceptable. . . .

Appellants discuss in the specification their invention as follows:

. . . applicants . . . have found that a marked improvement is obtained in cryogenic fluid chamber wall cool-down when an insulating layer is applied to the inner surface of the walls and that optimum efficiency is obtained when the insulating layer covers the entire wall inner surface. It has been found that the film boiling which was present in the past between the wall metal and the cryogenic liquid is prevented from becoming established by the use of this insulating layer and that a nucleate boiling is established in its place. This nucleate boiling allowed better heat transfer than the insulating film boiling between the cryogenic liquid and the walls which occurred when insulation was not used. This film seriously impeded the absorption of heat from the metal walls by the cryogenic liquid. The insulating layer, by the establishment of nucleate boiling, permits some of the cryogenic liquid to be in contact with the wall metal at all times, even though bubbles are leaving the surface, and thereby accelerates heat transfer between the wall metal and the cryogenic liquid.

Those skilled in the art will realize that the aforementioned film boiling and other flow instabilities will cause pump cavitation and that it is therefore highly important to prevent film boiling and to establish cryogenic fluid flow stability as rapidly as possible. As stated above, we have found that the inner surface insulating layer accelerates this metal wall cooling process and prevents film boiling by substituting nucleate-boiling therefor.

The Examiner's view, in summary, was as follows:

. . . In appellants' disclosure the cooling medium is a liquid and the article to be rapidly cooled is the fuel or oxydizer system. In the Sato publication the cooling medium is the liquid in which the cutlery is quenched and of course the cutlery is the article to be cooled. The analogy is very close. The art to which both the reference and the claims relate is that of heat exchange. . . .

It is desired to point out that the problem was recognized as one of heat exchange. This is deemed quite obvious. Then, how the problem was to be solved was the next step. And with the Sato publication before them appellants would naturally come to the solution. There is no difference of arts such as fuel containing system cooling and metal tempering. Both the alleged invention and the reference relate to the same art, heat exchange.

The Solicitor adds, the problem was known and "researching . . . [the] problem might well have led to Sato's article, or the longstanding practice of Japanese cutlery makers analyzed therein." According to the Solicitor:

. . . In short, a successful overall missile depends upon cooperation among experts having different skills. Wouldn't it have been only common sense, then,



for persons with appellants' problem to have consulted their colleagues skilled in metallurgy and heat exchange, particularly since it was known that accelerated cooling of the metal tubing would provide the answer?

To these colleagues, rapid cooling of metal by a contacting liquid would suggest quenching of steel. A thorough investigation of available literature on this subject would have uncovered the Sato article and readily revealed its pertinence, assuming it was indexed according to its title or abstracted according to its synopsis. Then too, mightn't a modern day armorer, steeped in guided missile technology, nevertheless recall an old sword maker's expedient, where perfect hardening of the blade is known to depend on rapid quenching?

We will now turn to a consideration of appellants' arguments. First, it is argued:

• • • The Board has mistakenly taken the appellants' brief description of their invention as a statement of prior art. It is clear that the appellants are showing how the problem of propellant flow stabilization was being approached by them. There would appear to be other ways to approach this problem of flow instability such as an additive to be mixed with cryogenic propellant which would prevent the pump cavitation problems. Possibly a new type of pump would provide the answer. Possibly even great pressurization on the entire system would be the solution.

Suffice it to say here that the appellants felt that the problem was caused by a high momentary heat transfer from the conduits to the liquid cryogenic fluid which vaporized some of the liquid. They found that it was this vapor which caused the trouble. They even found that the vapor formed inside the propellant pumps and the formation of the vapor caused the pumps to cavitate which in turn caused large variations in the propellant flow rate to the combustion chamber. • • •

Appellants submitted the affidavits of two "Aerospace Technologist[s]" which alleged, in substance:

That it has for many years been a problem, with which he has been concerned, to develop a propellant flow system which will uniformly supply a cryogenic liquid propellant from a storage tank to the combustion chambers of rocket engines;

That he believes in excess of 1000 technical persons in government and with industries in this country have, in the past 20 years, been interested in a solution of this problem and have actively worked toward such a solution;

That not until the applicants' solution to this problem has a simple and straightforward solution thereof been found.

Appellants disagree that the problem was "known":

• • • The problem which was "known," to the Board was one which was taught by appellants' specification and which the Examiner said was "obvious" from the flow stabilization problem which faced both the affiants and the appellants. The appellants contend that the problem of reducing the quantity of vaporized propellants from the cryogenic propellant system was neither obvious nor was it known.

As we view the reasoning advanced by the Patent Office, the Examiner was of the opinion that there was no issue as to the availability of Sato under section 103. In his view, the "person having ordinary skill in the art" would be one skilled in heat transfer and appellants' "invention" would be obvious to him once the Sato article was called to his attention. The Board agreed with the Examiner. The Solicitor, on the other hand, appreciated the technological differences between the subject matter here claimed and the teachings of Sato. According to the Solicitor, the invention relates to a cryogenic liquid propellant flow system and the issue here is whether appellants would be expected, in view of section 103, to turn to the art of quenching steel. As stated in the Solicitor's brief:

• • • That is the real question here, in line with the test for analogous arts stated in *In re Lobl*, 43 CCPA 734, 228 F.2d 234, 108 USPQ 229, and *In re Shapleigh*, 45 CCPA 705, 248 F.2d 96, 115 USPQ 129.

[2] In *Lobl* the invention related to a flexible closure for a container and one of the references relied on under section 103 related to a door buffer. In holding that the latter reference was in nonanalogous art, we stated: "It does not seem likely to us that one seeking to produce an improved closure for containers would look to the door buffer art for suggestions." 43 CCPA at 738, 108 USPQ at 231. In *Shapleigh* the invention related to a tube-type reaction furnace having outer and inner tubes suitable for catalytic or non-catalytic treatment of hydrocarbons. One reference related to an apparatus for manufacturing alkali cyanid having outer and inner tubes and a second reference related to an apparatus for cracking hydrocarbons. The court found the reference teachings to be pertinent under section 103, citing *Lobl*.

Here, as in *In re Grout*, 54 CCPA—, — F.2d —, — USPQ —, two aspects of the requirements of section 103 are presented for our consideration: first, what is the invention as a whole for which the patent is sought; and second, who is the person of ordinary skill in this art. As pointed out, supra, we find appellants' invention to be a cryogenic liquid propellant flow system.

The second aspect of section 103 is not easily resolved. [3] Appellants are of course not charged with the teachings in all arts. Where is the dividing line? The Supreme Court in *Potts v. Creager*, 155 U.S. 597 (1895), applied the doctrine of nonanalogous art to references cited therein in upholding the validity of the patents in suit. According to the Court's opinion, 155 U.S. at 606:

What, then, did the patentees do? They took the cylinder shown in the Creager wood-polishing exhibit, removed the glass bars, and substituted bars of steel; provided it with an abutting surface in the form of a revolving roller, and used it for a totally distinct and different purpose. • • •

In *Potts* the reference related to a wood polishing machine and the invention related to a machine "to disintegrate and pulverize" clay. The doctrine of nonanalogous art was subsequently applied in *Hobbs v. Beach*, 180 U.S. 383 (1901), citing *Potts*.

[4] This court had occasion to comment on *Potts* in *In re Kylstra*, 24 CCPA 938, 87 F.2d 487, 32 USPQ 382. It held that while a street car register may be nonanalogous to a machine gun ammunition counter, the invention related to the counting art. Consequently, "the patentability of appellants' device must be tested by the modifications requisite to adapt the [prior art] • • • device to use in the ammunition counting field in the manner proposed." 24 CCPA at 941, 32 USPQ at 384. See *In re Miller*, 50 CCPA 885, 311 F.2d 955, 136 USPQ 205.

[5] Closely related to the doctrine of nonanalogous art is the doctrine forbidding hindsight reconstruction, also discussed in *Potts*, supra. In applying section 103, the Supreme Court recently cautioned against "slipping into hindsight." *Graham v. John Deere Co.*, 383 U.S. 1, 36; 148 USPQ 459, 474, citing *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412; 141 USPQ 549, 555 (1964), cert. denied 379 U.S. 888, 143 USPQ 465. See *In re Grout*, supra.

[6] In *Monroe Auto* the reference related to a brake cylinder and the invention concerned auxiliary suspension devices designed for installation on the rear of an automobile. The court cautioned against the use of hindsight, citing *In re Sporck*, 49 CCPA 1039, 301 F.2d 686, 133 USPQ 360. In this latter case we stated, section 103 "requires us to view the prior art without reading into that art the teachings of



appellants' invention." *In re Murray*, 46 CCPA 905, 268 F.2d 226, 122 USPQ 364. The opinion in *Sporck* further provides, 49 CCPA at 1043, 44, 45; 133 USPQ at 363, 64:

Once appellant's solution to the problem of making a tapered wall frusto-cone is disclosed, it is easy to see how the prior references can be modified and manipulated to produce this type of cone. The change admittedly is simple and by hindsight seems obvious. However, the simplicity of new inventions is oftentimes the very things that is not obvious before they are made. This court, in *In re Osplack*, 39 CCPA 932, 195 F.2d 921, 93 USPQ 306, 308, stated:

We think this case is one of that category of inventions which, when viewed after disclosure and explanation by an applicant, seem simple and such as should have been obvious to those in the field. Yet this does not necessarily negative invention or patentability. *Goodyear Tire & Rubber Co., Inc. et al. v. Ray-O-Vac Company*, 321 U.S. 275, 60 USPQ 386; *In re DeLancey*, 34 CCPA 849, 159 F.2d 737, 72 USPQ 477. Indeed, simplicity may even be some evidence of invention. *Baldwin-Southwark Corporation v. Tinus Olsen Testing Mach. Co. et al.*, 88 F.2d 910, 32 USPQ 336.

The fact that the invention seems simple after it is made is not determinative of the question of obviousness. If this were the rule, many of the most beneficial patents would be stricken down. If those skilled in the mechanical arts are working in a given field and have failed to discover a certain new and useful improvement, the one who first makes the discovery frequently has done more than make an obvious improvement which would have suggested itself to a mechanic skilled in the art, and such an invention is entitled to the grant of a patent thereon. *Expanded Metal Co. v. Bradford*, 214 U.S. 366.

Here, neither the record nor the facts of which we are able to take judicial notice supplies the factual data necessary to support the legal conclusion of obviousness of the invention at the time it was made. We are unwilling to substitute speculation and hindsight appraisal of the prior art for such factual data. \* \* \*

[7] The opinion in *Monroe Auto* also cautions, concerning the doctrine of nonanalogous art, that a reference may be used if it is "illustrative of the adaptation of well known scientific principles to practical uses," citing *In re Mariani*, 37 CCPA 740, 742, 177 F.2d 293, 83 USPQ 308, 309. In this latter case the invention related to a juice extractor for, e.g., oranges, with an extensible handle and base member. The references related to a fishing reel with an extensible handle for increased leverage and an automobile jack with an extensible base. The opinion points out, in answer to the argument concerning nonanalogous art, 37 CCPA at 742, 83 USPQ at 309:

It seems to us that appellant may have misunderstood the exact theory underlying the decisions of the respective tribunals of the Patent Office. We do not understand their rejection to be based simply upon the showing of the extensible feature of the fishing rod and the provision of a broader base for the automobile jack. Both tribunals seem to us to have held, in effect, that the features claimed to be novel are not in fact novel but are scientific necessities—or, at least, scientifically desirable and well known to those skilled in the art—and the particular patents were cited as being illustrative of the adaptation of well known scientific principles to practical uses.

It is interesting to note the Supreme Court in *Potts* made a similar observation, 155 U.S. at 605 in applying the nonanalogous art doctrine and upholding the validity of the patents in suit. See also *Printing Plate Supply Co. v. Crescent Engraving Co.*, 246 F. Supp. 654, 662, 147 USPQ 143, 149 (W.D. Mich. 1965).

With the above principles in mind, we are required to determine, from the factual bases of record, whether such bases supports the legal conclusion of obviousness. We think they do not.

[8] Appellants' invention is manifestly far removed from the art of manufacturing Japanese cutlery. Applying the test stated supra,

in *Lobl*, it does not seem to us that one seeking to eliminate pump cavitation problems and the problem of vapor in cryogenic liquid propellant flow system would turn to the cutlery art.

The Board in its opinion appears to agree as it acknowledges that the relationship between film boiling and insulating materials "appears to have subsequently been independently discovered by appellants." The Solicitor also appears to agree as he maintains appellants should have consulted with "colleagues skilled in metallurgy."

It is of course true that the Examiner was able to locate the Sato article. However, it appears that this was done through reading into the art the teachings of appellants' invention. *In re Murray*. We think the Patent Office's conclusion of obviousness is based on an impermissible hindsight reconstruction of the art. *In re Sporck*.

Our determination here is not without difficulty. However, we think the difficulty arises from not considering the subject matter as a whole and instead focusing on the scientific principle involved, namely, the reduction of film boiling through the use of an insulator. [9] While one may not patent a principle, the application of a principle to an environment may result in a patentable invention. *Tilghman v. Proctor*, 102 U.S. 707, (1880).

Considering the facts of record we are of the view that appellants, in view of the conditions set forth in section 103, are not chargeable with the knowledge set forth in the cutlery art. [10] Accordingly, the Board's decision must be reversed.

REVERSED.

WORLEY, Chief Judge, did not participate.

## PATENT SUITS

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- 2,729,930, D. A. Walker, COTTON DOFFER, filed June 10, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1013, *Tractor Supply Co. v. International Harvester Co.* Patent valid and infringed by the plaintiff; defendant is entitled to a permanent injunction, Sept. 22, 1967.
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- 3,000,000, Symons and Werner, RELEASE AND ADJUSTMENT FOR GYRATORY CRUSHERS; 3,133,706, Bond, Gasparac and Balmer, LOCKING MECHANISM FOR CONE CRUSHERS AND THE LIKE; 3,140,835, Balmer and Gasparac, BOWL CLAMPING MECHANISM FOR CONE CRUSHERS; 3,162,367, L. G. Symons, HYDRAULIC BOWL RELEASE FOR CONE CRUSHERS; 2,687,257, H. H. Rumpel, GYRATORY CRUSHER, filed Jan. 10, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c67, *Nordberg Manufacturing Company v. Barber-Greene Company.*
- 3,033,136. (See 2,005,119.)
- 3,036,636. (See Re. 26,065.)
- 3,094,168. (See Re. 26,065.)
- 3,101,783. (See Re. 26,065.)
- 3,112,796. (See Re. 26,065.)
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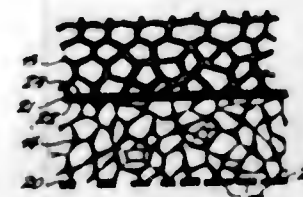
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## REISSUES

MAY 7, 1968

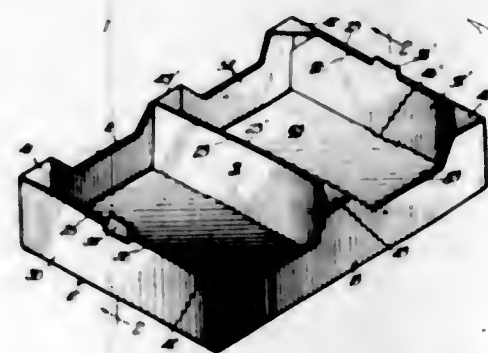
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,385  
**LIQUID AND PASTE APPLICATOR**  
James R. Gilchrist, Village of Clarence, N.Y., assignor to Truly-Magic Products, Inc., Buffalo, N.Y., a corporation of New York  
Original No. 3,142,855, dated Aug. 4, 1964, Ser. No. 112,438, May 24, 1961. Application for reissue Aug. 2, 1966, Ser. No. 574,265  
3 Claims. (Cl. 15—210)



The applicator includes a soft polyurethane open or ruptured cell sponge pad with craters in its working surface and an adhesive uniting small fibers to the land portions only between the craters of the working face, thereby to provide fibers extending from the working face to reduce streaking in use of the applicator while at the same time leaving the craters substantially open and hence not interfering with absorption and release by the ruptured cell sponge pad of a large quantity of the shoe dressing to be applied.

26,386  
**SHIPPING CONTAINER**  
Walton B. Crane, Sherman Oaks, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California  
Original No. 3,194,472, dated July 13, 1965, Ser. No. 372,307, June 3, 1964, which is a continuation-in-part of Ser. No. 235,615, Nov. 6, 1962, now abandoned. Application for reissue Feb. 2, 1967, Ser. No. 632,833  
15 Claims. (Cl. 229—23)

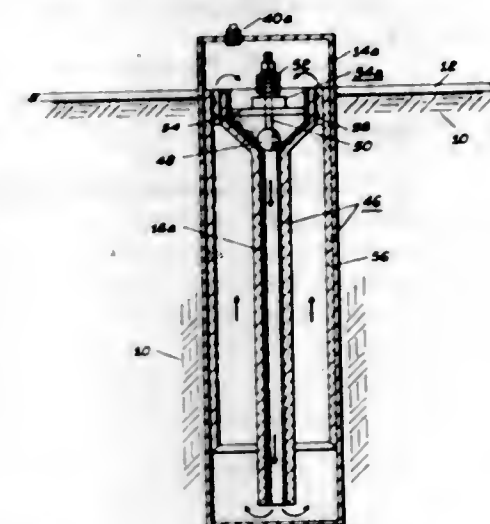


A tray-like shipping container fabricated from a pair of generally rectangular paperboard blanks. The blanks are arranged so that, when folded into and secured in container-forming relation, the resulting container has multi-panel side and end walls.

A method of forming such container in which the two blanks are cut and creased to provide a plurality of foldable panels, including side and end panels, top and bottom panels, corner connecting panels, end wall reinforcing panels, and cross partition forming panels. Corresponding sidewall forming panels are positioned in overlapping relation and secured together to form a tube, which is opened up, and then corresponding end wall forming and reinforcing panels, corner connecting panels,

and cross partition forming panels are folded into position and secured therein.

26,387  
**SOIL REFRIGERATING SYSTEM**  
Joseph C. Balch, Mile 34, Richardson Highway, Fairbanks, Alaska 99701  
Original No. 3,220,470, dated Nov. 30, 1965, Ser. No. 228,897, Oct. 8, 1962. Application for reissue May 1, 1967, Ser. No. 641,730  
9 Claims. (Cl. 165—40)



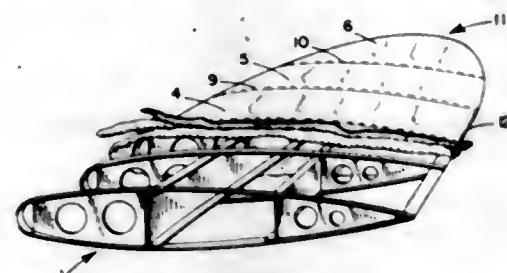
7. Refrigeration apparatus for freezing or maintaining soil in a frozen state, comprising:  
(1) a hollow elongated member, having upper and lower closed ends, positioned in soil with the upper end of said member projecting above the surface of said soil;  
(2) a fluid substantially filling said elongated member;  
(3) an insulating member having its exterior contiguous with the interior of said hollow elongated member and extending along a portion of the length of said hollow elongated member, the ends of the insulating member being spaced from the ends of said hollow elongated member, said insulating member having at least one passageway extending therethrough to allow fluid flow in one direction between the ends of said hollow member; and  
(4) a tube-like member mounted in and extending through said insulating member to a point adjacent said lower closed end of said hollow elongated member to allow fluid flow in the other direction between the ends of said hollow elongated member; said fluid flow in each direction resulting from the temperature differential existing in the hollow elongated member adjacent the upper and lower ends of said member.

26,388  
**FRAMEWORK COVERING ARRANGEMENT**  
Daniel A. Cooper, Van Nuys, Calif., assignor to Cooper Engineering Co., Van Nuys, Calif., a corporation of California  
Original No. 3,127,136, dated Mar. 31, 1964, Ser. No. 821,958, June 22, 1959. Application for reissue Aug. 22, 1966, Ser. No. 587,351  
6 Claims. (Cl. 244—133)

A framework covering arrangement in which a heat-shrinkable cloth is disposed over a framework and then



shrunk by the application of heat to localized areas throughout the material, after which a substance is ap-



plied to the material rendering it impervious to the passage of air.

26,389

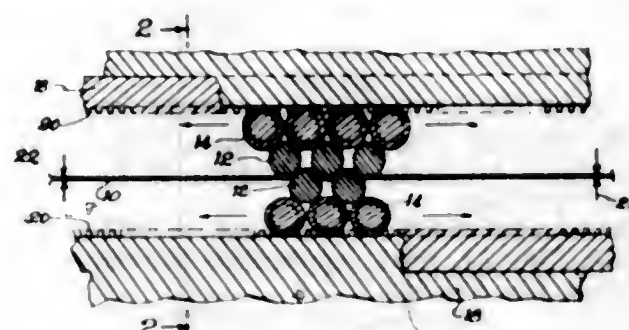
**BACK-UP ROLL CONSTRUCTION**

Edward J. Ripling, Flossmoor, and Sheldon Mostovoy, Chicago, Ill., by Materials Research Laboratory, Inc., assignee, Richton Park, Ill., a corporation of Delaware  
Original No. 3,269,163, dated Aug. 30, 1966, Ser. No. 320,059, Oct. 30, 1963. Application for reissue Feb. 20, 1967, Ser. No. 628,512

16 Claims. (Cl. 72-163)

A construction including work rolls provided for contacting sheets of material moving relative to the work

rolls. At least one back-up roll is provided for engaging an associated work roll, and gear teeth are formed in at least a portion of the periphery of the back-up roll. The gear teeth are located intermediate the ends of the back-



up roll with at least some of the gear teeth being positioned at points immediately opposite working surfaces of the work roll. A rack or other supporting rolls mesh with the gear teeth to thereby eliminate bending of the back-up roll and consequently of the work rolls.

**PATENTS**

GRANTED MAY 7, 1968

**GENERAL AND MECHANICAL**

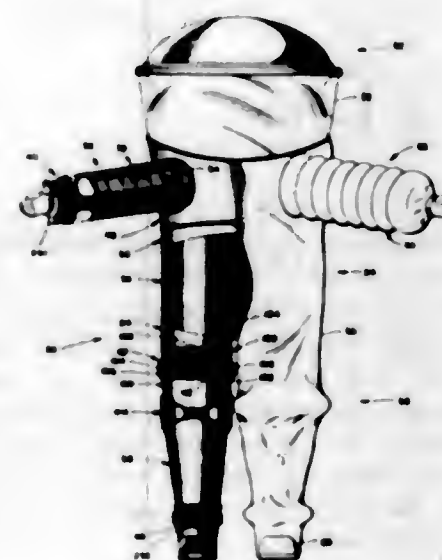
3,381,303

**SPACE SUIT**

Allyn B. Hazard, Alhambra, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio

Filed Jan. 2, 1964, Ser. No. 335,115

22 Claims. (Cl. 2-2.1)



1. A space suit comprising a body having rigid arm, leg, and head portions secured thereto, each of said leg portions including a single ankle bellows joint, a single knee bellows joint, and a pair of connected single thigh bellows joints, each of said arm portions including a wrist bellows joint and a plurality of interconnected single bellows joints, and said body including a universal bellows joint; said bellows joint including couplings respectively secured to opposite ends of said bellows, said couplings being provided with sets of pivots disposed 180° apart, and a mid-link extending between each set of pivots, each of said mid-links being pivotally secured at its opposite ends to the respective pivot of the set of pivots corresponding thereto and the length of each of said mid-links being in the order of 65% or greater than the distance between the opposite ends of the bellows corresponding thereto when the bellows assumes an undeflected straight position, the excess of length beyond the 65% being directly related to the spring constant of the bellows in accordance with the equation

$$F_L = \frac{KR^2\phi^2}{10,300\Delta P \cdot V_1} + 1$$

where

$F_L$  equals the ratio  $V_2/V_1$ ;

$V_2$  equals the volume of the bellows when deflected through  $\phi$  degrees;

$V_1$  equals the volume contained within the undeflected bellows;

$K$  equals the spring constant of the bellows;

$R$  equals the bellows radius;

$\phi$  equals the deflection angle; and,

$\Delta P$  equals the difference in pressure between the interior and exterior of the bellows;

wherein the mid-link length is equal to the abscissa intersect of the value 100( $F_L$ ) percent with the maximum deflection angle  $\phi$  of FIG. 4.

3,381,304

**HAND GUARD OR GRIP**

Michael Coco, Wilmington, Del. (% Nissen Corp., 930 27th Ave. SW., Cedar Rapids, Iowa 52404)

Filed July 19, 1965, Ser. No. 472,941

4 Claims. (Cl. 2-20)



A hand guard or protector for gymnasts while performing, for instance, on parallel bars which is secured to the hand by means of the fingers and the wrist without the need of any buckles, snaps or other fasteners. In its preferred form the guard for each hand employs a single strip of flexible sheet material having an aperture for the index finger at one end, the other end having a broadened palm portion and a pair of laterally spaced apertures receiving the index and little fingers, the intermediate portion of the strip being wound around the wrist.

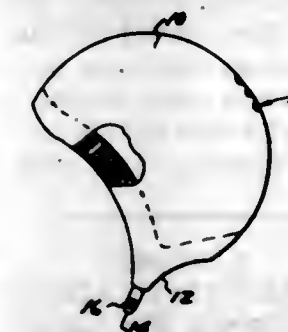
3,381,305

**SWIM CAP**

Frank D. Buzzell, 28803 W. Nine Mile Road, Farmington, Mich. 48024

Filed Jan. 10, 1966, Ser. No. 519,660

4 Claims. (Cl. 2-68)



A swim cap has a unidirectional valve formed in its surface, adapted to permit air to escape from the space between the cap and the head of a wearer. The perimeter of the cap is equipped with a special band adapted to form an air tight seal with the head of the wearer. In one embodiment the band is formed with a plurality of indentations which act as suction cups. In the second embodiment the band is formed of an adhesive material. The valve and the band cooperate to evacuate air from between the cap and the head and thereby provide a water tight protector for the head.

3,381,306

**MULTIPURPOSE BLANKET**

George C. Innes, 1021 Park Ave., Elyria, Ohio 44035

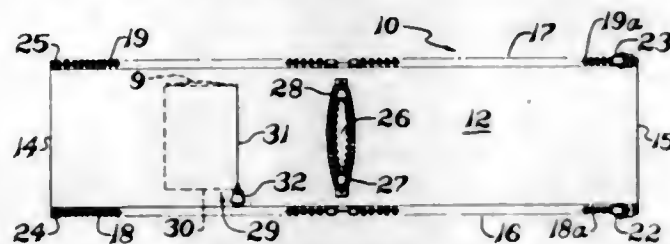
Filed Aug. 31, 1965, Ser. No. 483,971

2 Claims. (Cl. 2-69)

The blanket described and claimed in the present application comprises a rectangular blanket composed of



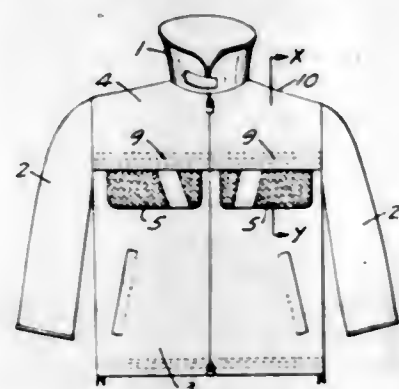
an outer layer of rainproof material and an inner layer of textile. The side edges of the blanket are provided with zipper means adapted to attach the edges of the blanket together, if desired. A head opening, in the form of a slot, is disposed in the center portion of the blanket and the edges of the slot are provided with zippers



adapted to draw the edges of the slot snugly about a person's neck, equidistant from the ends of the slot, and/or to completely close the slot, if so desired. The blanket is provided with a pocket of sufficient capacity to contain the said layers of the blanket when the latter are not in use.

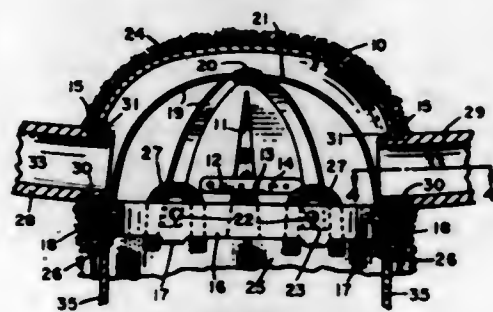
### 3,381,307 GARMENTS

Donald K. Shingler, % Shingler's Fabric Products,  
83 Columbia, Seattle, Wash. 98104  
Filed Jan. 4, 1965, Ser. No. 423,076  
3 Claims. (Cl. 2-94)



An outer garment having relatively large inverted open pockets within which are stitched brilliant, weather resisting drape-like components which can be either substantially entirely draped downwardly outside of the pocket or concealed and retained within the pocket by closure means provided adjacent the opening of the pocket.

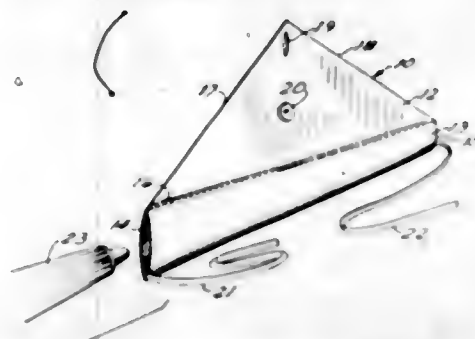
3,381,308  
DECORATIVE HEADGEAR  
Morris Fineberg, 200 Colony St.,  
Winnipeg, Manitoba, Canada  
Filed July 13, 1965, Ser. No. 471,686  
3 Claims. (Cl. 2-182.6)



A semi-spherical shell headgear having a fur-like covering thereover and a pair of hollow tapered horns, each protruding from one of the sides thereof, to simulate an animal; an opening at the rear of the shell for adjustment thereof and air entrance, and the interior provided with a resiliently-mounted openwork caging for reception of a wearer's head; and the caging spaced from the shell

for cooling air to pass around said head from the rear opening and up through the hollow horns for exhaust out perforations in said horns.

3,381,309  
COMBINATION SHEATH AND SCARF  
Howard R. Cohen, Old Bethpage, N.Y., assignor to Ann  
Page Mfg. Corp., Long Island City, N.Y., a corporation  
of New York  
Filed Apr. 4, 1967, Ser. No. 628,338  
4 Claims. (Cl. 2-207)



A combination umbrella sheath and head scarf formed by a fabric piece having a triangular section and a rectangular section, the piece being constituted by two superposed panels joined together at the junction of the sections and at the base thereof to define an open-ended tube for receiving a furled umbrella, said triangular section having locking means to hold the section in place when it is wound about the tube, a pair of strings being attached to the piece at the open ends to tie the piece about the head of the wearer.

3,381,310  
PERMANENTLY CREASED AND PLEATED  
FABRICS AND PROCESS FOR PRODUC-  
ING SAME  
Giuliana C. Tesoro, Dobbs Ferry, and Paul H. Egrie,  
New York, N.Y., assignors to J. P. Stevens & Co., Inc.,  
New York, N.Y., a corporation of Delaware  
No Drawing. Filed Aug. 11, 1964, Ser. No. 388,938  
23 Claims. (Cl. 2-243)

1. In a method for the production of permanently creased and pleated cellulosic garments wherein a cellulosic textile fabric is impregnated with a polymerizable thermosetting resin and an acid catalyst for said polymerizable thermosetting resin, partially dried without reacting the polymerizable thermosetting resin, then cut and sewn into a garment or garment section according to any desired style and wherein the desired creases, folds, and pleats are introduced after completion of the garment or garment section and set by curing the completed article to insolubilize the resin, the improvement comprising having present on the fabric an effective amount of a substantially neutral deliquescent inorganic salt which is a member selected from the group consisting of calcium halides, cobaltous halides, manganous chloride, nickel halides, nickel nitrate and strontium halides to thereby avoid a premature reaction of the polymerizable thermosetting resin on the textile fabric prior to the final curing step.

3,381,311  
PAJAMA LEG CONSTRUCTION  
Walter S. Wormser, Highland Park, Ill., assignor to W. S.  
Wormser Company, Chicago, Ill., a partnership  
Filed June 14, 1965, Ser. No. 463,778  
2 Claims. (Cl. 2-270)

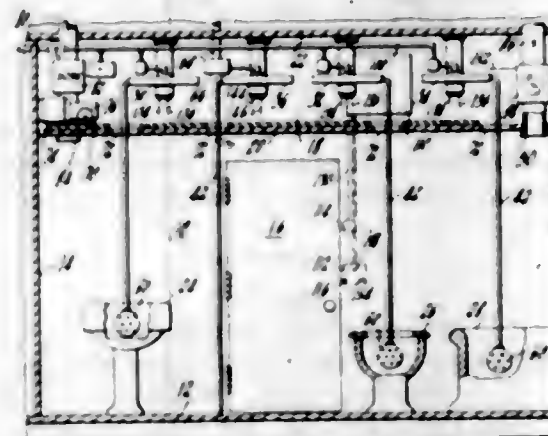
A child's convertible pajama leg construction is provided which selectively serves either as a neat ankle-hugging sleeve or as a sock-like enclosure for protecting the child's foot. The ankle sleeve is defined by two elongated pieces joined along longitudinal seams and being

circumferentially stretchable, with one piece having a manipulable cuff formed thereon and arranged in one



position to hug the sleeve and in another position to serve as a closure for the sock.

3,381,312  
CLEANING SYSTEM  
Dean K. Whittle, Liberty Road,  
Marblehead, Mass. 01945  
Filed Nov. 29, 1965, Ser. No. 510,235  
8 Claims. (Cl. 4-1)

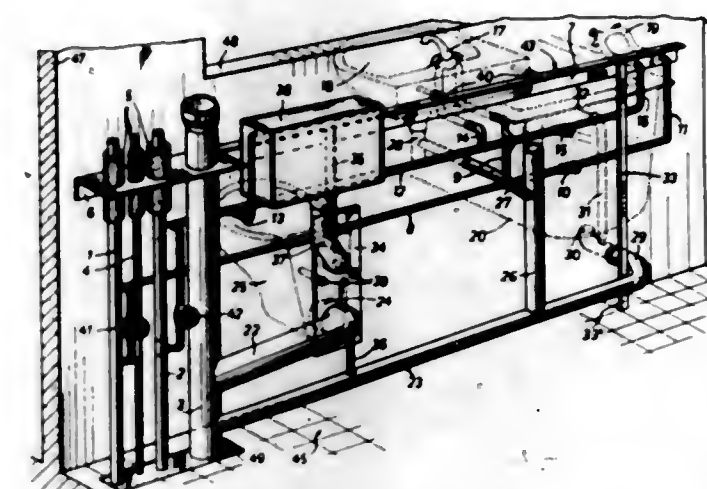


A bathroom cleaning system includes a storage area formed above the ceiling of the bathroom. Housed in the storage area are three cleaning implements each of which includes a reel structure for receiving a hose in coil form, and at the end of the hose is a cleaning implement. Each cleaning implement is rotatably mounted and has projecting therefrom a series of nozzles which are set at generally tangential directions with respect to the surface of the implement and generally perpendicular to its axis of rotation. In addition, a liquid suction hose connected to a suction pump is also housed in storage area on a reel; and a heater unit and exhaust duct are mounted in the storage space. A control unit opens doors in the ceiling and rotates the reels to lower the cleaning implements to positions in a washstand, a toilet and a bathtub. Water and detergent, applied under pressure through the hoses to the cleaning implements rotates the cleaning heads in a cleaning operation. Then, excess water is withdrawn by the suction pump; the cleaning implements and suction hose are retracted into the storage space and the heater and fan are energized to circulate air through the bathroom to complete the cleaning operation.

3,381,313  
SANITARY INSTALLATION  
Rolf Rothmayr, Zurich, Switzerland, assignor to Sanfit  
Holding A.G. Baden, Aargau, Switzerland  
Filed Oct. 12, 1965, Ser. No. 495,086  
Claims priority, application Austria, Oct. 12, 1964,  
A 8,678/64; Sept. 17, 1965, A 8,520/65  
9 Claims. (Cl. 4-2)

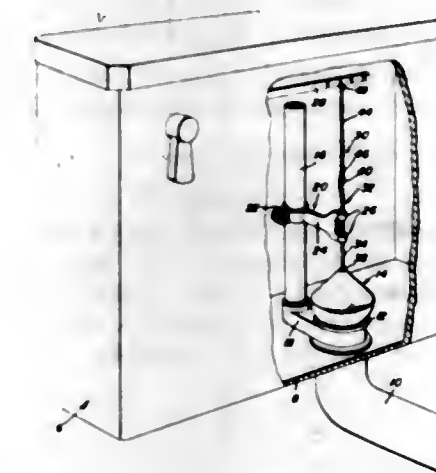
A support arrangement formed by a frame structure for the piping and equipment of a sanitary installation

in a housing unit. The main discharge conduit of the installation forms the principal load-bearing member of the frame. A pair of spaced support members arranged in aligned parallel relationship are secured to and extend generally perpendicularly from the main discharge conduit forming the horizontal portions of the frame. The frame is completed by an upright member secured and extending between the upper and lower support members and spaced from the main discharge conduit. In one ar-



range of the support frame, both of the support members are pipes attached to and in communication with the main discharge conduit, in this embodiment the upright member is also a pipe providing communication between the lower and upper support members. Another embodiment utilizes a bar member for the upper support member and a discharge pipe for the lower member. The piping and certain of the equipment in the sanitary installation are supported on the frame.

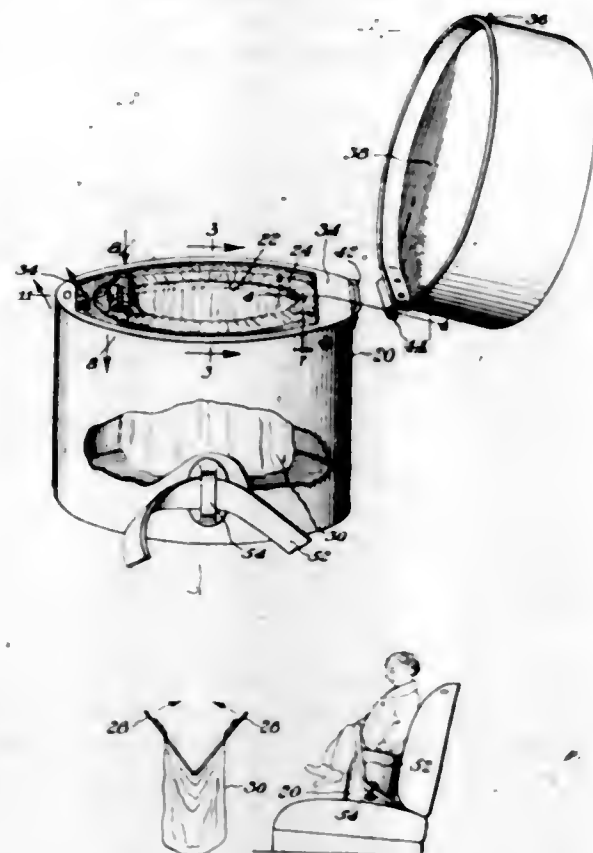
3,381,314  
LIFT ROD FOR FLUSH TANK VALVE  
John M. Hansen, Jr., 33 Manor Drive,  
Rochester, N.Y. 14617  
Filed Sept. 24, 1965, Ser. No. 489,859  
3 Claims. (Cl. 4-57)



The herein disclosed concept pertains, generally stated, to a flush tank ball, a pivoted trip lever, a fixed guide bracket therebetween, and an improved operating connection between the ball and lever. The "operating connection" is characterized by (1) a lifting rod and (2) a linking chain between the lever and rod. Novelty is predicated on the rod in that it is a replacement for the currently used copper or equivalent metal rod. It is made of fluorocarbon resin, "Teflon" for example, and is bendably resilient, chemically stable, has a low coefficient of friction, is self-lubricating, non-sealing, will not become sticky or gummy, and insures unhampered operation.

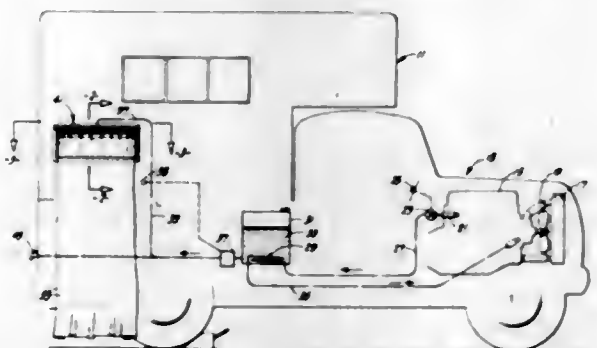


**3,381,315**  
**PORTABLE CHILD'S TOILET**  
 Bernard Glassberg, % P.B.M. Parking Corp.,  
 35 E. 38th St., New York, N.Y. 10016  
 Filed Dec. 2, 1965, Ser. No. 511,045  
 5 Claims. (Cl. 4-142)



1. The combination of a portable child's toilet, comprising a first hollow vertical cylinder sealed at the bottom and having a top surface having a central orifice, the periphery of said orifice having a horizontal circular slot, and a bag having an open neck having a peripheral horizontal thickened rim surrounding said orifice, said bag being adapted to be removably inserted through said orifice into said cylinder with said rim positioned in engagement with said slot, the upper surface of said rim being coated with a sealing adhesive, and a removable protective paper strip detachably secured to said adhesive, said rim divided into half portions whereby the opposite halves of the adhesively coated top surface may be pressed together after use to seal any bodily wastes in the bag.

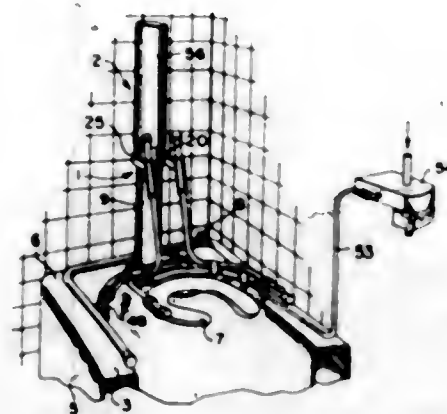
**3,381,316**  
**CAMPER SHOWER SYSTEM**  
 Howard W. Anderson, P.O. Box 935,  
 Santa Cruz, Calif. 95060  
 Filed Aug. 23, 1965, Ser. No. 481,859  
 4 Claims. (Cl. 4-154)



A mobile camping unit is formed with a casing in one wall opening to the exterior and having a hinged cover. A shower nozzle, shower curtain and support means for the curtain capable of being folded inside the casing when not

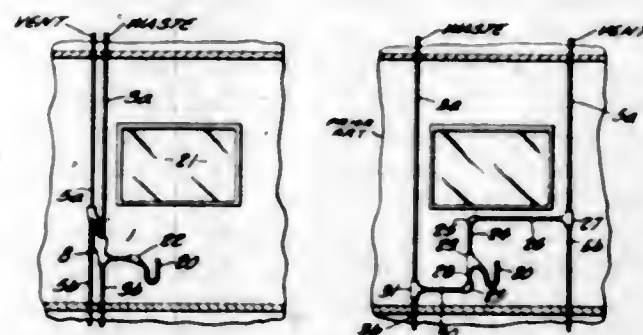
in use and the cover is closed and of being unfolded when the cover is opened are included. The engine for the camping unit vehicle heats water for the tank.

**3,381,317**  
**BATHTUB LIFT**  
 William A. Daniels, 1031 Seven Hills Drive, and William A. Daniels, Jr., 942 Simich Drive, both of Seven Hills, Ohio 44131  
 Filed Sept. 29, 1965, Ser. No. 491,115  
 7 Claims. (Cl. 4-185)



A bath tub lift including a fluid operated, vertically movable piston having a seat operatively connected thereto for lowering and raising of the seat into and out of a bath tub.

**3,381,318**  
**PLUMBING FITTING**  
 Hermanus N. Luitj, 4105 Glencoe Ave.,  
 Venice, Calif. 90291  
 Filed Oct. 22, 1965, Ser. No. 501,421  
 13 Claims. (Cl. 4-211)

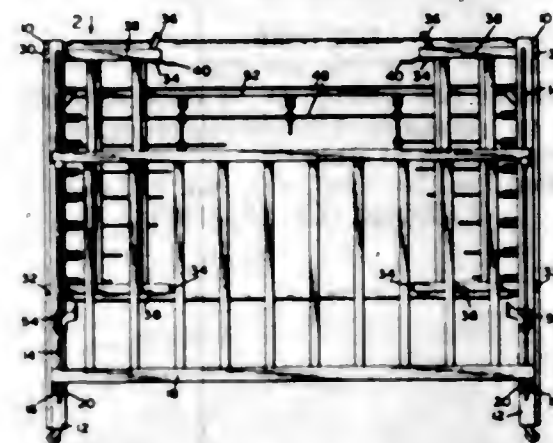


A plumbing fitting with a chamber for connecting two sections of a waste pipe which are essentially in alignment with each other, a waste inlet into the chamber and positioned between the two ends of the waste pipe and a vent pipe, one end for connecting with a vent stack and the other end entering the chamber and an air passage from that point to the waste inlet within the chamber so that there is an air passage from the vent stack to the waste inlet even when waste fluid is passing through the chamber.

**3,381,319**  
**FOLDING CRIB**  
 Joseph Camille Bresnak, 96 Marquette St.,  
 Gardner, Mass. 01440  
 Filed Apr. 11, 1967, Ser. No. 629,991  
 3 Claims. (Cl. 5-99)

Folding crib having a drop side on the usual slide rods, a spring and a mattress, the spring being in two interpiv-

oted parts so that one part may be moved to a vertical position together with the mattress holding the mattress



between the spring and the back of the crib, the side walls being infolding and utilizing the crib slide rods as pintles.

**3,381,320**  
**BEDSPREAD SHAPING DEVICE**  
 Walter Lee Mott, 71 Stillwell, Kendall Park, N.J. 08824  
 Filed Apr. 12, 1967, Ser. No. 630,429  
 10 Claims. (Cl. 5-317)



A device for shaping a bedspread at the corners of the bed thereby eliminating the unsightly appearance caused by a haphazard drape of the bedspread material. The device has a split conical shaped wrap-around body of flexible plastic sheet material, the edge of the wide portion of the body being decorative. The long edges of the body are detachably connected by tongue and slit connections. The body is formed with a series of closely spaced transverse slits for adjustably receiving a fan-shaped plastic sheet plate adapted to be inserted between the mattress of the body and the boxspring thereof for holding the conical body in upright position against displacement. The plate may be adjusted up and down along the body allowing for the raising or lowering of the cone due to any variation in height of the bed from the floor which may be encountered. The body is formed with means for converting its shape from a cone to a two-scallop shaped body or a three-scallop shaped body.

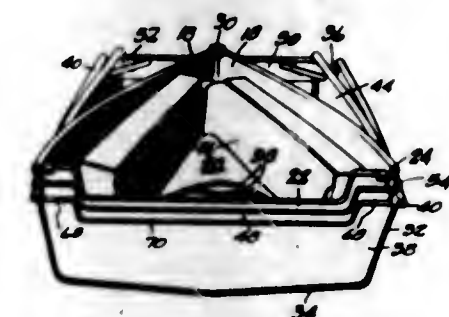
**3,381,321**  
**BED CLOTHING**  
 Alexander N. Di Addario, 8888 The Fairways,  
 Clarence, N.Y. 14031  
 Filed Apr. 6, 1966, Ser. No. 540,619  
 1 Claim. (Cl. 5-334)



A bed covering device such as a sheet or the like having a main body portion coextensive with the mattress

area and provided with side and end extensions. The extensions are adapted to be tucked around the corresponding sides and ends of the mattress and the corners of the extensions are truncated. The top end extension is materially longer than the other extensions so as to be folded back on top of the main body portion, and then back again upon itself to conceal a pillow and thereafter having an end portion to be tucked around the top end and under the mattress.

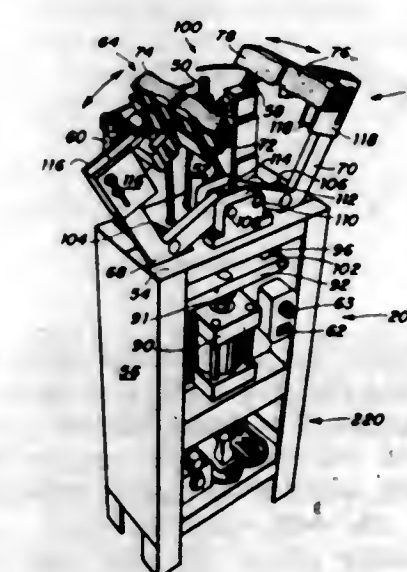
**3,381,322**  
**COLLAPSIBLE BOAT**  
 Walter A. Cook, 108 N. Grand Blvd.,  
 Osceola, Ind. 46561  
 Filed Dec. 10, 1965, Ser. No. 512,996  
 7 Claims. (Cl. 9-2)



A collapsible boat formed of a plurality of self-contained buoyant sections each having bottom and side walls and at least one vertical transverse wall and having longitudinal guides for tensioned connecting cables at sides and bottom joining the sections with transverse walls abutting, and having seat means supported upon and having sockets releasably interlocked with the upper portions of abutting transverse walls of adjacent sections.

**3,381,323**  
**APPARATUS FOR DELASTING FOOTWEAR**  
 Robert A. Spence, Lincoln, Mass., assignor to Bain Corporation, Brookline, Mass., a corporation of Massachusetts  
 Original application May 7, 1965, Ser. No. 453,933.  
 Divided and this application May 2, 1967, Ser. No. 649,389

25 Claims. (Cl. 12-15.1)



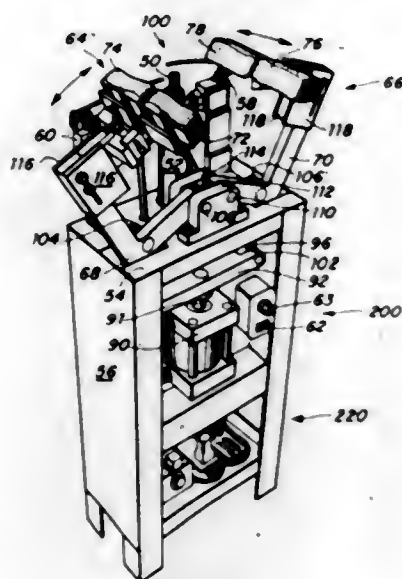
Apparatus for separating footwear from a last having means for the application of pressure to exterior portions of the footwear while introducing a charge of fluid under pressure between the last bottom and footwear interior. This application of exterior pressure restrains the footwear from expanding during removal of the last with a resultant reduction in the loss of fluid pressure by leakage between the last and footwear interior.



3,381,324

**METHOD FOR DELASTING FOOTWEAR**

Robert A. Spence, Lincoln, Mass., assignor to Bain Corporation, Brookline, Mass., a corporation of Massachusetts

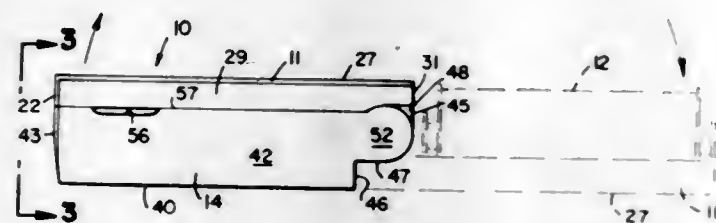
Filed May 7, 1965, Ser. No. 453,933  
16 Claims. (Cl. 12-142)

A method of separating footwear from a last by the application of pressure to exterior portions of the footwear while introducing a charge of fluid under pressure between the last bottom and footwear interior. This application of exterior pressure restrains the footwear from expanding during removal of the last with a resultant reduction in the loss of fluid pressure by leakage between the last and footwear interior.

3,381,325

**LINT COLLECTOR**

Richard G. Reineman, Newport Beach, Calif., assignor to Tackmer Corporation, Palo Alto, Calif., a corporation of California

Filed Nov. 25, 1966, Ser. No. 597,041  
4 Claims. (Cl. 15-104)

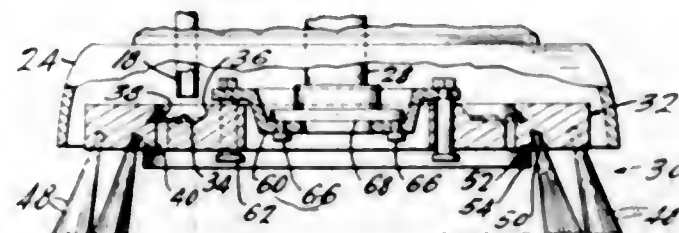
This lint collector has a cylindrical roller with a sticky cylindrical surface and stub shafts at each end, supported by a frame member. The frame member is hollow and channel-like with transverse roller-supporting walls and a web joining side walls. Two support members generally parallel to the side walls each provide a pivot opening and have a locking groove on both sides of the pivot opening. The device is normally closed by a hollow channel-like combination cover-and-handle member, which has pivot means fitting into the pivot openings and locking ribs engageable in the grooves and flexible out from them. The ribs are locked in a closed position where the cover-and-handle member serves as a cover and cooperates with the frame member to enclose said roller, and are also locked in an open position 180° away from the closed position, where the cover and handle member and the

frame member are collinear to provide a handle for the lint collector.

3,381,326

**SCRUB BRUSH**

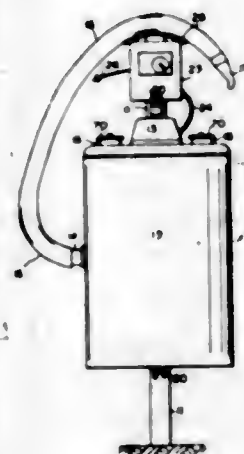
Francis D. Dolan and George W. Walther, Toledo, Ohio, assignors to American-Lincoln Corporation, Toledo, Ohio, a corporation of Ohio

Filed Jan. 30, 1967, Ser. No. 612,668  
7 Claims. (Cl. 15-180)

The invention relates to a scrub brush of a floor machine having annular rows of bristles and passages extending through the mounting plate of the brush from above for supplying water inwardly of the bristles. The water is supplied to annular grooves in the top of the mounting plate which communicate with the passages extending through the plate. A baffle or offset is provided at the lower surface of the brush to direct the water downwardly and prevent it from being thrown beyond the periphery of the brush.

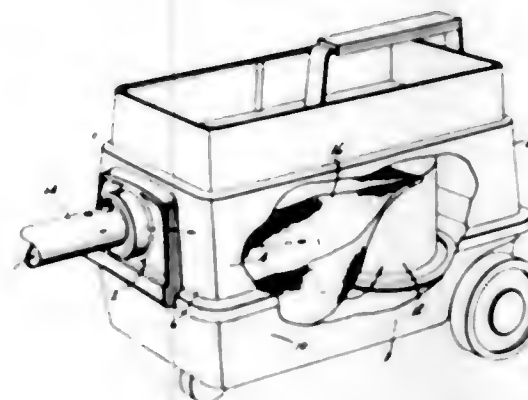
**ERRATA**For Class 15-229 see:  
Patent No. 3,381,334For Class 15-313 see:  
Patent No. 3,381,335

3,381,327

**ROTATABLY SUPPORTED VACUUM CLEANER**Archie W. Kelley, 203 E. Vado,  
San Antonio, Tex. 78214Filed July 29, 1966, Ser. No. 568,924  
3 Claims. (Cl. 15-314)

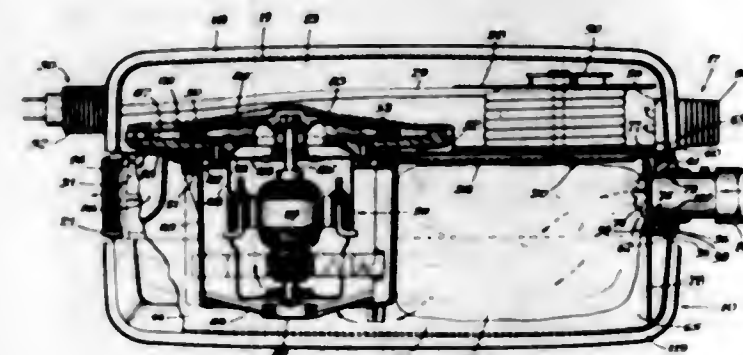
1. A rotatable vacuum cleaner comprising a standard, upper and lower horizontally extending and vertically aligned members secured to said standard, a vacuum cleaner rotatably mounted between said upper and lower members, activating means for said vacuum cleaner secured to said standard, said vacuum cleaner including at least one inlet tube and at least one exhaust tube, and closure means covering said exhaust tube when the said vacuum cleaner is inoperative.

3,381,328

**VACUUM CLEANER INLET COUPLING AND AIR REGULATOR**Louis J. Szabo, Fairview Park, Ohio, assignor to General Electric Company, a corporation of New York  
Filed Mar. 24, 1966, Ser. No. 537,062  
5 Claims. (Cl. 15-327)

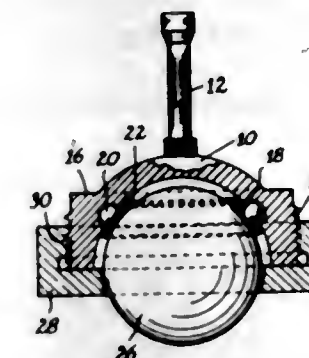
A combined air inlet coupling and suction regulator for a vacuum cleaner wherein an inner surface is formed for receiving and gripping a tubular hose coupling. An air regulator ring is provided for selectively controlling an air bypass opening.

3,381,329

**VACUUM CLEANER**Julius P. Wied, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois  
Filed June 14, 1966, Ser. No. 557,412  
13 Claims. (Cl. 15-327)

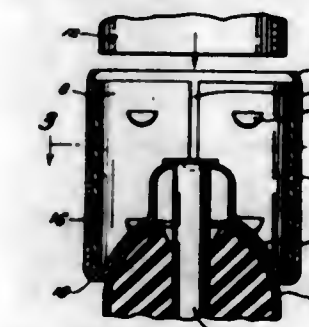
9. In a suitcase styled vacuum cleaner, a single piece plastic member, said plastic member including a generally flat wall portion bounded by a continuous peripheral flange portion, a pair of metallic shells positioned along opposite sides of said wall portion to define a vacuum compartment on one side of said wall portion and an exhaust compartment on the other side of said wall portion, said flange portion being positioned between and engaging the peripheral portions of said shells to provide a continuous plastic material molding therebetween, a motor-fan assembly mounted on said plastic member between said shells, said assembly including an air intake and an air outlet, said air intake and outlet being in communication with said vacuum and exhaust compartments respectively, an air inlet opening formed in said flange portion, an air permeable dust collecting receptacle in said vacuum compartment between said air inlet opening and air intake, an air exhaust opening formed in said flange portion in a part thereof located opposite to said air inlet opening, a carrying handle connected to said flange portion in a part thereof located between said air inlet and air exhaust openings, and means formed on the side of said vacuum cleaner opposite to said carrying handle for supporting said vacuum cleaner on a floor surface.

3,381,330

**CASTERS**John H. Aninger, 2031 S. Beverly Glen Blvd.,  
Los Angeles, Calif. 90025  
Filed May 2, 1966, Ser. No. 546,829  
3 Claims. (Cl. 16-21)

The subjects of this invention are improved casters for use with portable equipment, instruments and furniture, which are suitable for mounting during and after the production of the aforementioned pieces of equipment, selectively.

3,381,331

**DRIVE-ON RETAINER**Frederick N. Reynolds, Augusta, Ky., assignor to The F. A. Nelder Company, Augusta, Ky., a corporation of Kentucky  
Filed July 5, 1966, Ser. No. 562,827  
1 Claim. (Cl. 16-42)

A drive on retainer for mounting slides on metal furniture legs comprising a case hardened, split sleeve with leg engaging teeth mounted within a hollow ferrule, said ferrule having a convex bottom extending upwardly into the hollow ferrule at one end to provide a pilot means for the sleeve during assembly and also having an inwardly extending lip at the other end for retaining said sleeve after assembly.

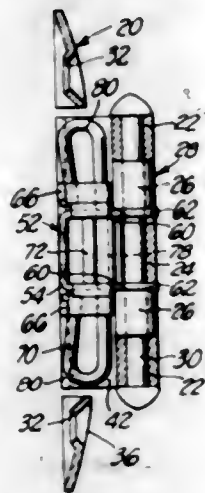
3,381,332

**SELF-LATCHING HINGE**Torsti T. T. Jerila, West Covina, and Vilis K. Fremstad,  
Pomona, Calif., assignors to Ajax Hardware Manufacturing Corp., City of Industry, Calif., a corporation of CaliforniaFiled Sept. 28, 1966, Ser. No. 589,779  
20 Claims. (Cl. 16-139)

1. In a self-latching hinge, the combination of: first and second hinge members having interfitting axially aligned hinge knuckles formed thereon, one of said hinge knuckles of said first hinge member having an outer generally circumferentially extending surface terminating in a generally axially extending end, means on one of said hinge members for securing said one member to a door and on the other of said hinge members for securing said other member to a frame; hinge pin means extending axially through said hinge knuckles of said first and second hinge members for hingedly connecting said hinge

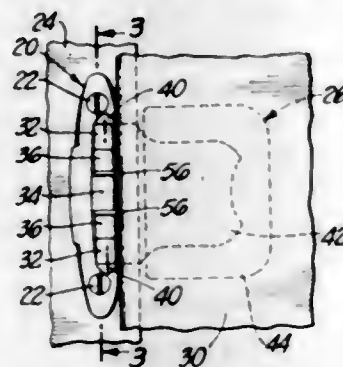


members movable between door open and door closed positions; and a latch carriage assembly including a carriage separate from said hinge members, an engagement member on said carriage engaged with said second hinge member and requiring movement of said carriage with said second hinge member, means on said carriage receiving said hinge pin means therethrough for mounting said carriage movable with said second hinge member between said hinge member door open and door closed positions, a latch member, resilient means between said latch mem-



ber and said carriage for biasing said latch member into engagement with said one hinge knuckle end of said first hinge member to releasably resiliently retain said hinge members in said door closed position when said hinge members are moved into said door closed position and for biasing said latch member against and movable along said one hinge knuckle outer surface to permit hinged movement of said hinge members to and from said door open positions when said hinge members are selectively moved from said door closed position.

**3,381,333**  
**SELF-LATCHING MECHANISM FOR HINGES**  
Torsti T. T. Jerila, West Covina, Calif., assignor to Ajax Hardware Manufacturing Corp., City of Industry, Calif., a corporation of California  
Filed Nov. 14, 1966, Ser. No. 594,178  
15 Claims. (Cl. 16-139)



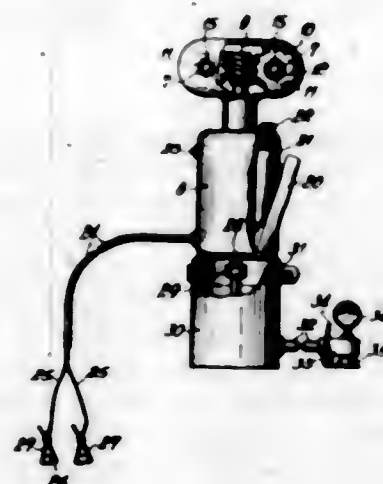
1. In a self-latching hinge, the combination of: first and second hinge members having axially aligned hinge knuckles forming an axially extending hinge pin opening; hinge pin means received in said hinge pin opening of said hinge members connecting said hinge members for hinged movement between open and closed positions; self-latching means operably connected between said hinge members for resiliently urging said members toward a closed position and permitting selective movement toward an open position; and means resiliently urged into engagement between said hinge pin means and self-latching means for retaining said hinge pin means against axial movement relative to said hinge members wherein said engagement means includes a portion of said self-latching means radially engaged in a recess of said hinge pin means.

**3,381,334**  
**HOUSEHOLD CLEANING IMPLEMENT**  
Iroka A. Redmond, 128 4th St.,  
Garden City, N.Y. 11530  
Filed Apr. 12, 1967, Ser. No. 630,290  
6 Claims. (Cl. 15-229)



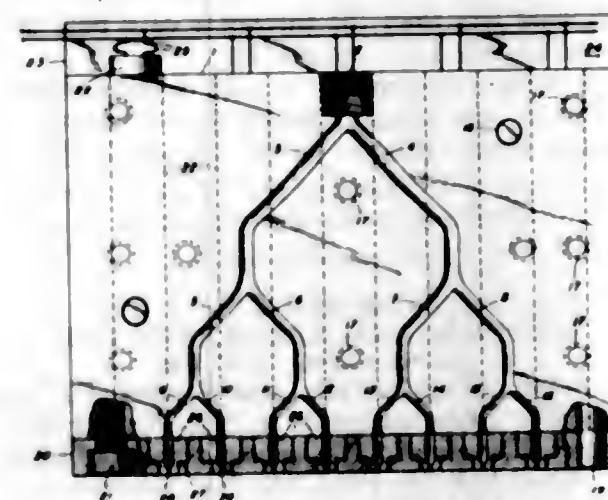
A household cleaning implement comprises a straight elongated handle portion and an integral holder portion in the form of a loop disposed in a plane at an angle of about 30° to 60° to the handle portion and having a free end spaced from the handle portion to provide a small gap. A mop having a tubular portion and a dependent fringe portion is removably assembled on the holder portion by slipping the tubular marginal portion of the mop over the free end of the holder portion and drawing it around the loop to the opposite side of the handle portion.

**3,381,335**  
**PORTABLE POWER DRIVEN SERVICING APPARATUS ESPECIALLY FOR AUTOMOTIVE VEHICLES**  
Fritz Schaedlich, Echterdingen, and Kurt Paule, Stuttgart-Oberturkheim, Germany, assignors to Robert Bosch, G.m.b.H., Stuttgart, Germany  
Filed Jan. 17, 1966, Ser. No. 520,940  
Claims priority, application Germany, Jan. 23, 1965, B 80,240  
17 Claims. (Cl. 15-313)



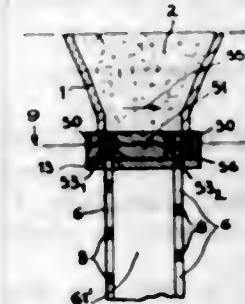
A portable power driven apparatus for servicing motor vehicles in which an implement including a pair of brushing and polishing means are by means of a gearing and first coupling means removably attached to the drive shaft of a motor of the apparatus and in which a pair of additional implements such as vacuum cleaning means and an air pump for replenishing the air in the tires of the motor vehicle may be selectively attached to second coupling means provided on the drive shaft so that the power driven apparatus may be changed from one to another mode of operation.

**3,381,336**  
**MELT SPINNING EXTRUSION HEAD SYSTEM**  
Stanley C. Wells, Rattle Hill Road,  
Southampton, Mass. 01073  
Filed June 20, 1966, Ser. No. 558,858  
8 Claims. (Cl. 18-8)



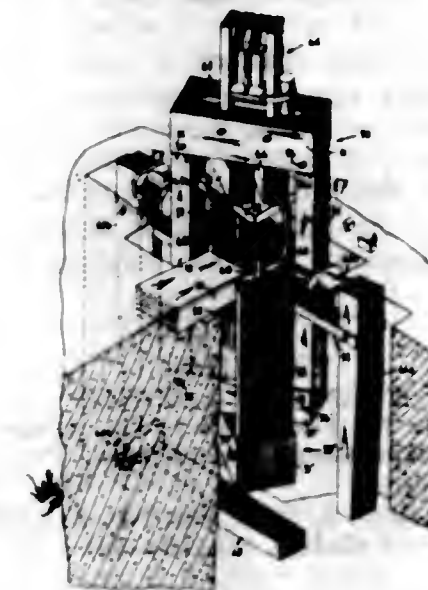
An extrusion head for the melt extrusion of threads is provided with a resin inlet conduit and a series of thread extrusion orifices separated from each other, the extrusion orifices being connected to the inlet conduit through channels which fork in powers of a base number, such as two, with gradual bends, the cross-sections of each forking stage being the same, whereby the die constant, K, in each channel is substantially constant. The head is provided with heating means to keep a constant temperature on the resin passing through the head, and preferably the orifices are in separate inserts. The head can conveniently be made of two blocks in which the channels are in the form of grooves which complete channels when the two blocks are bolted together.

**3,381,337**  
**APPARATUS FOR THE PRODUCTION OF PROFILED PIECES SHOWING A LACUNAR OR RETICULATED STRUCTURE**  
Jacques Hureau, Paris, France, assignor to Societe Generale Alimentaire GASA, Neuilly-sur-Seine, Seine, France, a French company  
Original application Dec. 18, 1961, Ser. No. 159,965, now Patent No. 3,252,181, dated May 24, 1966. Divided and this application Apr. 7, 1966, Ser. No. 541,028  
7 Claims. (Cl. 18-12)



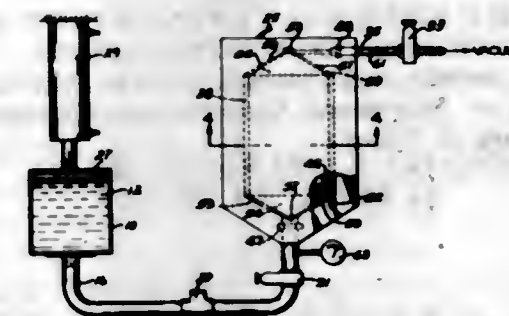
This invention relates to a machine for producing plastics articles having partly or fully a net-like structure; this machine comprises two extrusion die members reciprocable between a first, contact position and a second, gap-defining position; one at least of said die members is provided with extrusion channels opening near to the gap defined thereby in said second position, and means are provided to feed plastics in an extrudable state to said extrusion channels, as well as to the gap defined in said second position.

**3,381,338**  
**PRESSURE-CONTAINING CLOSURE MEANS AND ASSOCIATED STRUCTURES**  
Jacob Brayman, White Plains, Mark E. Komorn, Jackson Heights, and Alexander Zeitlin, White Plains, N.Y., assignors to Barosonic, Inc., New York, N.Y., a corporation of New York  
Original application Mar. 31, 1964, Ser. No. 356,171. Divided and this application June 13, 1966, Ser. No. 571,353  
5 Claims. (Cl. 18-16)



An apparatus for the separation of the functions of the containing of the pressure of a fluid in a hydraulic cylinder or pressure vessel and the radial force generated by it and of the bearing of the reactive axial load developed by the pressurized fluid on the closures of the container. Specifically, the disclosure shows the use of a load-bearing means which axially backs the fluid container to receive the reactive load, but which is coupled for the load with the container through a discontinuity nontransmissive of shear force so that there is substantially no communication between the cylindrical container and the means backing its closures with reference to shear force normal to the container axis or with reference to any bending moments caused by force.

**3,381,339**  
**HYDRAULIC CASTING OF LIQUID POLYMERS**  
Robert B. Trelease, Los Alamitos, Calif., assignor, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration  
Original application Sept. 4, 1962, Ser. No. 220,982. Divided and this application May 12, 1966, Ser. No. 567,806  
4 Claims. (Cl. 18-26)



This invention relates to improvements in apparatus for casting materials, such as liquified polymers, under elevated pressures. More specifically, the invention provides, in a pressurized, closed-mold system, a core member which includes channeled and outwardly tapered or conical end portions adapted to be mated or received in conical supporting surfaces disposed within the cavity



of the mold. These surfaces are arranged adjacent opposed transfer and exit fluid conducting ports. The channels of the conical end portions are uniformly distributed and extend radially from the apex to form sprues terminating about the circumference of the end portions of a cylindrical body of the core so that as viscous material is fed or forced from a first isolating valve into the mold cavity, through the sprues, it is caused to be injected from one end of the cavity in a substantially uniform manner. The injected material is caused to progress along the exterior surface of the body of the core to be discharged from the cavity to a second isolating valve, through the converging channels or sprues of the opposite end. The isolating valves are provided at either side of the cavity in order to isolate the mold to thus assure that desired pressure and material distribution is established and maintained within the mold during the injection and curing stages of the casting process in order to achieve substantial uniformity in the resulting products or castings.

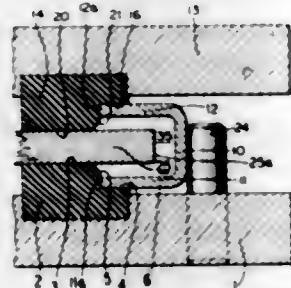
3,381,340

## FRAMED GLAZINGS

John L. Chapin, Jr., Penn Valley, Pa., assignor to Novo Industrial Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Sept. 2, 1964, Ser. No. 393,918

5 Claims. (Cl. 18-36)



1. Apparatus for use in bonding a channel to the edge of a sheet-like piece comprising:

a pair of facing, spaced-apart, resilient strips each having means to engage the opposite faces of a sheet-like piece and also to engage the opposite side walls of a channel to support the piece with the edge of the piece projecting into the channel and with a portion of each strip extending between a surface of the piece and the edge of the channel to form a dam, the dams and the inside of the channel constituting a cavity surrounding the edge and adapted to receive a liquid bonding material for bonding the piece and the channel together.

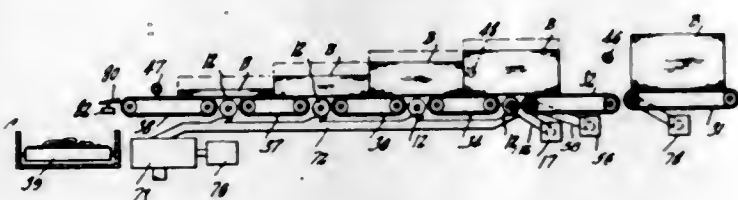
3,381,341

## TEXTILE FIBER BALE OPENER UNIT AND SYSTEMS EMBODYING SAME

Louis Platt, Seneca, and James K. Merck, Pendleton, S.C., assignors to Maremont Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 1, 1964, Ser. No. 400,672

14 Claims. (Cl. 19-30)



1. A textile fiber bale opener comprising a rotary beater cylinder,

bale support means supporting a surface of a bale at a predetermined spacing from the surface of said cylinder,

reciprocating means for moving a surface of a bale back and forth past said cylinder and spaced from said cylinder to remove fibers therefrom and reduce the thickness of said bale,

sensing means for sensing a predetermined thickness of a bale less than the thickness of a bale delivered to said opener as it is so moved.

control means responsive to said sensing means connected to said support means for adjusting the bale support means relative to the surface of the cylinder to provide a decrease in the predetermined spacing upon a reduction in the thickness of a bale.

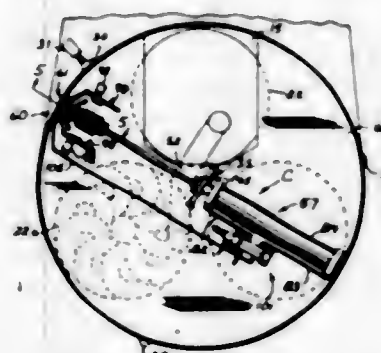
3,381,342

## METHOD AND APPARATUS FOR HANDLING SLIVER

Jack H. Selby, Chagrin Falls, and Frederick J. Janning, Strongsville, Ohio, assignors to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 10, 1964, Ser. No. 343,666

13 Claims. (Cl. 19-159)



2. An apparatus for successively delivering sliver into a plurality of containers comprising indexible support means for supporting one of said plurality of containers in a position to receive sliver and for effecting movement of said one container from said sliver receiving position and another container into sliver receiving position when a predetermined length of sliver has been delivered into said one container thereby extending a portion of sliver between said one container and said coiling means, coiling means for coiling sliver into said containers when in sliver receiving position, and means operable to effect separation of said sliver after said one container is moved from said sliver receiving position including means for clamping said portion of sliver extending between said one container and said coiling means at spaced locations and a member movable transversely of and through said sliver between said spaced locations.

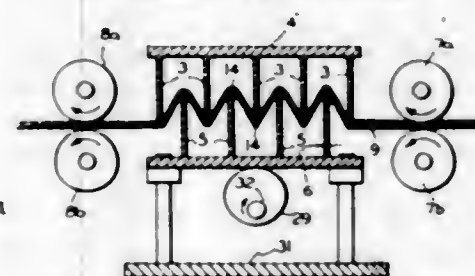
3,381,343

## APPARATUS FOR DRAFTING TEXTILE FIBERS

August L. Miller and Roger S. Brown, New Orleans, and Charles L. Shepard, Chalmette, La., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Jan. 6, 1966, Ser. No. 519,168

5 Claims. (Cl. 19-258)



This invention relates to an apparatus for improving the easy separation and alignment of a lap or strand of

disoriented and entangled fibers. The lap or strand is firmly held between a first pair of parallel rolls which introduce the disoriented fibers into the apparatus and a second pair of parallel doffing rolls whose surface speed is greater than the first pair. The tightly held strand is then subjected to a multitude of discrete, intermittent, attenuating stages of relatively short length by means of two sets of vertically disposed, oscillating parallel drafting plates which intermittently force the fibrous material into a zigzag path thereby opening and stretching out the tangled masses.

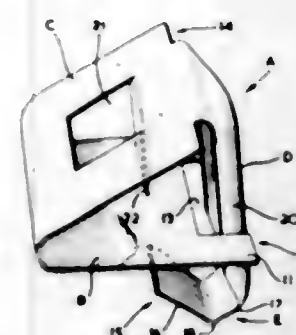
3,381,344

## LATCHING FASTENERS

George A. Tannerman, 17864 Beach Road, Lakewood, Ohio 44107

Filed Apr. 5, 1965, Ser. No. 445,571

4 Claims. (Cl. 24-73)



A latching fastener for securing panels, such as those carrying printed circuits, to a carrying support, in which the fastener is made from a single sheet of resilient and ultimately hardened metal bent upon itself in generally triangular form in side elevation to form a base for surface engagement with a panel, and a latch element for engagement with the panel carrying support to secure the panel and support together.

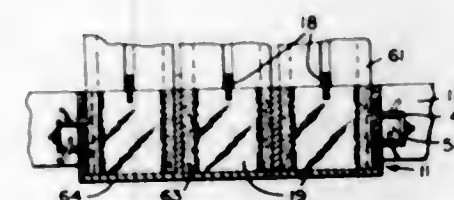
3,381,345

## APPARATUS FOR PRODUCING CONCRETE BLOCKS

Charles L. Williams, 21R Railroad Ave., Rockport, Mass. 01966

Filed Apr. 13, 1965, Ser. No. 447,726

3 Claims. (Cl. 25-41)



An embossing means for embossing a decorative design into a face of a concrete block including a reciprocal branding means associated with a side wall of the mold consisting of an assemblage of outstanding elements forming the design to be embossed on the corresponding face of the concrete block; a plurality of filler elements attached to the side wall and occupying the spaces between the outstanding elements of the branding means; and power means associated with the said side wall to move said branding means between a normal retracted position wherein the branding means remain adjacent the side wall

and an extended position wherein the branding means are forced toward the interior of the mold.

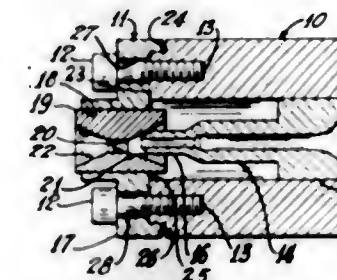
3,381,346

## FLUID NOZZLE FOR TEXTURING YARNS

Gustav E. Benson, Greenville, R.I., assignor to Owens-Corning Fiberglass Corporation, a corporation of Delaware

Continuation of application Ser. No. 407,758, Oct. 30, 1964. This application June 20, 1967, Ser. No. 647,571

4 Claims. (Cl. 28-1)



A fluid nozzle for texturing textile yarns comprising a hollow cylindrical body member having an axially extending yarn guide therein. A removable cap having a restricted yarn and fluid orifice therein, eccentrically disposed with respect to said cap, is secured to one end of the body member with the orifice located adjacent the tip of the yarn guide which extends a predetermined distance beyond the end of the body member, such that the axis of the orifice is laterally spaced from the axis of the yarn guide and hollow body.

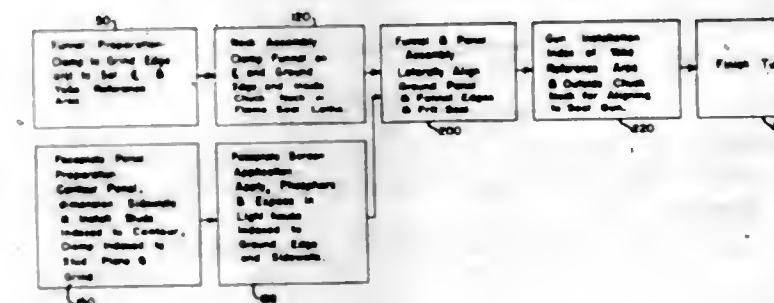
3,381,347

## CATHODE RAY TUBE MANUFACTURE

Ernest W. Reinwall, Jr., McHenry, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Sept. 3, 1964, Ser. No. 394,152

6 Claims. (Cl. 29-25.13)



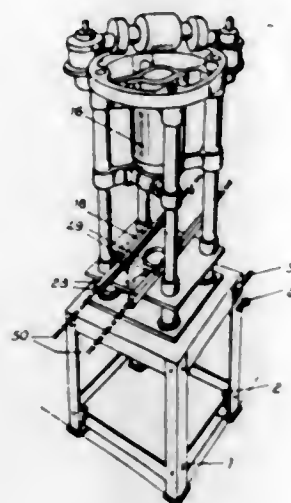
This is a method for making a rectangular color cathode ray tube. The rearward constricted section of the tube is internally indexed and positioned within a collar extending about the outside of the constricted section to establish a yoke reference plane. The edges of the forward flared section of the tube are ground flat at a predetermined distance from the yoke reference plane to form a panel edge plane perpendicular to the central geometrical axis of the tube. The funnel is then clamped in a neck sealing lathe using the panel edge plane and the yoke reference plane to locate its position. The glass neck is flame sealed to the rearward section of the funnel with the neck being internally chucked and brought into alignment with the funnel by the lathe mechanism. Three studs are inserted in the faceplate panel of the tube to establish a stud plane. The faceplate panel then is clamped in a fixture using the stud plane as a reference and the edges of the



side walls are ground to define a panel edge plane parallel to the stud plane. The panel is then frit sealed to the funnel by aligning the front funnel edge plane with the plane of the panel.

### 3,381,348 TRANSFER MACHINES

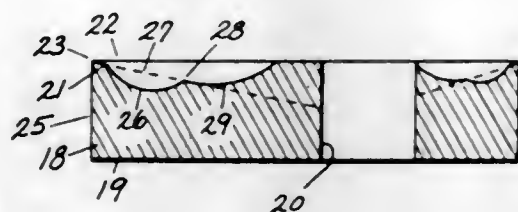
Leonida Patrignani, Via Desiderio da Settignano 23,  
Florence, Italy  
Filed Aug. 6, 1965, Ser. No. 477,695  
9 Claims. (Cl. 29—33)



A transfer machine composed of several similar removal work stations mounted in abutment. Each station consisting of a base, a rigid framework secured to the base, a work set slidably mounted on the framework and a transmission set disposed adjacent to the work set on the framework. Mounting elements to hold a workpiece to be machined, a first endless train transmission means running through the upper portion of each of the bases including rollers to move the mounting elements from one workset to another and a second endless chain transmission means running through the lower portion of each of the bases for returning the mounting elements to a starting position.

### 3,381,349 CUTTING TOOL

William E. Newcomer, Latrobe, Pa., assignor to Newcomer Products, Inc., Latrobe, Pa., a corporation of Pennsylvania  
Filed Apr. 25, 1966, Ser. No. 544,924  
9 Claims. (Cl. 29—96)

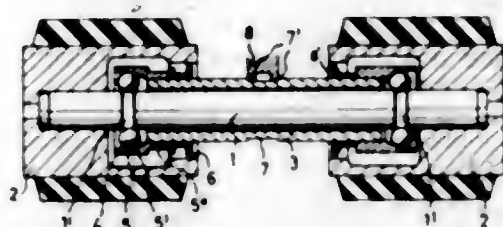


1. An indexable bit having upper and lower peripheral edges lying in parallel planes and joined by peripheral edge surfaces perpendicular to said planes, the peripheral edges being symmetrically disposed about an axis perpendicular to said planes, and each upper peripheral edge being associated with a narrow land having a sharp junction with the associated peripheral edge to provide a cutting edge, said land extending radially inward and in a plane inclined downwardly from said junction, and a

chip control groove radially inward of the land and having the section adjacent the land depressed below said downwardly inclined plane.

### 3,381,350 TWIN PRESSURE-ROLLER UNIT WITH BALL BEARINGS

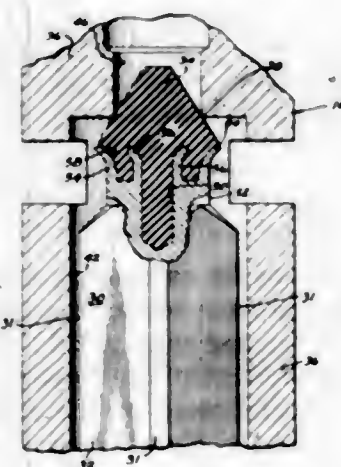
Sigmund Kemmler, Schultheiss-Schneider-Strasse 36,  
Geislingen, Steige, Germany  
Filed Mar. 9, 1966, Ser. No. 532,980  
Claims priority, application Germany, Mar. 10, 1965,  
S 95,862  
4 Claims. (Cl. 29—116)



A twin roller pressure unit for drawing or spinning machines or the like, in which the rollers are rotatably supported upon a common central shaft by ball bearings, wherein peripheral grooves on the shaft member serve as the inner guide for the ball bearings and a separate outer race member is provided in the form of a tubular extension which is fitted tightly over one end of a relatively stationary member which connects the two rollers, from which extension projects an integral portion which may be either curved or conically tapered so as to abut the ball bearings only at the outermost point thereof and to the side thereof facing the opposite roller. The abutting surface of the outer race member may preferably be in a concave configuration such that it has an osculating radius with the radius of the ball bearings. Additionally, a guide ring may be provided on the cylindrical connecting member, near the center thereof, which may be provided with a radial lubricating bore aligned with a corresponding bore in the connecting member.

### 3,381,351 METHOD OF MAKING A FUEL METERING VALVE ELEMENT

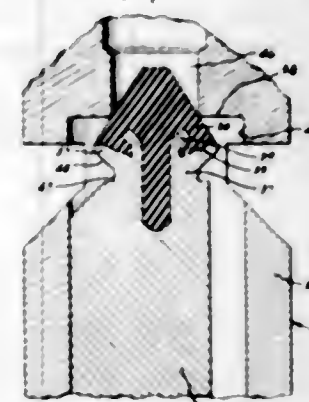
Alex N. Swargulski, St. Louis, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey  
Filed Sept. 21, 1964, Ser. No. 397,729  
3 Claims. (Cl. 29—156.7)



The invention hereafter described relates to a method for forming a resilient tip to one end of a metallic valve

element. The method relates specifically to the means for engaging the metallic valve element with a portion of the resilient material forming mold whereby an adequate sealing surface may be formed therebetween. In effect the novel form of engagement between the mold and the body is such that the body is at least partially deformed or indented in such a manner as to be depressed along a planar surface. Thus, the resilient material formed into the metallic body permits a substantially flashless joint and also forms on the resilient insert a cylindrical portion which is not intended for sealing purposes but rather is the point at which any deformation in the resilient material occurs.

3,381,352  
METHOD OF MAKING A VALVE ELEMENT  
Walter O. Lindner and James I. Aubuchon, St. Louis, Mo.,  
assignors to ACF Industries, Incorporated, New York,  
N.Y., a corporation of New Jersey  
Filed Oct. 4, 1965, Ser. No. 492,563  
10 Claims. (Cl. 29—156.7)



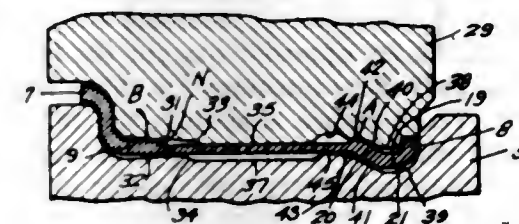
1. The method of forming a valve member adapted to be slidably received in a valve opening, said member having a resilient tip for movably engaging a valve seat disposed in said valve opening to define an annular fluid tight seal and to regulate flow of fluid through said opening, the steps therein for forming said member consisting of:

- (1) providing an elongated solid metallic valve element having opposed ends and a non-circular peripheral surface,
- (2) constricting a portion of said elongated valve element at one of said ends to form a neck,
- (3) displacing radially outwardly the metal in at least a part of said constricted neck portion at said one end to define an enlarged collar by applying radially inwardly directed forces thereto,
- (4) forming a socket in the end face of said valve element adjacent to and through said enlarged collar, and
- (5) applying a thermo-setting material to said socket and said collar to engage the latter and form a resilient seal.

3,381,353  
METHOD OF MAKING TIRE RIM  
Paul Lemmerz, Königswinter (Rhine), Germany, assignor to Lemmerz-Werke G.m.b.H., Königswinter (Rhine), Germany, a corporation of Germany  
Original application Aug. 4, 1965, Ser. No. 477,153, now Patent No. 3,347,302, dated Oct. 17, 1967. Divided and this application Nov. 16, 1966, Ser. No. 607,099  
Claims priority, application Germany, Aug. 13, 1964,  
L 48,537  
10 Claims. (Cl. 29—159.1)

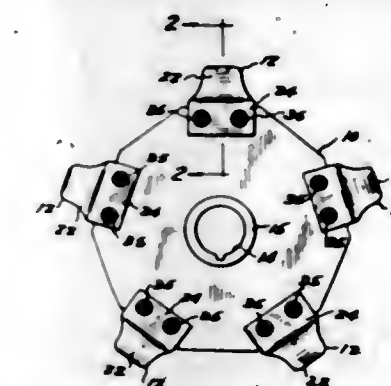
A method of making tire rims, in which an annular rim blank is provided with side flanges and an intervening body

of substantially thinner section with radially outwardly projecting ridges of material at the opposite ends of the body portion, and rolling the ridges of material into respective hardened reinforcing areas between the body portion and the flanges. On one side of the body portion



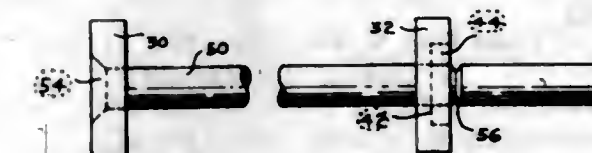
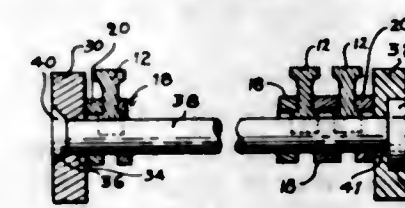
the ridge of material is rolled into a tapered bead seat. At the opposite side of the body portion the ridge is rolled into a tapered lock-ring seat and a radially outwardly projecting annular hollow shoulder rib in the adjacent part of the body portion.

3,381,354  
METHOD FOR MANUFACTURING A REPLACEABLE TOOTH SPROCKET  
Felix F. Krempa and Michael Masich, Detroit, Mich., assignors of fifty percent to ABC Machining and Fabricating, Detroit, Mich., a partnership, and fifty percent to Chain Supply Company, Detroit, Mich., a corporation of Michigan  
Filed Apr. 28, 1966, Ser. No. 545,910  
5 Claims. (Cl. 29—159.2)



A method for making a sprocket by flame cutting a plate to form a wheel with a series of circumferentially spaced, recessed seats and mounting a replaceable tooth in each seat.

3,381,355  
METHOD OF SCREEN ASSEMBLY  
Leon C. Bixby, Wellington, Ohio, assignor to Wedge Wire Corporation, Wellington, Ohio, a corporation of Ohio  
Original application Aug. 19, 1963, Ser. No. 302,818. Divided and this application Nov. 4, 1966, Ser. No. 608,470  
2 Claims. (Cl. 29—160)

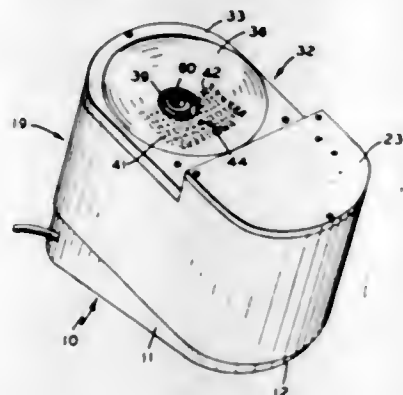


A screen is assembled by freely passing the ends of headed support rods for the screen through apertures in



a side bar which defines one margin for the screen, assembling wire elements with spacers therebetween on the support rods and forcibly sliding means on the unheaded ends of the support rods to retain the assembled wire elements and spacers on the support rods. The means forcibly slid onto the support rods may comprise a second side bar having apertures forcibly receiving the support rods and which defines an opposite margin for the screen or may comprise individual bushings forcibly slid onto the support rods. To facilitate assembly, the unheaded ends of the support rods are weakened by an annular groove which defines removable extensions at the unheaded ends of the support rods. The means slid onto the support rods, such as the mentioned second side bar or bushings, are slid across the weakening groove in each support rod to permit breaking away of the support rod extensions.

**3,381,356**  
**APPARATUS FOR SUPPORTING ROTARY WORK HOLDER**  
Emil Santinelli, R.F.D. 3, Horse Pound Road,  
Carmel, N.Y. 10512  
Filed Apr. 27, 1966, Ser. No. 551,831  
5 Claims. (Cl. 29-200)



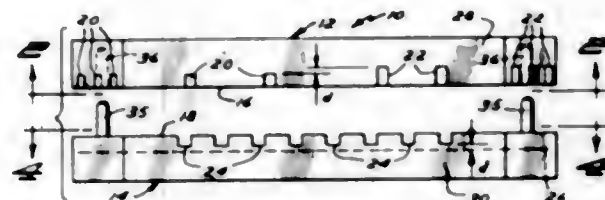
1. An apparatus for supporting a rotary work holder while a spectacle lens is adhesively mounted thereon in accurate registry relative to markings indicating the axis and optical center of the lens and wherein the work holder is provided with a base having indexing means, and a raised seat with an adhesive coating for securing the lens while work is performed thereon, said apparatus including a base provided with a vertical post, and a head provided with a sleeve mounted on the post for vertical sliding movement of the head, a seat for the work holder at the upper end of the post and provided with means cooperating with indexing means on the work holder and with further indexing means at the center of the seat to coincide with the optical center of the lens, a closure plate on the head provided with a scale with crossing reference lines passing through said indexing means at the center of the seat and having a central opening aligned with the work holder seat to permit the work holder to pass therethrough.

**3,381,357**  
**FERROMAGNETIC CORE WIRING FIXTURE**  
Robert J. Billingsley, Amery, Wis. (5 Saugus St., Nashua, N.H. 03060); Keith T. Hanlon, Amery, Wis. (4832 Ensign Ave. N., Minneapolis, Minn. 55428); and Craig K. Loebig, 308 17th Ave. N., Hopkins, Minn. 55343

Filed Dec. 9, 1965, Ser. No. 512,647  
7 Claims. (Cl. 29-203)

A first plate having a plane surface contains a number of core-positioning recesses and a plurality of wire-guiding channels intersecting these recesses. By means of the channels, the wires are threaded into the apertures contained in the cores. A second plate having core-posi-

tioning recesses and wire-guiding channels is adapted to be assembled with the first plate with the plane surfaces of each plate confronting the other. The guiding channels are of different depth in order to locate the threaded wires at the requisite levels within the various cores. The ends



of the wire-guiding channels are flared so as to provide enlarged entrances for the introduction of the various wires. Through the agency of upstanding posts, the plates are accurately positioned with respect to each other when assembled.

**3,381,358**  
**APPARATUS FOR ASSEMBLING LIDS AND BOTTOMS OF CONTAINERS**  
Robert Eltzinger, 5860 N. Lincoln Ave.,  
Chicago, Ill. 60645  
Filed Sept. 10, 1965, Ser. No. 486,451  
9 Claims. (Cl. 29-208)



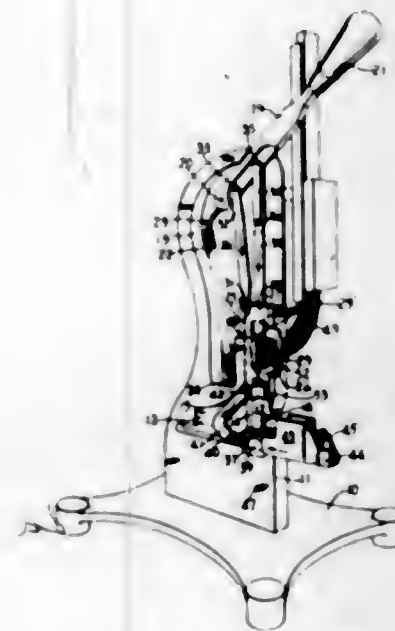
The apparatus for assembling the lids to the bottoms of plastic containers, wherein the hinges consist of bulbous pintles engageable, in recesses of female hinge elements, comprises a pair of delivery chutes, one for the lids and one for the bottoms, which straddle a pair of trackway portions and from which the lids and bottoms are delivered to the trackway portion in slightly longitudinally offset relationship so that the hinge elements of the two container parts do not interfere with each other during delivery. The surfaces of the trackway portions are so contoured that the hinge elements of one container part are initially held in a horizontal plane higher than those of the other part. A reciprocating pusher advances successively and then simultaneously the two container parts first horizontally to align their hinge elements and second to push them under a bridge and onto trackway portions which permit their hinge elements to be vertically aligned and engaged. A presser roller, mounted on the bridge, presses the higher of the container parts down and onto its trackway portion and engages the hinge elements of the container lids and bottoms.

**3,381,359**  
**CASING FASTENING MACHINE**  
Paul G. K. Schroeder, 28 Island Trail,  
Lake Mohawk, Sparta, N.J. 07871  
Filed Apr. 8, 1966, Ser. No. 541,225  
3 Claims. (Cl. 29-212)

1. A casing fastening machine for fastening staple-like fasteners onto open casing ends, comprising, in combination:

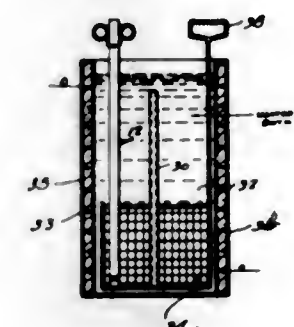
a base,

an upright mounting attached to said base, and having a flat inner face,  
a throat cut into the forward lower portion of said upright,  
a fastener-passing opening cut into said upright above said throat,  
a runway enclosure disposed against the inside of said upright opposite said opening and designed to slide only vertically on said upright,  
a vertical runway cut in the lower portion of the inner face of said enclosure in a manner such as to enable fasteners entering said opening to be driven down in said runway,  
a crimping die mounted on the inside of said upright alongside said throat and in line with said runway and designed to enable crimping thereon of a fastener after it has circumscribed said casing,  
a vertically-actuable lever pivotally mounted at its inner end to said upright,  
an arm pivotally mounted at one end on said lever outwardly of said lever pivot and pivotally attached at its other end to said enclosure,  
a vertically movable laterally-corrected driver arm pivotally connected at one end to said lever adjacent



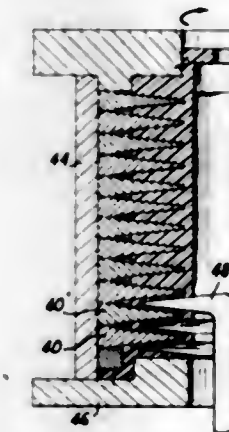
said enclosure arm, and designed so that its other end will pass through said enclosure over a fastener disposable therein and drive said fastener down said runway for crimping said fastener around said casing on said crimping die,  
spring means connecting the inner end of said lever with said upright and designed to maintain it in upright position,  
an inwardly-bent arm pivotally connected at its upper end to said enclosure,  
a gatherer disposed outwardly of said crimping die in line therewith and connected to the lower end of said bent arm in a manner such that when said latter arm is moved inwardly by the downward motion of said enclosure, said gatherer is moved closer toward said die to effect a gathering action upon a casing end disposed in said throat, and  
a fastener feeder attached to the outer side of said upright and designed to hold a supply of fasteners and to feed them through said opening.  
said arms being arranged so that as said lever arm is lowered, the bottom of said enclosure compresses said casing end as said gatherer completes gathering same prior to crimping of said fastener on said casing end by said driver.

**3,381,360**  
**METHOD FOR BENDING TUBES USING A CONGEALABLE MATERIAL**  
Joseph M. Kelrick, New York, N.Y.  
(4 Hawthorne Lane, Lawrence, N.Y. 11559)  
Filed July 23, 1965, Ser. No. 474,429  
9 Claims. (Cl. 29-423)



Method for preparing a tube for bending, wherein the tube is submerged in and filled with congealable material, closed at both ends, and then removed from the body of congealable material.

**3,381,361**  
**MANUFACTURE OF BELLOWS-TYPE SEALS**  
Jean Digard Brou De Cuisart, Paris, Gaspard Dreyfus, Fresno, and Roger Lecluse, Fontenay-aux-Roses, France, assignors to Commissariat à l'Energie Atomique, Paris, France  
Filed Dec. 7, 1965, Ser. No. 512,116  
Claims priority, application France, Dec. 29, 1964, 236  
4 Claims. (Cl. 29-423)



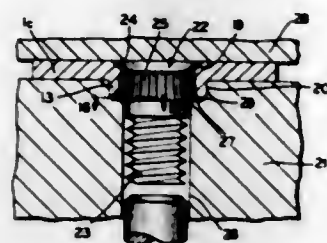
1. Method of manufacture of bellows, said method comprising centering a tubular workpiece on a mandrel, cutting circular grooves in that cylindrical face of the workpiece which is not in contact with the mandrel, removing said mandrel from said grooved tubular workpiece, centering the bellows by means of a part which engages in the grooves formed in the first cylindrical face, and machining grooves in the other cylindrical face between the grooves of the first face after removal of the mandrel.

**3,381,362**  
**MANUFACTURE OF PLATE METAL PARTS WITH THREADED STUD FASTENERS**  
Herman S. Church, Cuyahoga Falls, and Don C. Price, Canton, Ohio, assignors to The Monarch Rubber Company, Hartsville, Ohio, a corporation of Ohio  
Filed Nov. 4, 1965, Ser. No. 506,300  
11 Claims. (Cl. 29-432.2)

1. In a method of making a plate metal product having a threaded stud projecting integrally from one sur-



face only of the product, the steps of providing a plate metal blank having two surfaces, extruding from blank metal a tubular sleeve having inner and outer concentric surfaces and an open end projecting from one blank surface, forming recess means at the intersection of the inner sleeve surface and the other blank surface; providing a threaded metal stud having a threaded shank, a head complementary in shape to the shape of said recess means, and spline formation means having a portion of greater diameter than the diameter of the inner sleeve surface extending axially of the stud a distance greater than the length of the sleeve and connecting the head and shank; telescoping the stud into the sleeve and axially driving



the spline means into sleeve metal, thereby reforming sleeve metal by and to interfit with said greater diameter spline portion; continuing axial driving until the stud head seats in said recess means; and upsetting and expanding spline means metal into the sleeve metal at the open end of the sleeve as the stud head seats in said recess means.

3,381,363

#### METHOD OF MAKING PUSH-PULL CABLE WITH PLASTIC LINED CASING

William J. Gilmore, Manitou Beach, Mich., assignor to American Chain & Cable Company, Inc., New York, N.Y., a corporation of New York  
Original application Aug. 9, 1962, Ser. No. 215,916, now Patent No. 3,214,995, dated Nov. 2, 1965. Divided and this application June 4, 1965, Ser. No. 470,956  
5 Claims. (Cl. 29—434)



A method is described for making a push-pull cable casing by axially translating and rotating a length of plastic tubing with respect to a length of wire, and axially translating the length of wire substantially perpendicularly toward said tubing. The wire is helically wrapped in a succession of adjoining turns about the tubing, and is wound sufficiently tightly to deform the bore of the tubing inwardly along a helical path. Preferably the wire is flat, and is plastically deformed as it is wrapped in place, deformation of the tubing being accomplished by the act of deforming the flat wire in contact with it. A core member of circular cross-section is inserted into the tubing to form the push-pull cable. The diameter of the core member is substantially equal to the minimum diameter of the helically deformed portion of the plastic tubing, and makes contact with the plastic tubing only where such tubing has been deformed inwardly. A lubricant is intro-

duced into the interior of the plastic tubing where the core element is spaced by the helical deformation from the remainder of the inner surface of the plastic tubing.

3,381,364

#### PROCESS FOR OBTAINING A CLAD ARTICLE WITH A COPPER BASE ALLOY CORE

Joseph Winter, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 229,262, Oct. 2, 1962. This application May 7, 1965, Ser. No. 454,182

12 Claims. (Cl. 29—472.3)

1. A process for obtaining a composite article having a core of a copper base alloy clad with a dissimilar metal which comprises:

- (A) providing said core in plate form in a thickness less than  $\frac{1}{2}$  inch;
- (B) providing said cladding in plate form in a thickness less than  $\frac{1}{4}$  inch;
- (C) heating said core to a temperature between 300 and 1000° F.;
- (D) rolling together said core and cladding at a speed of at least 100 feet per minute in one pass at a reduction between 40 and 80%, with said core and cladding coming together for the first time in the bite of the rolls, said cladding contacting the roll prior to contacting the core, with the included angle between core and cladding upon entering the rolls being in excess of 5 degrees,

thereby forming an integrated composite article.

3,381,365

#### PROCESS FOR OBTAINING A COMPOSITE ARTICLE

Joseph Winter, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 229,262, Oct. 2, 1962. This application June 18, 1965, Ser. No. 465,156

8 Claims. (Cl. 29—472.3)

The instant disclosure teaches a process for obtaining a composite article having a core of an iron base alloy clad with a dissimilar metal. The process is characterized by heating the core and rolling together the core and cladding at a speed of at least 100 feet per minute in one pass at a reduction between 35 and 75%, with the core and cladding coming together for the first time in the bite of the rolls.

3,381,366

#### PROCESS FOR OBTAINING A COMPOSITE ARTICLE

Joseph Winter, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 229,262, Oct. 2, 1962. This application Oct. 1, 1965, Ser. No. 492,312

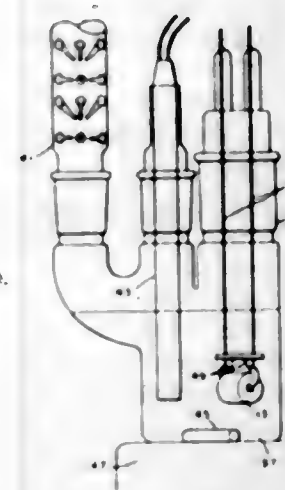
8 Claims. (Cl. 29—472.3)

This disclosure teaches a process for obtaining a composite article having a core of an aluminum base alloy clad with a dissimilar metal. The process is characterized by heating the core and rolling together the core and cladding at a speed of at least 25 feet per minute in one pass at a reduction between 35 and 80%, with the core and cladding coming together for the first time in the bite of the rolls.

#### 3,381,367 SEMICONDUCTOR DETECTOR METHOD AND APPARATUS

Gabriel L. Miller, Babylon, and Sanford E. Wagner, Brookhaven, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

Original application Apr. 11, 1963, Ser. No. 272,497, now Patent No. 3,272,668, dated Sept. 13, 1966. Divided and this application May 11, 1966, Ser. No. 566,165  
5 Claims. (Cl. 29—569)



1. Apparatus for drifting lithium in solid state radiation detectors, comprising a resonant charging, constant power supply means having a capacitor that is repeatedly discharged into said detector in constant energy pulses, and vapour phase means for removing heat generated in said detector by the discharging of said capacitor into said detector.

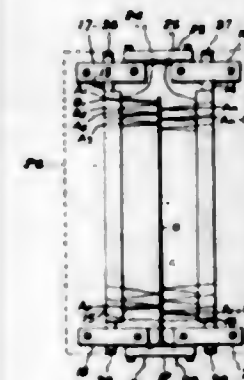
3,381,368

#### THERMO-ELECTRIC DEVICES

Frederick John Wilkins, Teddington, Middlesex, England, assignor to National Research Development Corporation, London, England, a corporation of Britain  
Filed May 11, 1964, Ser. No. 366,284

Claims priority, application Great Britain, May 10, 1963, 18,699/63

4 Claims. (Cl. 29—573)



A multi-junction thermo-electric device has the junctions produced by coatings of discrete lengths of one electrically conductive material on a continuous wire of another electrically conductive material, the wire being wound into a helix with two rows of junctions formed by the ends of the coatings. A heater of rod-like form is provided along one row and the helix may be a flat helix with a second unheated rod at the other row of junctions. The heater may be a hairpin looped electric heater. Two such helices may be intermeshed with the heater common to both. To make the device, the wire is wound into a flat-ended helix on a flat-sided core, narrow spacers being interposed on one side. The unspaced side is protected by cementing to a support and the unprotected part coated

with the other conductive material by electroplating. Narrow insulating strips are then cemented on and the core is dissolved away, this also releasing the spacers. The rod-like supports are then threaded in.

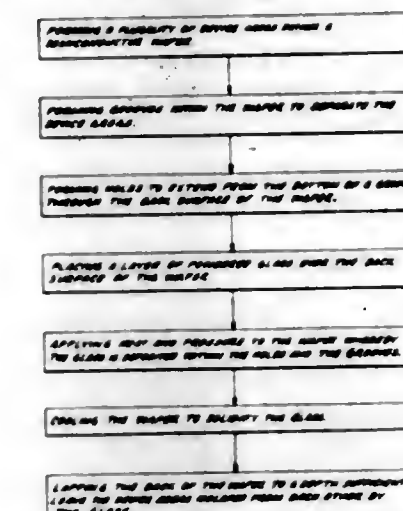
3,381,369

#### METHOD OF ELECTRICALLY ISOLATING SEMI-CONDUCTOR CIRCUIT COMPONENTS

Arthur I. Stoller, Princeton Junction, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Feb. 17, 1966, Ser. No. 528,156

6 Claims. (Cl. 29—580)



1. A method of fabricating an assembly which includes a plurality of electrically isolated semiconductor portions, comprising:

- (a) forming a groove within a front surface of a semiconductor wafer to provide a plurality of protruding portions,
- (b) forming a hole to extend from the bottom of said groove through the remaining thickness of the wafer,
- (c) depositing insulating material within said groove by forcing it through said hole from the back side of said wafer, and
- (d) removing the back portion of the wafer to a depth sufficient to leave said protruding portions isolated from each other by said insulating material.

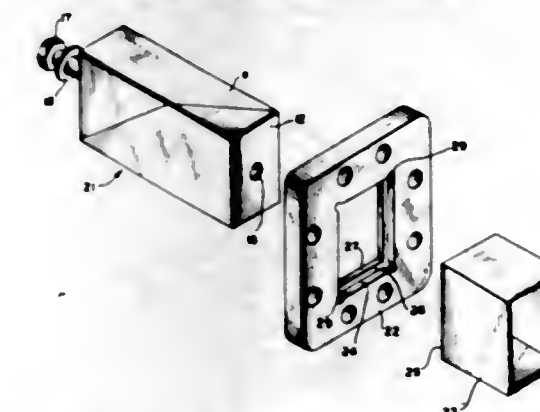
3,381,370

#### WAVEGUIDE FLANGING METHOD

Harry J. Goonan, Brooklyn, and James K. Fitzpatrick, New York, N.Y., assignors to The Western Union Telegraph Company, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 169,786, Jan. 30, 1962. This application May 21, 1965, Ser. No. 457,679

2 Claims. (Cl. 29—600)



The disclosure describes a method of forming a smooth internal joint between a waveguide and a flat rectangular flange having a rectangular recess and rectangular aperture at opposite sides. The method involves inserting one end



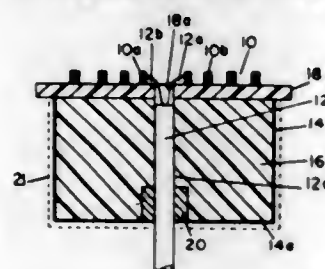
of the waveguide into the recess in the flange, inserting a pair of laterally juxtaposed slidable longitudinally wedge shaped core members into the waveguide, and applying a compressive force to the core members axially of the waveguide to force the core members to slide longitudinally of each other while forcing all four walls of the waveguide outwardly until they register with edges of aperture. A fillet of solder is then applied all around the waveguide at the recess in the flange. Solder may also be applied through extended corners of the recess to fill in rough edges of the end of the waveguide.

### 3,381,371 METHOD OF CONSTRUCTING LIGHTWEIGHT ANTENNA

Earl D. Russell, Nabnasset, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Continuation-in-part of application Ser. No. 160,451, Dec. 19, 1961. This application Sept. 27, 1965, Ser. No. 490,604

2 Claims. (Cl. 29-600)



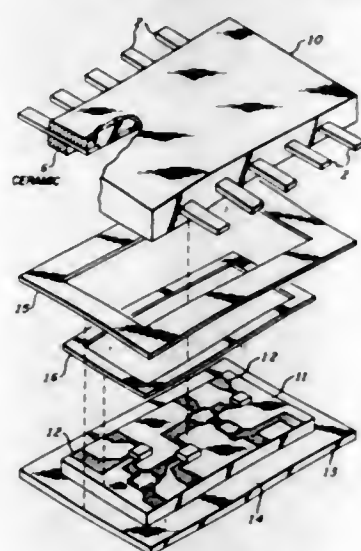
1. A process for constructing an antenna having a radiating element, said process comprising the steps of securing said radiating element to a dielectric board, securing to said dielectric board a dielectric support projecting substantially transverse to the plane thereof by casting a dielectric foam in a mold having a cavity closed by said dielectric board, and forming a thin conductor on said dielectric support to reflect electromagnetic signals radiated by said element.

### 3,381,372 METHOD OF ELECTRICALLY CONNECTING AND HERMETICALLY SEALING PACKAGES FOR MICROELECTRONIC CIRCUITS

Vincent J. Capano, Danbury, Conn., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed July 13, 1966, Ser. No. 564,963

2 Claims. (Cl. 29-627)



A method of establishing electrical connections between external leads and surface conductors of a microelectronic circuit. The method comprises placing a band or preform of conductive material between the surface conductors at the periphery of the microelectronic circuit

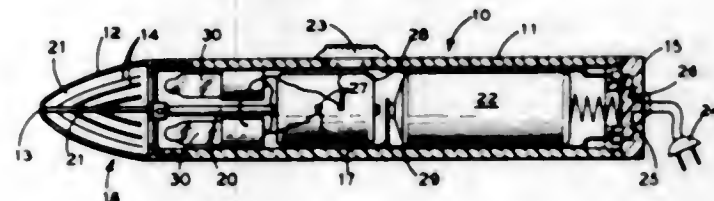
and the overlying terminations of the external conductors and then heating the entire assembly so as to cause the material of the preform to flow and localize only at the locations where the surface conductors and the terminations of the external leads mate with one another.

### 3,381,373 DEVICE FOR CUTTING BODY HAIRS GROWING IN OR ADJACENT BODY CAVITIES

Ernest Brown, 587 Colorado Ave., Bridgeport, Conn. 06605

Filed Sept. 2, 1965, Ser. No. 484,708

1 Claim. (Cl. 30-29.5)



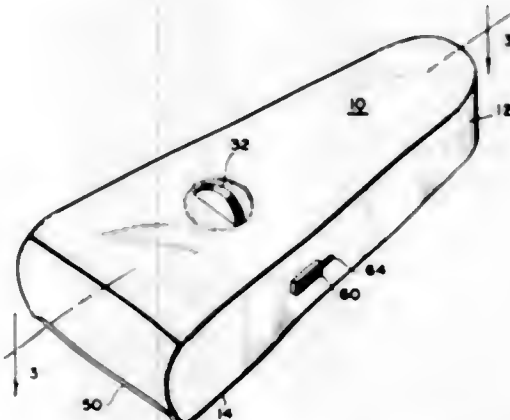
This invention is directed to an electrically operated cutter or shaver which includes an elongated tubular housing having a stator tip connected to one end of the housing. The stator tip is provided with an opening formed in the tip end thereof and a plurality of hair inlet openings formed about the surface of the tip. A cutter is rotatably mounted within the stator tip and a drive means including a motor is disposed in the housing and operatively connected to the cutting means to effect relative rotation of the cutter means with respect to the stator to effect a shearing action on any of the hairs which project through the hair inlet openings of the stator tip. Means are disposed within the housing between the cutter and the motor for illuminating the area in which the shaver is operating. Means are also included for rendering the cutter or shaver operable on either AC or DC current.

### 3,381,374 BLADE AND RAZOR ASSEMBLY

Leroy F. Prouty, 4201 Peachtree Place, Alexandria, Va. 22304

Filed May 11, 1965, Ser. No. 454,868

6 Claims. (Cl. 30-40.1)



This is a continuous loop razor blade assembly in which the loop forming the blade is sharpened on both edges but by reason of a twisting of the blade, one can apply the blade to a single aperture razor housing. This insures safety to the user and protection to the blade, while at the same time giving the user the benefit of both edges of the blade without disassembly and reassembly. The strip of thin metal comprising the blade itself is formed in accordance with the Mobius principle of geometry, being twisted upon itself 180 degrees and the blade has a series of equally spaced perforations throughout its length which mesh with special gear teeth on sprockets. These are adapted to be used in guiding and positioning the blade

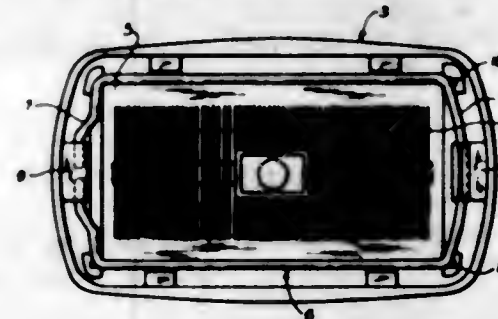
as it enters and exits the cutting area aperture. The invention makes use of a thin rectangular strip of metal, sharpened for its full length on both edges. The strip may be of indeterminate length of a common stainless steel double edge safety razor blade. It is much narrower than the ordinary double edge blade but is made into a loop, a single curve or Mobius loop. The twist of 180 degrees has been put into the loop before the ends thereof are joined. But may be made by two half twists, each of 90°. One of the advantages to the use of this Mobius principle is that the metal comprising the razor may be bent in all three dimensions at the same time. The phenomenon thus created is such that whereas the strip is a loop per se it has but one cutting surface—one edge—although at any given point therealong it appears to have two edges. It is this precise principle which permits the use of the blade for shaving purposes in a housing in which there is a single aperture or one exposed area.

The advantages achieved hereby are numerous and include longer blade life due to protection; greater safety to the user; the formation of a razor which, without exchange gives the user the equivalent of fourteen separate edges of seven of the present conventional double edged blades, size for size. Its further advantage resides in the fact that the device is self cleaning where, by shifting of the blade within the housing from one position to another, the blade is automatically cleaned by a built-in scraper system. Additionally, the life of the blade is extended by virtue of the fact that the honed edge thereof is at all times protected, save that small portion thereof which is exposed for shaving.

### 3,381,375 ELECTRIC DRY-SHAVER HAVING A RECIPROCATING CUTTING BLADE

Kurt Boumann, Solingen-Merscheid, Germany, assignor to Robert Krups, Solingen-Wald, Germany, a corporation of Germany

Filed May 13, 1966, Ser. No. 549,960  
Claims priority, application Germany, May 14, 1965, K 51,164; Oct. 16, 1965, K 57,417  
5 Claims. (Cl. 30-43.92)



An electrical dry shaver having a reciprocating cutting blade block which comprises a cutting hood mantle foil, a clamping body and a housing head, whereby the cutting head mantle foil is releasably secured in the housing head by means of the clamping body. The cutting blade block is resiliently pressed to the cutting hood mantle foil and the latter includes two pin-shaped holders disposed at diametrically opposite sides thereof and serves as its bearing means.

### 3,381,376 PORTABLE INERTIA IMPACT DEVICE FOR CUTTING ELECTRIC OUTLET OPENINGS IN WALLBOARD

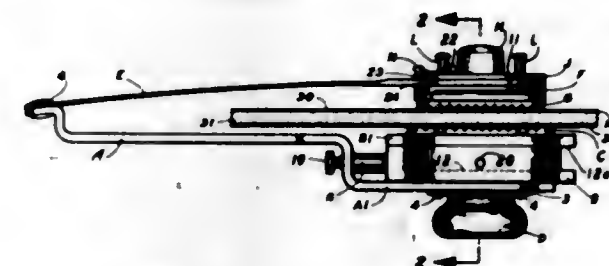
Robert G. Ames, Hillsborough, Calif., assignor, by mesne assignments, to Biles & Laughlin Industries, Inc., Oak Brook, Ill., a corporation of Delaware

Filed Sept. 12, 1966, Ser. No. 578,562

6 Claims. (Cl. 30-358)

A device for punching out an opening in a wallboard to receive an electric outlet box and including a frame hav-

ing two permanently connected arms for receiving the thickness of the wallboard therebetween. One arm carries a male die and the other arm carries a female die and the two arms hold the two dies in registration with each other



while permitting them to be moved together for cutting an opening in the wallboard. The device is portable and the male die may be hit for driving it through the wallboard for cutting the opening.

### 3,381,377 DETERMINING VERTICAL DIMENSION AND CENTRIC OCCUSION IN DENTURE CONSTRUCTION

William O. Grayson, 3662 Cedars Ave., Mobile, Ala. 36603

Filed Jan. 11, 1965, Ser. No. 424,564

8 Claims. (Cl. 32-19)



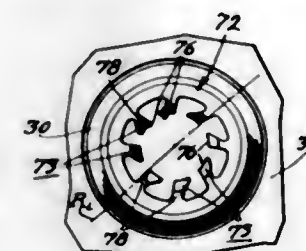
Dental apparatus for determining the relative positions of the upper and lower jaws without interfering with normal movements of the jaws by inducing a voltage in one coil attached to one jaw by voltage applied to a second coil attached to the other jaw, the magnitude of the induced voltage being a function of the jaw separation. The coils can be mounted within the bite blocks used in constructing full dentures.

### 3,381,378 DENTAL DRILL ASSEMBLY

John C. Lawrence, Calabasas, and Harry Franks, Chatsworth, Calif., assignors to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 539,035

18 Claims. (Cl. 32-27)



A head assembly for a dental drill comprising a hollow housing, a shaft mounted centrally of the housing journaled at its opposite ends in bearings, a turbine mounted on the shaft and a collet at one end of the shaft for sup-



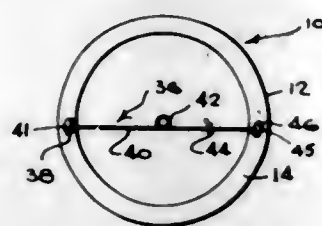
porting a dental burr. The collet is designed to firmly grip and support the shank of the burr in one direction of rotation of the shaft and permits release of the burr from the collet when the burr is rotated in a direction opposite said one direction. To this end, the collet includes a plurality of circumferentially spaced, radially inwardly directed flexible fingers angularly pitched rearwardly relative to a radial line through the center of rotation of the burr.

**3,381,379**  
**FOLDING BATTER BOARDS**  
Robert F. Fergen, 7373 Colony Road,  
La Mesa, Calif. 92041  
Filed Mar. 18, 1966, Ser. No. 541,894  
8 Claims. (Cl. 33-1)



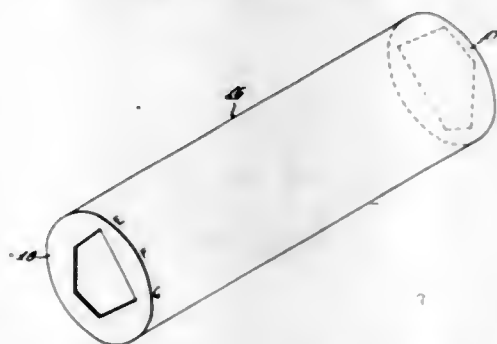
Folding batter boards pivotally secured at their adjacent ends and releasably held at their other ends in an original building layout for movement in a common plane to allow passage of equipment, while accurately preserving the original building layout and grade.

**3,381,380**  
**SIGHT RETICLES**  
Robert S. Thomas, Perry, W. Va. 26844  
Filed June 24, 1966, Ser. No. 560,239  
3 Claims. (Cl. 33-50)



A reticle for a telescopic sighting device in which a strand of sighting material is attached to a reticle ring and is looped or bent at its center to provide a point of aim indicia.

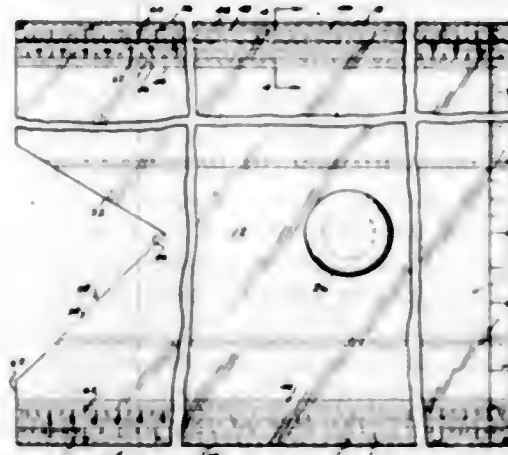
**3,381,381**  
**RANGEFINDER**  
Hymen Ruchlis, Brooklyn, N.Y., assignor, by mesne assignments, to Harcourt, Brace & World, Inc., New York, N.Y., a corporation of New York  
Filed Oct. 1, 1963, Ser. No. 313,117  
1 Claim. (Cl. 33-64)



1. A rangefinder comprising an elongated tube with a longitudinally extending sight opening therethrough

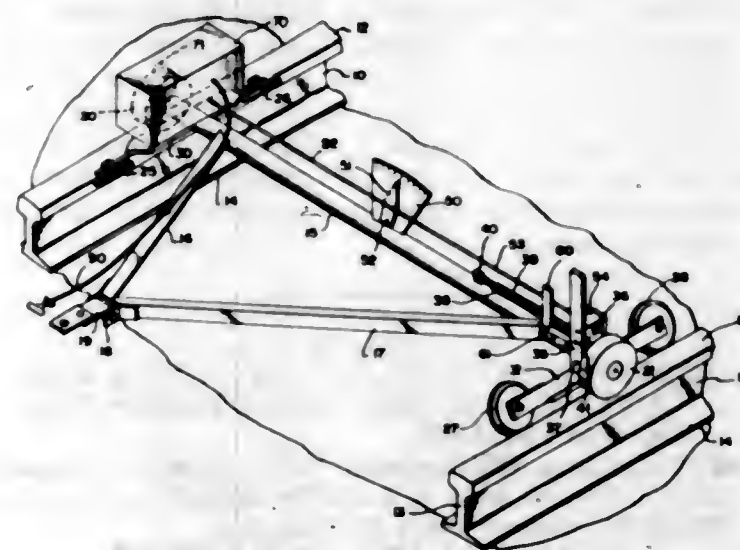
wherein the opening at each end of said tube is in the form of a polygon with no two sides of either polygon being equal, and means proportional to the length of each side of said polygons and the length of said tube imprinted on said tube in a manner so that each means may be quickly associated with the appropriate proportional polygon side.

**3,381,382**  
**PRINTER'S TRI-SQUARE**  
William A. Kemp, Yuba City, Calif.  
(2322 Lincoln St., Oroville, Calif. 95965)  
Filed July 25, 1967, Ser. No. 655,933  
2 Claims. (Cl. 33-104)



A transparent instrument or device for manual manipulation over a sheet of print for layout material, the instrument having grooves thereon spaced in accordance with printer's scales, the block being adapted to be superimposed on a sheet of printed matter and moved relative thereto to determine the alignment thereof and the size of type employed, the block having a plurality of rules formed thereon graduated in printer's measures and standard inch and fractions thereof, there being applied a steel rule to the opposed sides of the block to serve as guard means therefor, the instrument having at least one geometric figure cut therein and extending transversely therethrough to assist in layout work, and handle means fixedly connected to the instrument to facilitate the manipulation of the block.

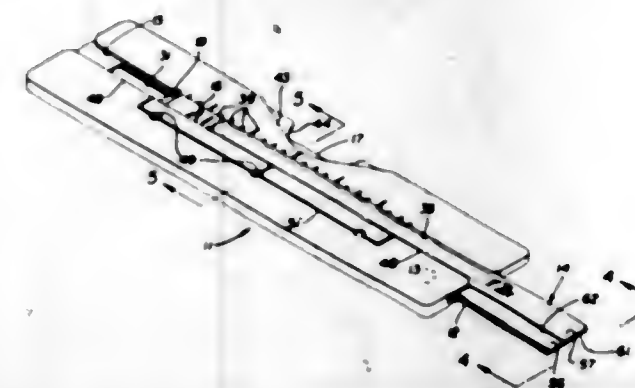
**3,381,383**  
**TRACK GAUGER**  
William P. McIlrath, Racine, Wis., assignor to Racine Hydraulics & Machinery, Inc., a corporation of Wisconsin  
Filed Apr. 29, 1966, Ser. No. 546,392  
5 Claims. (Cl. 33-146)



A track gauger for checking a railroad track gauge in which a frame mounts a pair of track-engaging wheels

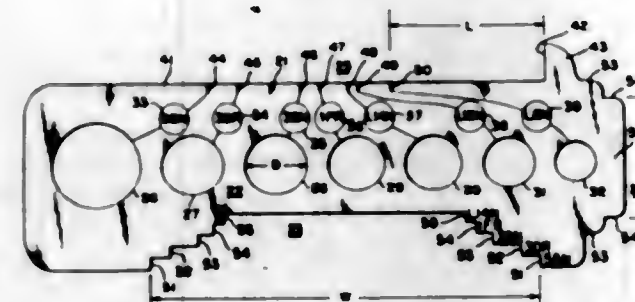
for support of the unit for movement along a track and with gauge mechanism for operating a pointer to give a visual indication of the track gauge and with tape recording mechanism to make a permanent record of the track gauge, with structure for marking the tape at spaced points with indicia indicative of mile posts encountered as the gauger moves along the track so that the permanent record of the track gauge will have meaning when examined.

**3,381,384**  
**LETTERING DEVICE**  
David W. Souza, Fremont, Calif., assignor to Millex Corporation, a corporation of California  
Filed May 2, 1966, Ser. No. 546,662  
7 Claims. (Cl. 33-174)



A portable plate like body is formed to receive and hold a sheet upon which lettering is to be placed and is formed with a guideway for a lettering guide mounted therein for reciprocation over the sheet so that various letters or other symbols may be applied to the surface of the sheet at desired locations thereon.

**3,381,385**  
**UNIVERSAL JOINT GAUGE**  
Donald F. Wilber, Allegan, Mich., assignor to North American Rockwell Corporation, a corporation of Delaware  
Filed May 5, 1966, Ser. No. 547,899  
1 Claim. (Cl. 33-174)

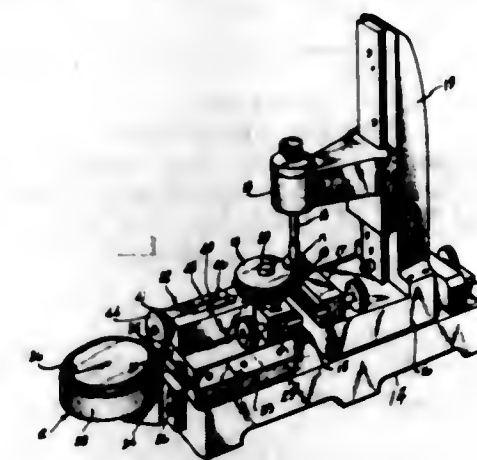


A gauge to measure and check various vital dimensions on the center cross and yoke of a universal joint to identify the coded size of the joint for installation of correct replacement parts.

**3,381,386**  
**PRECISION GEAR GAUGE**  
Robert F. Stenholm, 4405 Pine Crest Road,  
Rockford, Ill. 61104  
Filed Sept. 9, 1966, Ser. No. 578,182  
4 Claims. (Cl. 33-179.5)

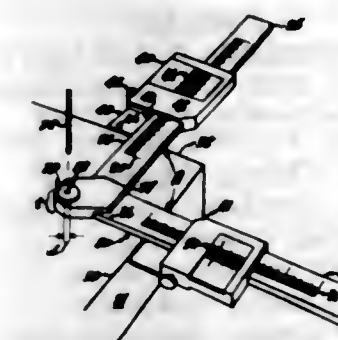
1. In a gear checking machine for comparing a test gear with a master gear, the combination of a base having straight parallel first guideways thereon, a first workholder adapted to support a first one of said gears for rotation about its axis, means mounting said workholder

on said base for movement longitudinally of said guideways and including means for clamping the workholder in different positions of adjustment, a second workholder adapted to support the other of said gears rotatably in meshing engagement with said first gear and mounted on said guideways for limited movement toward and away from said first workholder, displacement indication means acting between said second workholder and said base and indicating displacement of the second workholder along said guideways and relative to the first workholder, another guideway on said second workholder



paralleling and spaced equidistantly from said first guideways, a slide reciprocable in said other guideway, an adjusting coupling between said slide and said second workholder and including a threaded member for shifting the slide back and forth along said other guideway in response to turning of the member in opposite directions, and a coiled tensile spring stretched between said slide and said base with its axis disposed normal to the plane of said first guideways when said slide is in a zero position from which it is movable along said other guideway and away from said first workholder.

**3,381,387**  
**MICROPOINT LOCATOR GAUGE**  
James A. Landrum, Jr., 7215 S. Park Ave.,  
Chicago, Ill. 19606  
Filed Mar. 16, 1966, Ser. No. 534,741  
2 Claims. (Cl. 33-189)



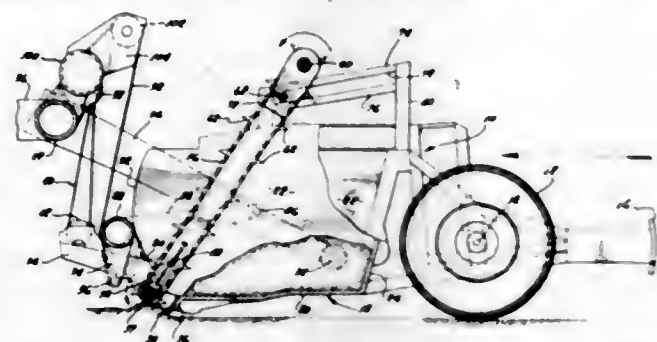
A square gauge has scales on each of two perpendicular arms for defining distances along the length of arms relative to the location of a smaller pilot hole at the apex of the square. Movable anvils on the arms may be put at any convenient location in order to place the pilot hole at a precise point with respect to the edges of a work piece. The position of the hole (in front of the apex) and the shape of the anvils (a bias cut on the interfering corners) cooperate to eliminate or reduce interferences with protrusions on the surface of the work piece. The ratio of diameter to depth of the pilot hole is selected to give a maximum stability.







vertically upwardly when the conveyor unit moves from said lower position to said upper position, and second support structure connected to the frame and supporting the conveyor generally rearwardly thereon for movement having a substantial rearward component when the con-

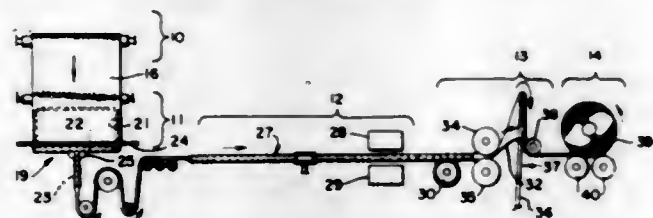


veyor unit moves from said lower position to said upper position, and means for selectively moving the conveyor unit from said lower to said upper position, said second support structure comprising sliding connection means between the conveyor unit and the frame.

3,381,397

# METHOD AND MEANS FOR CONVERTING TUBULAR KNITTED FABRIC TO OPEN WIDTH

Eugene Cohn, Great Neck, Sargent P. Snyder, Springfield Gardens, and Frank Catallo, Elmont, N.Y., assignors to Samco Holding Corporation, Woodside, N.Y., a corporation of New York  
Filed Nov. 19, 1965, Ser. No. 508,699  
16 Claims. (Cl. 38-2)

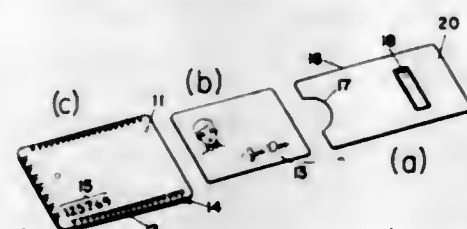


This disclosure is concerned with a method and apparatus for converting tubular knit fabrics to open width form. A novel method is disclosed for substantially removing discernible edge creases from the fabric by steaming the fabric tube while the discernible edge creases are maintained under lateral tension and free of frictional engagement by the apparatus. The disclosed method for removing discernible edge creases may also include the step of reorienting a flat fabric tube before steaming, to relocate the discernible edge creases in offset relation to the actual edges of the flat fabric tube.

3,381,398

# IDENTIFICATION CARD APPARATUS

Yow-Jiun Hu, Alexandria, Va., assignor to Farrington Business Machines Corporation, Springfield, Va., a corporation of Massachusetts  
Filed Oct. 22, 1965, Ser. No. 501,227  
9 Claims. (Cl. 40-10)



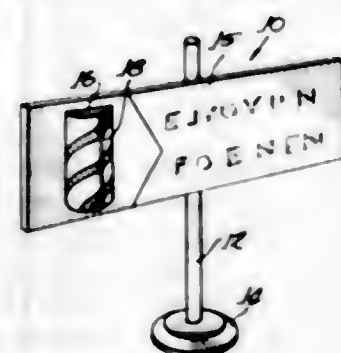
A device for inserting identification sheets such as photo chips into transparent, plastic card receptacles is disclosed. Typically the card receptacle is pre-embossed for use with printing machines, such as imprinters. The identification sheet inserting device is a rigid metal or

plastic plate having dimensions to accommodate the dimensions of the plastic card receptacle. The inserting device includes a portion for receiving the photo chip and holding it in place when the chip is inserted in the card receptacle. The receiving portion comprises either two parallel plates of equal size or one plate of sufficient size to hold the photo chip and another plate parallel to the first plate of sufficient size to hold the chip in place. The photo chip receiving portion is recessed at one end thereof so that once the chip inserting device has been inserted into the plastic card receptacle, the chip may be held within the card receptacle by grasping it at the recessed portion while at the same time the chip inserting device may be removed from the card receptacle.

3,381,399

# BATTERY OPERATED OUTDOOR DISPLAY

Fred Drucek, Jr., 4941 W. Henderson St., Chicago, Ill. 60641  
Filed July 15, 1966, Ser. No. 565,590  
15 Claims. (Cl. 40-33)



1. A self-contained display adapted for use in positions remote from a source of electrical power comprising, in combination: a body portion having at least one aperture therein and means for mounting said display affixed thereto; a rotating member; an enclosure retained within said aperture and having said rotating member rotatably supported therein; electrical motor means affixed to and adapted to rotate said rotating member; a source of stored power coupled to said motor means for operating it to rotate said rotating means; and insulating means for said stored source of power for insulating it from weather.

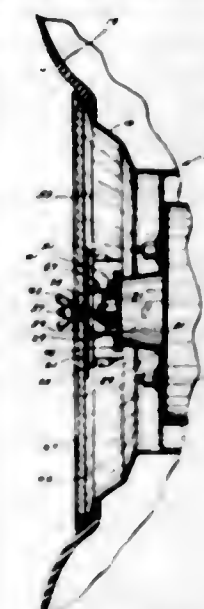
3,381,400

# ADVERTISING DISPLAY DEVICE

Clifford S. Beaudoin 820 10th Ave. W., Dickinson, N. Dak. 58601, and Donald C. Kokkeler, Bel- field, N. Dak. 58622  
Filed Dec. 23, 1965, Ser. No. 515,900  
4 Claims. (Cl. 40-129)

1. In an attachment for a vehicle wheel assembly including a non-rotatable axle, a hub means rotatably mounted on said axle, a wheel means operatively secured to said hub means and an axle nut on said axle maintaining said hub means on said axle,  
a supporting means having inner and outer ends, the inner end of said supporting means being adapted to receive the axle nut therein,  
at least one elongated member threadably extending through said supporting means and having an inner end adapted to engage the axle nut to prevent rotation of said supporting means with respect to the axle nut,  
a flat disc means detachably securing said flat disc to the outer end of said supporting means,  
a first flange means being operatively secured to said supporting means adjacent the inner end thereof and extending transversely thereto, said first flange means including inner and outer surfaces,

and a seal means operatively secured to the inner surface of said first flange means which engages the faces, and a transparent synthetic resin film covering and releasably adhering to both faces of the base.



outer end of the hub means to prevent foreign material therein.

3,381,401

# ILLUMINATED TRANSLUCENT SIGNS

Thomas J. D. Fuller, Jr., Cambridge, Mass., assignor to Thomas J. D. Fuller, Jr., trust  
Filed Apr. 27, 1966, Ser. No. 545,715  
5 Claims. (Cl. 40-132)

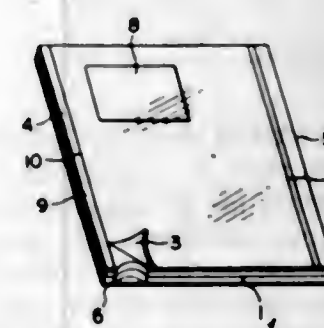


A transilluminated sign assembly comprising a light box and laminated sign panel with the sign panel is provided with a plurality of slideways to removably mount a plurality of sign strips, and is further arranged to give the said panel an integral appearance.

3,381,402

# PHOTOGRAPH MOUNTS AND METHOD FOR PRODUCING THE SAME

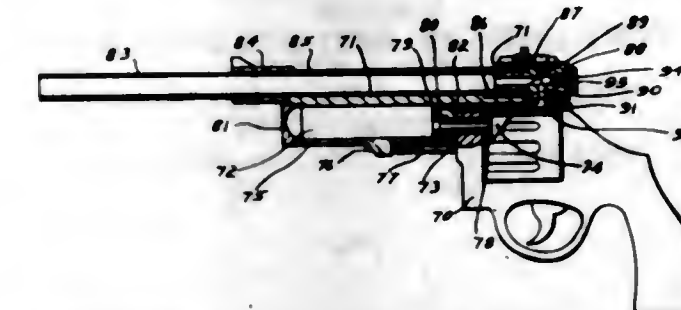
Tadao Ohfuji, 290 Okino-cho, Adachi-ku, Tokyo, Japan  
Filed Aug. 25, 1965, Ser. No. 482,401  
Claims priority, application Japan, Sept. 1, 1964, 39/49,508  
1 Claim. (Cl. 40-158)



A mount for photographs comprises a pasteboard base having a non-drying tacky adhesive on its opposite

# 3,381,403 MEANS FOR USE IN THE ADMINISTERING OF DRUGS, MEDICINES AND THE LIKE TO ANIMALS

Colin Albert Murdoch, 14A Hassel St., Timaru, South Island, New Zealand  
Continuation-in-part of application Ser. No. 238,412, Nov. 19, 1962. This application Apr. 7, 1966, Ser. No. 540,953  
Claims priority, application New Zealand, Nov. 24, 1961, 130,784; Aug. 13, 1962, 132,777  
10 Claims. (Cl. 42-1)

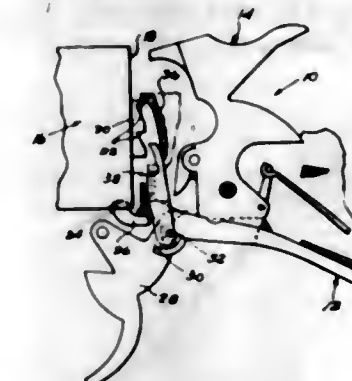


A projecting unit for projecting a projectile in which a housing defining a gas expansion chamber defining means is carried by a supporting means and is in communication with a charge receiving chamber with a barrel on the housing being in communication with the gas expansion chamber. Valve means provided between the gas expansion chamber and the valve and adjusting means operably connected with the valve means serves for controlling the valve means movement to a predetermined degree whereby the volume of gas passing from the expansion chamber to the barrel at the rear of the projectile in the barrel upon detonation of the charge may be controlled in order that the velocity and/or range of the projectile leaving the barrel may be varied.

3,381,404

# SPRING-URGED RATCHET ADVANCE ELEMENT FOR REVOLVERS

William T. Quinn, 681 Park Ave., Freehold, N.J. 07728  
Filed Oct. 12, 1966, Ser. No. 588,644  
4 Claims. (Cl. 42-59)



A firearm hand for a revolver with a ratchet, the hand having a spring-biased contact with the ratchet.

3,381,405

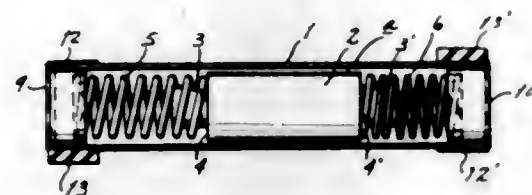
# FIREARM RECOIL REDUCER

James B. Edwards, 269 Herbert St., Alton, Ill. 62002  
Continuation-in-part of application Ser. No. 454,435, May 10, 1965. This application Sept. 22, 1966, Ser. No. 581,203  
7 Claims. (Cl. 42-74)

A recoil reducing device for a firearm utilizing a hollow sleeve removably disposed in a chamber in the stock



of a firearm and having a piston slidably received within the sleeve with a spring on either side of the piston and



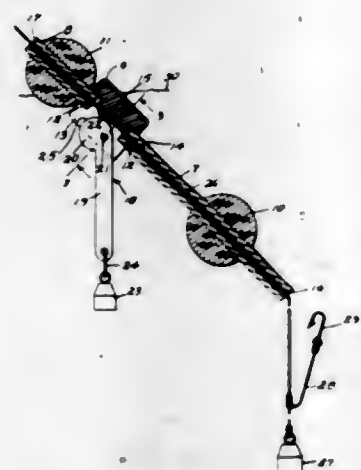
bearing thereagainst; there being lugs projecting from said sleeve for proper spacing and balancing of the device within the chamber.

**3,381,406**  
**PORTABLE GUN REST UTILIZING A FLEXIBLE STRAP**  
Willard C. Ormond, Rte. 2, Box 70-A,  
Rigby, Idaho 83442  
Filed Jan. 17, 1967, Ser. No. 609,926  
5 Claims. (Cl. 42-94)



For use by riflemen. Constructed to swingably suspend rifle barrel in a steadied aim-taking position, when the rifleman is in a prone or modified shooting position. If a rifle is held with the stock upon or against a relatively firm rest it will "kick away" when fired. Both the (1) sighting-in and (2) aim are spoiled. The present invention overcomes such exasperating field-shooting difficulties.

**3,381,407**  
**AUTOMATICALLY ADJUSTABLE FISHING FLOAT WITH LINE CLAMPING MEANS**  
Roland A. McDougall, 704 Hall St.,  
Charleston, W. Va. 25302  
Filed May 17, 1966, Ser. No. 550,840  
5 Claims. (Cl. 43-44.91)



1. A fishing float comprising an elongated body having a passage extending longitudinally therethrough and through which a fishing line is adapted to extend, said body including buoyant means for normally supporting the body on the surface of a body of water in substantially a horizontal position, and line clamping means including a clamping element pivotally connected to and

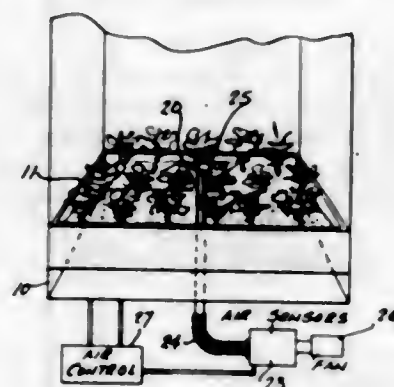
extending from said body and gravity urged toward a depending position, a part of said element cooperating with a part of the body for clamping engagement with the fishing line when said body is in substantially a horizontal position and said element is suspended therefrom and for releasing the line when said body is rocked in one direction relative to the element toward a vertical position.

**3,381,408**  
**FISH BASKET WITH FLOATING DOOR**  
Keizo Nishimura, Nadaku, Kobe, Japan, assignor to  
Soyo International Corp.  
Filed May 6, 1966, Ser. No. 548,257  
1 Claim. (Cl. 43-55)



A wire mesh fish basket has an upper opening of a certain size toward and from which a buoyant disk of larger size is movable, the disk alone being sufficiently buoyant to sustain in water both the disk and the basket itself, the disk being permanently hinged to the basket always to transmit the disk buoyancy to the basket and there being a lower opening in the basket through which the detached disk can be moved.

**3,381,409**  
**GROWTH CHAMBERS**  
Charles E. Lamont, Winnipeg, Manitoba, Canada, assignor to Controlled Environments Limited, Winnipeg, Manitoba, Canada  
Filed Sept. 23, 1966, Ser. No. 581,517  
Claims priority, application Canada, June 7, 1966,  
962,290  
4 Claims. (Cl. 47-17)

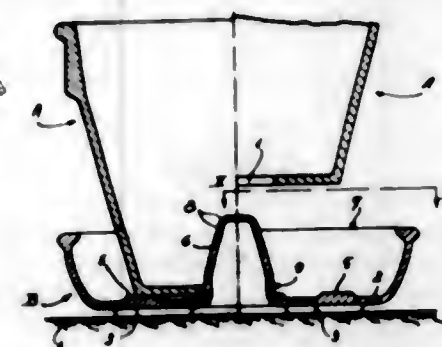


1. In an enclosed growth chamber including walls and a floor for supporting plant or animal life;

(a) means for controlling in said chamber at least one of the condition including air temperature, air humidity and air carbon dioxide content, for the furtherance of the controlled growth of said life, said control means including sensing means for sensing said at least one condition in sample air supplied thereto,

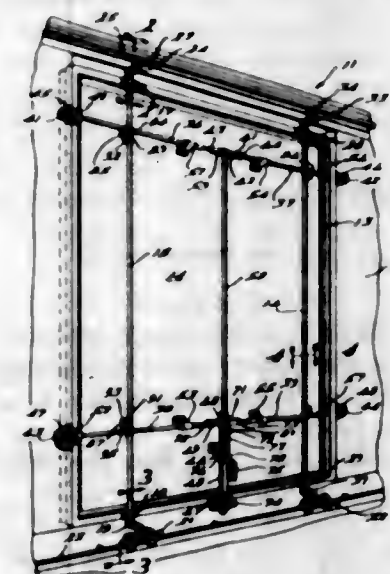
- (b) a vertically extending aspirator tube mounted in said chamber at a location remote from the walls thereof,
- (c) means connected to said tube for varying the height of an opening in said tube to enable said opening to be maintained at a desired level,
- (d) and means for drawing sample air through said opening into said tube and for supplying said sample air to said sensing means.

**3,381,410**  
**FLOWERPOTS**  
Faustin Potain, La Clayette, Saone-et-Loire, France  
Filed Aug. 15, 1966, Ser. No. 572,285  
2 Claims. (Cl. 47-38)



A flowerpot comprising a water bowl having feet on its underside, said feet spacing said bowl from any supporting surface, and an aerating head projecting upwardly from the base of said receptacle to a level above the level of the top of said bowl, said aerating head being open on the underside of said bowl, and having an imperforate wall below the level of the top of said bowl and a perforate wall above the level of the top of said bowl, and an earth receptacle separate from said bowl, said earth receptacle having a base defining a hole into which said aerating head is received, bosses between said bowl and the base of said receptacle being larger than that portion of said aerating head which passes through said hole when said receptacle is fitted within said bowl to provide a communication passage between the interior of said bowl and the interior of said receptacle.

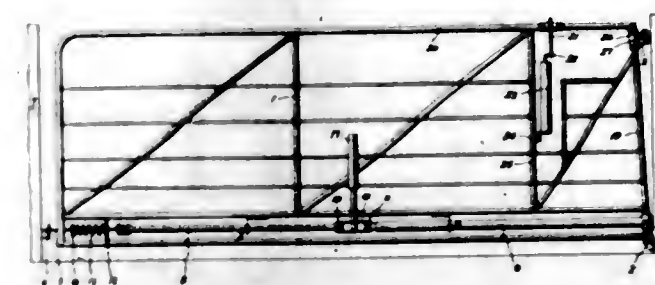
**3,381,411**  
**ACTUATING DEVICE**  
Herbert E. Rolfe, Jr., Garden City, Mich., assignor to Evans Products Company, a corporation of Delaware  
Filed Feb. 23, 1966, Ser. No. 529,399  
8 Claims. (Cl. 49-220)



A railway boxcar plug door arrangement embodying an operating mechanism for swinging the door transversely between its open and closed position and for

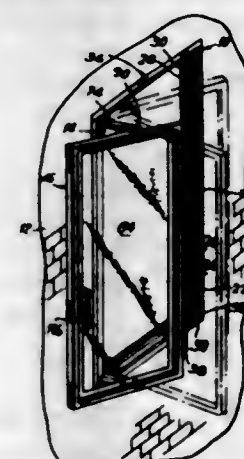
locking the door in its closed position. The operating structure interrelates the locking mechanism with the mechanism for moving the door in such a way that the locking mechanism is released and engaged only when the door is in its closed position. A single operating handle operates both mechanisms.

**3,381,412**  
**AUTOMATIC FARM GATE**  
Kenneth George Brotherson, Merewether, New South Wales, Australia, assignor to Automatic Gates (Newcastle) Pty. Ltd., Hamilton, New South Wales, Australia, a corporation of Australia  
Filed Jan. 24, 1966, Ser. No. 522,604  
Claims priority, application Australia, Jan. 26, 1965,  
54,393/65  
4 Claims. (Cl. 49-236)



In a gate which is gravity biased to closed position, a delay latching mechanism including a stationary latch bar extending transversely at the gate hinge, and a profile plate mounted on the gate and having an aperture dimensioned to receive the latch bar when the gate is in the fully open position. Normally, when the gate is in closed position, the center of the aperture in the profile plate is positioned slightly below the axis of the latch bar. A hydraulic cylinder is pivotally connected to the gate frame and has a piston shaft pivotally connected to the profile plate. When the gate is moved to fully open position, the profile plate engages the latch bar and pivots in one direction causing the latch bar to be received in the profile plate aperture. This also causes pivoting of the cylinder in an opposite direction and extension of the piston shaft. Depending on the hydraulic fluid controls associated with the hydraulic cylinder, the fluid in the cylinder may be maintained therein a predetermined time to delay unlatching of the profile plate from the latch bar.

**3,381,413**  
**CLOSURE**  
Louis L. Schacht, 205 E. 63rd St.,  
New York, N.Y. 10021  
Filed June 7, 1966, Ser. No. 555,892  
10 Claims. (Cl. 49-253)



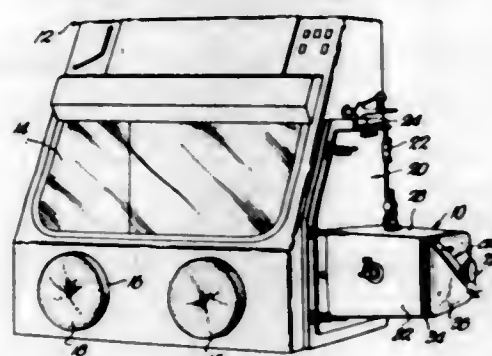
A closure, such as a casement window, has a movable sash pivotally supported by outwardly swinging arms



from a stationary frame. The arms permit limited swing-out of the sash to present the weather side of the sash to the frame while precluding abutment of the swung out sash with the wall in which the frame is fixed. A stationary flange is provided on the frame, behind which a marginal edge of the sash pivots and slides to obtain a weathertight seal.

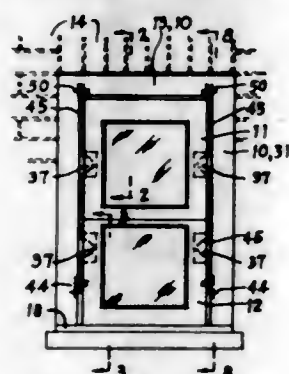
### 3,381,414 DOOR SEALING MECHANISM FOR INTER-CHANGE COMPARTMENT IN GLOVE BOXES

John H. Brown, 11206 Monroe Court,  
Kansas City, Mo. 64100  
Filed May 27, 1966, Ser. No. 581,401  
9 Claims. (Cl. 49-281)



1. A closure assembly comprising:
  - a wall having an opening;
  - a panel having an inner and outer face, said inner face having a marginal edge normally engaging the wall at one surface thereof in closing relationship to the opening;
  - an elongated arm across the said outer face;
  - an assembly shiftably mounting the panel on the arm for movement toward and away from said surface;
  - apparatus mounting the arm on said wall;
  - said apparatus including pivot means supporting the arm for swinging movement of the panel and the arm in corresponding planes substantially parallel with said surface and releasable latch means having interlocking parts on the arm and on the wall respectively;
  - the panel being between the pivot means and the latch means; and
  - releasable mechanism on the arm engageable with said outer face between the pivot means and the latch means for shifting the panel tightly against said surface when said parts are interlocked.

3,381,415  
**DOUBLE-HUNG SASH BALANCES**  
Peter Nachtsheim, South Plainfield, N.J.  
(Box 368, Montreal 3, Quebec, Canada)  
Filed Apr. 11, 1966, Ser. No. 547,703  
6 Claims. (Cl. 49-445)



This invention relates generally to sash balances and particularly to balances utilizing a sash friction brake

without tension-spring or block and tackle means for balancing the sash in the window frame, by eliminating thereby also a number of unknown factors relating to them, such as spring-fatigue, freezing, rusting and corroding of block and tackle friction control means and the frequent adjustments required of spring and block and tackle means due to seasonal expansion and contraction of the multi-looped strap connection between spring, block and tackle, and sash frame.

3,381,416  
**STORM WINDOW**  
Alfredo de Torres, 131 Raymond St. 02723, and John A. Martins, 116 Broadway 02721, both of Fall River, Mass.  
Filed Aug. 12, 1966, Ser. No. 572,024  
9 Claims. (Cl. 49-464)

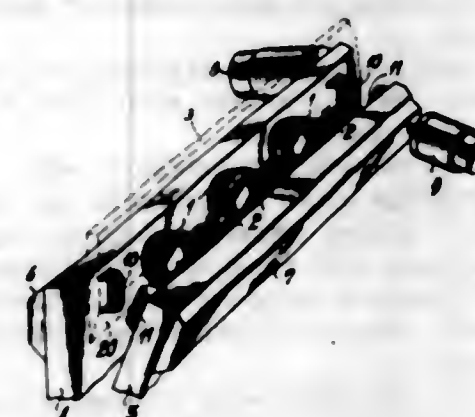


1. In combination, a relatively stationary window construction characterized by cooperable windows, upper and lower sliding sashes for example, movably and operably supported within the confines of a marginally encompassing built-in frame structure, the latter having flat faced exterior coplanar horizontal and vertical trim members and a complemental horizontal sill at the lower ends of the vertical trim members, and a portable readily attachable and detachable prefabricated storm window structure for exterior use comprising an upper section having means detachably mounting the same on the upper half portions of the vertical trim members and also in part on the horizontal trim member, and a companion complemental lower section telescoping, slidingly and adjustably mounted in whole or in part in said upper section.

3,381,417  
**DEVICE FOR LAPPING CUTTING TOOLS**  
Philipp Eckstein, Frankfurt am Main, Germany, assignor to Gustav Gockel Maschinenfabrik G.m.b.H., Frankfurt am Main, Germany  
Filed Mar. 26, 1965, Ser. No. 442,883  
6 Claims. (Cl. 51-116)

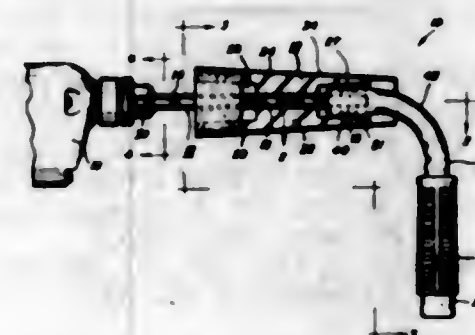
This invention relates to a honing or lapping device which can be used to hone the cutting edges of very large industrial knives or cutting tools where the blades are as thick as one inch and as long as 20 feet. The device mounts two opposing groups of rotating lapping rings spaced apart along a line on hinged heavy frames which are angularly disposed such that the plane of the front

faces of opposing lapping rings intersect at an acute angle, said radius arms and weighting the latter as fly-weights, with opposing guide rollers being mounted on the frames and spring means urging said abrading devices radially



to include the same angle between the rollers as is included between opposing lapping ring faces.

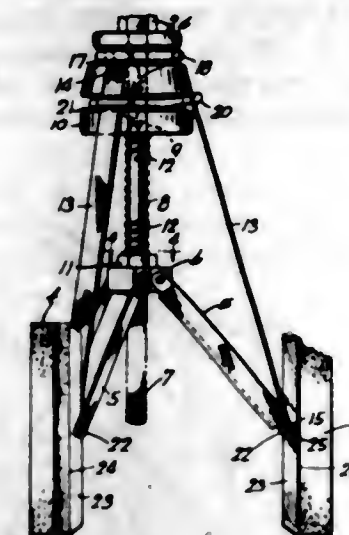
3,381,418  
**ABRADING DEVICE**  
Arthur C. Eishenauer, 711 Waltrath Circle,  
Ashtabula, Ohio 44004  
Filed May 10, 1965, Ser. No. 454,420  
3 Claims. (Cl. 51-170)



An abrading device comprising a rubber arbor member being generally shaped as the frustum of a cone and having recesses in either end. A shaft is molded to the arbor member and extends axially therethrough. One end of the shaft is adapted to be driven by a power device such as an electric drill. The other end of the shaft is adapted to be received in the bearings of a control handle in one of the recesses. The handle has a portion holdable by an operator and preferably extending 90 degrees to the portion which holds the bearings. An abrading member shaped to fit the arbor member normally resides thereon.

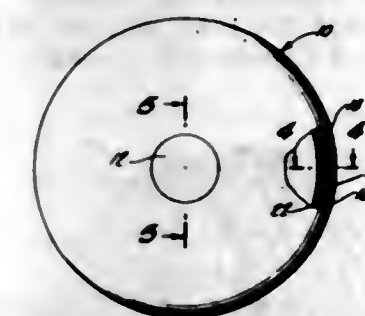
3,381,419  
**CYLINDER DEGLAZING TOOL**  
Berd L. Johnson, 2625 129th St.,  
Brookfield, Wis. 53005  
Filed Oct. 23, 1965, Ser. No. 505,568  
14 Claims. (Cl. 51-332)

1. In a tool of the character described, a rotating head, a vertical drive stem for the tool extending through a central axial bearing in said head, elongated radius arms extending lengthwise relative to and disposed in circumferentially spaced relation around said stem and pivoted at their upper ends on said head at circumferentially spaced points, a range nut threaded on said stem below said head and having other radius arms pivoted thereto at their inner ends in circumferentially spaced relation and extending outwardly therefrom and pivotally connected with the lower ends of said first radius arms, abrading devices of elongated form disposed substantially parallel to the stem and pivotally mounted intermediate their ends on the pivotally connected ends of



outward for contact with the walls of a bore in which said abrading devices are to operate.

3,381,420  
**INSULATION MATERIAL**  
Norman Brink, Herman Holland, and Robert G. Simonsen, San Diego, Dennis Stevens, La Jolla, and Steven Yurenka, Huntington Beach, Calif., assignors to Whitaker Corporation, Los Angeles, Calif., a corporation of California  
Filed Apr. 30, 1965, Ser. No. 452,152  
12 Claims. (Cl. 52-2)



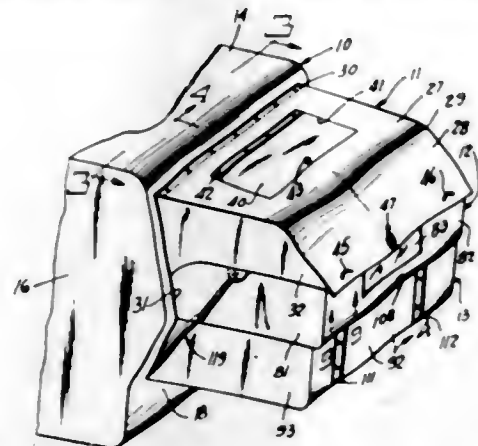
This patent describes a structural material having a layer of polymeric flexible foam material with interconnecting cells, and adhered to at least one side of said layer an impervious metallized thin plastic film wherein the metallized surface faces the foam material. This patent further describes a collapsible structure having supporting walls made of the structural material.

3,381,421  
**FOLDING UNIT FOR TRAILERS, MOBILE HOMES AND THE LIKE**  
Edward J. Schlotz, 1811 Mayfield,  
Livonia, Mich. 48152  
Filed May 23, 1966, Ser. No. 552,203  
16 Claims. (Cl. 52-36)

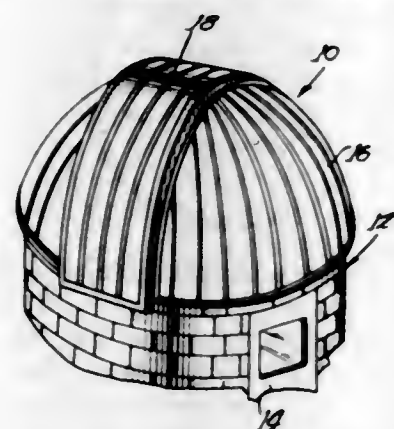
1. In a structural folding unit for increasing the usable space in a structure housing having a wall provided with an opening, the combination comprising:
  - (a) a top section hingedly mounted on said structure housing in said opening, and swingable between a closed position enclosing said opening and an opened, roof forming position;
  - (b) a plurality of folding unit sections disposed beneath the top section in vertically aligned positions when the folding unit is in the folded-out position to form an enclosed enlargement of said structure housing;
  - (c) means for slidably supporting the uppermost one of said plurality of folding unit sections on said top section;



- (d) means for supporting the other of said plurality of folding unit sections from said uppermost section;  
 (e) means hingedly mounting the lowermost of said plurality of folding unit sections on said structure housing so that the plurality of folding units may be swung through the opening into a folded-in, telescopically nested position in the structure housing, and swung back through the opening into said vertically aligned, folded-out positions under said top section; and,  
 (f) sealing means for sealing said sections relative to each other and said structure housing.

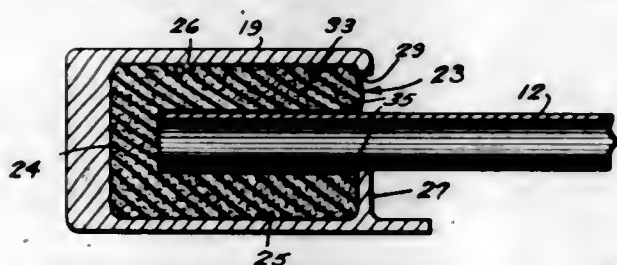


**3,381,422**  
**ROTATABLE ROOF STRUCTURE**  
 Irvin E. Olson, P.O. Box 112,  
 Plainfield, Ill. 60544  
 Filed Sept. 16, 1965, Ser. No. 487,684  
 5 Claims. (Cl. 52-66)



A rotating mechanism for a rotatable roof consisting of a track with substantially horizontally disposed spaced slots therein, motor means pivotally secured adjacent said track to drive a sprocket gear which engages said slots via the weight of the motor to drive the roof.

**3,381,423**  
**AWNING STRUCTURE**  
 Bernard H. Feld, Skokie, Ill., assignor to Kenron Aluminum & Glass Corporation, a corporation of Illinois  
 Continuation of application Ser. No. 425,679, Jan. 8, 1965. This application Sept. 8, 1967, Ser. No. 666,520  
 3 Claims. (Cl. 52-78)



1. In an awning structure, a rigid frame adapted to extend from the wall of a

building including a pair of parallel spaced rails inclined downwardly from the wall of the building, means connecting said rails together at their front and rear ends,

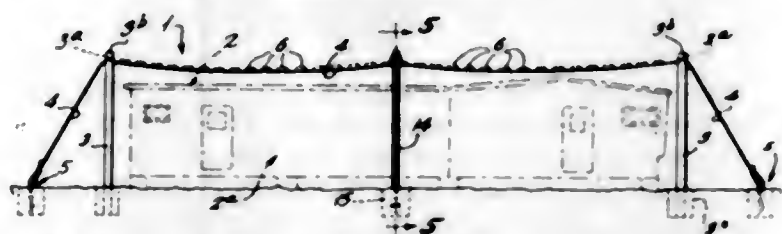
said rails having channels formed lengthwise therein and opening toward each other towards the ends of said rails,  
 a corrugated awning panel slidable within said channels from the ends thereof with the corrugations thereof extending transversely of said rails, and means retaining said panel to said rails comprising a pair of elongated one-piece cushioning retainer pads extending respectively along the opposite edges of said panel,

each of said pads being wrapped around its corresponding panel edge and folded over the top and bottom marginal portions of the panel, said pads being compressible from a free state configuration to a smaller assembled state configuration to fit into said channels,

said pads having a skin on the outer surface thereof for engaging the sides of the channels to enable the pads to be inserted lengthwise into the channels and to snugly and sealingly retain the edges of the panels in said rails,

said pads being sufficiently spongy to conform completely to the corrugations of the panel.

**3,381,424**  
**PROTECTIVE CONSTRUCTION FOR LESSENING THE WEIGHT OF ACCUMULATED SNOW LOADS ON THE ROOFS OF BUILDINGS, MOBILE HOMES, AND OTHER DWELLINGS**  
 Byron C. Butler, 550 W. Thomas Road,  
 Phoenix, Ariz. 85021  
 Filed Dec. 6, 1965, Ser. No. 511,927  
 2 Claims. (Cl. 52-83)

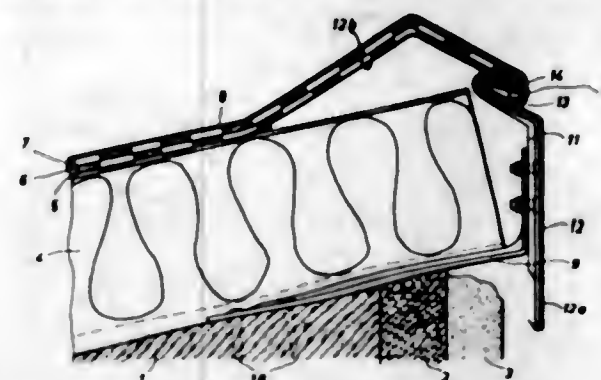


A protective construction for substantially lessening the weight of accumulated snow on the roofs of buildings, mobile homes and the like, wherein a pair of cables are supported under tension at the opposite ends of the roof of the building to be protected and intermediate the ends thereof, the cable supporting arrangement being constructed and arranged whereby the catenary curve portions of the cables between the intermediate and the end supports are relatively shallow. Rigid cross-members comprising laths or slats are supported in spaced relation transversely of the cable, thus forming a slatted canopy over the roof area.

**3,381,425**  
**PROTECTIVE COVERING FOR ROOF EDGES**  
 Klaus Göbel, Zeughausstrasse 41, Trier, Germany  
 Filed Sept. 17, 1964, Ser. No. 397,184  
 Claims priority, application Germany, Dec. 6, 1963,  
 G 39,338  
 10 Claims. (Cl. 52-96)

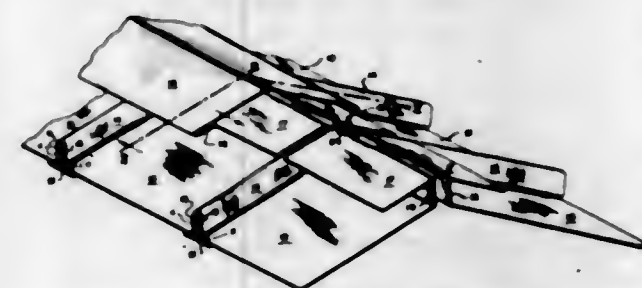
1. A protective roof edging covering the outer free edge of a flat roof, comprising elongated ridge-shaped cover means, outer substantially vertical facing means, and bracket means supporting said facing means in a position extending along the roof edge adjacent to said cover means, said ridge-shaped cover means including one side portion sloping from the ridge downwardly away from said facing means and another side portion sloping down-

wardly toward said facing means, said facing means have a lower edge and a longitudinal groove spaced upwardly from said facing lower edge and spaced from the roof edge, extending generally horizontally along said facing means adjacent to the side portion of said ridge-shaped



cover means sloping downwardly toward said facing means and opening outwardly away from the roof edge, the margin of said cover means side portion sloping downwardly toward said facing means being received in such groove.

**3,381,426**  
**METAL ROOFING STRUCTURE**  
 William J. Heldrich, Roma, N.Y., assignor to Revere Copper and Brass Incorporated, New York, N.Y.,  
 a corporation of Maryland  
 Filed Sept. 28, 1965, Ser. No. 490,795  
 4 Claims. (Cl. 52-96)



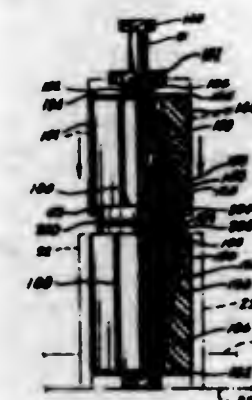
1. In a metal roofing structure comprising a plurality of flat metal roof sheets having two upstanding opposite side edges, and a side connector having an upstanding web positioned between adjacent upstanding side edges of adjoining sheets, the connector web being provided at its top edges with oppositely extending lateral flanges folded downwardly over the upstanding sheet side edges to hold them adjacent opposite sides of the web, the improvement which comprises an end connection for adjacent ends of the sheets consisting essentially of a substantially upstanding end flange struck up from an end of each sheet to a height substantially the same as that of the upstanding web of the side connector and a top flange extending outwardly from the top edge of the end flange over and substantially parallel to the plane of the end portion of the sheet, and an end connector having a sheet-like body portion extending over the top flanges of adjacent end portions of the roof sheets, the ends of the connector body portion having downwardly and inwardly folded end flanges positioned to underlie the top flanges of adjacent end portions of the roof sheets.

**3,381,427**  
**FRANGIBLE AND EXPANDABLE ASSEMBLY FOR PARKING METER SUPPORTS, STANCHIONS, POLES AND POSTS**

George H. Watson, 11530 Holmes Drive NE.,  
 Kirkland, Wash. 98033  
 Filed Oct. 23, 1965, Ser. No. 502,996  
 4 Claims. (Cl. 52-98)

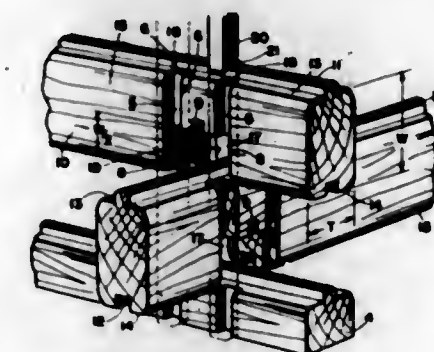
Frangible, expandable and bendable connector assemblies form part of supports, stanchions, poles and posts

such as are used to support parking meters, traffic signs and street signs to predetermine fracturing and bending locations in anticipation of vehicles striking the overall support. A preferred embodiment of this connector assembly, comprises: a central connector, having a hollow frangible cross-section between its ends, tapered hollow portions tapering to smaller outside diameter ends above and below its hollow frangible cross-section; hollow tapered sleeves fitted endwise over each respective matching tapered hollow portions of the insert body and having



longitudinal cuts to permit their radial expansion when relative movement occurs between these tapered sleeves and tapered body portions; and a bendable adjusting and fastening means positioned throughout the hollow central connector and tapered sleeves to contact the tapered sleeves and, upon installation of the connector assembly, to move the tapered sleeves toward one another expanding them over the tapered central connector into contact with portions of an overall support and thereafter remaining in place to keep the components of the overall support together upon and after impact.

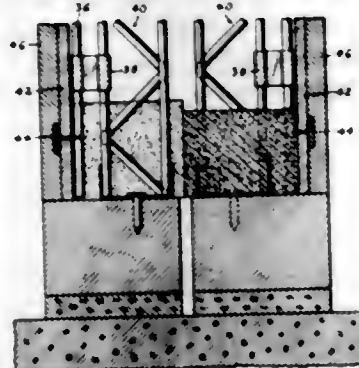
**3,381,428**  
**EXPOSED LOCK LOG JOINING SYSTEM**  
 Leimu A. Silman, Port Arthur, Ontario, Canada, assignor to Unitized Manufacturing Limited  
 Continuation-in-part of application Ser. No. 486,366,  
 Sept. 10, 1965. This application Aug. 22, 1967, Ser.  
 No. 662,553  
 4 Claims. (Cl. 52-233)



This specification discloses a joint between notched planks assembled in right angular relation with each plank having a recess extending thereinto from an edge thereof a distance equal to one half the width of the plank with the recess receiving the corresponding portion of a plank normal thereto which is left when a similar recess is formed therein with the side face of each plank having a pair of channels extending vertically thereacross with each channel overlapping a side of the respective recess and a vertical locking member in each set of aligned channels.

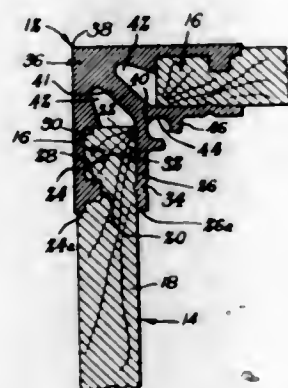


**3,381,429**  
**WALL SYSTEMS**  
 Michael Rich, 70-28 Juno St.,  
 Forest Hills, N.Y. 11375  
 Filed Aug. 10, 1964, Ser. No. 388,641  
 9 Claims. (Cl. 52-250)



9. A wall system comprising a first floor track, a second floor track spaced from and parallel to said first floor track, sound isolating material positioned under said tracks, a first series of vertical studs mounted in said first floor track, a second series of vertical studs mounted in said second floor track in staggered relationship to said first series, a plurality of resilient clips attached at vertical intervals on the outer face of said studs, a pencil rod held by the resilient clips of each of said studs, wire ties positioned on said pencil rods and spaced from said resilient clips, wire lath held by said wire ties, plaster applied over said wire lath whereby the partition panel thus formed is resiliently mounted on the outer face of each of said stud series, and sound insulation bats extending between successive studs in each of said series in staggered relationship and substantially filling the space therebetween whereby sound passing through the spaces between successive bats in said first series must follow an indirect path to the spaces between successive bats in said second series thereby to provide exceptional soundproofing.

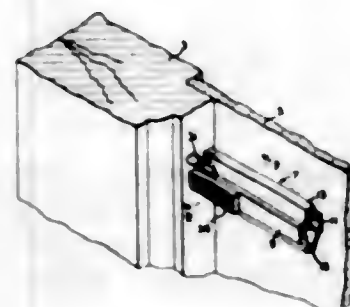
**3,381,430**  
**PANEL CONNECTOR**  
 Max Wiczer, Chicago, Ill., assignor to Wico Corporation,  
 a corporation of Illinois  
 Filed Dec. 27, 1965, Ser. No. 516,468  
 3 Claims. (Cl. 52-282)



An improved extruded corner molding is provided having a pair of elongated tongue-and-groove socket means each having an open edge from which extends the panel that is secured to the molding. The panel has a grooved edge which affords assembly by sliding the panel longitudinally of the molding. The socket means are each defined by spaced outer and inner walls which bound the open edge and an abutment shoulder spaced opposite from and parallel to the open edge. On the outer wall there is a tongue or rail extending toward said inner wall but spaced therefrom. The tongue and abutment shoulder

define a channel within said socket means for receiving an edge of a panel. A corner is formed by two socket means being interconnected by a rigid brace means which maintains each socket means at a predetermined attitude relative to the other.

**3,381,431**  
**MULLION DEVICE FOR WINDOW**  
 Allan L. Jacobson, 36 Fiddlers Lane,  
 Latham, N.Y. 12110  
 Filed June 2, 1967, Ser. No. 643,196  
 2 Claims. (Cl. 52-309)



A removable mullion device for use with a window to convert a single pane thereof to multiple pane comprising a hollowed-out tube slidably receiving interiorly the main-body portion of an integral in-erting member of one-piece construction which comprises said main-body portion, a piercing point, a neck and a serrated flange. The tube is disposed in abutting relationship with the window pane and sash with sash securement effected by point engagement therewith. A longitudinal slot formed in the tube and portion complementally receives and guides said neck, and tube securement is facilitated by appropriate, manipulative movement of the serrated flange disposed on the exterior surface of said tube.

**3,381,432**  
**STRESSED-SKIN SPAN STRUCTURE**  
 Rowland Brandwein, Newton, Conn., assignor to Inventor's Group, Newton, Conn., a co-partnership composed of Francis H. Bette, Joseph S. Bette, Rowland Brandwein, and George A. Tomey  
 Filed Sept. 19, 1966, Ser. No. 580,266  
 10 Claims. (Cl. 52-309)



1. A self-supporting stressed-skin span structure comprising:  
 at least two layers of longitudinally extending channel-shaped beam members each beam member comprising a longitudinally extending main body portion and upstanding side rail portions disposed along the longitudinal edges of said main body portion generally perpendicular thereto, said channel-shaped beam members in each layer being disposed side by side in contact with each other with the open channel of each beam member facing upwardly and with the main body portions of adjoining beam members in substantial horizontal alignment,  
 the channel-shaped beam members in adjacent layers being disposed with the upper longitudinal edges of the upstanding side rail portions of the beam members in the underlying layer secured to the underside

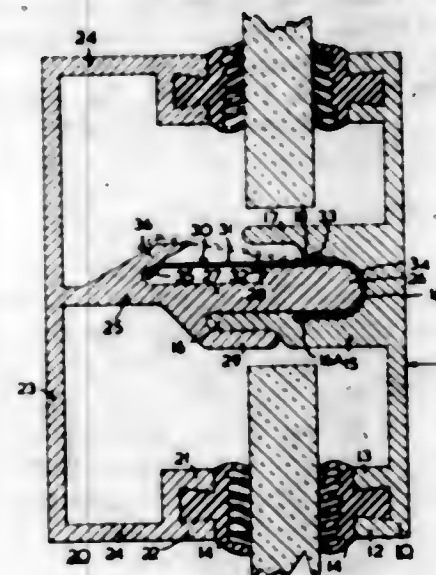
of the main body portions of the channel-shaped beam members disposed immediately thereover, whereby the longitudinally extending main body portions of the beam members in one layer and the longitudinally extending main body portions of the beam members in adjoining layers of said beam members form a stressed-skin structure that is capable of supporting loads substantially in excess of the aggregate load that can be supported by the individual components of the span structure.

**3,381,433**  
**NAILABLE STEEL JOIST**  
 Augustine Davis, Jr., Washington, D.C., assignor to Davisbilt Steel Joist, Inc., Washington, D.C., a corporation of Delaware  
 Filed June 24, 1966, Ser. No. 560,164  
 4 Claims. (Cl. 52-364)



A nailable joist for supporting a collateral member having a planar unitary flanged steel web of impenetrable heavy gauge structural steel, with an integral nail penetrable portion extending continuously along said flange provided by a groove rolled into the interior surface of the flange.

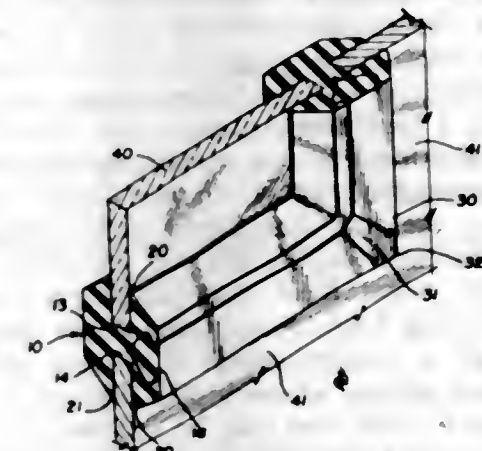
**3,381,434**  
**GLASS DIVISION BAR**  
 Lawrence F. Carson, London, Ontario, Canada, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa.  
 Filed Oct. 23, 1965, Ser. No. 503,000  
 Claims priority, application Canada, May 14, 1965, 930,671  
 15 Claims. (Cl. 52-397)



1. A glazing bar comprising:  
 (a) a first rigid member having:  
 (1) a first web; and,  
 (2) a first flange projecting outwardly therefrom  
 (b) a second rigid member having:  
 (1) a second web; the latter including;  
 (2) a pair of spaced generally parallel flanges thereon defining a groove adapted to receive an end portion of said first flange;

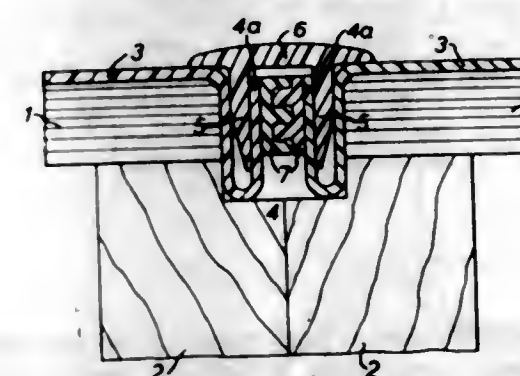
(3) a notch in at least one of the adjacent surfaces of the flanges defining said groove;  
 (c) a clip interconnecting said first and second members, said clip having:  
 (1) a first portion disposed within said groove with a tab struck outwardly therefrom to engage said notch in the groove; and,  
 (2) a second portion having a tab projecting therefrom engaging a stop member on said first flange, said first and second rigid members each having a second flange with such second flanges being disposed substantially in alignment and in spaced relation to one another to provide a panel receiving recess therebetween.

**3,381,435**  
**SEALING STRIP CORNER CONSTRUCTION**  
 Leonard William Smith, Stevensville, Mich., assignor to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana  
 Filed July 29, 1966, Ser. No. 568,883  
 6 Claims. (Cl. 52-400)



A sealing or glazing strip corner construction having a forced generating means disposed diagonally at the corner to produce a sealing force across the corner portion.

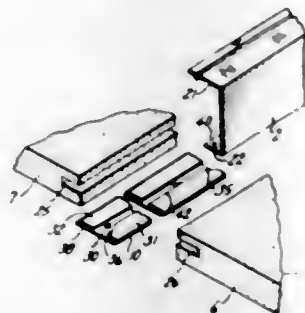
**3,381,436**  
**BUILDING STRUCTURE WITH A WATERPROOF SEAL**  
 Norman Barton Elliott, 25 Blenheim Road, Raynes Park, London, England, and Robert Henry Greensmith, 17 Amberley Road, Backhurst Hill, England  
 Filed Mar. 15, 1965, Ser. No. 439,614  
 Claims priority, application Great Britain, Mar. 19, 1964, 11,660/64  
 2 Claims. (Cl. 52-468)



Bridging and sealing means for the outwardly opening channels of assembled prefabricated building panels. The channels include interlocking longitudinally extending strips and a longitudinally extending U-section strip bridges the channels with its closed end in sealing engagement with a cover sheet on the outer surface of the panels.

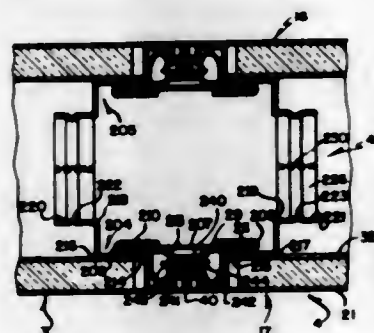


**3,381,437**  
**SLIP SPLINE SUSPENDED CEILING STRUCTURE**  
 Bruce W. Kidney, 57 Montague St.,  
 Brooklyn, N.Y. 11201  
 Filed Apr. 21, 1964, Ser. No. 361,428  
 8 Claims. (Cl. 52-497)



1. An acoustic ceiling assembly including a series of horizontally spaced, parallel, horizontal supporting bars, each of said bars having a continuous peripheral, horizontally-disposed tile supporting flange along its lower edge, a plurality of supporting splines shorter than said flanges slidably mounted on said peripheral flange, each of said splines having a base portion below and contiguous with said flanges and locking and supporting members along opposing longitudinal edges thereof, said supporting member fitting over said flange and said locking member pressing against said supporting bar to prevent the removal of said spline from said peripheral flange, and ceiling tiles having kerfs in opposing edges thereof, said kerfs being of a greater length than said splines and fitting over said splines whereby said tiles are retained in position, whereby said tiles may be individually removed and installed in said assembly by longitudinal movement of said splines along said flanges.

**3,381,438**  
**REUSABLE WALL SYSTEM**  
 John A. Bohnsack, Cleveland Heights, Ohio, assignor to  
 The E. F. Hauserman Company, Cleveland, Ohio, a  
 corporation of Ohio  
 Filed Dec. 12, 1963, Ser. No. 330,017  
 24 Claims. (Cl. 52-481)



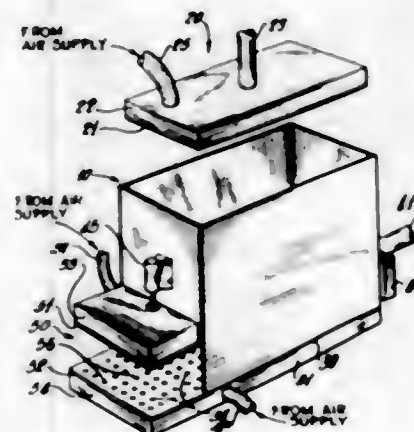
1. In combination, a post construction for interior partition systems comprising a vertical, and a pair of vertically extending allochiral J-shaped latching projections extending laterally from said vertical; panels each comprising an insulating core, front and back face sheets bonded to said core, said sheets extending beyond the edges of said core and cooperating to form vertically extending latching edge channels coextensive with said projections, the adjacent edge channels of said panels being latched to one projection of each pair and thus secured to said post construction.

**3,381,439**  
**STRUCTURAL MEMBER**  
 Frederick A. Thulin, Jr., Mount Prospect, Ill., assignor to  
 United States Gypsum Company, Chicago, Ill., a cor-  
 poration of Illinois  
 Filed Oct. 21, 1965, Ser. No. 499,939  
 10 Claims. (Cl. 52-729)



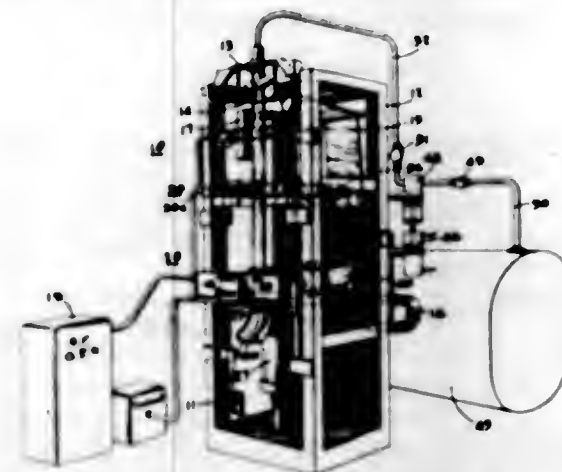
A structural member includes parallel, spaced opposed flanges with a supporting web comprising a series of web sections extending the length of the member and having central portions joined to one another along the center of the member. Each web section includes first and second end portions, with alternate sections having their first end portions integral with one longitudinal edge of one flange and their second end portions integral with the corresponding edge of the other flange, and the remaining web sections having their end portions similarly extending to, and affixed to, the other longitudinal edges of the flanges. Each of the first end portions are coplanar with the second end portions of adjacent web sections, whereby the end portions of such adjacent sections form joined straight struts extending diagonally across and progressing longitudinally of the member.

**3,381,440**  
**METHOD AND APPARATUS FOR HANDLING AND PACKAGING MATERIAL**  
 William B. Hullhorst, Granville, Ohio, assignor to  
 Owens-Corning Fiberglass Corporation, a cor-  
 poration of Delaware  
 Filed May 18, 1965, Ser. No. 456,751  
 10 Claims. (Cl. 53-24)



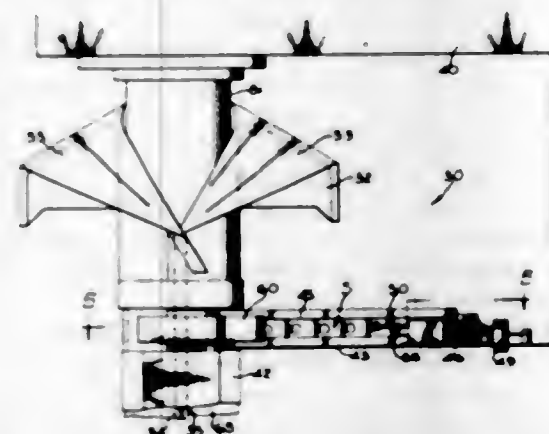
Method and apparatus for packing a mass of material by compressing the material between two surfaces, providing an air film between the two surfaces and the compressed material, cross-ramming the compressed material from between the two surfaces into a package, and providing air film bearing surfaces inside the package to reduce the friction of insertion of the compressed material into the package.

**3,381,441**  
**SYSTEM FOR PRODUCING LIQUID-FILLED PACKAGES**  
 Albert C. Condo, Jr., Newtown Square, and David D. Mynick, Melrose Park, Pa., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania  
 Filed July 19, 1965, Ser. No. 472,774  
 17 Claims. (Cl. 53-24)



A system for producing liquid-filled packages including an improved method and apparatus for introducing liquid under pressure into packages and sealing the same through a column of the liquid while maintaining the pressure on the liquid in the package whereby the resulting package is completely and accurately filled.

**3,381,442**  
**METHOD OF AND APPARATUS FOR MAKING A BAG ENCLOSING A RECLOSING FACILITY**  
 Floyd G. Paxton, P.O. Box 2098, Yakima, Wash. 98902  
 Filed Aug. 6, 1965, Ser. No. 477,797  
 7 Claims. (Cl. 53-28)

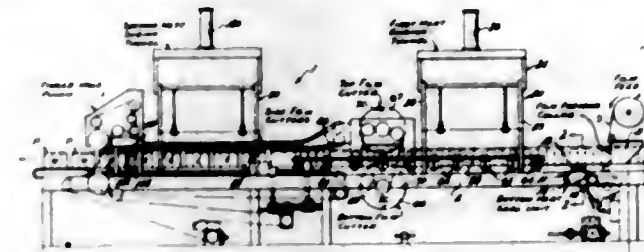


Modification of a conventional bag packaging machine which forms, fills and seals plastic bags so that this attaches a Kwik Lok type bag closure to the inner surface of each such bag whereby, when said bag is opened at one end for withdrawing a portion of the contents, said closure may be detached from the bag and used to reclose the same to preserve the balance of the contents of the bag.

**3,381,443**  
**PACKAGE FORMING AND HEAT SHRINK BANDING APPARATUS**  
 Bruce G. Copping, Akron, Ohio, assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin  
 Filed June 21, 1965, Ser. No. 465,613  
 20 Claims. (Cl. 53-30)

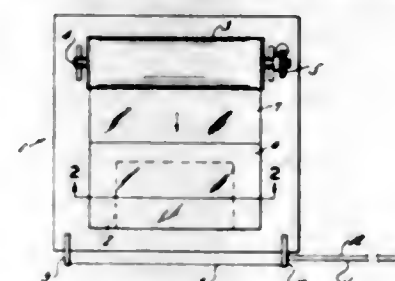
Article packages are formed wherein a plurality of articles are received within a plastic film that is heat shrunk into engagement with the packages being processed. A heat shrink tunnel is provided to receive a

stream of articles being moved along a fixed path in longitudinally spaced groups and means are provided to sever a continuous plastic band positioned around the articles into individual sections engaging the individual groups of articles. The heat shrink tunnel includes air circulating means and flow path controls. The tunnel is characterized by being movable vertically out of opera-



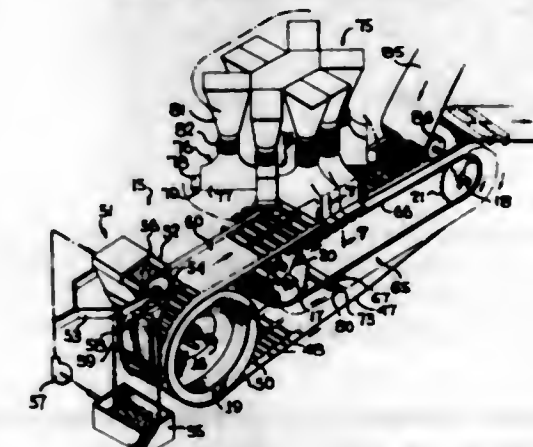
tive association with the articles being packaged and means are present to enclose the heat shrink tunnel when elevated to maintain the temperature thereof at a predetermined value should operation of the machine be interrupted whereby the heat shrink tunnel is ready for instantaneous reuse in a continuous article packaging action.

**3,381,444**  
**METHOD OF WRAPPING AN ARTICLE IN A PLASTIC FILM**  
 Paul J. Vaughan, Cuyahoga Falls, Ohio, assignor, by  
 mesne assignments, to Filmco, Inc., Aurora, Ohio,  
 a corporation of Delaware  
 Filed Feb. 23, 1965, Ser. No. 434,592  
 6 Claims. (Cl. 53-33)



A method of wrapping an article in a heat sealable, resilient plastic film to produce a package wherein the film wrapper is under tension along both the longitudinal and transverse axes, by stretching the wrapper in the longitudinal direction and sealing the stretched wrapper adjacent the longitudinal margins of the article, then stretching the wrapper in the transverse direction and sealing the stretched wrapper adjacent the transverse margins of the article.

**3,381,445**  
**PACKAGE FORMING APPARATUS**  
 Clarence W. Vogt, Box 232, Westport, Conn. 06601  
 Filed Sept. 14, 1965, Ser. No. 487,182  
 16 Claims. (Cl. 53-140)

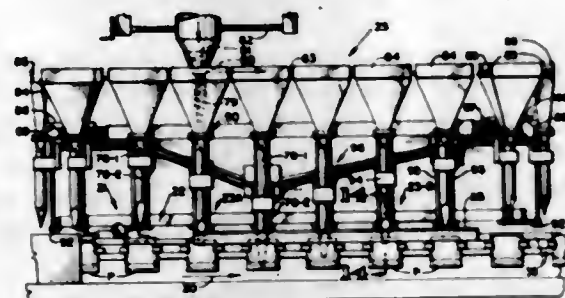


This disclosure relates to a method of forming packages wherein a flowing curtain of web forming material



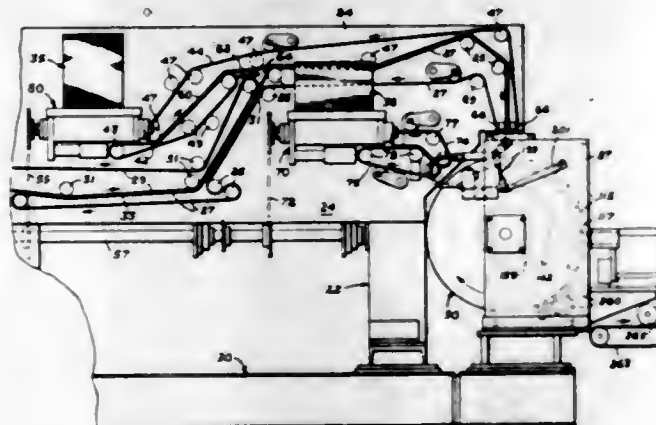
is directed against the peripheral surface of a pocketed drum to form a continuous pocketed web. Thereafter, the web is associated with moving fillers of the pressure differential type and the pockets of the web filled with a pulverulent material. A cover web is then secured to the filled pocketed web to seal the pockets.

**3,381,446**  
**PACKAGING MACHINE FOR OPENING AND FILLING POUCH-TYPE BAGS**  
Jacques Marchand, Newark, N.J., assignor to Roto American Corporation, Paramus, N.J.  
Filed Mar. 9, 1966, Ser. No. 541,430  
8 Claims. (Cl. 53-187)



There is disclosed apparatus for making and filling pouch-type bags. In sequence the bags are formed from a web, sealed on sides and bottom and cut into separate bags. Each bag is gripped on opposite seams by a pair of grippers which ride on a chain link and cooperate with cam surfaces in a track to pivot and thus open and close the open mouth of the bags. A station is provided for a sector-shaped rotary knife to enter the bag and serve as a channel for a blast of air which opens it. The top edges of the bag are formed about the rotary knife by guidance along a set of vacuum walls to open for cam entry and seal itself about the knife for confining the air blast in the bag. A set of moving funnels follows the bags by means of a cam rail and drop into the bags opened by the grippers to feed from the bottom while being gradually withdrawn. The funnel tops are adjacent to permit simple metering of materials from a continuous stream into the respective tunnels, and dust is withdrawn from around top bags when loading.

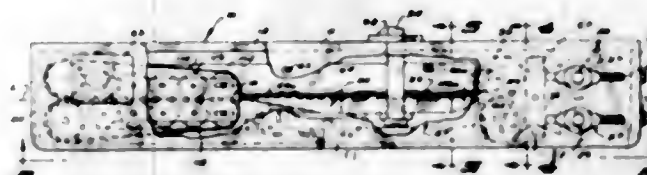
**3,381,447**  
**APPARATUS FOR FILLING AND CLOSING ENVELOPE-TYPE CONTAINERS**  
Albert H. Ash, South Vienna, and Orville A. Morley, Dayton, Ohio, assignors to McCall Corporation, Dayton, Ohio, a corporation of Delaware  
Filed Mar. 2, 1966, Ser. No. 531,196  
11 Claims. (Cl. 53-188)



1. Apparatus for receiving and closing an envelope-type container having side sheets defining an open end and a flap extending therefrom, comprising a rotatably mounted wheel member having a plurality of peripherally spaced compartments, means for rotating said wheel member so

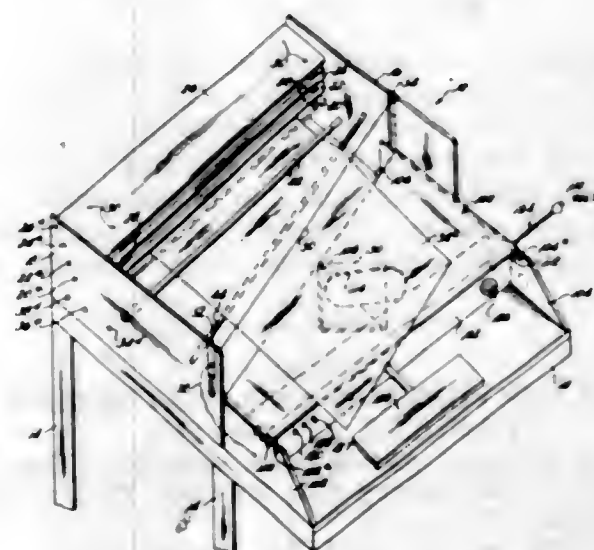
that each compartment is positioned in a successive manner at a plurality of operating stations, feed means located at a feed station for supplying a container to each said compartment with the open end and flap positioned near the periphery of said wheel member, means for spacing apart the side sheets of each container adjacent the open end, tucker means positioned at a tucking station for folding the flap into the open end while the side sheets are spaced apart, and means for removing the container from each said compartment at a discharge station.

**3,381,448**  
**BAG CLOSING AND SEALING MACHINE FOR STEPPED END BAGS**  
Richard H. Ayres, Minneapolis, and Harold K. Johnson, Bloomington, Minn., assignors to Bemis Company, Inc., a corporation of Missouri  
Filed Aug. 20, 1965, Ser. No. 481,304  
7 Claims. (Cl. 53-373)



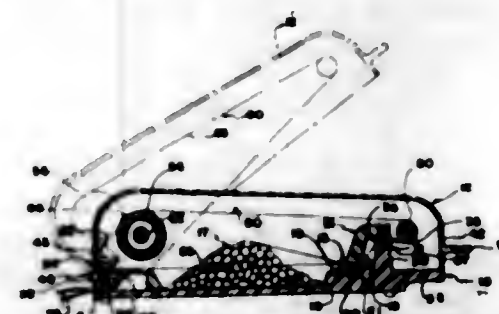
Bag closing and sealing apparatus having conveyor belt inner runs that convey the stepped end portion of a bag successively through creasing rolls, a folder blade to successively fold said bar portion from a vertical to a horizontal condition and thence downwardly to abut against the adjacent portion of the bag and compression rolls. The folder blade central portion extends transverse over a nozzle that discharges hot air to activate the adhesive on the horizontally extending bag portion. A shoe is mounted on the nozzle to cooperate with the folder blade in folding said bag portion. Spring steel plates are resiliently urged to position the belt guide plates mounted thereon to retain the inner runs adjacent one another.

**3,381,449**  
**WRAPPING MACHINE**  
Paul J. Vaughan, Cuyahoga Falls, Ohio, assignor, by mesne assignments, to Filmco, Inc., Aurora, Ohio, a corporation of Delaware  
Filed May 4, 1965, Ser. No. 453,075  
9 Claims. (Cl. 53-390)



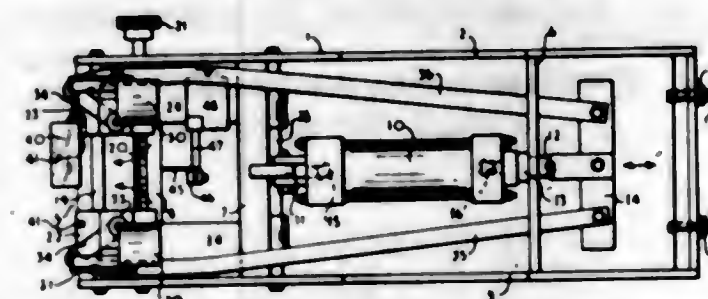
Apparatus for dispensing and cutting various widths of film for use in wrapping of packages while preventing entangling contact between various portions of the film.

**3,381,450**  
**PACKAGE WRAPPING AND SEALING APPARATUS**  
Frederick P. Monks, 158 W. 12th St., North Vancouver, British Columbia, Canada  
Filed Aug. 16, 1965, Ser. No. 479,957  
8 Claims. (Cl. 53-390)



Package wrapping and sealing apparatus having a base and movable cover provided with complementary heat sealing means and a roll of sheet wrapping material rotatably mounted on the cover intermediately of the latter and the base to permit the material to be folded about a package to be wrapped when the cover is in an open position and the package sealed when the cover is moved to a closed position. A knife is carried on the base to sever the wrapping material between the package end roll when the cover is moved to a closed position.

**3,381,451**  
**APPARATUS FOR FORMING A CLOSURE ON THE END OF A CYLINDRICAL CONTAINER**  
James Gray, Toronto, Ontario, Canada, assignor to Tupak Corporation, Toronto, Ontario, Canada, a corporation of Canada  
Filed May 20, 1965, Ser. No. 457,308  
2 Claims. (Cl. 53-393)

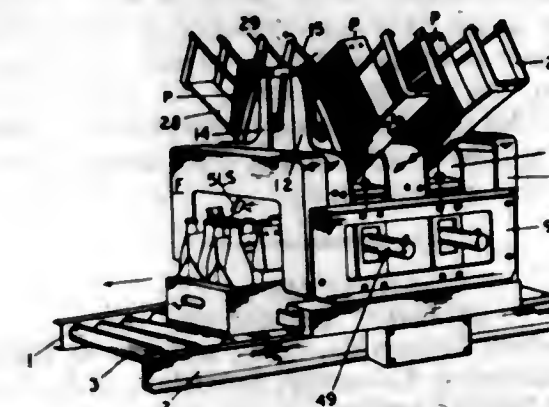


An apparatus for closing tubular containers, such as coin wrappers or cardboard mailing tubes, which has a pair of oscillating formers to engage and deform peripheral sections of a tube and adjusting means to provide for tubes of various diameters.

**3,381,452**  
**MACHINE FOR PLACING INSERTS INTO LOADED ARTICLE CARRIERS**  
Hermond G. Gentry, Victor Benatar, and James T. Fidler, Atlanta, Ga., assignors to The Mead Corporation, a corporation of Ohio  
Filed Dec. 22, 1965, Ser. No. 515,634  
8 Claims. (Cl. 53-393)

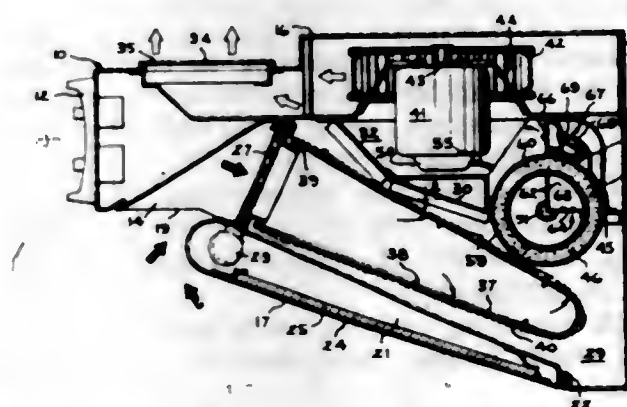
1. A machine for placing an insert into a receptacle and adjacent to an article therein, said machine comprising a movably mounted yoke, inserting means mounted on said yoke and operable to impart movement to an insert from a position on said yoke into the carrier cell and adjacent an article therein, and an article engaging element mounted on said yoke and movable relative to said yoke from a withdrawn position to an article engaging position, said article engaging element being movable along a predetermined path relative to said yoke and generally toward the article and cell of the carrier and having an

article engaging part which is configured to engage the article in the cell of the carrier and to cause said yoke and said article engaging element to shift to positions



wherein the article is accurately aligned with the path of movement of said article engaging element if the article and cell are not in positions of accurate alignment therewith.

**3,381,453**  
**AIR-HANDLING DEVICE WITH REGENERATIVE FILTER MEDIUM**  
Raymond L. Dills, Louisville, Ky., assignor to General Electric Company, a corporation of New York  
Filed June 17, 1966, Ser. No. 558,368  
2 Claims. (Cl. 55-208)



A recirculating kitchen hood that is adapted to be located above a cooking appliance for drawing smoke, odors, grease and water vapor into the hood for collecting these contaminants from the air and returning the purified air to the kitchen atmosphere. The hood includes a smoke and odor absorber in the form of a slowly powered rotatable drum having longitudinal walls supporting a regenerative filtering medium. A quarter segment of the drum is partitioned off internally and externally to form a heated cavity. Within the heated cavity is an oxidation unit for cleaning the filtering medium and oxidizing the resulting products of combustion before returning the air to the kitchen atmosphere. A fraction of the air within the drum is bled off into the heated cavity to support the combustion of the oxidation unit. Other filtering media may be used in addition to the smoke and odor absorber described above; such as a grease filter and a particulate filter. A blower means is provided for forcing the air through the hood.

**3,381,454**  
**FILTER FOR ABSORPTION AND ADSORPTION OF GASES, VAPORS, ODORS AND THE LIKE**  
Kurt Sponsel, Dusseldorf-Nord, Germany, assignor to Collo-Rheincolloidium, Köln G.m.b.H. Werk Hersel, Hersel, near Bonn, Germany  
No Drawing. Filed Oct. 1, 1963, Ser. No. 312,893  
Claims priority, application Germany, Oct. 11, 1962, S 81,999  
9 Claims. (Cl. 55-528)

1. A regeneratable, catalytically active filter for absorption and adsorption and oxidation of air-borne gaseous



substances such as exhaust fumes, vapors and odors, said filter active without need of elevation above normal atmospheric temperatures, and comprising an open-celled, hydrophilic polyurethane foam material and containing a catalytically active oxidation-reduction system incorporated as the foam is formed and comprised of compounds selected from the group consisting of copper oxides, manganese oxides in the presence of potassium carbonate, silver oxides and iron oxides, said filter being regenerable by soap and water washing.

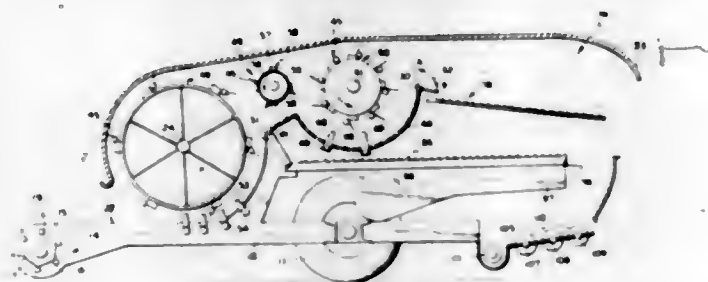
3,381,455

## PEANUT COMBINE

John D. Mitchell, Woodville, N.C., assignor to Harrington Manufacturing Company, Lewiston, N.C., a corporation of North Carolina

Filed Aug. 13, 1965, Ser. No. 479,418

1 Claim. (Cl. 56-19)



1. A peanut combine comprising in combination:
  - (a) a vine pick-up located near the earth and having fingers for engaging peanut vines and for conveying them upwardly and rearwardly,
  - (b) at least two threshing cylinders located above and behind said vine pick-up, each threshing cylinder having a plurality of fingers extending outwardly from its periphery,
  - (c) each threshing cylinder being positioned a relatively short distance away from an arcuate breast plate,
  - (d) each breast plate having openings therein and at least one breast plate having series of fingers extending through said openings upwardly into the path of movement of the vines and operating in conjunction with the fingers of the nearest threshing cylinder means for detaching the peanuts from the vine,
  - (e) a movable elongated baffle means being positioned immediately adjacent to the downstream edge of the last breast plate,
  - (f) said baffle means being movable from a first position that presents no impediment to the flow of peanuts and vines to a second position that presents a substantial impediment to the flow of peanuts and vines.

3,381,456

## UNTETHERED, SELF-PROPELLED DEVICE OPERATING IN A PREDETERMINED PATTERN

Roger G. Taylor, 13815 Skyview, Sugarland, Tex. 77478

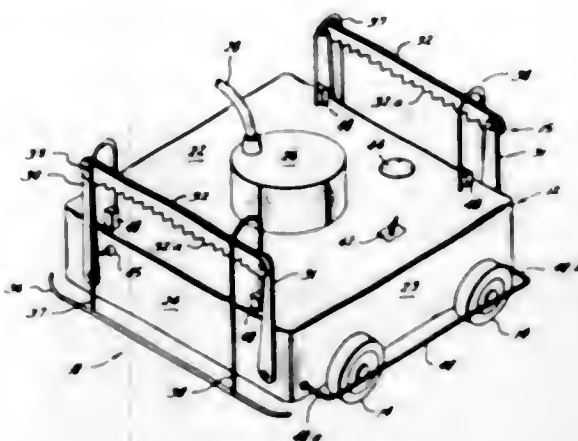
Filed Sept. 7, 1965, Ser. No. 485,420

8 Claims. (Cl. 56-25.4)

1. An untethered self-propelled device operating in a predetermined pattern, comprising:
  - (a) a frame;
  - (b) a plurality of wheels carried on said frame for movably supporting said frame on a surface;
  - (c) motive means operably connected to said wheels for driving same to translate said frame relative to the surface in a first path of movement;
  - (d) means carried on said frame for moving downwardly to contact the surface and engage same, said

means also moving said frame transversely relative to the direction of the first path by a predetermined distance;

- (e) switch means for reversing the direction of operation of said wheels relative to the surface for urging said frame along a second path of movement on the surface parallel to the first path; and



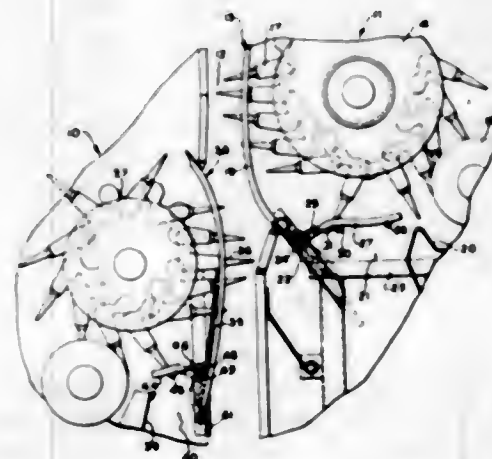
3,381,457

## COTTON HARVESTER

Arthur L. Hubbard, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Sept. 3, 1965, Ser. No. 484,948

10 Claims. (Cl. 56-44)



10. In a cotton harvester including an upright casing with an upright trash discharge opening, an upright rotatable harvesting drum having vertically spaced and horizontal rows of picking spindles operating adjacent said opening, the invention comprising: a grille structure supported on said casing composed of a plurality of vertically spaced horizontal members horizontally aligned with the spacings between the rows of spindles and closely adjacent the tips of the spindles and in blocking relation to said discharge opening whereby cotton on the spindles will be restricted from passing through the grille structure while trash may pass between the members.

3,381,458

## TEXTILE MACHINE, PARTICULARLY FOR RING-LESS CONTINUOUS SPINNING AND DIVIDED INTO IDENTICAL LONGITUDINAL SECTIONS

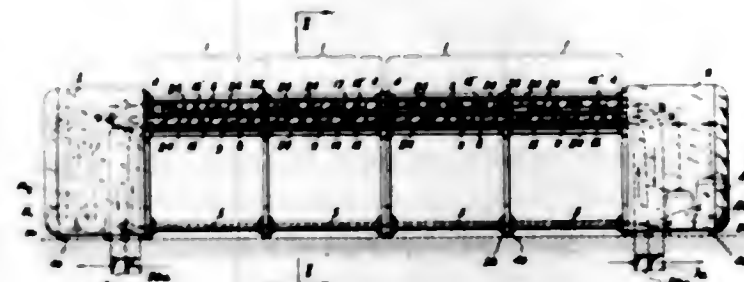
Jaroslav Rajnoch, Tyniste, and Ladislav Bureš and Václav Voborník, Usti nad Orlicí, Czechoslovakia, assignors to Vyzkumny Ústav Bavlnarsky, Usti nad Orlicí, Czechoslovakia

Filed Aug. 30, 1966, Ser. No. 576,005

Claims priority, application Czechoslovakia,

Sept. 11, 1965, 5,609/65

10 Claims. (Cl. 57-1)



A spinning machine having an elongated frame composed of a plurality of longitudinally extending identical frame sections, each having a pair of identical transverse members connected to each other and each transverse member having a plane end face abutting against a corresponding plane end face of the transverse member of a section adjacent thereto, and combined connecting and aligning means connecting abutting transverse members of adjacent sections to each other in fixed aligned relationship in such a manner so that upon removal of the combined connecting and aligning means, the frame sections may be moved relative to each other in direction of said plane end faces without shifting the same in direction transverse thereto.

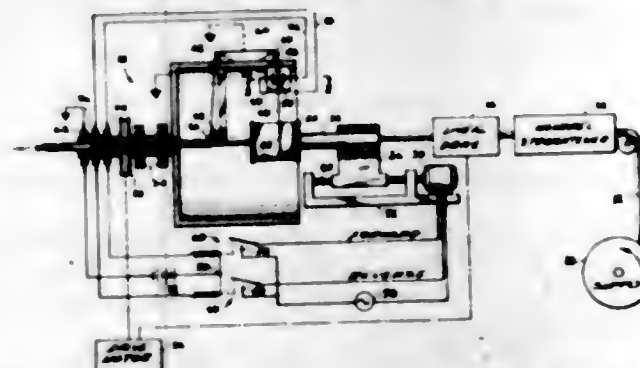
3,381,459

## CONTINUOUS WINDER SYSTEM AND METHOD

Jamieson D. Vawter, Monterey Park, Calif., assignor to Spectrol Electronics Corporation, City of Industry, Calif., a corporation of Delaware

Filed July 6, 1966, Ser. No. 563,104

10 Claims. (Cl. 57-18)



Electrical conductor is unwound from a supply spool onto a mandrel fed axially through said spool by means of a driven winding cage that includes contacts adjacent the unwinding path of the conductor which are electrically connected to a motor to reciprocate said spool axially relative to said winding cage to maintain the unwinding angle substantially constant.

3,381,460

## METHOD AND APPARATUS FOR PRODUCING TWISTED PAPER YARN

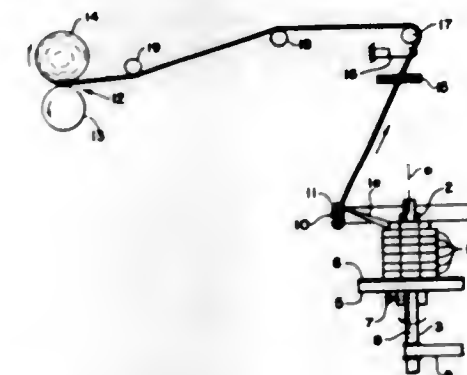
Robert C. Sokolowski, Menasha, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Nov. 14, 1966, Ser. No. 593,964

9 Claims. (Cl. 57-31)

7. Apparatus for producing paper yarn comprising: spindle means and associated means for carrying a pack-

age of strip material in rotation on the spindle means, driving means for rotating said spindle means in such a direction as to wind strip material on said spindle means, power wind means for withdrawing strip material from said spindle means by applying tensile forces to strip



material, and means interposed functionally between said spindle means and said power wind means for twisting strip material as it is pulled from said spindle means to said power wind means against the rotation of the spindle means.

3,381,461

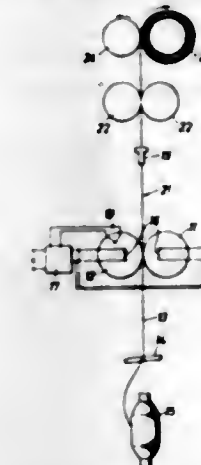
## TEXTILE PROCESSES AND MACHINES

Alexander A. Chubb, Langley, near Macclesfield, England, assignor to Ernest Scrags & Sons Limited

Filed Nov. 20, 1963, Ser. No. 330,511

Claims priority, application Great Britain, Nov. 20, 1962, 43,939/62

16 Claims. (Cl. 57-34)



1. A method of producing false-twisted thermoplastic yarn, comprising the steps of advancing the yarn along a predetermined path; heating the yarn by passing the same into contact with a heated surface moving with the yarn so that said yarn is heated without substantial friction between said yarn and said heated surface engaging and moving with the yarn and simultaneously the engagement between said yarn and said heated surface prevents any false-twist imparted to the yarn after heating to run back beyond said heated surface; and thereafter false-twisting the yarn while the same is in heated state.

3,381,462

## TEXTILE APPARATUS

Walter Parker, Wilmslow, and Harold W. Lee, Poynton, England, assignors to Ernest Scrags & Sons (Holdings) Limited

Filed Apr. 7, 1966, Ser. No. 541,009

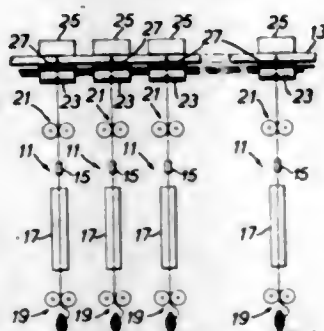
Claims priority, application Great Britain, Apr. 8, 1965, 14,939/65

25 Claims. (Cl. 57-34.5)

A yarn handling apparatus which comprises an elongated conduit having intermediate its inlet end and its outlet end a plurality of yarn entry portions spaced apart in longitudinal direction. A blower is connected to the inlet end of the conduit and blows the gaseous fluid in the



direction towards the outlet end. Provided within the conduit are means for producing a negative pressure effect at each of the yarn entry portions in response to blowing of the gaseous fluid through the conduit so that, when a



yarn end is inserted into one of the yarn entry portions, the yarn end is drawn into the conduit and entrained by the gaseous fluid and conveyed thereby towards the outlet end of the conduit.

3,381,463

## TREATING OF FIBROUS MATERIALS

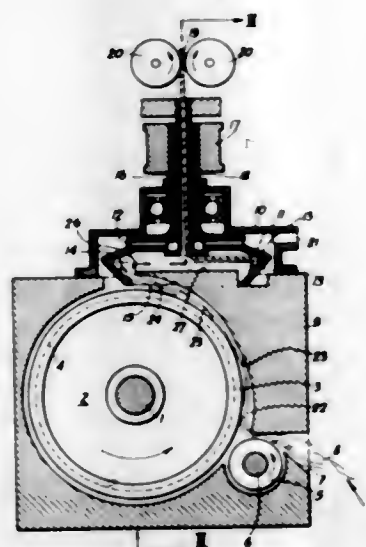
Ludvik Fajt and František Bužil, Usti nad Orlicí, Czechoslovakia, assignors to Vyzkumny Ústav Baviarský, Usti nad Orlicí, Czechoslovakia

Filed Feb. 21, 1967, Ser. No. 618,567

Claims priority, application Czechoslovakia,

Feb. 24, 1966, 1,225/66

10 Claims. (Cl. 57—58.95)



A carding roller rotating in a predetermined direction, a feed for continuously supplying fibrous sliver to the carding roller so that the sliver is converted thereby into oriented fibers which travel with the roller in the predetermined direction, and a rotary spinning chamber having an inlet proximal to the carding roller and so arranged that the oriented fibers traveling therewith are automatically removed from the carding roller and enter the inlet of the spinning chamber.

3,381,464

## TRAVELER GUIDE RINGS FOR SPINNING AND TWISTING MACHINES

Stefan Fürst, Monchen-Gladbach, Germany, assignor to Reiners & Fürst, Monchen-Gladbach, Germany

Filed Feb. 4, 1966, Ser. No. 525,086

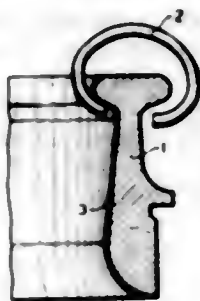
Claims priority, application Germany, Mar. 5, 1965,

R 39,824

6 Claims. (Cl. 57—119)

Traveler guide ring for ring spinning has a ring body of steel with annular surface areas for guiding a traveler,

the body having at least at the annular surface areas a surface zone of steel softer than that of the body



and integrally joined therewith, the ring being a finished product ready for use in a spinning operation.

3,381,465

## METHOD OF PRODUCING BULKED, HIGHLY STRETCHABLE, TEXTURED COTTON YARNS FROM BLENDS OF TREATED AND UNTREATED COTTON FIBERS, USING A DEFERRED CURING PROCESS

Emery C. Kingsbery, New Orleans, and George F. Ruppenicker, Jr., Kenner, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed June 14, 1967, Ser. No. 645,872

4 Claims. (Cl. 57—164)

Scoured cotton fibers treated with a crosslinking-type resin having a low rate of cure under ambient conditions of temperature and humidity are dried, but not cured. The treated fibers are blended with various percentages of untreated fibers. Plied yarns spun from these blends are then permanently crimped by heat setting at high temperatures and then reverse twisted. Highly stretchable, cross-linked cotton yarns are produced. The bulk, stretch, and other properties of the textured cotton yarns will vary depending upon the percentage of resin-treated and untreated fibers blended together, and the resin add-on of the treated fibers.

These textured yarns have particular utility in the manufacture of upholstery, rugs, and certain items of wearing apparel where yarns with considerable bulk, and good stretch and stretch recovery are required.

3,381,466

## ALARM-BELL MECHANISM FOR AN ALARM TIMEPIECE

Jean-Claude Schneider, La Chaux-de-Fonds, Switzerland, assignor to Fabrique d'Horlogerie Cha. Tissot et Fils S.A., Le Locle, Neuchâtel, Switzerland, organized under the laws of Switzerland

Filed Oct. 4, 1965, Ser. No. 492,384

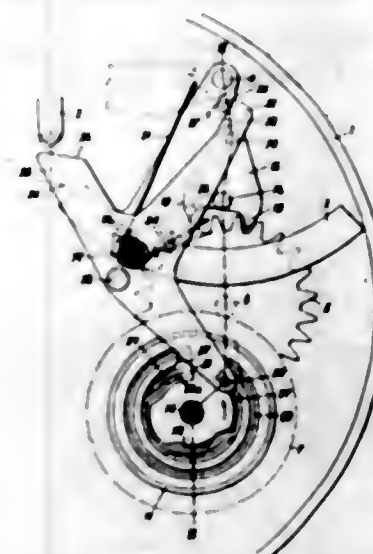
Claims priority, application Switzerland, Oct. 9, 1964,

13,130/64; Sept. 8, 1965, 12,516/65

15 Claims. (Cl. 58—16)

1. An alarm bell actuating mechanism comprising: an alarm bell wheel provided with teeth; an alarm spring for entraining the alarm bell wheel; an oscillating hammer adapted to strike the bell in the course of its oscillation, said hammer having an equilibrium position and being arranged to return to its equilibrium position; an oscillating escapement having an input projection and an output projection, said input and output projection alternately engaging the teeth of the alarm bell wheel, said output projection being located at the trailing side of the escapement with respect to the direction of rotation of the alarm bell wheel and being shaped so as to lock said wheel when it engages the teeth thereof, said input projection being lo-

cated at the leading side of said escapement with respect to the direction of rotation of the alarm bell wheel, said input projection being urged out of said wheel when it engages the teeth thereof whereby said escapement will rotate in a first direction; a driving member mounted on said escapement, said driving member contacting said hammer and urging



the hammer from its equilibrium position when said escapement oscillates in said first direction, said oscillation in said first direction causing said output projection to lock in engagement with the teeth on said alarm bell wheel, return of said hammer to its equilibrium position urging said output projection out of engagement with the teeth of said alarm bell wheel and permitting said hammer to strike the bell.

3,381,467

## ELECTRIC TIMEPIECE OF TRANSISTOR TYPE

Tomohachi Tsukagoshi, 23-3 1-chome, Shimo, Kita-ku, Tokyo-to, Japan, and Kenji Tokita, 529 3-chome, Shimomeguro, Meguro-ku, Tokyo-to, Japan

Continuation-in-part of application Ser. No. 387,888,

Aug. 3, 1964. This application Jan. 3, 1966, Ser.

No. 518,435

Claims priority, application Japan, Nov. 21, 1960,

35/46,369; Dec. 16, 1960, 35/49,600

8 Claims. (Cl. 58—28)



Electric timepiece with a transistorized energizing circuit for a drive motor having a permanent-magnet rotor interposed as a coupling between a pair of electromagnetic coils connected, respectively, in the input and output circuits of the transistor, the rotor shaft being coupled to an output shaft, and to a speed-regulating mechanism including an escapement wheel, via a pair of aligned shafts interconnected by a spiral leaf spring. The transmission between the rotor and the speed-regulating mechanism may include a pair of meshing gears transmitting torque in one direction only while blocking rotation in the opposite direction.

3,381,468

## WATCH MOVEMENT

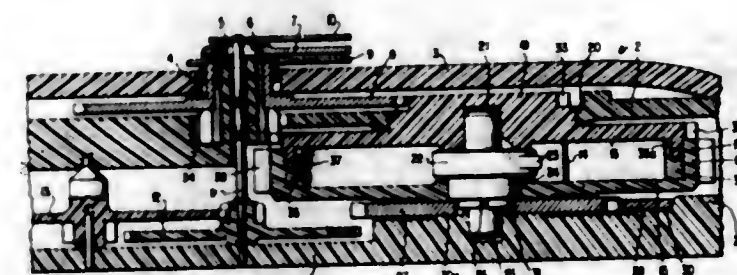
Maurice Jeannerod and Jean-Claude Schneider, La Chaux-de-Fonds, Switzerland, assignors to Fabrique d'Horlogerie Cha. Tissot et Fils S.A., Le Locle, Switzerland, a limited company of Switzerland

Filed Nov. 8, 1965, Ser. No. 506,701

Claims priority, application Switzerland, Nov. 19, 1964,

14,913/64

12 Claims. (Cl. 58—86)



1. A watch movement having a frame, hour and minute indicating members, a gear train containing toothed wheels, and a going barrel including an exteriorly toothed drum having base and side walls housing a motor spring and meshing with one of the wheels of the gear train and a cover having an upper wall mounted for rotation with respect to the drum, comprising a friction coupling normally entraining the cover with the drum, and a pair of coaxial tooth structures carried by said cover in driving relationship with said indicating members respectively.

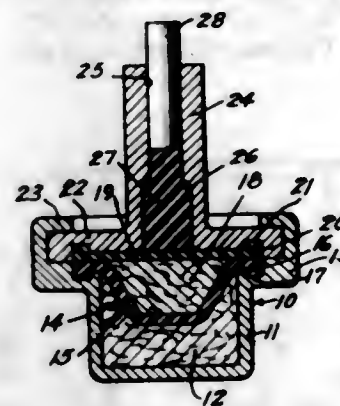
3,381,469

## MULTI-RANGE THERMAL ELEMENT

Samuel H. Schwartz, Deerfield, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Aug. 15, 1966, Ser. No. 572,422

4 Claims. (Cl. 60—23)



A temperature responsive device comprising in a body a plurality of superimposed elastomeric elements alternating with different masses of temperature responsive media having different rates of expansion and which are in co-action in the body with a piston guide having a piston projecting therefrom and responsive to changes in said masses.

3,381,470

## FUEL CONTROL SYSTEM FOR A GAS TURBINE ENGINE

Henry A. Hammerstein, Dumont, and George W. Shepherd, Fair Lawn, N.J., and Charles K. McConnell, St. Louis, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

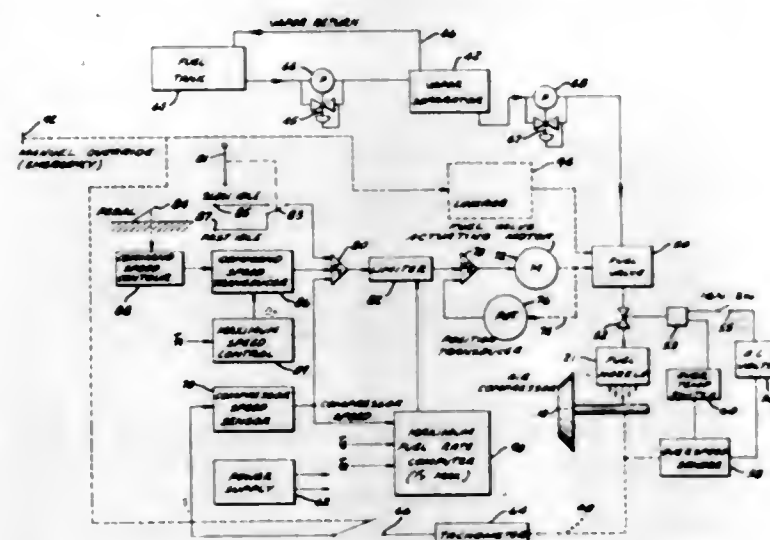
Filed Jan. 17, 1966, Ser. No. 521,049

3 Claims. (Cl. 60—39.28)

A fuel control system for an automobile gasoline turbine engine having a fuel metering valve which is pressure regulated and adjusted by a servo motor having a



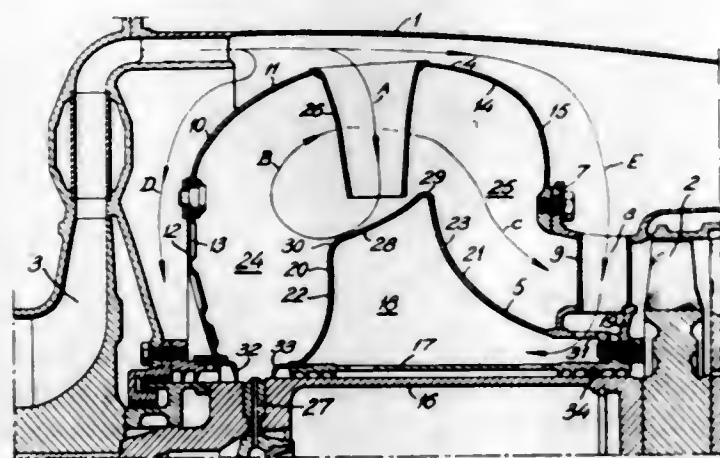
feedback loop around the motor and a servo amplifier and another electronic circuit servo loop for the motor extending from the engine to the servo amplifier for comparing engine speed with the position of the accelerator pedal. Manual override control linkage is adapted to open



the fuel control valve to a suitable engine speed and disable the servo motor for emergency operation. A valve in series with the fuel control valve is closed when the ignition switch is opened, or when excessive speed or an excessive temperature of the engine occurs.

### 3,381,471 COMBUSTION CHAMBER FOR GAS TURBINE ENGINES

Joseph Szydłowski, Usine Turbomeca, Bordes,  
Barnes-Pyrenees, France  
Filed Oct. 22, 1965, Ser. No. 500,940  
Claims priority, application France, Nov. 30, 1964,  
996,755, Patent 1,424,457  
9 Claims. (Cl. 60—39.65)



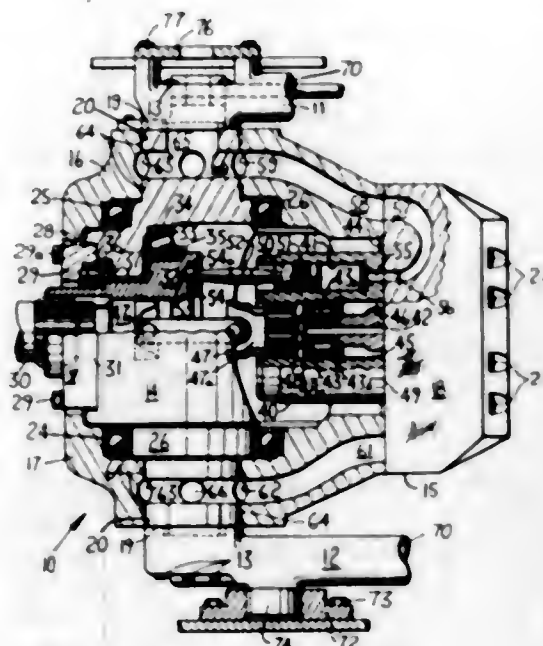
A centrifugal rotary fuel injection-type annular combustion chamber of recumbent L-shape, a common casing between a compressor and a turbine having a hollowed nozzle diaphragm in its first stage, an outer wall and an inner wall of the casing bounding a combustion space along the small vertical branch of the recumbent L and a gas dilution space along the long horizontal branch, an internal cavity bounded by the inner wall and dilution air tubes from the outer chamber wall in the zone of separation of the combustion and dilution spaces, the inner chamber wall facing outlets of the dilution tubes, with an inclined substantially frusto-conical portion the

smaller and larger bases of which are positioned in the combustion and dilution spaces respectively.

### 3,381,472 HYDROSTATIC TRANSMISSION APPARATUS

Charles Brown, New Port Richey, Fla., and William K. Engel and Rollin P. Van Zandt, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed July 13, 1966, Ser. No. 564,875  
9 Claims. (Cl. 60—53)



An improved hydrostatic translating unit (variable displacement pump or motor) can be made by fabricating a unitary trunnion structure which extends through the unit, journaled to a thrust plate and power shaft centrally on the trunnion, and swingably mounting a pump case at opposite ends of the trunnion so a cylinder block supported in the pump case will change in angular relationship to the thrust plate as the pump case swings whereby pistons in the cylinder block connected to the thrust plate with links will change their effective strokes. The unitary trunnion supports the unit, usually through manifold assemblies rigidly connected to the projecting ends of the trunnion. This allows the units to be coupled into a rigid loop to form a fluid power system without slip joints or similar devices to compensate for thermal and pressure distortion.

### 3,381,473 HIGH ENERGY FUEL SYSTEMS

Donald K. Kuehl, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

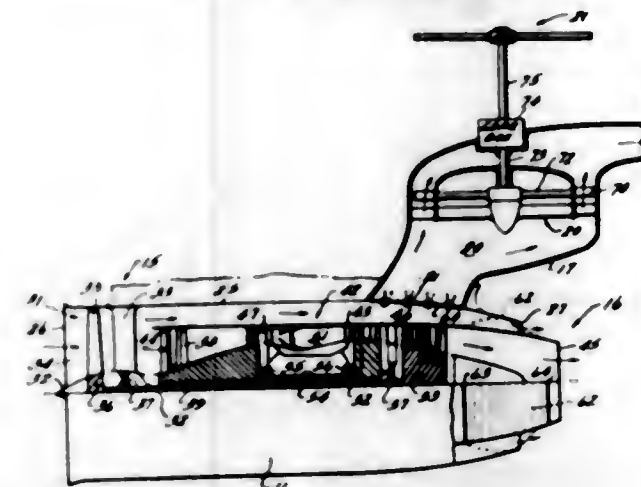
No Drawing. Filed June 22, 1964, Ser. No. 377,057  
28 Claims. (Cl. 60—219)

15. In a method of operating a jet combustion engine, wherein fuel comprising metal as a component is burned in a combustion chamber and the combustion product admixture is allowed to escape through a jet, thereby producing a driving force, the improvement which comprises utilizing, as the metal component, a metal which forms an oxide having a melting point above the melting point of the metal, the surface of said metal comprising a mixture of elements, said mixture of elements being capable of forming, upon oxidation, a eutectic composition of mixed oxides of said elements which has a melting point below the melting point of the oxide of said metal said eutectic composition being characterized by the ability to protect said core metal at room temperature under ordinary conditions of storage, and being itself stable under the afore-said conditions.

### 3,381,474 COMPOUND AIRCRAFT AND PROPULSION SYSTEM

William Bruce Glat, Jr., Lynnfield, Mass., assignor to General Electric Company, a corporation of New York

Filed June 10, 1966, Ser. No. 556,635  
9 Claims. (Cl. 60—224)

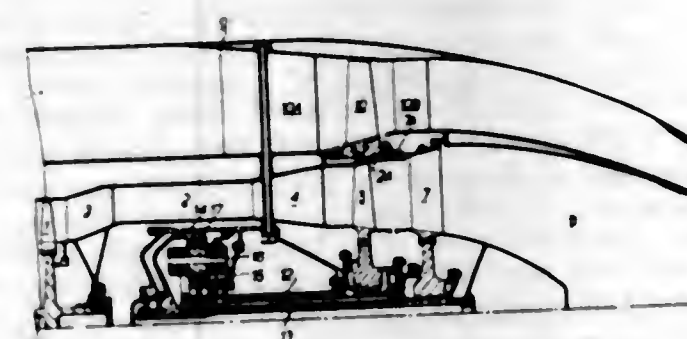


An aircraft propulsion system having two directions of thrust each being mutually perpendicular and including a gas turbine powerplant having a bypass fan assembly for compressing ambient air and a bypass conduit for supplying the compressed air to either a power turbine or an exhaust nozzle. Valves are utilized for controlling the relative amounts of compressed air supplied to the power turbine and exhaust nozzle in order to control the direction of thrust of the aircraft into which the system is installed. A combustion apparatus wherein movable members of the valve act as flame stabilizers is included within the bypass conduit means for increasing the energy level of the compressed air flowing therethrough.

### 3,381,475 JET PROPULSION ENGINES

Derek Aubrey Roberts, Sombury-on-Thames, England, assignor to Bristol Siddeley Engines Limited

Filed June 27, 1966, Ser. No. 560,517  
Claims priority, application Great Britain, June 28, 1965,  
27,327/65  
7 Claims. (Cl. 60—226)

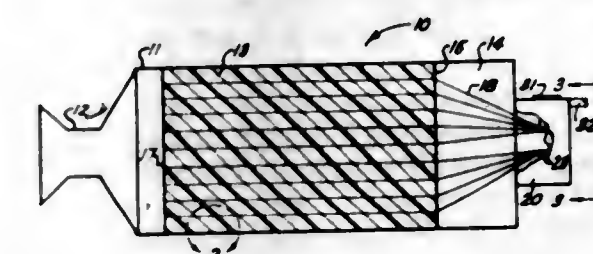


The disclosure of this invention pertains to a jet propulsion engine in which an aft-fan assembly is positioned downstream of the conventional turbine and is provided with second and third turbine rotors arranged so that the products of combustion act on the second turbine rotor and then directly on the third turbine rotor. The second and third turbine rotors being arranged to rotate in opposite directions and gearing connecting said second and third turbine rotors determine the relationship between their speeds. A ducted fan assembly is provided and includes a set of static blades and a set of rotary blades, the rotary blades being driven from said second and third turbine rotors and connected directly to one of said turbine rotors.

### 3,381,476 FILAMENT CONTROL SYSTEM FOR THE BURN- ING RATE OF A SOLID PROPELLANT ROCKET MOTOR

Robert L. Glick, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Aug. 10, 1966, Ser. No. 571,469  
5 Claims. (Cl. 60—254)

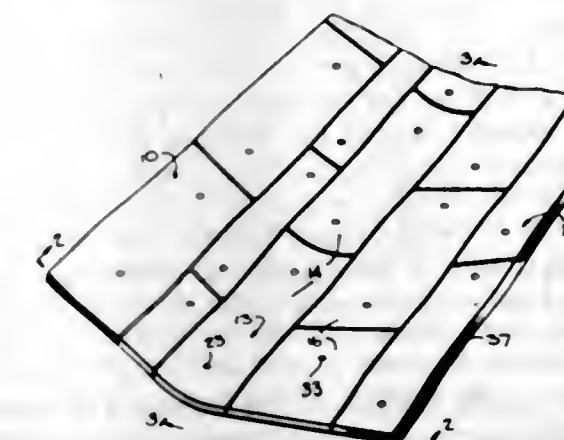


A filament control system for the burning rate of a solid propellant rocket motor, having a plurality of tubes embedded in the solid propellant, a filament positioned in each tube with the aft ends of the tubes and the filaments being coincident with the plane of the burning surface of the solid propellant, a pair of rollers positioned in the head end of the rocket motor and the head ends of the filaments being secured to the rollers so that upon rotation of the rollers the filaments are drawn through the tubes to control the burning rate of the solid propellant.

### 3,381,477 FLUME

Michael J. Scales, 248 Piermont Ave.,  
Nyack, N.Y. 10960

Filed Jan. 21, 1964, Ser. No. 339,166  
4 Claims. (Cl. 61—7)



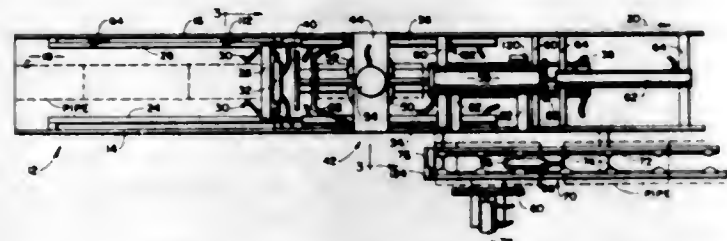
1. A flume forming a drainage channel on a base having sloped sides comprising center pieces extending longitudinally to the channel and having transverse edges at opposite ends and side edges extending longitudinally, said side edges of each center piece having flanges extending from the lower section of each side edge to form longitudinal side notches extending the length of each center piece for receiving flanges of an adjacent piece, one transverse edge of each center piece having an end flange over the width of said respective center piece and extending in the longitudinal direction from the upper section of the respective center piece and the other transverse edge of each center piece having a flange extending from the lower section of said other transverse edge similarly to the one end flange to form overlapping of said center pieces, first side pieces having longitudinal side edges and transverse end edges, each side edge adjacent to said center pieces having a side flange extending from the upper section of said respective side edge and each side edge opposite to said center pieces having a side flange extending from the lower section of the respective side edge, each of said transverse end edges of said first side pieces



having a flange, said flanges at opposite ends of a respective side piece extending from an upper section of said side piece at one end and from a lower section at the other end and with adjacent flanges of consecutive side pieces in overlapping relation and second side pieces each having longitudinal second side edges with each second side edge adjacent to said first side pieces having a second side flange extending from the upper section thereof towards said center pieces and overlapping said side flanges of said first side pieces on said side edges opposite to said center pieces and each of said second side pieces having end flanges at opposite ends extending from upper and lower section of a respective second side piece, said end and side flanges of said pieces forming an alternate overlapping of said pieces to permit in cooperation with said flanges vertical movement of said pieces, and a peg extending downwardly through each respective piece to hold and anchor to the base said respective piece in place transversely to said peg while permitting movement in the direction of said peg.

**3,381,478**  
**CONTROL SYSTEM FOR PIPE-LAYING APPARATUS**

Louis F. Wells, 6110 Columbia Road, Firebaugh, Calif. 93622  
Filed Aug. 18, 1966, Ser. No. 573,382  
5 Claims. (Cl. 61-41)



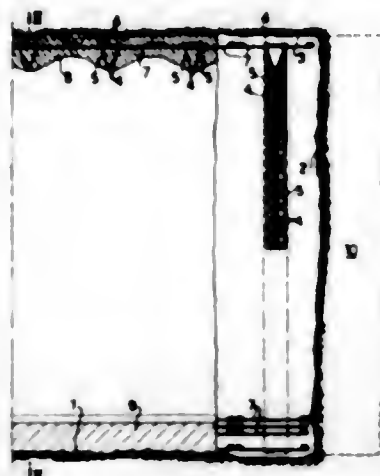
An apparatus for handling and placing drain pipe in the bottom of a trench is provided with a housing which will fit into and move forwardly along the bottom of the trench. An elevator within the housing moves one pipe at a time down to the bottom of the trench after the pipe is supplied to the elevator at ground surface level from a conveyor. The conveyor extends from the elevator forwardly along a side of the trench for receiving a supply of pipe and feeding single pipe to the elevator. Each pipe at the lower level when reached by elevator is moved from the elevator by rams to add another length of pipe to drain line at the bottom of the trench. The sequence of a pipe being moved from the conveyor, to the elevator, and from the elevator into the installed line of pipes is a continuing operation by the apparatus and its automatic control system.

**3,381,479**  
**METHOD OF FORMING A LINE IN A GALLERY**  
Pericle Quadrio Curzio, Milan, Italy, assignor to Silver S.p.A. and Quadrio Curzio S.p.A., both of Milan, Italy, both companies of Italy

Filed Oct. 30, 1964, Ser. No. 407,827  
Claims priority, application Italy, Mar. 6, 1964, 44,777, Patent 716,578  
4 Claims. (Cl. 61-45)

1. A method of forming a gallery comprising excavating the gallery in successive incremental lengths of less than 3 meters, each excavation being effected over the entire cross-section of the gallery all at once, installing an assembled reticular structure of arch shape and truss form in each incremental length of the gallery after its formation, the reticular structure having a thickness greater than 15 centimeters and a surface extent corresponding to that of the walls and ceiling of the gallery and supported on the floor thereof, and injecting

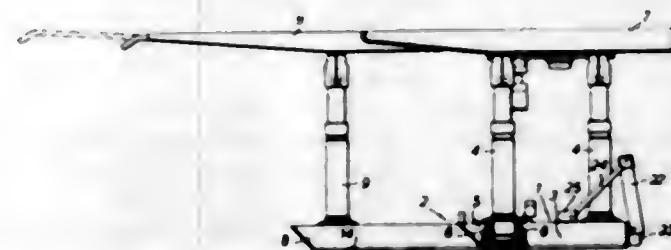
a mass of settable compound onto the walls and ceiling of the gallery after the installation of each reticular structure such that the mass completely encases the structure and together therewith forms a reinforced lining for the excavation, the reticular construction of



said structure serving to retain the settable compound on the walls and ceiling of the gallery until the compound hardens, and installing longitudinal reinforcing elements in the gallery to which the reticular structures are successively connected.

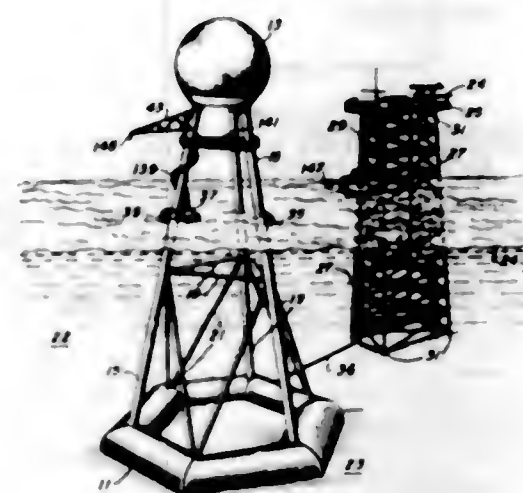
**3,381,480**  
**ROOF SUPPORTS SUITABLE FOR USE IN MINES**  
Thomas D. H. Andrews, Cheltenham, England, assignor to Dowty Mining Equipment Limited, Tewkesbury, England, a British company

Filed Feb. 8, 1965, Ser. No. 430,922  
Claims priority, application Great Britain, Mar. 10, 1964, 10,096/64  
3 Claims. (Cl. 61-45)



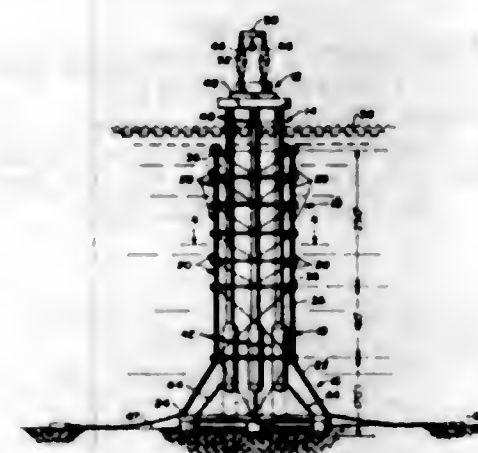
The present invention provides a roof support wherein two distinct and different floor beams are rigidly, rather than flexibly, connected together in laterally-spaced substantially-parallel relationship by connecting means of a particular construction, the whole being designed to afford a passageway of maximum area parallel to the working face of the mine for passage of air, and a construction such as will protect a miner who must move through the passageway from falling material. To such ends one floor beam of a pair is of a length to carry, for example, two extendable props which cooperate to support a roof-engageable member, whereas the other such floor beam is longer, and carries, for example, three extendable props which themselves support an articulated roof-engageable member, of which one part is supported upon two of the three props—these two cooperating with the two props of the first-mentioned floor beam to define an orthodox "square"—and the other articulated roof-engageable member is supported upon the third of the three props. Each prop mounting, but not the prop per se, is located substantially within its floor beam, whereby the passageway is obstructed to a minimum degree, and includes resilient means urging the prop to a predetermined angular position relative to the floor beam (somewhat as is suggested in Patent No. 3,250,507), while allowing the prop a limited amount of angular movement relative to the floor beam.

**3,381,481**  
**OFFSHORE STORAGE APPARATUS**  
Robert S. Chamberlin, Western Springs, Donald C. Stafford, Homewood, and Charles A. McDonald, Palos Heights, Ill., assignors to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois  
Filed Apr. 19, 1965, Ser. No. 448,947  
18 Claims. (Cl. 61-46.5)



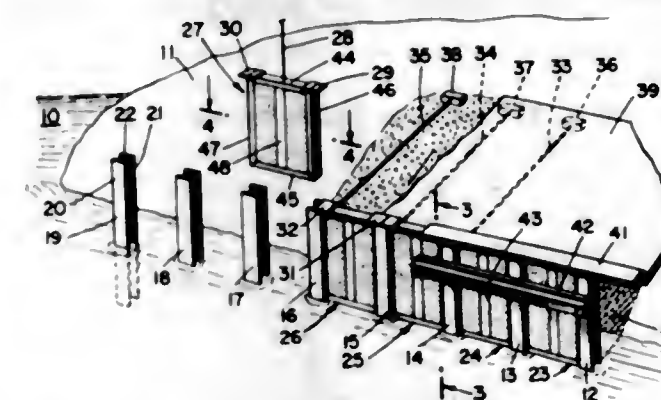
An offshore storage system having interconnected storage tanks, one of the tanks submerged in water and resting on the floor of the water body, while the other tank is supported above the surface of the water. Liquid passageways transport water and a water-immiscible liquid between the tank for selectively filling the tanks and providing a ballast sufficient to anchor the system in a substantially fixed position.

**3,381,482**  
**MARINE DRILLING STRUCTURE**  
William F. Manning, Springdale, Conn., assignor to Mobil Oil Corporation, a corporation of New York  
Filed May 17, 1966, Ser. No. 550,704  
8 Claims. (Cl. 61-46.5)



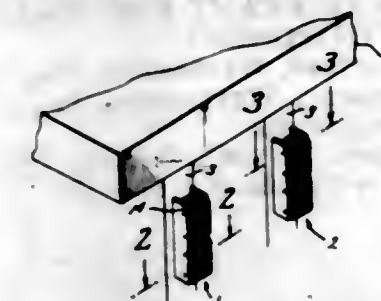
This specification discloses a marine structure, designed to serve primarily as an offshore drilling platform, comprising a submerged bottom-supported lower portion, an upper portion supported above the surface of a body of water over the lower portion, and an extensible interconnecting portion buoyantly supporting the upper portion above the surface of the body of water and constrained by the bottom-supported lower portion. The bottom-supported lower portion of the marine structure is assembled at the site from prefabricated vertical sections while the upper portion, prior to installation, functions as a derrick barge for installing the vertical sections of the lower portion.

**3,381,483**  
**SEA WALL AND PANEL CONSTRUCTION**  
Charles K. Huthsing, Jr., 1685 Shermer Road, Northbrook, Ill. 60062  
Filed Sept. 15, 1966, Ser. No. 579,569  
6 Claims. (Cl. 61-49)



A sea wall construction is provided formed from several I-beam columns driven into the ground off shore in parallel equidistantly spaced relationship extending above the surface of the water. A plurality of prefabricated unitary panels are successively positioned between the columns in interfitting relationship therewith to form a continuous vertical wall structure in conjunction with the columns. Overhanging end plates are provided on the top edges of each of the panels to engage the upper surfaces of the I-beams and thus assure that the top edges of all of the panels are in alignment.

**3,381,484**  
**BUMPER**  
William N. Laughlin, Box 51422, Lafayette, La. 70501  
Filed Sept. 15, 1965, Ser. No. 487,510  
4 Claims. (Cl. 61-48)



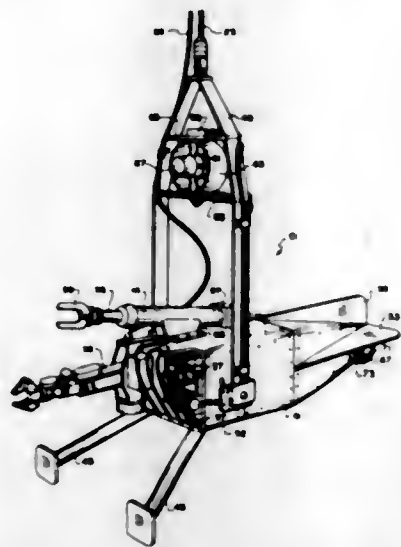
A bumper assembly is provided for affixing to a support for an offshore platform. The assembly includes a channel shaped opening which may be formed by the flanges and web of an I-beam. Into this opening are placed a plurality of elastomeric bumper elements of identical configuration, the individual elements being aligned in face-to-face engagement. The bumper elements are retained in the opening by readily removable rods which extend between the flanges of the I-beam. Such rods may be readily removed so that individual bumper elements which are worn or damaged may be replaced.

**3,381,485**  
**GENERAL PURPOSE UNDERWATER MANIPULATING SYSTEM**  
Ralph K. Crooks, James M. Hardenbrook, Richard D. Leis, James C. Swain, and David L. Thomas, Columbus, Ohio, assignors, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware  
Filed Oct. 23, 1965, Ser. No. 503,952  
9 Claims. (Cl. 61-69)

A cable-suspended, remote-controlled manipulating device for operation underwater. The apparatus includes propulsion means, TV camera, clamping devices, manip-



ulating arm, support feet and other devices necessary to underwater operation. Numerous components of the apparatus are preferably hydraulically actuated by a system having a plurality of capacity or power levels. Various sensor devices are included to obtain information about underwater environment and to inform the above-water operator of the condition and activity of the apparatus.



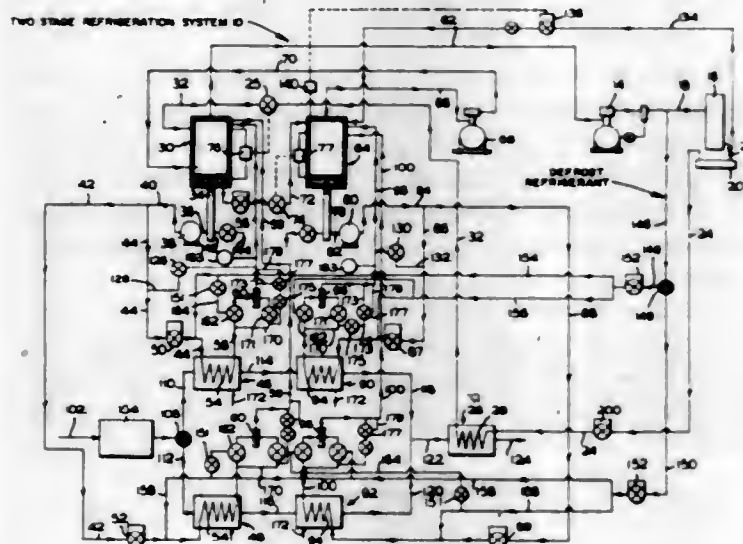
The apparatus is constructed in modules to facilitate replacement and substitution of various working devices. The command system of the device includes partial multiplexing where signals are originated by an operator and released to the underwater apparatus on a priority system with lag time within the area of human reaction time. Sensor signals and command signals are sent along common channels.

3,381,486

#### METHOD AND APPARATUS EMPLOYING TWO STAGE REFRIGERANT FOR SOLIDIFYING A GASEOUS COMPONENT

Milton W. Garland, Waynesboro, Pa., assignor to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania

Filed Sept. 29, 1965, Ser. No. 491,149  
6 Claims. (Cl. 62-12)



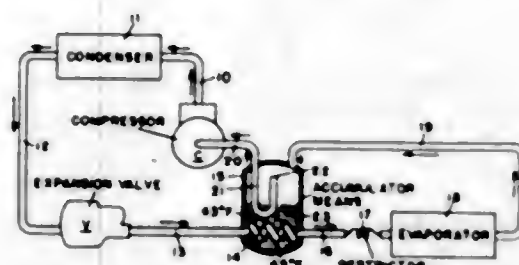
A system for the separation of constituents of a mixture of fluids by causing at least one of the constituents to solidify upon the lowering of the temperature of the mixture, the system comprising a plural stage refrigeration system, each of which stages have compressor means for producing refrigerant fluid at different temperature-pressure values and a first and second plurality of heat exchangers. Each of the first and second plurality of heat exchangers is connected together for series flow of the

mixture of fluids and with each heat exchanger connected to a different stage so as to receive, in relation to the direction of flow of the fluid mixture, refrigerant fluid at successively lower pressure-temperature values. Valve means is provided for alternating the flow of the fluid mixture between the first and second plurality of heat exchangers. A defrost means is connected to each of the heat exchangers to convert the solidified fluid in the heat exchangers, through which fluid mixture flow has been stopped, to a fluid state to facilitate removal of the fluid from the heat exchangers.

#### 3,381,487 REFRIGERATION SYSTEMS WITH ACCUMULATOR MEANS

James R. Harnish, Staunton, Va., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 26, 1966, Ser. No. 581,877  
11 Claims. (Cl. 62-117)

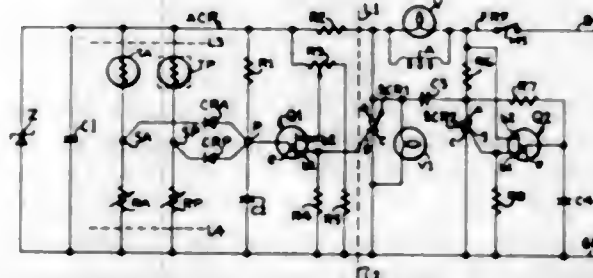


A refrigeration system has a compressor, a condenser, an expansion valve, a heat exchange coil within an accumulator, a flow restrictor, an evaporator, and the accumulator connected in series in the order named. Refrigerant liquid and flash gas from the expansion valve flow through the coil within the accumulator, and the restrictor into the evaporator. The expansion valve overfeeds the evaporator so that refrigerant liquid flows into the accumulator where it is evaporated by heat from the flash gas and liquid flowing through the coil, some of the flash gas being condensed by this heat exchange, aiding in overfeeding the evaporator.

#### 3,381,488 ENVIRONMENTAL MONITOR AND CONTROL SYSTEM

Dwight C. Lewis, Elkhart, Ind., assignor to Penn Controls, Inc., Wheaton, Ill., a corporation of Delaware

Filed Feb. 17, 1966, Ser. No. 528,230  
12 Claims. (Cl. 62-126)

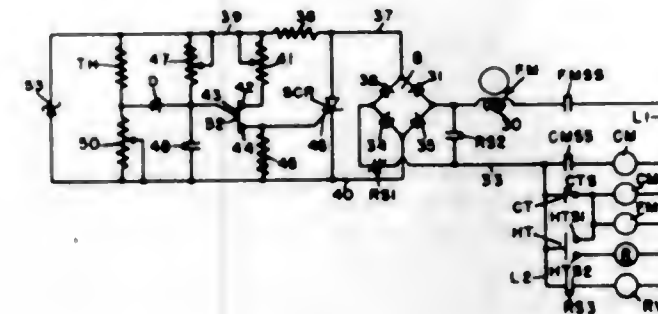


A refrigerating system which monitors the air temperature in the refrigerator and the response of the refrigerated articles thereto. The system sounds an alarm and activates stand-by refrigeration equipment, under conditions where both the air temperature and the response to the refrigerated articles simultaneously indicate that the articles may be heated to an undesirable level. The system, thus, differentiates between fluctuations in air temperature which are not meaningful and those that are of sufficient duration and magnitude to adversely affect the refrigerated articles.

#### 3,381,489 LOW AMBIENT CONTROLS FOR HEAT PUMPS

Gerald L. Blehn, Staunton, Va., and Robert T. Palmer, Sharon, Mass., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 24, 1967, Ser. No. 618,521  
9 Claims. (Cl. 62-160)



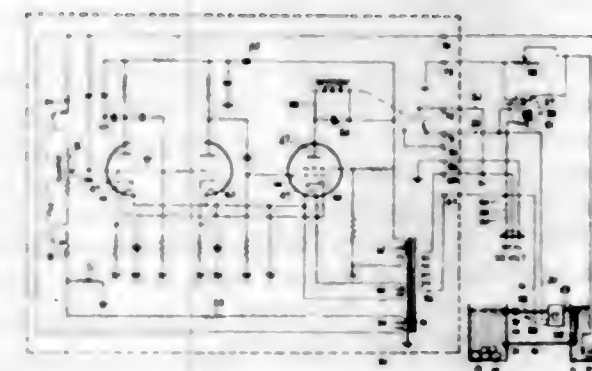
A thermistor responsive to the temperature of the outdoor coil of a heat pump adjusts a solid-state, speed control circuit to slow down the motor of the fan of the outdoor coil during cooling operation for increasing the head pressure when the outdoor temperature is so low that the operating expansion valve can not operate properly. When the heat pump is reversed for heating operation, the fan motor of the outdoor coil is caused to operate at its maximum speed regardless of temperature variations.

3,381,490

#### CONSTANT TEMPERATURE SYSTEM

Robert E. Manning and Wallis A. Lloyd, Boalsburg, Pa., assignors to Cannon Instrument Company, Boalsburg, Pa., a corporation of Pennsylvania

Filed Dec. 20, 1966, Ser. No. 603,378  
8 Claims. (Cl. 62-201)



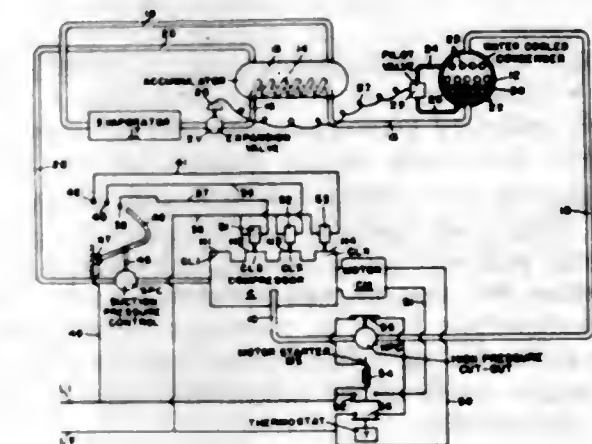
1. In a constant temperature system comprising a temperature-controlled device, a temperature sensor positioned for thermal contact therewith, and a temperature controller responsive to the sensor and operable to effect a change in temperature of the device to maintain the same at a control temperature, wherein said sensor comprises an electrical resistance whose value changes with temperature, said controller comprising an adjustable resistance bridge of which the sensor is one leg and which produces a signal upon being unbalanced by a change in sensor resistance, wherein switch means are presently controlled by an output signal from said bridge and adapted to provide full on or full off switching, and wherein temperature-changing means are present controlled by the switch means for changing the temperature of said device, the improvement comprising a second resistance adapted to be intermittently placed in circuit with

the sensor resistance to provide a total resistance different than either, thereby to unbalance the bridge, a second switch means controlled by the first switch means for intermittently changing said total resistance, and therefore the condition of bridge unbalance, by cutting in or out of circuit said second resistance, said temperature-changing means being energizable to effect a change in temperature of said device, said second switch means being energizable to change said total resistance and also the condition of bridge unbalance, thereby to de-energize said temperature-changing means and to effect a change in temperature of said device opposite to said first change, said first and second switch means being thus intermittently operative on said temperature-changing means to intermittently change the temperature of said device in one direction and the opposite direction.

#### 3,381,491 REFRIGERATION SYSTEMS HAVING LIQUID COOLED CONDENSERS

James R. Harnish, Staunton, Va., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 23, 1966, Ser. No. 552,057  
6 Claims. (Cl. 62-218)

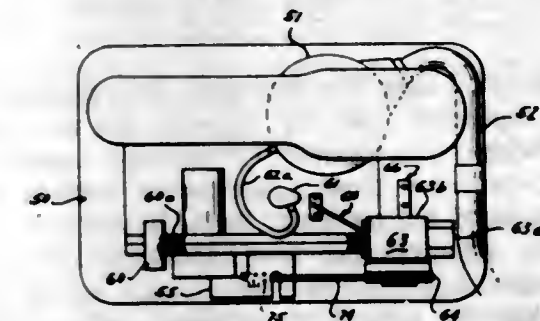


A refrigeration system having a compressor with loading-unloading means, has a shell-and-tube type condenser, with water flowed through the tube, and the refrigerant liquid collecting in the bottom of the shell. The expansion valve of the system responds to the level of the refrigerant liquid within the shell; adjusts towards closed position on a decrease in such level, and adjusts towards open position on an increase in such level.

#### 3,381,492 AUTOMOBILE AIR CONDITIONING SYSTEM

Don P. Dixon, 504 E. Josephine, San Antonio, Tex. 78215

Filed Sept. 16, 1966, Ser. No. 588,106  
6 Claims. (Cl. 62-244)

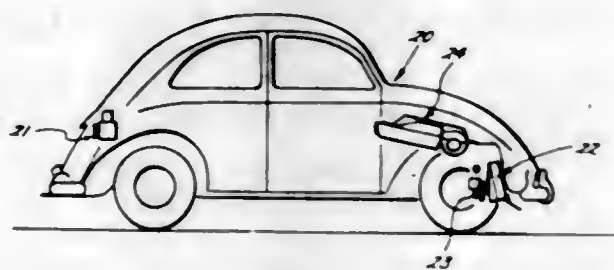


An air conditioning system for a "1600" series or "fast back" or "square back" Volkswagen automobile including a compressor mounted on the head and fan housing of the motor in a rear compartment of the automobile and on the right side of the crankshaft. In order to accommo-



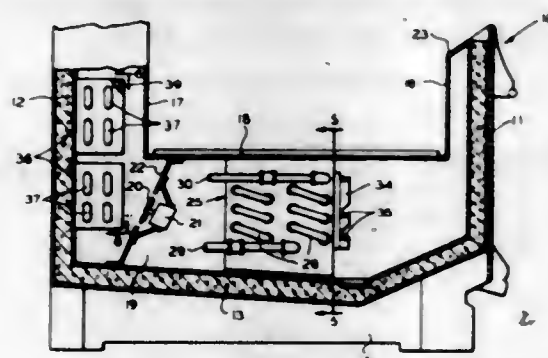
date the compressor, the existing coil for the motor is moved from a position mounted on the right side of the fan housing to a position mounted on the left side thereof, and the inlet to the existing air cleaner is turned to face forwardly and to the right of the automobile with its hose extending from the inlet into the right corner of the compartment and then rearwardly between the compressor and the right side of such compartment. The system also includes a condenser assembly mounted between the front axle and the undercarriage of the automobile rearwardly of such axle.

**3,381,493**  
**AUTOMOBILE AIR CONDITIONING SYSTEM**  
 Don P. Dixon, 2011 Sable Lane,  
 San Antonio, Tex. 78209  
 Filed Feb. 9, 1967, Ser. No. 614,862  
 8 Claims. (Cl. 62-244)



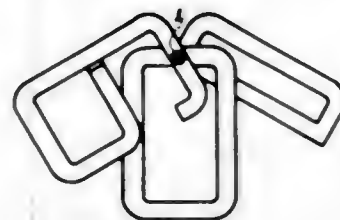
An air conditioning system for a "1300" series or "bug" Volkswagen automobile, including a condenser assembly mounted between a spare tire compartment and the lower front axle of the automobile, an evaporator having a case with blowers at one end fitting relatively closely within an opening cut through a substantially horizontal wall extending forwardly from the dashboard to separate the luggage compartment in the front end of the automobile from its passenger space, and a compressor supported on a bracket secured by existing parts to the engine block of the motor in a rear compartment of the automobile.

**3,381,494**  
**FROST COLLECTOR EVAPORATOR COIL**  
 Melvin W. Steelman, Niles, Mich., assignor to Clark Equipment Company, a corporation of Michigan  
 Filed Oct. 27, 1966, Ser. No. 589,980  
 7 Claims. (Cl. 62-283)



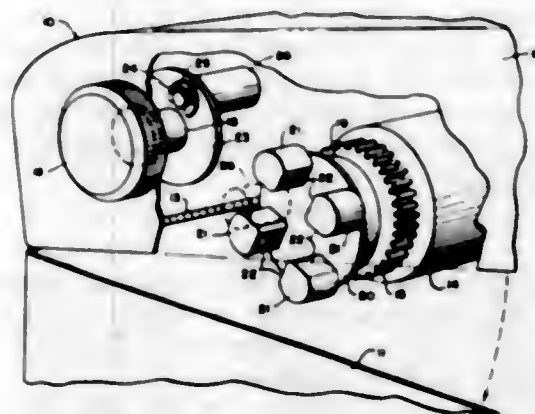
A refrigerated case has ductwork for carrying cool air through evaporator coils by drawing the air through a channel. Within the channel, a primary cooling coil is located downstream from a secondary cooling coil that removes most of the moisture from the air before the air reaches the primary coil. The secondary coil has individual vertical fins each in contact with several tubes in a vertical line but with only one in a horizontal line. The fins in contact with subsequent sets of tubes in a vertical line are staggered to obtain several leading edges. The ductwork and secondary cooling coil are constructed to provide a bypass air path around the secondary coil to carry the cooling air upon closing of the secondary coil by an accumulation of frost.

**3,381,495**  
**CHANGEABLE ORNAMENT HAVING PIVOTED PLATES**  
 William H. Emerson, National City, Calif.  
 (2212 33rd St., San Diego, Calif. 92104)  
 Filed Aug. 5, 1965, Ser. No. 477,390  
 1 Claim. (Cl. 63-2)



A convertible emblem having a plurality of plates pivotally attached at one corner thereof and superposed one upon the other and so formed when the plate means are closed they form a framed symbol and when they are spread, they form a series of letters associated in meaning with the symbol.

**3,381,496**  
**COUPLING FOR ROTATABLE MEMBERS**  
 Leonard A. Nash, Lake Forest, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware  
 Filed May 4, 1966, Ser. No. 547,471  
 7 Claims. (Cl. 64-6)

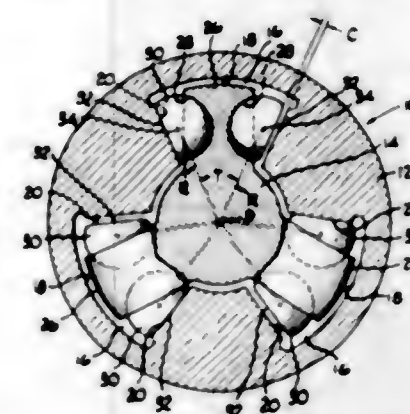


A coupling for permitting radial separation of normally aligned shafts comprised of a circular plate attached to the end of one of the shafts and a plurality of teeth extending axially from the first plate in a circular array about the shaft and positioned a first predetermined distance from one another and a second predetermined distance from the axis of the shaft and a second circular plate attached to the end of the other of the shafts and a roller having a diameter equal to the first predetermined distance extending axially from the second plate and positioned a distance from the axis of the other of the shafts equal to the second predetermined distance.

**3,381,497**  
**UNIVERSAL JOINT**  
 Clifford H. Allen, Chesterland, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois  
 Filed Oct. 10, 1966, Ser. No. 585,442  
 7 Claims. (Cl. 64-7)

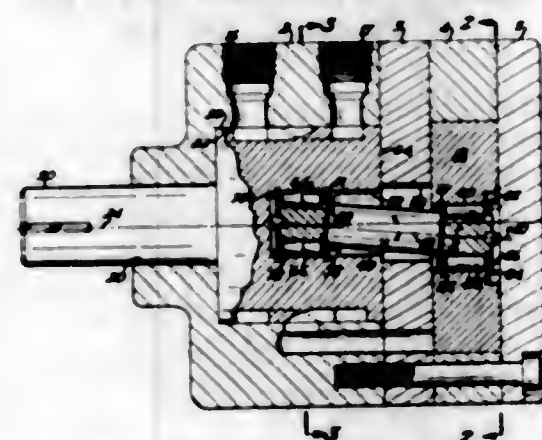
1. A universal coupling for a pair of shafts comprising a driving member adapted to be connected to an end of one of said shafts and a driven member adapted to be connected to an end of the other of said shafts, one of said members including a hollow shell having three longitudinally extending axial grooves circumferentially equally spaced about its longitudinal centerline, each said groove including at least one substantially flat surface extending inwardly of said shell, the other of said members including a spider having three torque arms

circumferentially equally spaced about its longitudinal centerline, each said torque arm extending radially outwardly into a separate one of said axial grooves of said other member and having at least one bearing pad connected thereto including a substantially flat surface adapted to slide on said substantially flat surface of said axial groove associated with said torque arm, said pads being connected to said torque arms by means form-



ing a ball and socket joint therebetween and being pivotally movable about a spherical center of said ball and socket joint, and substantially flat surface of each said groove of said shell being formed parallel to a line passing through said spherical center of said associated ball and socket joint and the longitudinal axis of said member, said surface further being formed parallel to the longitudinal axes of both said driving and driven member, when said members are coaxially aligned.

**3,381,498**  
**TORQUE TRANSMITTING DRIVE**  
 Hugh L. McDermott, Minneapolis, Minn., assignor to Char-Lynn Company, Eden Prairie, Minn., a corporation of Minnesota  
 Filed May 18, 1966, Ser. No. 550,985  
 5 Claims. (Cl. 64-8)

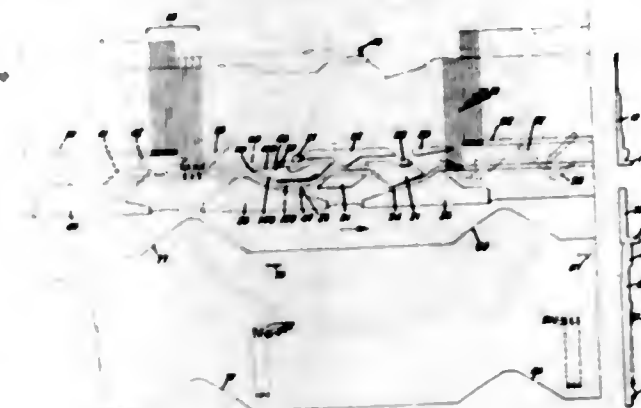


A torque transmitting mechanism to provide for the transmitting of torque between a shaft member and a first rotatable member connected to one end of the shaft member, the other end of the shaft member being connected to a second rotatable member, one of the first and second members adapted for eccentric movement relative to the other of the members.

**3,381,499**  
**PATTERNING MEANS FOR CIRCULAR KNITTING MACHINES**  
 Walter H. Imboden, Richard M. Janda, and James H. Boyer, Jr., Reading, Pa., assignors to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania  
 Filed Dec. 15, 1964, Ser. No. 418,460  
 3 Claims. (Cl. 66-48)

The invention disclosed herein relates to a circular knitting machine having a main knitting station with stitch cams for knitting fabric courses in both rotary and

reciprocatory operation of the machine and at least one auxiliary knitting station with a stitch cam for knitting fabric courses only in rotary operation of the machine, the auxiliary knitting station having means for selectively controlling the operation of the needles to form design stitches in the fabric courses and also being adapted to select the needles during forward strokes of reciprocation



to form design stitches in the fabric courses knit during reverse strokes of reciprocation at the main station and the stitch cams at the main station being adapted to draw stitches of one length in the courses knit in one direction of reciprocation and stitches of a different length in the courses knit in strokes in the other direction of reciprocation.

**3,381,500**  
**NEEDLE CYLINDER STRUCTURE FOR CIRCULAR KNITTING MACHINES**  
 William E. Wister, Wernersville, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania  
 Filed Apr. 19, 1966, Ser. No. 543,638  
 2 Claims. (Cl. 66-115)



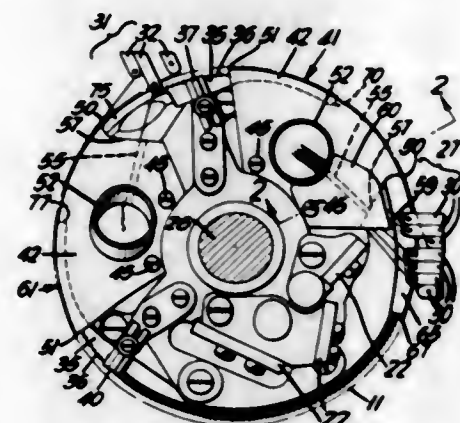
A needle cylinder for a circular knitting machine including guide wall elements soldered in a slotted cylinder. To ensure retention of the guide wall elements in the slots, the cylinder is swaged at a notch in each element to cause material of the cylinder to flow over and encase the portion of each element in the slot at the notch.

**3,381,501**  
**YARN CONTROLLING AND SEVERING MEANS FOR KNITTING MACHINES**  
 Arthur E. Kaese, West Lawn, and Henry E. Zondlo, Lincoln Park, Pa., assignors to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania  
 Filed Nov. 3, 1965, Ser. No. 506,233  
 3 Claims. (Cl. 66-134)

Yarn severing means for a circular knitting machine including a toothed annulus rotatable with the needle cylinder of the machine, a cutting element spaced from the yarn feeding means of the machine and cooperating with



the teeth of the annulus, a guard member overlying the teeth of the annulus for preventing the yarn from engaging the teeth between the feeding means and a position intermediate the feeding means and the cutting element



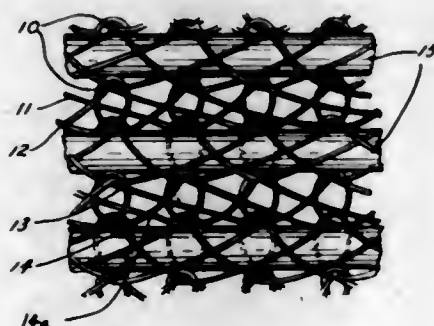
and means at the intermediate position for withdrawing the yarn, extending from the first and last needles to knit the yarn, radially inwardly into a tooth of the annulus adjacent the first and last needles to be carried thereby to the cutting element for severance.

3,381,502

**FABRIC CONSTRUCTIONS**

Walter Turton, Stamford, Conn., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,363  
3 Claims. (Cl. 66—192)



A fabric construction having needle loops formed from at least two warp elements. One warp element overlies the other warp element and the underlying warp element has a larger underlap than the overlying warp element. This specific structure securely locks filling elements which are laid across the width of the fabric between the underlaps and the needle loops of the warp elements. The warp element with the shorter underlap locks both the filling element and the warp element with the longer underlap thereby providing a fabric construction which prevents both the filling elements and the underlying warp elements from popping up when the fabric is submitted to lengthwise tension.

3,381,503

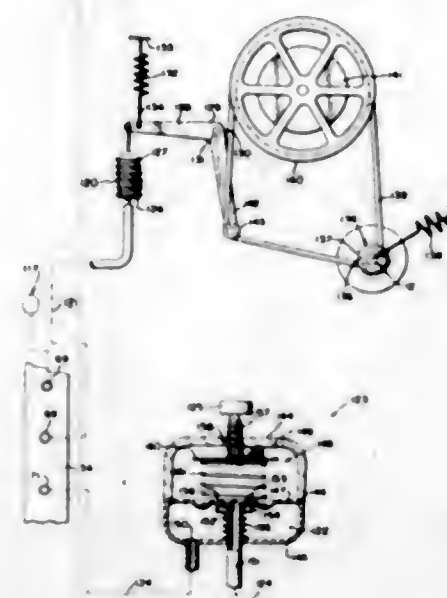
**WASHING MACHINE SYSTEM OR THE LIKE**

Roland D. Beck, La Crescenta, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Continuation of application Ser. No. 504,730, Oct. 24, 1965. This application Aug. 7, 1967, Ser. No. 658,952  
4 Claims. (Cl. 68—12)

This disclosure relates to a pneumatic control system for a washing machine wherein the speed of movement of the agitator thereof and the speed of spin of the wash-

ing compartment is controlled by the degree of vacuum directed to a vacuum operated actuator that sets the speed of the variable speed transmission means, the control system preventing the spinning of the washing compart-



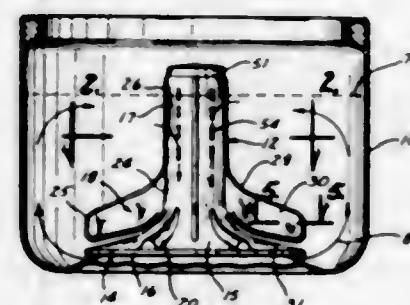
ment until the water level in the washing compartment has fallen below a predetermined level so that a high speed spinning operation cannot be provided until the water level is below a safe level for the spinning of the washing compartment.

3,381,504

**OSCILLATABLE AGITATOR FOR A LAUNDRY MACHINE**

Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware

Filed July 19, 1965, Ser. No. 472,812  
19 Claims. (Cl. 68—18)



A unitary agitator construction having a centerpost and a plurality of flexible vane members extending radially outwardly from the centerpost. A flared portion extends downwardly and outwardly from the lower end of the centerpost below the vanes. At least a portion of the flared portion is detached from and spaced from the lower portion of the vanes to allow movement of the vanes relative to the flared portion.

3,381,505

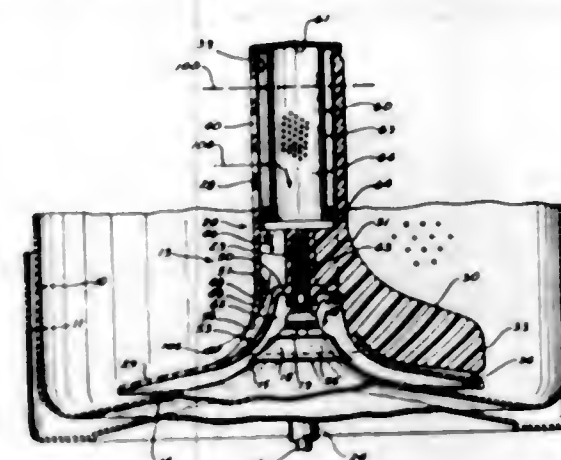
**WASHING MACHINE AGITATOR**

Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware

Filed Feb. 25, 1966, Ser. No. 530,075  
17 Claims. (Cl. 68—18)

An agitator for a washing machine comprising a unitary shell structure including an upstanding hollow center

post, a flaring lower portion, and a plurality of flexible vanes. The agitator defines an internal fluid passageway



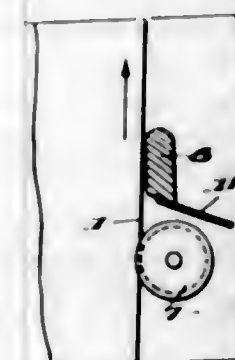
from an upper ingress to a lower egress and is operable without auxiliary pumping means for effecting a secondary fluid flow through the internal passageway.

3,381,506

**LIQUID-STRIPPER BAR**

Kenneth H. Cram, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 19, 1966, Ser. No. 573,571  
4 Claims. (Cl. 68—19)



1. In apparatus for contacting moving shaped structures with a liquid treating agent, the improvement comprising at least one liquid-stripper bar oriented adjacent and extending substantially perpendicular to the path of travel of said shaped structure after contact with said treating agent, said stripper bar having at least one convex curvature in its cross-sectional contour, the degree of convexity increasing sharply in the vicinity of and extending downstream of the point of closest proximity to said path of travel, said cross-section further having a second, substantially straight portion contiguous with said convex curvature extending upstream from the point of closest proximity to said path of travel.

3,381,507

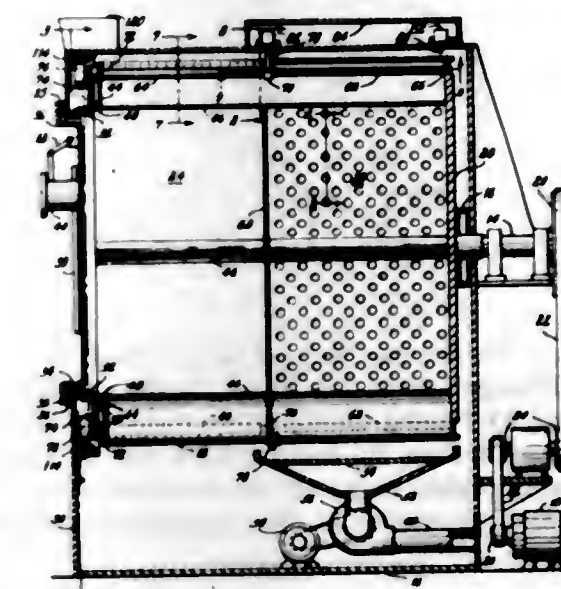
**FUR CLEANING MACHINE**

Harry W. Janson, Falmouth, Mass., and Harold C. Burgo, Portsmouth, R.I., assignors to Hoyt Manufacturing Corporation, Westport, Mass., a corporation of Massachusetts

Filed Mar. 3, 1966, Ser. No. 531,546  
11 Claims. (Cl. 69—23)

1. A variable volume fur cleaning apparatus comprising:  
a rotatable cylindrical drum, said drum having a forward section having an imperforate cylindrical wall and a rear section having a perforate cylindrical wall, an imperforate transverse partition within said drum with its peripheral edges substantially in contact with the interior cylindrical wall of said drum, means mounting said partition for movement along the

axis of said drum from a first position within said imperforate section to a second position near the rear end of said perforate section, means for rotating said drum, and means responsive to rotation of said drum for moving said partition axially of said drum from said



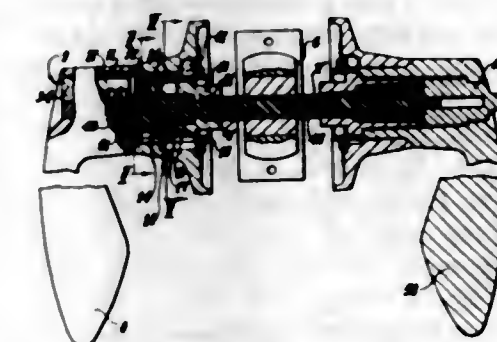
first position to said second position, and back to said first position, whereby a fur piece and a cleaning medium are retained in the imperforate wall section during the tumbling cleaning action and upon movement of said partition to the rear of said drum, the cleaning medium will pass out of said drum through the perforate cylindrical wall.

3,381,508

**LATCH OPERATING MECHANISMS**

Arthur R. Carlson, North Balwyn, Victoria, and Ronald L. Dearie, Beaumaris, Victoria, Australia, assignors to Die Casters Proprietary Limited, Collingwood, Victoria, Australia

Filed Oct. 11, 1965, Ser. No. 494,696  
Claims priority, application Australia, Oct. 16, 1964, 50,580/64  
10 Claims. (Cl. 70—216)



A latch operating mechanism for a door latch having a laterally projecting latch operating shaft adapted to oscillate about its longitudinal axis to actuate said latch.

3,381,509

**DEVICES FOR TRANSMITTING A ROTARY MOTION TO A GEAR**

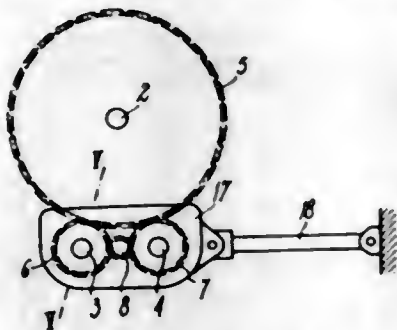
Pierre Gay, Saint Etienne, Loire, France, assignor to Compagnie des Ateliers et Forges de la Loire (St. Chamond, Firminy, St. Etienne, Jacob-Holtzer)

Filed Apr. 6, 1966, Ser. No. 540,644  
Claims priority, application France, Apr. 27, 1965, 14,733, Patent 1,465,384  
4 Claims. (Cl. 74—410)

A mechanism for transmitting a rotary motion to a relatively large toothed gear. A pair of driving pinions is in constant meshing engagement with the gear and an in-



intermediate pinion is in constant meshing engagement with both of the driving pinions. The gear and the pair of driving pinions in meshing engagement therewith are provided with shafts journaled in a case. The shaft of the intermediate pinion is free in relation to the case and the intermediate pinion is positioned in meshing engagement with

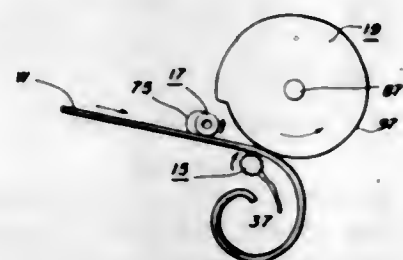


the teeth of the driving pinions which mesh in turn with the gear. Flanged races are fitted on the driving pinions which coast by rolling engagement without slipping with similar races fitted on the intermediate pinion. The flanges of the driving pinion races act as abutment means to prevent any axial movement of the intermediate pinion.

3,381,510

**SCROLL FORMING APPARATUS**

Wayne D. Duley, Dexter, Mo., assignor to Duley Steel Products, Inc., a corporation of Missouri  
Filed June 3, 1966, Ser. No. 555,183  
7 Claims. (Cl. 72-146)



1. An apparatus for bending a substantially long straight workpiece to form a scroll comprising a powered small-diametered drive roller having a circular peripheral face, a small-diametered idle roller having a circular peripheral face, a large-diametered idle wheel including a hub portion and a rim portion having a convexly curved peripheral face curving along a line running progressively distant from the axis of said wheel, a frame, bearing means supported from said frame parallel journaled and individually supporting said drive roller, said idle roller, and said idle wheel in mutual lateral alignment, with said drive roller and said idle roller being closely spaced from the rim of said idle wheel and with the relative arrangement of said drive roller, said idle roller and said idle wheel being such that a workpiece as it is being bent simultaneously extends between said drive roller and said idle roller and between said drive roller and said idle wheel, said relative arrangement further being such that said drive roller face is operably adapted to tangentially engage said workpiece along one side surface and said idle roller face and said idle wheel face being respectively adapted to tangentially engage said workpiece along the opposite side surface.

3,381,511

**PROTECTED LOAD CELL**

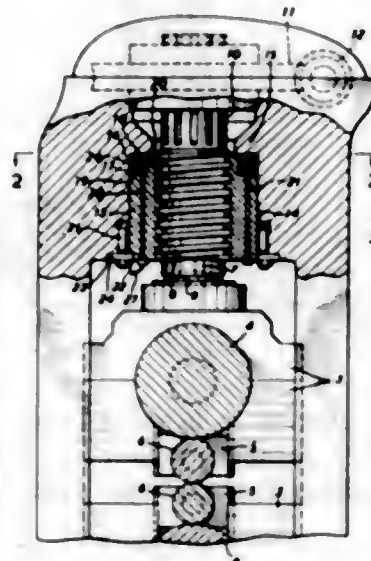
Kenneth R. Canfor, Dundas, Ontario, and David H. Samson, Burlington, Ontario, Canada, assignors to Dominion Foundries and Steel, Limited, Hamilton, Ontario, Canada

Filed May 18, 1965, Ser. No. 456,745

1 Claim. (Cl. 72-248)

Electrical load cells are installed in a rolling mill by mounting each cell between the respective screw box

and the mill frame, the cell indicating the load on the associated screw; each cell is located in a recess in the screw box that is spaced from the screw thread, so that the whole of the screw box screw thread remains available



3,381,512

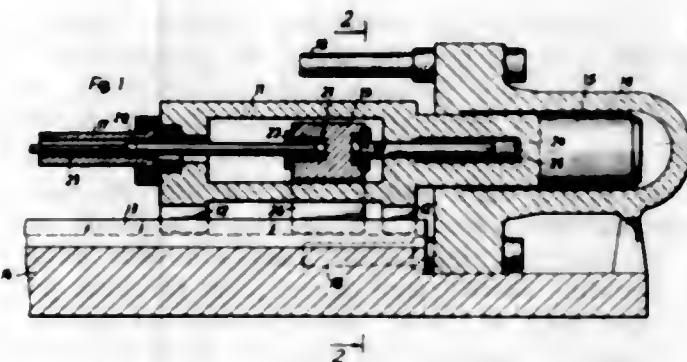
**HYDRAULIC EXTRUSION PRESS**

Wilhelm Linnerz, Buttgen, near Neuss, Germany, assignor to Lindemann Maschinenfabrik G.m.b.H., Düsseldorf, Germany

Filed July 21, 1965, Ser. No. 473,643

Claims priority, application Germany, Aug. 7, 1964, L 48,487

4 Claims. (Cl. 72-265)



A hydraulic extrusion press in which the substantially frame-shaped head of the main ram and the cross piece or carriage reciprocable therein to actuate the mandrel rod are each supported independently of each other by its own prop means such as glide shoes which move either upon separate or upon common guide means integral with the press frame.

3,381,513

**ROD HEADING AND TRIMMING METHOD AND MACHINE**

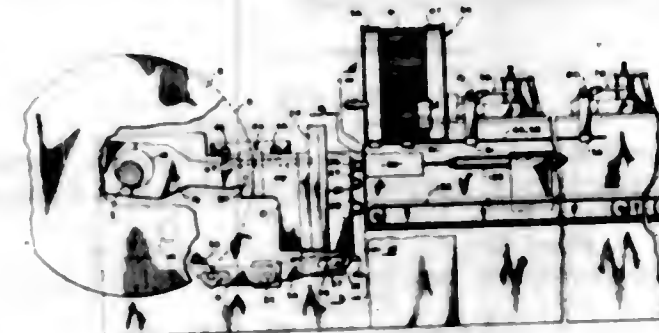
Frank L. Jouannet, Shaker Heights, Ohio, assignor to Auto Bolt and Nut Company, Cleveland, Ohio, a corporation of Ohio

Filed June 11, 1965, Ser. No. 463,245

5 Claims. (Cl. 72-324)

A rod heading and trimming machine and method utilizing a pair of gripping dies and a reciprocable header

slide with a vertically indexable tool holder thereon, the tools on the holder being operative to form a round filister head on the workpiece held by the gripping dies and axially to trim flats on the round head while producing flash,



the workpiece being momentarily released and driven into the trimming tool and then regripped and held firmly while the trimming tool is pulled from the workpiece, the finished flash-free article then being released and dropped onto a conveyor for discharge from the machine.

3,381,514

**METHOD AND APPARATUS FOR MAKING TOOTHED LOCK WASHERS**

Fred Schmidt, Cranford, and Michael S. Starita, Scotch Plains, N.J., assignors to Triangle Tool Company, Union, N.J., a corporation of New Jersey  
Filed Oct. 20, 1965, Ser. No. 498,497  
14 Claims. (Cl. 72-335)



A method and apparatus for making toothed lock washers from sheet material wherein the body of the lock washer is blanked from the sheet material but is not removed therefrom and is held by frictional engagement in the sheet material so that the teeth of the lock washer body and the sheet material lying between the teeth are twisted while the body is retained in the sheet to establish locking edges on the teeth displaced axially from the surface of the remaining portion of the body.

3,381,515

**COLD FORMING DIE CONSTRUCTION**

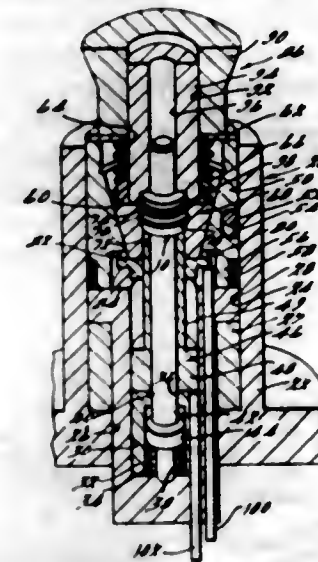
John F. Orloff, Mount Clemens, Mich., assignor to Huck Manufacturing Company, Detroit, Mich., a corporation of Michigan

Filed Nov. 1, 1965, Ser. No. 505,813

10 Claims. (Cl. 72-354)

5. A die for cold forming a cylindrical member having an annular groove in its outer surface comprising: a die housing having a cavity open at its upper end, die holder means located at the upper end of said cavity and defining a frusto conically shaped bore, a multiple piece die member formed by a plurality of radially divided die segments located in said frusto conically

shaped bore and having a composite outer surface which is frusto conically shaped to match said frusto conically shaped bore, means including said die cavity of said shaped bore and having a composite outer surface which is frusto conically shaped to match said frusto conically shaped bore, means including said die cavity of said

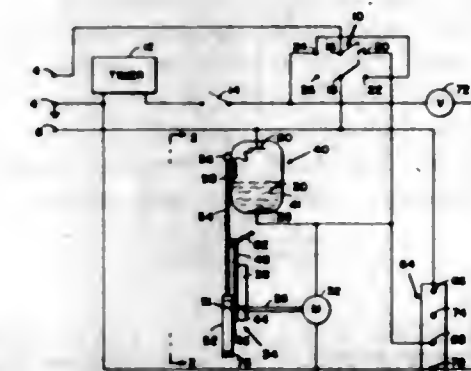


die member defining a confined volume having a contour defining a cylindrical member having an annular groove in its outer surface.

3,381,516

**TRANSMITTER-RECEIVER CALIBRATOR**

Howard S. Maples, P.O. Box 114, Paint Rock, Ala. 35764  
Filed Aug. 13, 1965, Ser. No. 479,677  
3 Claims. (Cl. 73-1)



An electro-mechanical calibrator used for calibrating an electrical signal transmitter and a signal receiver. The calibrator comprises two major portions. One of these portions is a timer that records periods of electrical signal flow, and the other portion is a liquid switch, controlled by mechanical means, and regulating the period of electrical signal flow to a receiver.

3,381,517

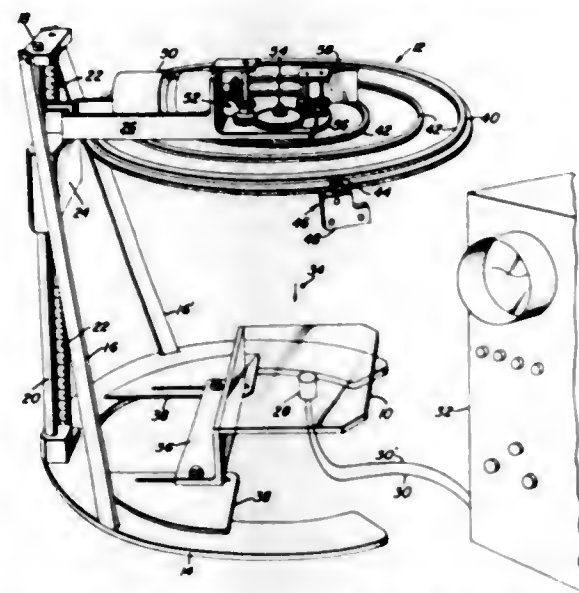
**ROTARY BEAD DROPPER AND SELECTOR FOR TESTING MICROMETEORITE DETECTORS**

Luc Secretan, Riverdale, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration  
Filed Aug. 30, 1965, Ser. No. 483,886  
31 Claims. (Cl. 73-1)

Apparatus and method for calibrating a micrometeorite transducer detector by accurately dispensing a plurality of small, spherical beads, at a predetermined rate, upon the transducer detector. A bead dropper is moveably attached to a stationary support member such that it is positioned above the transducer detector. Drive means are provided to both move the bead dropper in a spiral path with respect to the transducer detector and drive a helical screw (within the bead dropper) such that the beads are fed thereby to a gate in the bead dropper and



serially dispensed therefrom to fall on a transducer plate which is affixed to the transducer detector. An electrical output from the transducer detector is applied to a dis-

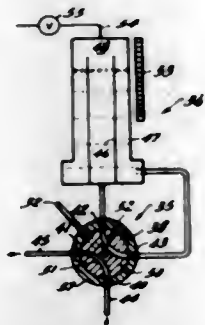


play means which records the impact of the individual beads and thereby provides a calibration of the transducer detector.

3,381,518

**AERATION METER**

Max J. Lochle, Lynn, Mass., assignor to General Electric Company, a corporation of New York  
Filed July 30, 1965, Ser. No. 476,118  
8 Claims. (Cl. 73-19)



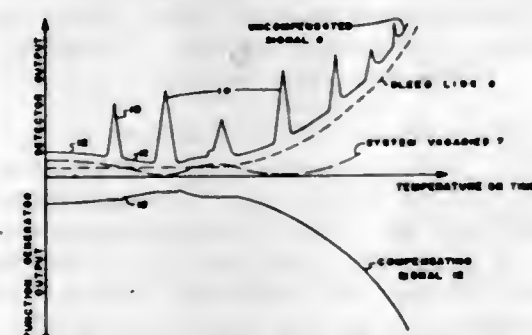
An aeration meter which traps a sample of flowing liquid and then permits gravitational separation of the gaseous and liquid constituents of said sample, wherein the percent of entrained gas by volume is capable of being detected and easily read on a gauge.

3,381,519

**GAS CHROMATOGRAPHIC BASELINE STABILIZER**

Howard L. Ashmead, Newark, and Philip B. Beltz, Wilmington, Del., assignors, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Dec. 28, 1964, Ser. No. 421,533  
15 Claims. (Cl. 73-23.1)



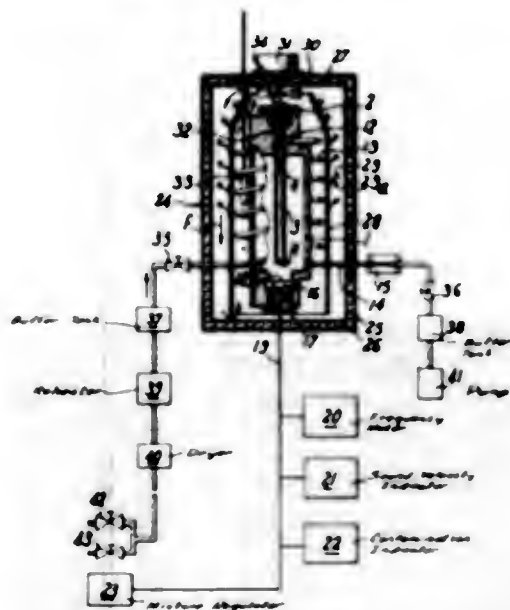
A first electrical compensating signal having a known amplitude-time characteristic is algebraically subtracted from the detector output signal in a chromatograph sys-

tem. An error-correcting means monitors the compensated signal and operates, whenever the compensated signal amplitude differs from zero, to return the compensated signal to a reference level. The error correcting means is disabled when the compensated signal exceeds a predetermined rate change or amplitude.

3,381,520

**SONIC ANALYSER**

Fernand Bourquard, Courbevoie, and Roger Brouee, Sevres, France, assignors to Commissariat à l'Energie Atomique, Paris, France  
Filed Oct. 19, 1964, Ser. No. 404,834  
Claims priority, application France, Oct. 29, 1963, 952,075  
2 Claims. (Cl. 73-24)



A sonic analyser has a fluid-tight vessel and a sound pipe having a reed pipe mouth of predetermined length in the vessel. A device regulates the gas flow through the pipe to obtain a frequency in a selected harmonic range. An acoustic detection system is connected to a measuring and recording unit for reading the frequency and is located in the vessel adjacent the open end of the pipe. A casing surrounds the apparatus within the fluid-tight vessel to provide a substantially constant temperature from a heater element about the casing.

3,381,521

**DETONATION GAUGE APPARATUS**

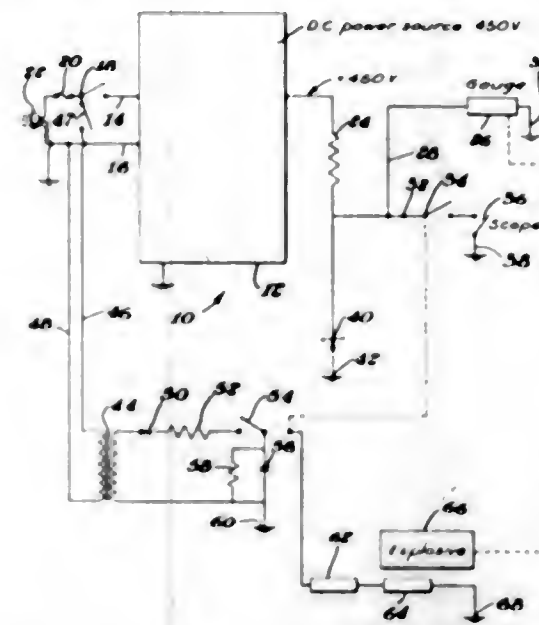
Victor J. Caldecourt, Lyle W. Colburn, and Thomas E. Slykhouse, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Aug. 3, 1965, Ser. No. 476,863  
5 Claims. (Cl. 73-35)

1. Detonation velocity measuring apparatus comprising:

- (A) a constant voltage power supply delivering a few hundred volts to its output;
- (B) a resistance element and a detonation gauge having as resistor, said resistance element and detonation gauge being connected in series across the output of said power supply;
- (C) a Zener diode, said diode being coupled across said detonation gauge;
- (D) means including a switch and coupling line for coupling the input of an oscilloscope across said detonation gauge; and
- (E) a firing circuit including a voltage source and a switch, firing line and two detonators connected in series across said voltage source, one of said detonators being of the so-called instantaneous type and the other of said detonators being of the so-

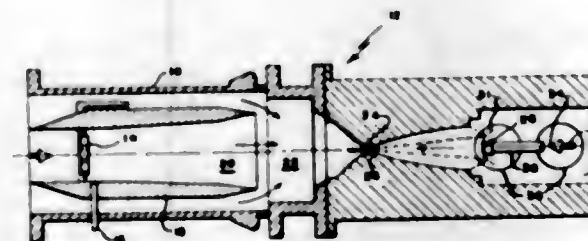
called delayed action type, said delayed action detonator being adapted to be disposed in operative relationship with respect to an explosive element and said instantaneous detonator being disposed to said firing line remote from said coupling line whereby



said firing line is severed after said firing line is energized and before said explosive is detonated, said switch in said firing circuit and said switch in said means for coupling the input of the oscilloscope across the detonation gauge being ganged.

3,381,522

**EQUIPMENT TO MEASURE CHEMICAL REACTION KINETIC RATES OF THE RECOMBINATION PROCESSES FOR GASEOUS REACTIONS**  
Philip M. Rubins, Tullahoma, Tenn. (512 Spring St., Manchester, Conn. 06040), and Thomas H. M. Cunningham, 805 Lowry St., Manchester, Tenn. 37355  
Filed June 15, 1966, Ser. No. 559,050  
4 Claims. (Cl. 73-35)



A device for measuring chemical reaction rates comprising a combustion chamber connected to a reaction chamber. A high velocity hot gaseous mixture from the combustion chamber and a fuel are caused to pass over an open tube in the reaction chamber so as to produce a shock wave and an area of slowed down chemical reaction within the tube. Sensory means are mounted on the reaction chamber and tube to measure the chemical reaction rate within the reaction chamber.

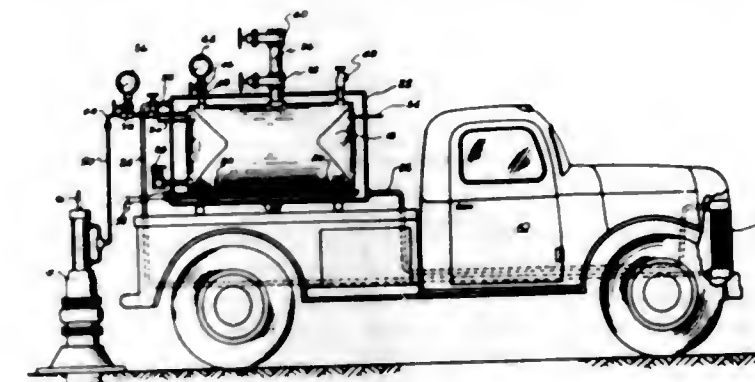
3,381,523

**METHOD AND APPARATUS FOR SUPPLYING GAS UNDER PRESSURE**

Henry D. Nettles, 1806 Swan St., Longview, Tex. 75601  
Filed Mar. 3, 1965, Ser. No. 436,741  
14 Claims. (Cl. 73-40.5)

A method and apparatus for supplying gaseous carbon dioxide to a wellhead in communication with an oil reser-

voir or the like, including a portable generator tank preferably mounted on a truck or other vehicle, a heating jacket surrounding the tank and adapted to receive a heating fluid at least in the lower part of the jacket, a heating element such as an electrical heating element or means for circulating hot water from a truck radiator or the radiator of another engine through the heating jacket, a carbon dioxide introduction system connected to the carbon dioxide generating tank, including a first valve adapted to pass a solid stick of carbon dioxide into a holding pipe or chamber and a second valve mounted below the chamber and adapted to pass the solid stick

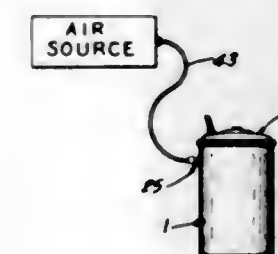


of carbon dioxide from the chamber into the generating tank, a gaseous carbon dioxide outlet connected to the vapor space of the generating tank and a gaseous carbon dioxide line leading from the carbon dioxide outlet to the wellhead. A pressure relief valve may also be mounted on the generating tank as well as a pressure gauge. A valve and pressure gauge may also be mounted in the line leading to the wellhead. One method of utilizing the apparatus in oil field operations is to apply the gaseous carbon dioxide to one side of the piece of well equipment, such as a casing and then observe any leakage of carbon dioxide to the opposite side of the casing.

3,381,524

**METHOD AND APPARATUS FOR TESTING HERMETICALLY SEALED TRANSFORMERS**

Herbert W. Dornbush, Camonsburg, and William G. Swick, Pittsburgh, Pa., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware  
Filed Feb. 23, 1966, Ser. No. 529,332  
9 Claims. (Cl. 73-45.5)

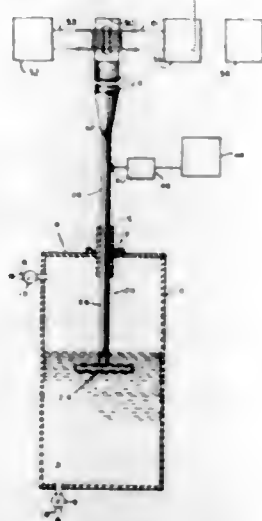


An electrical high voltage transformer of the hermetically sealed type includes a hermetically sealed housing and an insulating oil covering the internal winding and core components. A valve is secured in the upper wall above the oil level. The valve includes a spring loaded core resiliently engaging a valve seat and accessible from the exterior to permit the lineman on a pole to actuate the valve to determine whether dangerous overpressures exist within the casing and to relieve any such overpressures before removing the cover, thereby eliminating a hazard to the lineman. The same valve may be employed



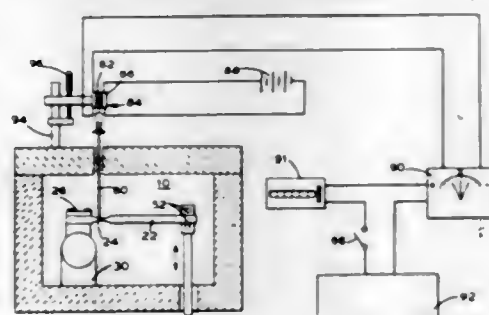
to pressurize the tank and check the sealed condition of the transformer tank during the initial assembly of the transformer.

**3,381,525**  
**METHOD FOR DETECTION OF THE IMMINENCE OR INCIDENCE OR CAVITATION IN A LIQUID**  
Herbert Kartluka and Charles A. Boyd, West Chester, Pa., assignors to Aeroprojects Incorporated, West Chester, Pa., a corporation of Pennsylvania  
Filed May 21, 1965, Ser. No. 457,614  
4 Claims. (Cl. 73-67)



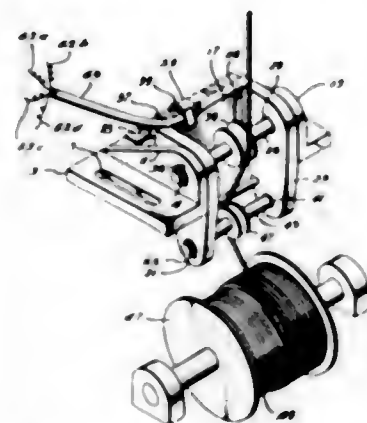
A liquid's proximity to cavitation is detected by inserting a vibratory probe into the liquid and varying the power required to transmit energy through the probe. A sensing element attached to the probe detects the vibratory energy therein and transduces the vibration into a signal displayed on a frequency analyzer. The detection of a subharmonic of the fundamental frequency is an indication of cavitation.

**3,381,526**  
**FATIGUE TESTING APPARATUS AND METHOD**  
Vijay Rastogi and Kenneth D. Ives, Alliance, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey  
Filed May 10, 1965, Ser. No. 454,477  
15 Claims. (Cl. 73-91)



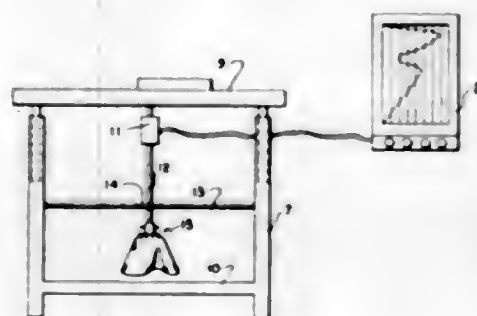
A method and apparatus for flexurally fatigue testing a test specimen provided with a waist section intermediate the ends of the specimen. The waist section tends to concentrate maximum stress in the area defined by the waist section. One end of the test specimen is held fixed and the other end repeatedly flexed in opposite transverse directions while a count is taken of the number of flexing cycles experienced by the specimen. Apparatus which responds to changes in deflection, cooperates with the specimen at a point between the fixed end and the point of maximum stress for terminating counting and/or flexing when the specimen fails due to fatigue.

**3,381,527**  
**TENSION MEASUREMENT DEVICE**  
Thomas M. Grubbs, Houston, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration  
Filed Nov. 18, 1965, Ser. No. 508,601  
3 Claims. (Cl. 73-144)



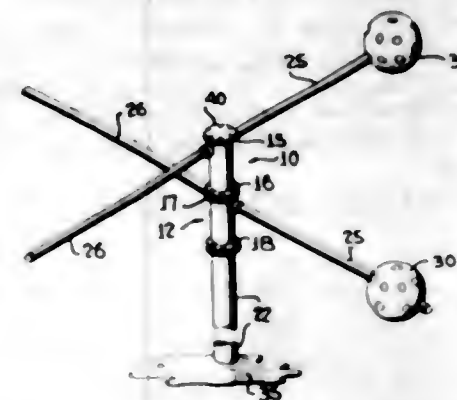
An apparatus for measuring a load on a cable under either static or dynamic conditions, comprising a pivotally mounted, dual pulley, line bearing structure restrained against movement by an electrical tension strap. The load on a cable passing over the pulleys attempts to pivot the structure against the restraint of the tension strap. Strain gauges on the strap provide a read-out of the load on the cable.

**3,381,528**  
**APPARATUS FOR DETERMINING DRAPE OF FLEXIBLE MATERIALS**  
Charles L. Adams, Waterford, and Richard J. McFall, Troy, N.Y., assignors, by mesne assignments, to Clupak, Inc., New York, N.Y., a corporation of Delaware  
Filed Oct. 21, 1964, Ser. No. 405,398  
2 Claims. (Cl. 73-159)



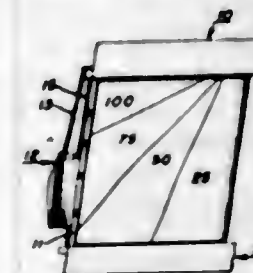
1. An apparatus for determining the drape of flexible materials, said apparatus having a means for moving a piece of material through an aperture of a size such as to allow, but offer resistance to, passage of the piece through the aperture, comprising in combination: a frame; a substantially horizontal ring attached to the frame, a support disposed within the aperture and vertically movable in relation to said aperture; a circular mount comprising a disk and connected to said support at one end thereof; said mount being adapted to support the piece without peripheral restraint and such that the material is allowed to drape freely and assume a natural shape about its periphery; said moving means including means operatively connected to the support for moving the support and thus urging the piece through the aperture; and further means operatively connected to the support for continuously measuring the forces opposing passage of the piece through the aperture.

**3,381,529**  
**STATIC ANEMOMETER**  
Charles W. Martin, Lincoln, Nebr., and Lee P. Herrington, Syracuse, N.Y., assignors to Melpar, Inc., Falls Church, Va., a corporation of Delaware  
Filed Feb. 11, 1966, Ser. No. 526,915  
16 Claims. (Cl. 73-189)



A static anemometer compensated for all accelerations and comprising two orthogonal drag elements, mounted for rotation on a common vertical axis, each of which actuates a resistive strain gage of the torsional type, the outputs of the strain gages being vectorially combined to provide an indication of wind speed, regardless of wind direction.

**3,381,530**  
**DEVICE FOR INDICATING THE TEMPERATURE AND VELOCITY OF AN AIR STREAM**  
Anthony H. Lamb, 66 King St., Hillside, N.J. 07205  
Filed Aug. 29, 1966, Ser. No. 575,685  
6 Claims. (Cl. 73-198)

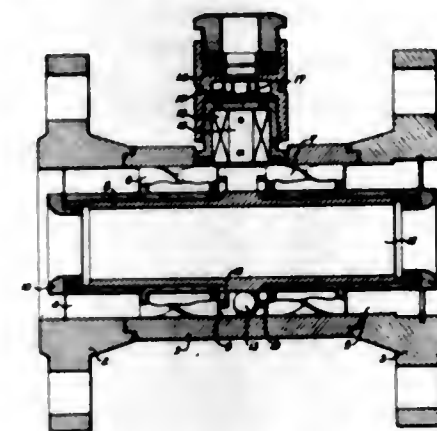


1. A device for indicating the temperature and velocity of an air stream comprising,
  - (a) a temperature-sensitive member having a scale calibrated in temperature values,
  - (b) flexible means suspending the said member in front of a grill for pivotal displacement in correspondence with the velocity of air passing out of the grill, and
  - (c) indicating means including the said member for indicating the pivotal displacement of the member in terms of air velocity.

**3,381,531**  
**ORBITAL BALL FLOWMETER WITH BYPASS**  
Konstantin Bagratovich Arutjanov, Georgy Genrikhovich Jordan, Vilgany Alexandrovich Rukhadze, Leonid Nikolaevich Shonin, Jury Alexandrovich Komarov, Igor Nikolaevich Ivanov, Jury Sergeevich Konoplev, and Mikhail Danilovich Silin, Moscow, U.S.S.R., assignors to Nauchno-Issledovatel'skiy Institut Teploenergeticheskogo Priborostroyeniya, Moscow, U.S.S.R.  
Filed Aug. 3, 1965, Ser. No. 476,822  
5 Claims. (Cl. 73-202)

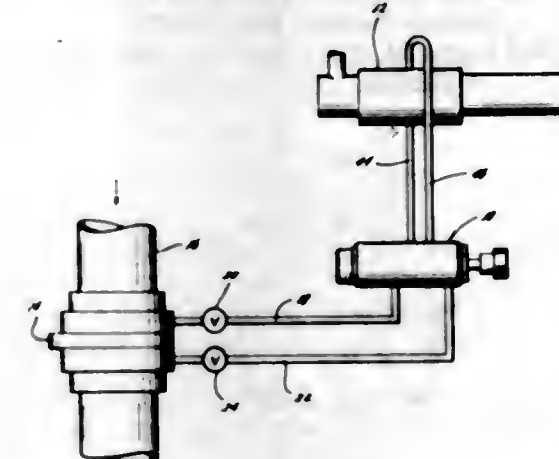
A flow rate meter transmitter in which a hollow non-magnetic body is connected to a pipeline for the passage of fluid, the body containing a by-pass sleeve with a through channel, an annular gap being formed between the outer surface of the sleeve and the inner surface of the body accommodating a guide member which imparts vortex motion to the fluid stream in the gap which car-

ries a freely floating ball of ferromagnetic material along a confined path on the internal surface of the body for



activating a device to produce signals related to the flow rate of the fluid stream.

**3,381,532**  
**PROTECTIVE VALVE FOR DIFFERENTIAL PRESSURE METERS**  
Gilbert H. Tausch, Houston, Tex., assignor to Camco Incorporated, Houston, Tex., a corporation of Texas  
Filed Apr. 4, 1966, Ser. No. 539,935  
3 Claims. (Cl. 73-211)



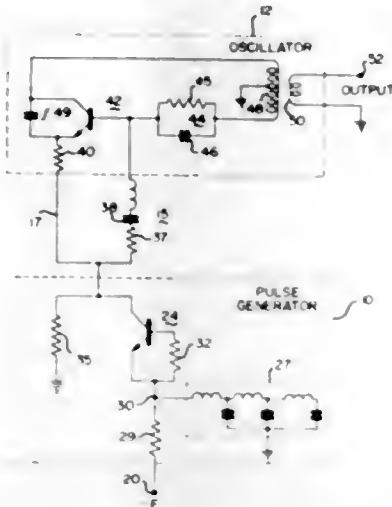
A three-way valve for use in combination with a differential pressure measuring instrument which eliminates the problems of human errors in sequencing valve operations by insuring that the pressure across the measuring instrument will be equalized both in placing it into service and taking it out of service without the possibility of a pressure being applied to only one side of the measuring instrument. A valve for use in combination with a differential pressure measuring instrument for placing the instrument in service or taking it out of service and in which the valve has first and fourth ports connected to the source of differential pressure to be measured, and second and third ports connected to the measuring instrument, and includes valve means connected to a single actuating stem which in one position allows communication between a second and third port and closing of the first and fourth ports, and while in a second position allows communication between the first and second ports and also allows communication between the third and fourth ports, and which provides an intermediate position in which pressure across the instrument is balanced.

**3,381,533**  
**RAPIDLY STARTING OSCILLATOR**  
Frederick A. Behrens, Springfield, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware  
Filed June 16, 1966, Ser. No. 557,978  
5 Claims. (Cl. 331-117)

A rapid-starting oscillator in which a pulse having a fast rise time is generated by saturating a transistor connected to a pulse forming network, and is applied simul-



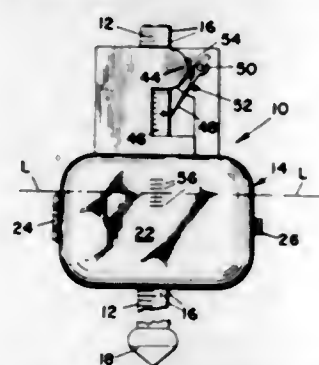
taneously to the transistor of a transistor oscillator, to turn the latter transistor on, and to the frequency deter-



mining network of the oscillator, to inject substantially instantaneously a voltage of amplitude corresponding to the steady-state oscillation condition.

### 3,381,534 FLOAT TYPE LIQUID DEPTH MEASURING DEVICE

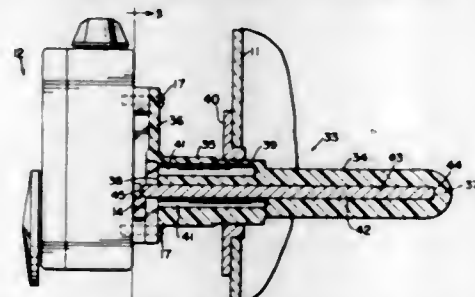
Hersey H. Ball, P.O. Box 636,  
Cotton Valley, La. 71018  
Filed Sept. 20, 1965, Ser. No. 488,415  
4 Claims. (Cl. 73-315)



A device for measuring the depth of a liquid comprising a float having two cooperating sections to associate with and guide a measuring tape and to indicate there-with the depth of the liquid in which the float is placed.

### 3,381,535 METHOD OF MAKING A ROD AND TUBE TEMPERATURE SENSOR

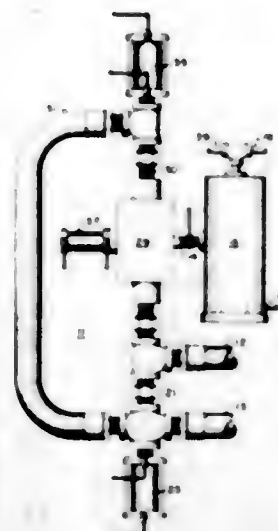
Reed A. Palmer, Greensburg, Pa., assignor to Robertshaw Controls Company, a corporation of Delaware  
Original application Mar. 26, 1962, Ser. No. 182,482, now Patent No. 3,246,501, dated Apr. 19, 1966. Divided and this application Apr. 14, 1966, Ser. No. 542,652  
10 Claims. (Cl. 73-362.3)



This disclosure relates to a method of making a rod and tube temperature sensing device wherein a metallic rod has an acetal resin material molded around the same to subsequently define a tube therefor which snugly receives the metallic rod, the tube material having a relatively high coefficient of thermal expansion, a relatively low coefficient of friction when compared to metal so

that the molded tube subsequently provides lateral support for the rod and tends to eliminate column action of the rod so that the spring rate thereof is substantially linear.

3,381,536  
MUD GAS SAMPLING AND LOGGING SYSTEM  
John M. Horeth, William D. Howard, and Richard H. Langenheim, Houston, Tex., assignors to Easo Production Research Company, a corporation of Delaware  
Continuation-in-part of application Ser. No. 294,674, July 12, 1963. This application Dec. 6, 1965, Ser. No. 511,930  
10 Claims. (Cl. 73-421.5)



A mud gas sampling and logging system having sampling unit, a retort, and a gas collecting unit. The sampling unit is connected to the mud stream and adapted to periodically obtain hermetically sealed mud samples. The samples are conducted in a hermetically sealed condition to the retort. The effluent of the retort is conducted into the gas collecting chamber from which the uncondensed gas is displaced by introduced fluids. A float valve is provided in the collecting chamber to prevent entry of the condensed steam and heavy hydrocarbons into the uncondensed-gas discharge ports.

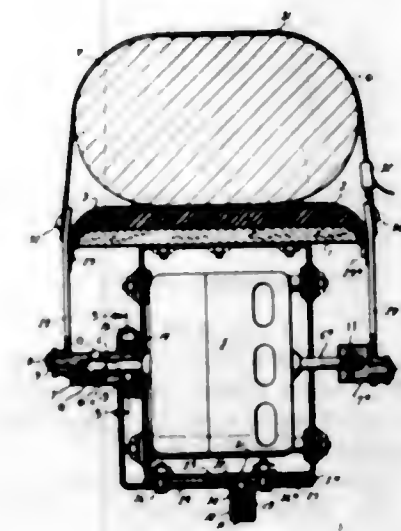
3,381,537  
SAMPLING APPARATUS FOR  
UNGROUND SOLIDS  
Shirrel O. Goodson, Union Grove, and Billy R. Yell, Huntsville, Ala., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
Filed Jan. 30, 1967, Ser. No. 612,726  
10 Claims. (Cl. 73-422)



A sampling apparatus for unground solids including a removable sampler, that is located in the flow of the solids

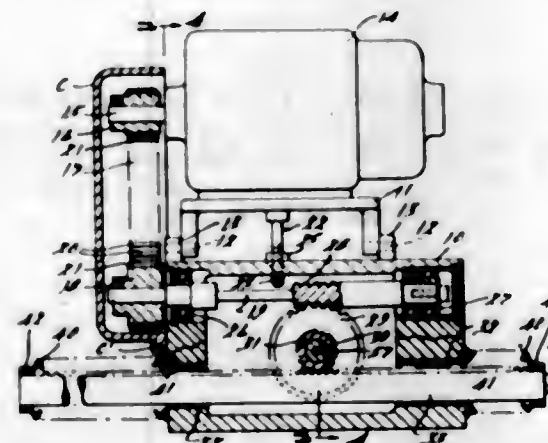
from a hopper bin into a mixing apparatus for solid propellant, and also discharges the solids collected thereby into a sampling bin.

3,381,538  
VIBRATION APPARATUS  
Kenneth R. Runde, 6626 Christopher Drive,  
St. Louis County, Mo. 63129  
Filed May 14, 1965, Ser. No. 455,934  
2 Claims. (Cl. 74-87)



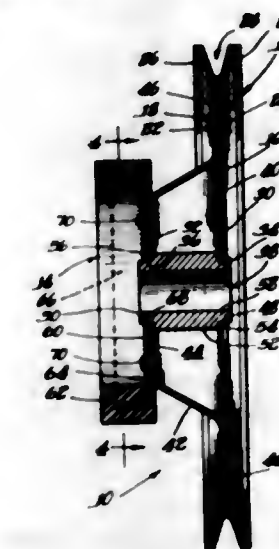
In a vibrating apparatus, means to selectively change the angular relationship of one eccentric trunnion relative to a fixed eccentric trunnion on a rotating shaft while the shaft is rotating. In addition, the claims disclose the use of weights instead of eccentric trunnions in an analogous situation.

3,381,539  
LINEAR ACTUATOR  
Herbert C. Ovchinsky, 15200 Leslie,  
Oak Park, Mich. 48237  
Filed Oct. 21, 1965, Ser. No. 499,458  
4 Claims. (Cl. 74-89.14)



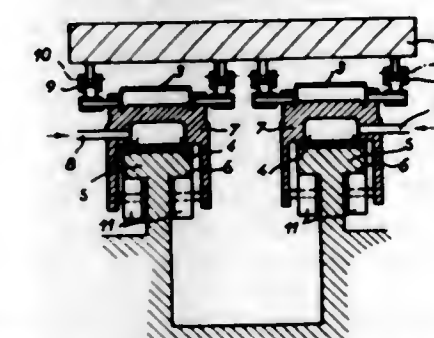
The device functions in the same manner as a fluid operated ram without the use of pressure fluid. The device has a shaft with teeth thereon which is reciprocated through a gear train by a reversing motor to apply a force in the same manner as the piston of a ram. The same action is obtained as that of a piston without the use of a pressure fluid.

3,381,540  
FRICTIONAL DRIVE PULLEY  
Edward H. Schultz, Jr., Chicago, Ill., assignor to The Nagel-Chase Manufacturing Company, Chicago, Ill., a corporation of Illinois  
Filed Sept. 3, 1965, Ser. No. 484,799  
8 Claims. (Cl. 74-203)



This invention relates to a pulley device including a pair of sheet material members having diverging portions defining a pulley. Frictional drive means is secured to the pulley. This frictional drive means includes a rigid base member having an axially projecting rim and a drive element of tough, resiliently deformable friction material mounted on the rim.

3,381,541  
DEVICE FOR TRANSMISSION OF MOTION BY  
MEANS OF BELTS OR LIKE FLEXIBLE BANDS  
Remy Henri Albert Thireau, Garches, and Louis Dufhion,  
Paris, France, assignors to Bertin & Cie, Paris, France, a company of France  
Filed Jan. 13, 1966, Ser. No. 520,527  
Claims priority, application France, Jan. 15, 1965,  
2,150  
8 Claims. (Cl. 74-207)



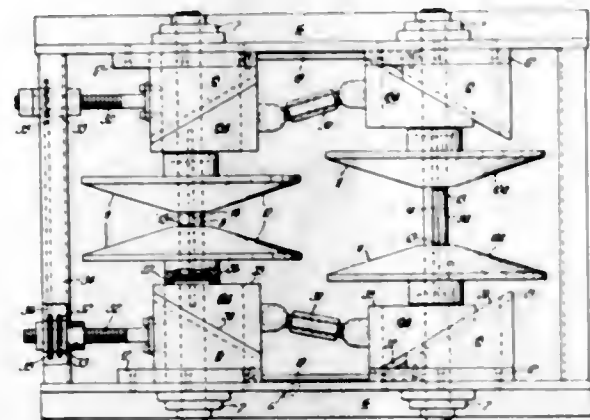
An apparatus for applying a flexible band member to a backing surface formed on a solid structure, by producing at least one pressure fluid cushion on the free face of the band member remote from its operative face engaging said backing surface, and by transmitting the reaction force originating from the fluid cushion to said structure.

3,381,542  
VARIABLE SPEED DRIVE UNIT  
William James Close, Kogarah Bay, New South Wales, Australia, assignor to Permax Mollins Proprietary Limited, Collingwood, Victoria, Australia, a corporation of Victoria  
Filed Feb. 2, 1966, Ser. No. 524,565  
Claims priority, application Australia, Feb. 4, 1965,  
54,727/65  
5 Claims. (Cl. 74-230.17)

In a variable speed drive unit having V-pulleys mounted on parallel input and output shafts coupled



by a belt, each pulley has two sections with variable separation. Axial movement of the pulley sections is controlled by wedge elements moving transversely of the axis of the shafts and coacting with wedge members associated with the pulley sections. The adjacent wedge



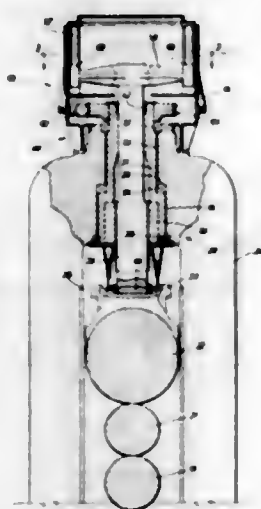
members of the two pulleys are coupled together to balance the adjustment of the two pulleys, the wedge members and elements being so arranged that the sections of one pulley close together as those of the other separate.

3,381,543

**ROLLING MILL SCREWDOWN**

Michael Frank Field, Dollard-des-Ormeaux, Canada, assignor to Dominion Engineering Works Limited, Montreal, Quebec, Canada, a corporation of Canada  
Filed Feb. 7, 1967, Ser. No. 614,514  
Claims priority, application Canada, Apr. 21, 1966, 958,460

5 Claims. (Cl. 74-409)



This invention is directed to an anti-backlash screw-down arrangement, and in particular to a rolling mill screwdown arrangement.

**ERRATUM**

For Class 74-410 see:  
Patent No. 3,381,509

3,381,544

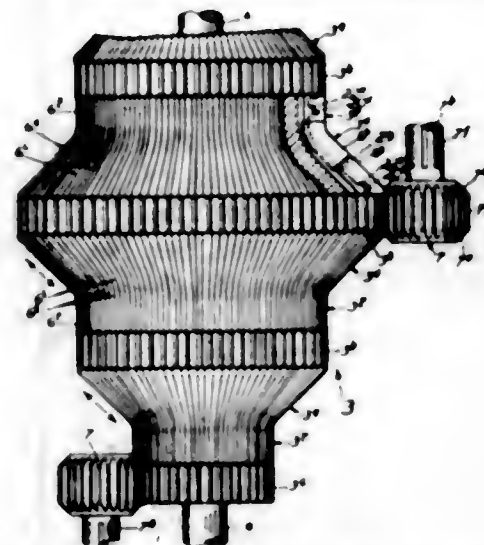
**VARIABLE RATIO GEARING**

James W. Butler, 117 Grant Ave.,  
Bellevue, Pittsburgh, Pa. 15202  
Filed Sept. 6, 1966, Ser. No. 593,230

11 Claims. (Cl. 74-461)

The present invention involves a gear having a contact

surface which is made up of a plurality of identical and evenly spaced resiliently depressible segments or elements



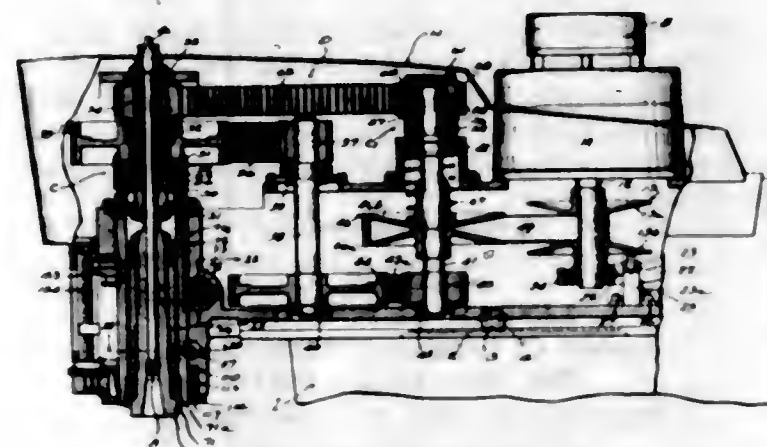
and which cooperates with a mating gear in such manner as to obtain a variable speed ratio.

3,381,545

**METALWORKING MACHINE**

Charles A. Larsen, Union Grove, Wis., assignor, by mesne assignments, to Gorton Machine Corporation, Racine, Wis., a corporation of Wisconsin  
Original application Oct. 19, 1965, Ser. No. 497,821.  
Divided and this application Mar. 7, 1967, Ser. No. 636,227

6 Claims. (Cl. 74-722)



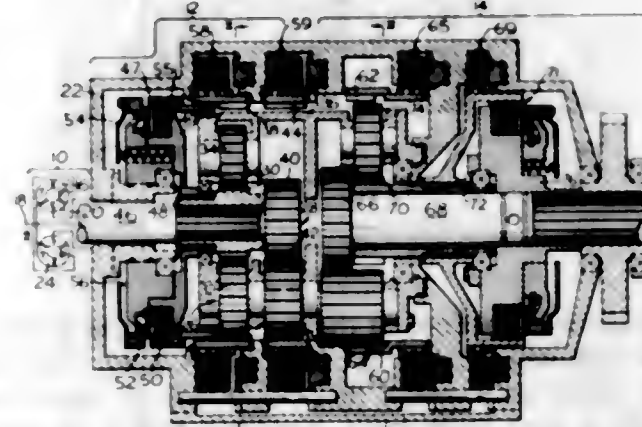
An infinitely variable drive mechanism for a tool-holding, rotatable spindle of a metalworking machine.

3,381,546

**POWER TRANSMITTING MECHANISM**

Harold H. Holl, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California  
Filed Jan. 21, 1966, Ser. No. 522,189

1 Claim. (Cl. 74-761)



A speed change transmission for selectively shifting into four forward and three reverse speed conditions

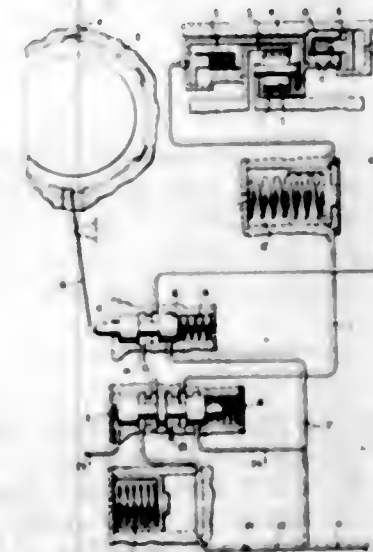
which utilizes a single planet gear carrier and a novel rotating clutch arrangement to provide both a split power path mechanical drive condition and a straight mechanical drive condition.

3,381,547

**SHIFTING CONTROL MECHANISM**

Hans-Joachim M. Förster and Ulrich Ektze, Stuttgart-Riedenberg, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany  
Filed June 5, 1964, Ser. No. 372,934  
Claims priority, application Germany, June 7, 1963, D 41,726

20 Claims. (Cl. 74-781)



1. A shifting mechanism for a change-speed transmission having at least one planetary gear set capable of being changed over between a lower gear speed and an upper gear speed comprising,

first and second shifting means for effecting shifting of said planetary gear set to the lower and upper gear speeds, respectively,

a source of fluid pressure,

a first control piston means for selectively connecting one of said first and second shifting means to said source of fluid pressure,

fluid reservoir means interposed between said first control piston means and said second shifting means for delaying the application of full source pressure to said second control means,

delay means for normally producing a substantial delay in the establishment of full pressure from said fluid source in said first shifting means by said first control piston means,

and a second control piston means operatively connected between said first control piston means and said first shifting means responsive to a reversal of torque during acceleration in said transmission during shifting of said planetary gear set between lower and upper gear speeds to selectively connect said first shifting means directly to said source of fluid pressure and bypassing said delay means simultaneously with connection of said second shifting means with said source of fluid pressure.

3,381,548

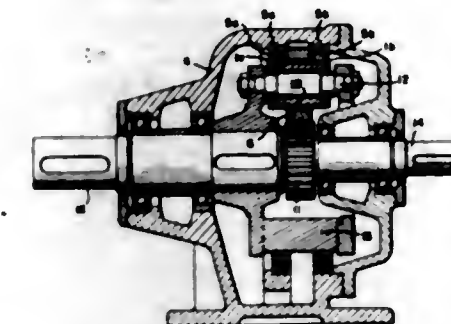
**PLANETARY GEARING**

Robert Ignaz Wolkenstein, Rethen (Leine), Germany, assignor to Eisenwerk Wülfel, Hannover-Wülfel, Germany

Filed July 25, 1966, Ser. No. 567,584

4 Claims. (Cl. 74-801)

A planetary gear transmission including a planet pinion block of three gears made up of two parts. The two side gears are of the same size and their teeth extend from

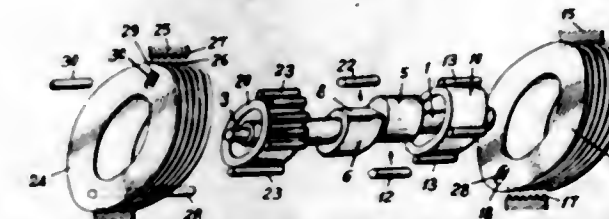


3,381,549

**SPEED CHANGE DEVICE**

Hiroshi Hirakawa, 4-16 Kodan-jutsu, Shimokurata, Totsuka-ku, Yokohama-shi, Japan  
Filed Jan. 10, 1966, Ser. No. 519,676  
Claims priority, application Japan, Jan. 13, 1965, 40/1,861

1 Claim. (Cl. 74-804)



A hypocyclic speed reduction device which includes a driven shaft having a disc formed on the end thereof and a concentric opening in said end, a drive shaft having its end portion received in the opening of the driven shaft and including a pair of unitarily formed oppositely disposed eccentric shaft portions each of which has a flat side thereon, an idler wheel on each shaft portion, a loosely fitted roller between the flat portion and the idler wheel, a plurality of roller bearings supporting a roller concentric with each idler wheel, each roller having a grooved surface of a high frictional material and a fixed wheel concentric with both the drive shaft and the driven shaft having a plurality of grooves therein for receiving on opposite sides thereof the outer periphery of each of the roller wheels is disclosed.

3,381,550

**APPARATUS FOR A TOOL FAILURE****DETECTION SYSTEM**

Theodore M. Smith, 15639 W. McNicholas Road, Detroit, Mich. 48235

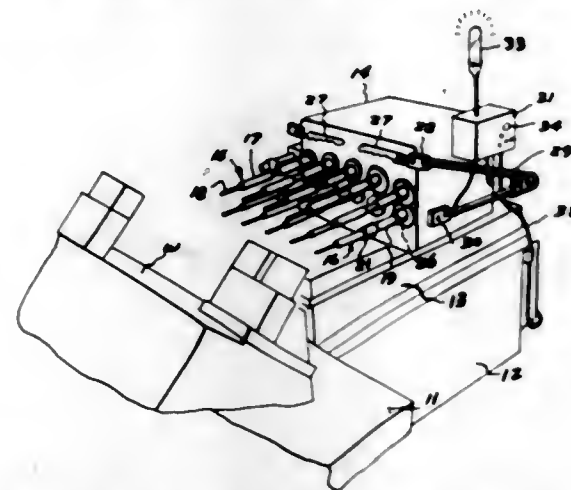
Filed June 7, 1965, Ser. No. 461,792

11 Claims. (Cl. 77-5)

A tool failure detection device for taps, drills, reamers, boring tools, counterborers, and milling cutters, including a first part mounting a tool, a power driven second part connected to a feeding source, with a driving connection between the parts, and adapted for movement relative to each other on failure tool function, with a radioactive impregnated element on one part, and a protective enclosing shield upon the other part normally enclosing



said radioactive element, with relative movement on tool failure causing unshielding of the radioactive element.



ment adapted to activate a radiation detection signal system.

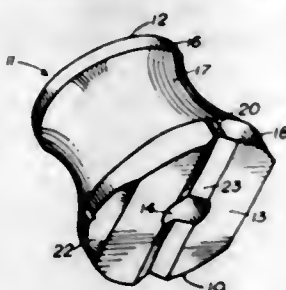
3,381,551

**HAND-HELD DRILL GUIDE**

Gordon R. Laving, 1927 Bay View Ave., Belmont, Calif. 94002, and Irving R. Grey, 979 Ashbury St., San Francisco, Calif. 94117

Filed Apr. 14, 1965, Ser. No. 448,041

1 Claim. (Cl. 77-55)



A drill guide designed to be held entirely by hand. The drill guide is of essentially cylindrical configuration with a flat bottom surface normal to the axis of the cylinder. Essentially the entire peripheral cylindrical surface of the guide is shaped into a smooth concavely curved arc whereby finger pressure exerted on said arcuate portion results in a downward component of pressure forcing the guide tightly against the surface to be drilled. Notches and bevels are also provided in the bottom surface of the guide in order that the device may be utilized on edges or exterior arcuate surfaces as well as on interior corners.

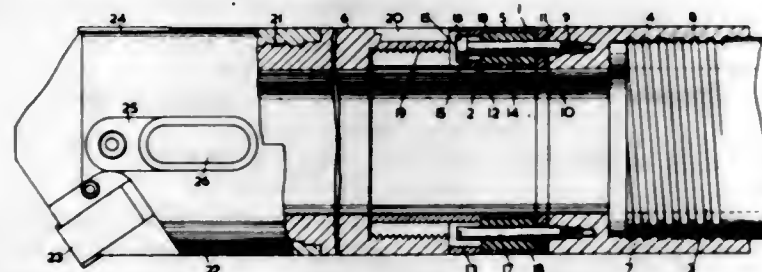
3,381,552

**BORING HOLES**

Richard Eric Wear, Biggin Hill, Kent, England, assignor to Secretary of State for Defence in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

Filed Dec. 1, 1965, Ser. No. 511,302

4 Claims. (Cl. 77-56)



Disclosed in this application is a boring tool having a cutting head provided in its exterior surface with two axially spaced sets of burnishing inserts. The cutting head is connected to a boring bar by a flexible coupler.

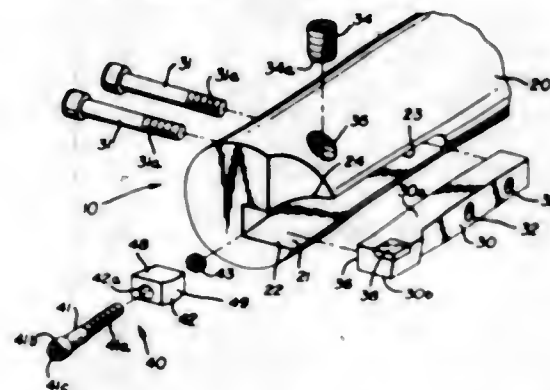
3,381,553

**ADJUSTABLE BORING BAR**

Gilbert F. Lutz, Chesterland, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 8, 1966, Ser. No. 541,309

5 Claims. (Cl. 77-58)



A boring bar for machining work pieces having a radially opening slot at one end with an elongate cutting element located in said slot. Adjusting means carried by said bar within said slot and adapted to flex the tip of the cutting element radially within said slot for adjustment purposes.

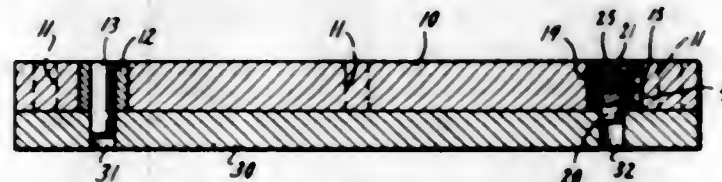
3,381,554

**BUSHINGS FOR LOCATING TWO ADJACENT PARTS**

Henry W. Ploch, Robert T. Gravlin, and Byron W. Pease, St. Louis, Mo., assignors to McDonnell Aircraft Corporation, St. Louis, Mo., a corporation of Maryland

Continuation of application Ser. No. 407,790, Oct. 30, 1964, This application June 30, 1967, Ser. No. 655,262

2 Claims. (Cl. 77-62)



Bushings for locating two adjacent parts in a predetermined registered relation to each other where one of the parts is a jig or fixture and the other part is the stock that is to be machined or otherwise formed into a production part.

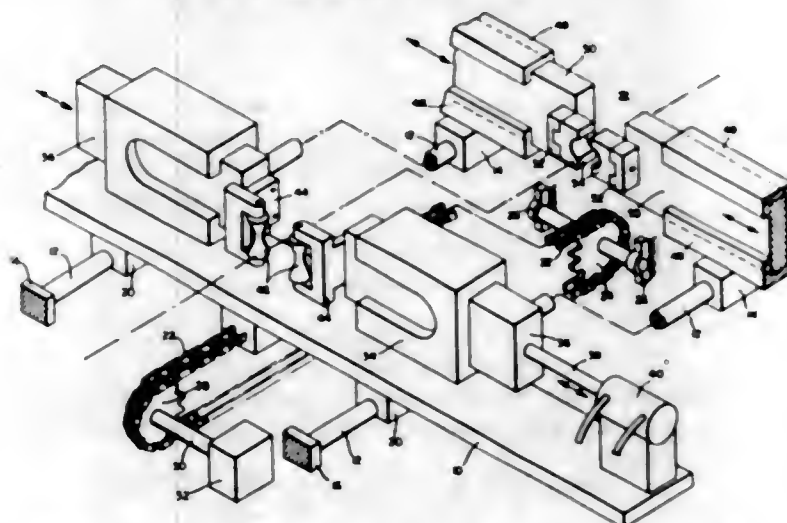
3,381,555

**CABLE SHEATH SLIDE-BACK MACHINE**

Howard R. Fogle, Daytona Beach, and Robert W. Bryant, Ormond Beach, Fla., assignors to General Electric Company, a corporation of New York

Filed Dec. 23, 1966, Ser. No. 604,236

5 Claims. (Cl. 81-9.51)



A multiconductor cable having a protective sheath is held at one end by a gripping assembly. A traversing plat-

form carrying opposed, freely rotating rollers is brought adjacent to the gripping assembly where the rollers are pneumatically forced against the cable sheath. The platform is traversed away from the gripping assembly compressing the sheath and exposing the conductors.

3,381,556

**TIRE CHAIN ADAPTOR**

Russell Pisciotta, 10711 W. 67th St., Shawnee, Kans. 66203

Filed Sept. 19, 1966, Ser. No. 500,331

2 Claims. (Cl. 81-15.8)



A tire chain carrier for aiding in the placement of a tire chain on a vehicle tire, the chain having at its end a spring clamp attachable to the tire for drawing the chain from the carrier and around the tire as the vehicle is advanced. The tire chain carrier, an open top compartment from which the chain is delivered to the tire, has wheels engaging the tire tread and arms on opposite sides of the tire with means for releasably and slidably connecting the carrier to the tire, whereby the carrier moves with the vehicle.

3,381,557

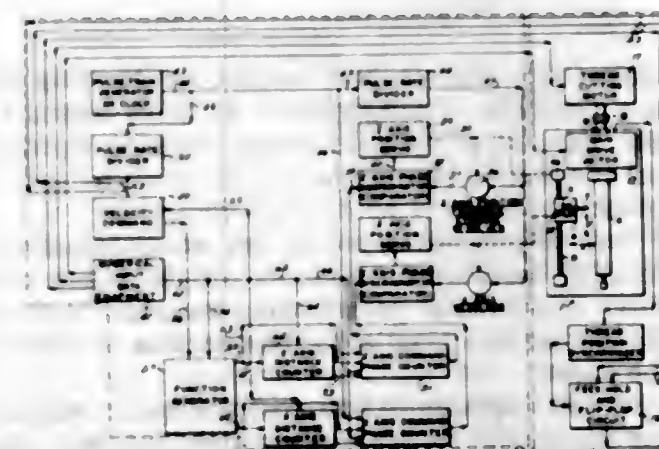
**METHOD AND APPARATUS FOR CUTTING THREADS**

Richard W. Dunn, 20 Orient Ave., Melrose, Mass. 02176

Filed Sept. 16, 1965, Ser. No. 497,582

(Filed under Rule 47(b) and 35 U.S.C. 118)

7 Claims. (Cl. 82-5)



A thread chasing control apparatus for cutting a thread upon a workpiece in a numerically controlled machine tool. This apparatus comprises a synchronous motor for driving the workpiece in rotation during the thread chasing operation and utilizes the numerical control system to control tool movements during the thread cutting operation independently of the rotational speed of the workpiece. A feed hold circuit and proximity switch cooperate in a control circuit to fix the angular position of the workpiece at which the thread chasing operation is initiated.

850 O.G.-3

3,381,558

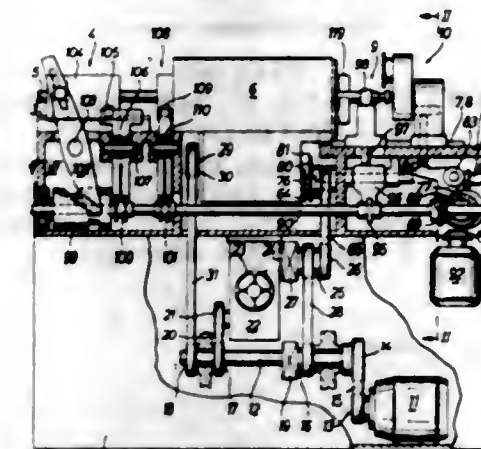
**MACHINE TOOLS**

Horst Eisenhardt, Stuttgart-Unterturkheim, Germany, assignor to Gehr. Wendler G.m.b.H., Remlingen, Germany, a corporation of Germany

Filed May 16, 1966, Ser. No. 550,205

Claims priority, application Germany, May 19, 1965, E 29,345

4 Claims. (Cl. 82-20)



1. In a machine tool, a rotary main spindle having an axis along which a stationary workpiece is adapted to be located, rotary tool-carrying means operatively connected to said main spindle for rotation therewith and including a tool-carrying lever which rotates with said tool-carrying means and which is turnable with respect thereto about an axis parallel to said spindle axis, rotary cam means coaxial with said main spindle and cooperating with said lever for actuating the latter to displace a cutting tool carried thereby into engagement with and with respect to a stationary workpiece situated along said stationary axis during rotation of said spindle, said tool-carrying means therewith, and said cam means, a cam-carrying spindle connected with said cam means for rotating the latter, planetary means operatively connected with said spindles and including a pair of sun gears respectively fixed to said spindles and planetary gearing meshing with said pair of sun gears and providing a predetermined transmission ratio therebetween, said planetary gearing of said planetary means being carried by a planetary gear carrier of said planetary means, and a pair of drive means respectively connected operatively with said planetary gear carrier and with said main spindle for respectively driving said planetary gear carrier and said main spindle at different rotary speeds.

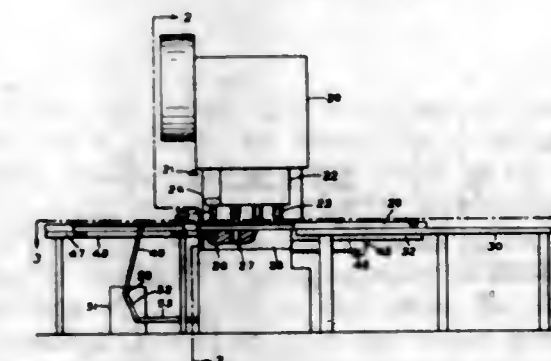
3,381,559

**INSPECTION DEVICE**

Harold M. Lefever and Frederick W. Schneider, Lancaster County, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed Mar. 1, 1965, Ser. No. 435,905

2 Claims. (Cl. 83-61)



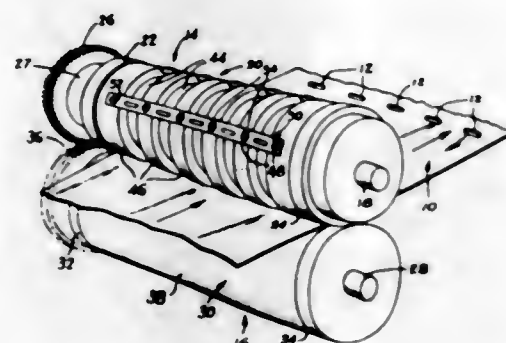
Apparatus for the inspection of a punched sheet material. A gauge member with a dimension slightly less than the dimension of a hole to be gauged is inserted



within the hole for inspection purposes. The gauge member and the sheet material operate as a switch for a defect sensing control. Lack of an opening in the sheet material or misalignment of the opening in the sheet material relative to the gauge means will permit the gauge means to contact the sheet material and close an electrically conductive circuit. The closed circuit then provides an indication that there is a defect in the punching or feeding operation preceding the inspection stage.

### 3,381,560 CUTTING AND PUNCHING TOOL FOR CONTINUOUS WEBS

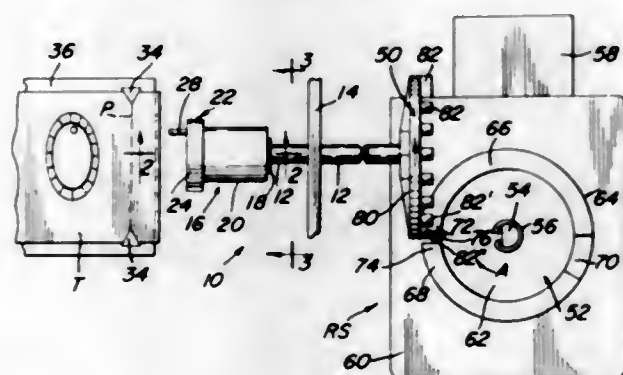
David H. Magee, Chicago, Ill., assignor to Webtron Corporation, a corporation of Illinois  
Filed Oct. 21, 1965, Ser. No. 499,667  
9 Claims. (Cl. 83-168)



A two-roller device is provided for cutting through a continuous moving web so as to punch apertures in such web. Spaced guide and bearing portions on the rollers together with a punch section on the first roller spaced from a resilient abutment section on the second roller provide a slot-like channel through which the web moves. The punch section is provided with circumferential recesses for each longitudinal section of the web to be punched. A tool with a raised cutting and punching blade is adjustably positioned above a circumferential recess, with the cutting edge of the blade at a position so that all portions of the blade at least contact the resilient periphery of the abutment section on the second roller, so as to fully cut through the web. Mechanical means such as a sloping wall of the circumferential recess, or a clean-out tool in combination with cantilever-mounted aperture-cutting tools, are provided to prevent accumulations of punched waste under the cutting tools.

### 3,381,561 TICKET PUNCHING DEVICE

Albinus G. Bodoh, Prospect Heights, Ill., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware  
Filed Feb. 23, 1966, Ser. No. 529,346  
6 Claims. (Cl. 83-216)



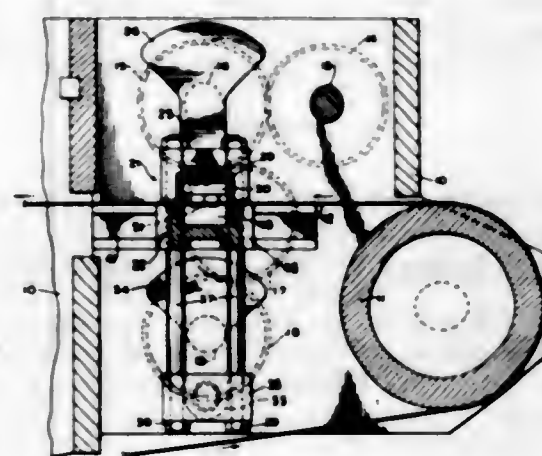
A device adapted for use in association with a scan

award system such as that shown in United States Patent No. 3,263,788, issued Aug. 2, 1966, enables substantially any product or service to be offered at a bargain price. The device indicates, in response to an ordinary purchase, one of a series of award selections that is available to the customer for bargain purchase via a punching operation performed on a dispensable ticket. Punching means are provided and means are provided in order to rotate the punching means through a series of angular positions. Means for actuating the punching means are employed, with the actuating means being adapted to actuate the punching means only when said means is disposed in a predetermined one of the angular positions. Means are provided for supporting a punchable ticket member adjacent the punching means, and indicia corresponding to the respective angular positions are provided on the ticket itself. Means for serially advancing the punchable ticket are likewise disclosed.

### 3,381,562 APPARATUS FOR FORMING SHEET MATERIAL

Leroy T. Tapscott, Trenton, N.J., assignor to Business Supplies Corporation of America, New York, N.Y., a corporation of Massachusetts

Filed Feb. 16, 1966, Ser. No. 527,668  
8 Claims. (Cl. 83-300)



1. Apparatus wherein first and second forming members are cyclically closed together by drive means from opposite sides of a sheet to repeat forming operations thereon at a station through which the sheet moves in its own plane, the improvement which comprises

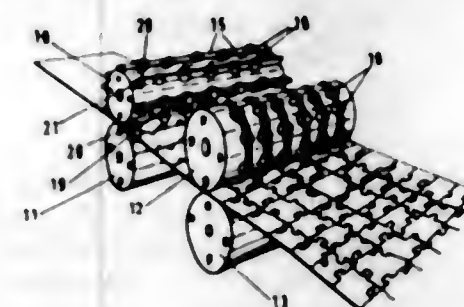
- (a) first displacement means for revolving the first forming member on one side of the plane of the sheet in a circular path passing tangentially through the station and parallel to the direction of motion of the sheet,
- (b) second displacement means for linearly reciprocating the second forming member on the other side of the plane of the sheet in a path passing through the station parallel to the direction of motion of the sheet, and
- (c) synchronizing means interconnecting the forming members and drive means so that in each revolution and full reciprocation of the respective forming members they pass through the station at the same speed and in the same direction as the sheet and close together about the sheet to effect the forming operation.

3. Apparatus according to claim 1 wherein the forming members include die means for cutting sections from the edges of the sheet at the station.

3,381,563  
**APPARATUS FOR TREATING BOARD**  
Thomas Desmond Bishop, Solihull, England, assignor to The Derwent Engineering Company Limited, Birmingham, England, a British company  
Filed Jan. 20, 1966, Ser. No. 521,947  
Claims priority, application Great Britain, Jan. 27, 1965, 3,497/65

1 Claim. (Cl. 83-303)

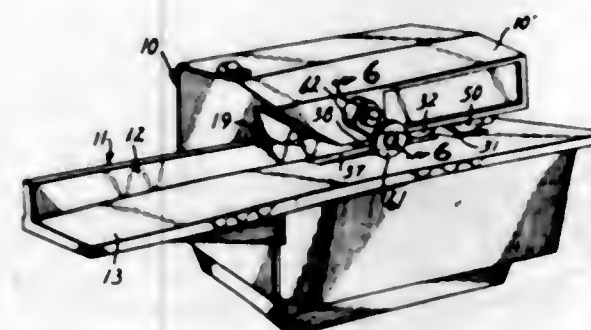
An apparatus for the treatment of board comprising two roll pairs arranged to operate successively upon board fed through the nips thereof, a form surrounding one roll of each pair and having studs welded thereto, and a series of cutting rules, each having arcuately extending portions which substantially embrace the studs and are



separated by straight portions, the rules on the roll of the second pair being transverse to the rules on the roll of the first pair, and the roll pairs being synchronised in operation.

### 3,381,564 AUTOMATIC FEEDING POWER-OPERATED ENVELOPE OPENER

Bruce W. Whitford, 8024 Northern Drive, Minneapolis, Minn. 55427  
Filed Dec. 8, 1965, Ser. No. 512,489  
3 Claims. (Cl. 83-417)

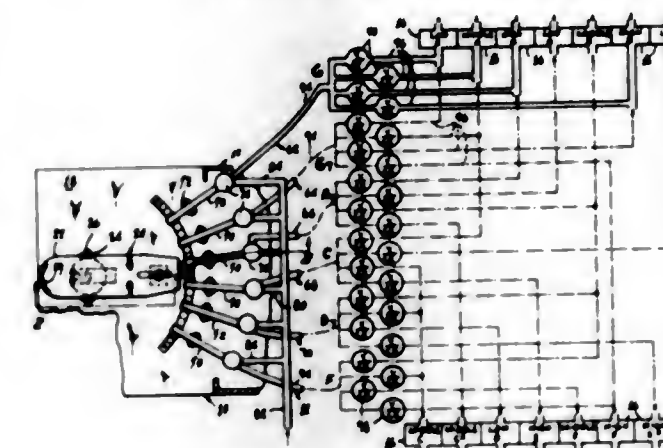


A housing having an envelope receiving horizontal surface and a vertical surface adjacent thereto. An endless belt positioned parallel to the vertical surface and adapted to remove envelopes from a stack and transport them along the horizontal surface. An idler wheel mounted above the belt and at an angle relative thereto such that the envelopes are urged into abutting engagement with the vertical surface. Rotating cutting blades spaced from the vertical surface for removing an edge from the envelopes. A pivotally mounted foot biased against the horizontal surface adjacent the belt to restrict the envelopes passing between the belt and the idler wheel to one at a time. An idler wheel and a driven wheel positioned opposite the cutting blades for removing the opened envelopes from the area of the cutting blades.

### ERRATUM

For Class 84-439 see:  
Patent No. 3,381,576

3,381,565  
**FOOT-OPERATED CHORD ORGAN**  
Ernest Halla, 30 Cadwalader Terrace, Trenton, N.J. 08618  
Filed Oct. 24, 1966, Ser. No. 588,866  
10 Claims. (Cl. 84-444)

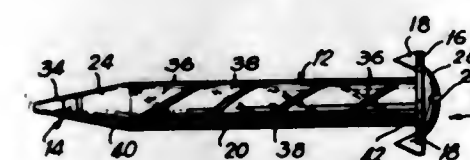


1. A foot-operated musical instrument for sounding a plurality of musical notes simultaneously, comprising:

- (a) a support structure;
- (b) a plurality of note-sounding elements carried by said structure;
- (c) a pedal assembly on said structure including a foot pedal member mounted for swivelling and rocking movement; and
- (d) a series of chord-sounding assemblies each of which includes

- (1) a main valve operable responsive to swivelling of the pedal member to a position adjacent said valve and rocking of said member while in said position, and
- (2) a plurality of conduits each of which is connected through said valve between a selected note-sounding element and a source of air under pressure.

3,381,566  
**HOLLOW WALL ANCHOR BOLT**  
La Roy B. Passer, 107 Randall Ave., Port Jefferson, N.Y. 11777  
Filed May 6, 1966, Ser. No. 548,087  
5 Claims. (Cl. 85-71)



A hollow wall anchor bolt constituting a point tipped tubular sleeve having an internally threaded forward end and a headed rear end, the length of the sleeve between the ends being broken up by a few spiral slots. A screw is threaded into the forward end of the sleeve, the direction of the threads being opposite to the direction of the spiraling of the slots so that when the sleeve is inserted through a wall so that the major portion of its length protrudes into the hollow behind the wall and the screw thereafter is tightened, the legs between the slot will balloon into a cloverleaf configuration pressed against the internal surface of the wall.

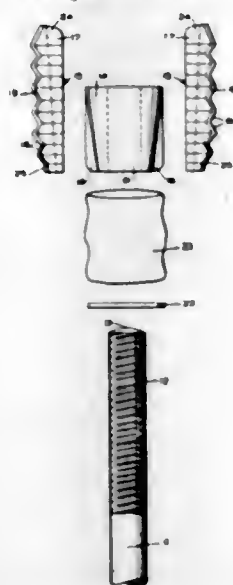


3,381,567

## MINE ROOF BOLT

Arthur Askey, Heidelberg, Transvaal, Republic of South Africa, assignor to Torque Tension Bolt Company (Proprietary) Limited, Heidelberg, Transvaal, Republic of South Africa

Filed May 9, 1966, Ser. No. 548,682  
5 Claims. (Cl. 85-75)



An expansible mining roof bolt is disclosed having a coned nut and a pair of separate arcuately shaped leaves separable into four segments associated with the outer surface of the coned nut. The inner surfaces of the leaves are tapered at an angle less than the cone angle of the surface of the nut. Symmetrical corrugations or serrations are formed on the outer surface of the leaves for gripping action.

3,381,568

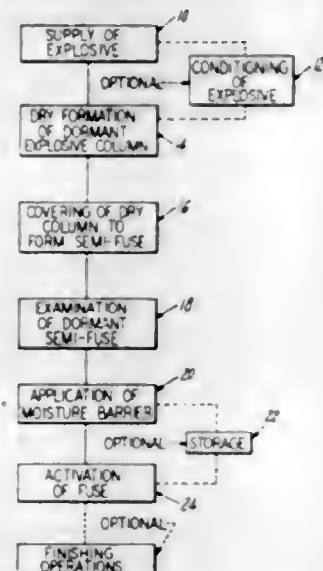
# DORMANT EXPLOSIVE DEVICE AND METHOD FOR ITS FABRICATION AND ACTIVATION

Stanley R. Kelly and John M. Smith, Simsbury, Conn., assignors to The Ensign-Bickford Company, Simsbury, Conn., a corporation of Connecticut

Filed Dec. 3, 1965, Ser. No. 511,554

The portion of the term of the patent subsequent to May 22, 1984, has been disclaimed and dedicated to the Public

11 Claims. (Cl. 86-1)



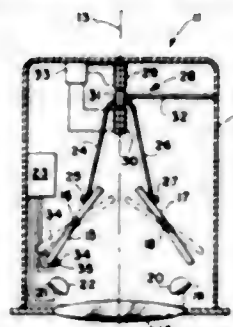
A method of forming detonating fuse and the like uses a dry spinning technique including the initial formation and covering of a dormant explosive column incapable of initiation and propagation of an explosive signal thereby permitting its safe handling. The enclosed dormant column is subsequently passed through crushing rollers which reduce the particle size of the high explosive within the column and render the dormant fuse capable of reliable initiation and propagation.

3,381,569

## ATTITUDE SENSOR FOR SPACE VEHICLES

Norman M. Hatcher, Hampton, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed May 21, 1964, Ser. No. 369,334  
4 Claims. (Cl. 88-1)



The attitude sensor has mirrors which rotate through a scanning angle of at least 30 degrees. The radiation from the object being scanned is focused onto detectors. When the radiation fields of view cross, discontinuity exists at the edge of the object resulting in a change in the output of the radiation detectors. The output is fed into circuitry providing a pulse that is representative of the angular deviation of the sensor axis from the center of the object. This pulse can be applied to a torquing or other system which realigns the vehicle associated with the sensor.

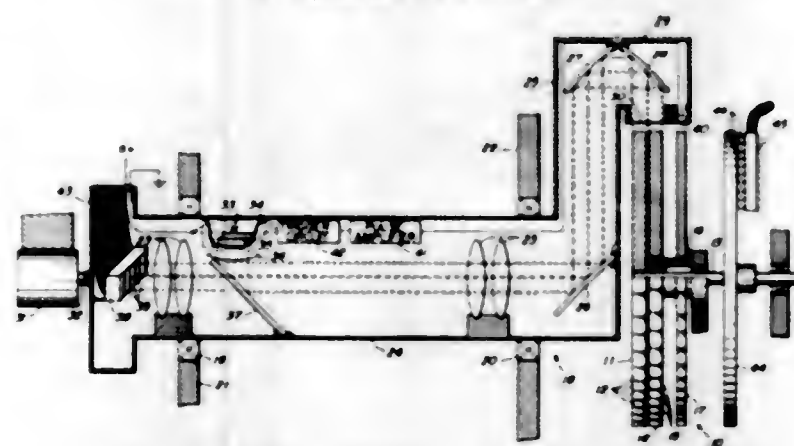
3,381,570

# FULL ROTATION MEASURING OPTICAL INSTRUMENT PROVIDING PRECISE ANGULAR READOUT

Alan C. Anway and John E. Dawkins, Cedar Rapids, and Robert D. Joy, Marion, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Oct. 30, 1963, Ser. No. 320,118

7 Claims. (Cl. 88-14)



A full rotation measuring optical instrument using some optical autocollimator principles and providing the same order of accuracy of rotational position measurement throughout complete revolutions of the article being measured. Two side-by-side multisurface optical polygon reflectors are used, one fixed to a frame of reference and the other connected to the device (or shaft) being rotation position measured. A rotatably mounted autocollimator type optic lens system is used with additional mirrors for transmitting two light beams falling one on each of the polygon reflectors simultaneously and back again through the mirror and optic lens system with displacement between the two reflected images at a readout surface being proportional to the angular difference between the fixed and movable polygon reflectors, and generally, while the optic lens system is rotating at a rate much faster than the device, or shaft, being measured.

3,381,571

# SPECTROSCOPY APPARATUS FOR TRANSMITTING LIGHT LONGITUDINALLY OF A SPECTRAL FLAME

Bert L. Vallee, Brookline, and Keiichi Fuwa, Boston, Mass., assignors, by mesne assignments, to Technicon Corporation, a corporation of New York

Filed June 15, 1962, Ser. No. 202,827  
4 Claims. (Cl. 88-14)

1. In an atomic absorption flame photometer, an absorption cell including a tubular passage, a spectral flame burner arranged relative to said cell for the travel of the flame therefrom through said passage longitudinally thereof, and a light source arranged relative to said cell for the transmission of the light therefrom through the flame in said passage longitudinally of said passage, and means to transmit the light to a spectrograph after the



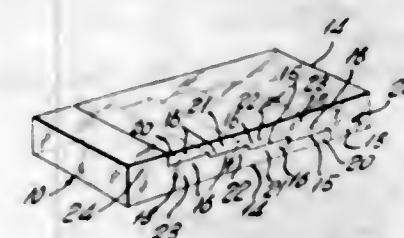
light passes through the flame in said passage, said means comprising a 45° reflector which is provided with an opening in line with one end of said passage for the travel of the flame from the burner into said passage, and for reflecting light exiting from said passage to the light entrance slit of a spectrograph disposed at right angles to the longitudinal axis of said passage.

3,381,572

## COLORIMETRIC TESTING DEVICE

Sidney B. Twiner, 8 Lincoln Ave., Baldwin, N.Y. 11510

Filed Dec. 19, 1963, Ser. No. 331,843  
3 Claims. (Cl. 88-14)



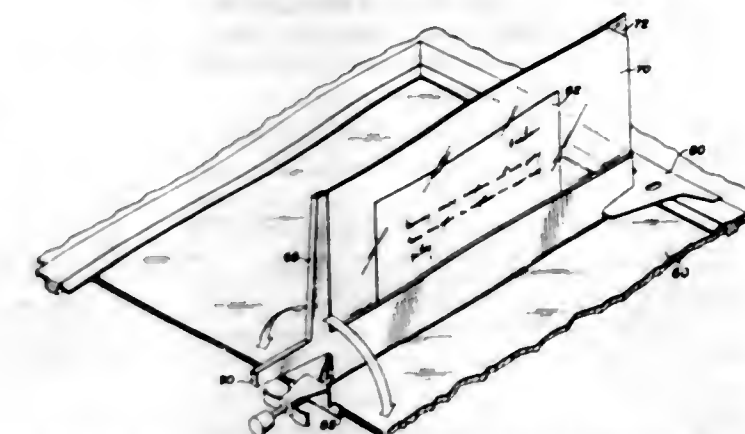
One feature of the present invention is a color index unit made of two elements, each rectangularly stepped on one face and flat on the other, the elements being juxtaposed face to face with their flat faces on the outside and parallel to each other. The unit is calibrated to determine the concentration of a chemical in a solution treated with a color indicator. As another feature of the invention, the color index unit is supported in fixed position in a frame which also supports the liquid specimen to be tested, alongside of said unit.

3,381,573

## SCANNING ATTACHMENT

John R. Caldwell, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 18, 1965, Ser. No. 465,104  
4 Claims. (Cl. 88-24)



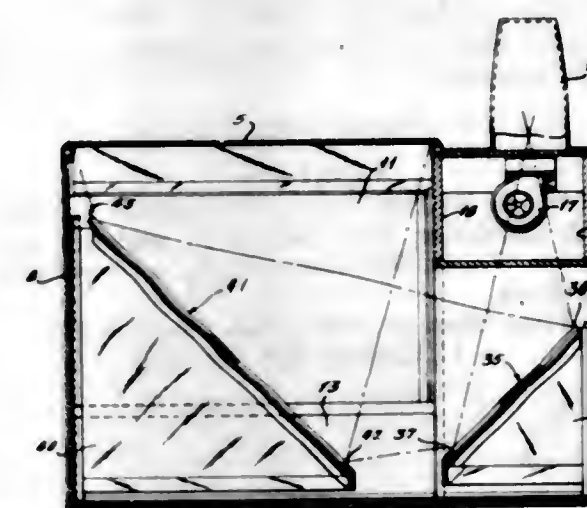
A device for presenting both sides of a card to a platen which will project the images of both sides of the card to an exposure station.

3,381,574

# APPARATUS FOR DISPLAYING A PROJECTED MICROFILM IMAGE OF A DRAWING

Willis L. Wells, Clayton, Mo., assignor to Photronix, Inc., St. Louis, Mo., a corporation of Missouri

Filed Aug. 31, 1965, Ser. No. 483,950  
4 Claims. (Cl. 88-24)



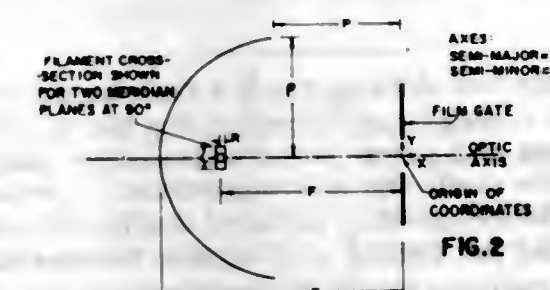
A film viewing machine having an image exposure section, an image reflecting and enlargement section, a top portion beneath which an image is projected in an upward direction, and a sloping upper front wall to permit a full enlarged projection to be received on the underside of a translucent table surface.

3,381,575

## ELECTRIC PROJECTION LAMP

Robert E. Levin, Hamilton, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 3, 1965, Ser. No. 511,459  
3 Claims. (Cl. 88-24)



An incandescent filament of finite dimensions in a reflector, the filament and reflector being related for maxi-

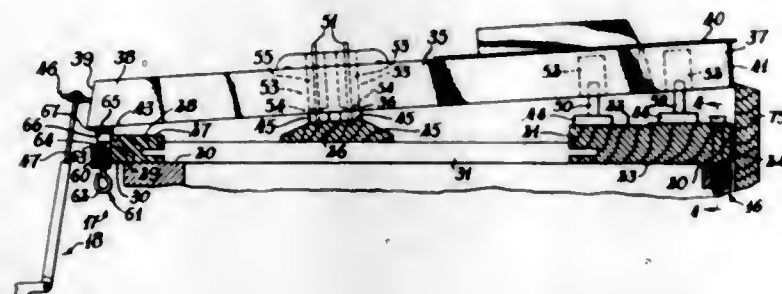


mum effectiveness at a film gate and lens to conform with a mathematical formula.

3,381,576

## PIANO KEY ALIGNING MEANS

Melvin E. Johnson, % P. A. Starck Piano Co., 2150-60 N. Ashland Ave., Chicago, Ill. 60614  
Filed Feb. 24, 1965, Ser. No. 434,783  
4 Claims. (Cl. 84-439)

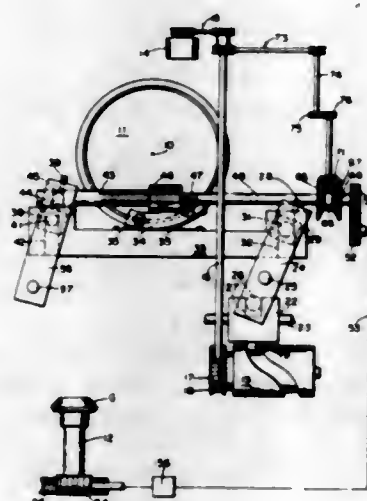


Keyboard for a pianoforte or similar musical instrument in which the keybed is adjustably attached to its underlying support and the several keys of the keyboard individually cooperate with adjustably movable stops which can be selectively regulated to accordingly limit the arcuate movement of the finger engaging surfaces at the playing ends of the keys and concurrently place such surfaces in a selected plane for co-planar alignment: the adjustable attachment of the keybed to its support cooperating with the key adjustment to selectively position the common plane of the finger engaging surfaces relative to the support.

3,381,577

## POWER DRIVE FOR MACHINE TOOL

Ernst J. Hunkeler, Fairport, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York  
Filed Mar. 29, 1966, Ser. No. 538,412  
11 Claims. (Cl. 90-6)



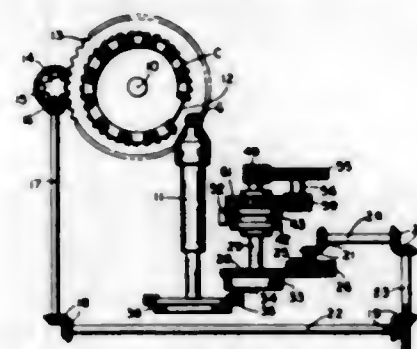
A machine tool drive in which a cam causes reversing rotation of a shaft by reciprocating the non-rotating nut of a ball-nut and screw device whose screw element is affixed to the shaft. The reversing rotation is assisted by friction drive means which include a disc that is affixed to the shaft and has limited axial motion between two co-axial drive members constantly counter-rotated by a bevel gear drive. Reversing axial thrust loads applied to the shaft by the ball-nut and screw device are borne by oil

films maintained between the disc and the counter-rotating drive members. By viscous shear of whichever film is under compression at any moment a rotation-assisting torque is applied to the disc by the drive member which supports the film.

3,381,578

## MACHINE TOOL DRIVE MECHANISM

William G. Buchanan, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York  
Filed Mar. 30, 1966, Ser. No. 538,783  
5 Claims. (Cl. 90-9)

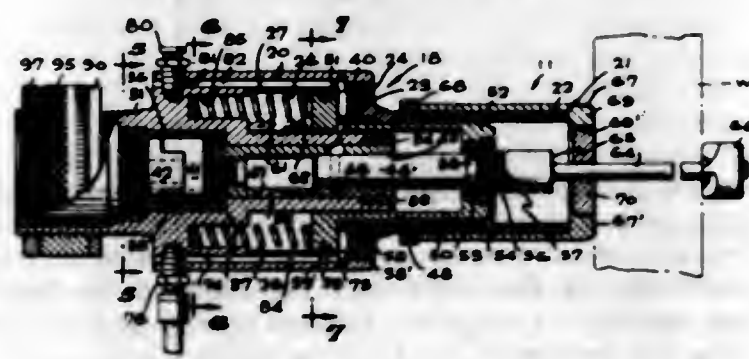


4. A machine tool mechanism comprising a work spindle and rotary cutter with a plurality of cutting blades of which the last and first are separated by an indexing gap, a housing journaling the work spindle for rotation, the spindle having secured thereto a Geneva index wheel having radial slots, an index driver rotatable and axially movable in the housing about an axis parallel to the work spindle, said driver having a drive pin adapted to successively engage in the slots of the wheel to intermittently rotate the wheel and the work spindle, a cam for shifting the driver axially in the housing to render the pin engageable and unengageable with the slots, the cam being mounted on the driver for relative rotation thereon and for axial motion in unison therewith, a cam follower supported by the housing in engagement with the cam, gearing so connecting the cutter and the driver that the latter makes a plurality of complete revolutions per revolution of the cutter, and reduction gearing connecting the driver with the cam so that the pin is engageable with the slots to effect said intermittent rotation only once per revolution of the cutter, the cam being so coordinated with the cutter as to cause the intermittent rotation to occur while the gap is abreast of a workpiece on the spindle.

3,381,579

## BACK SPOT-FACING TOOL

Pierre G. Vindez, Redondo Beach, Calif., assignor to Zephyr Manufacturing Co., Inglewood, Calif., a copartnership  
Filed Jan. 14, 1966, Ser. No. 520,628  
7 Claims. (Cl. 90-12)



The application discloses a self-powered tool for spot-facing the far side of a workpiece including an axially

movable motor-driven rotatable pilot shaft adapted to have a tool demountably secured to its outer end, a piston for retracting the shaft, a casing with an adjustable foot-piece to bear against the near side of the work, and an adjustable stop means for limiting the stroke of the piston.

3,381,580

## APPARATUS FOR CUTTING BARS AND TUBES

Derek Walker, Four Gates, Hopstone, Claverley, near Wolverhampton, Staffordshire, England  
Filed May 31, 1966, Ser. No. 554,050  
Claims priority, application Great Britain, June 4, 1965, 23,830/65  
12 Claims. (Cl. 90-12)

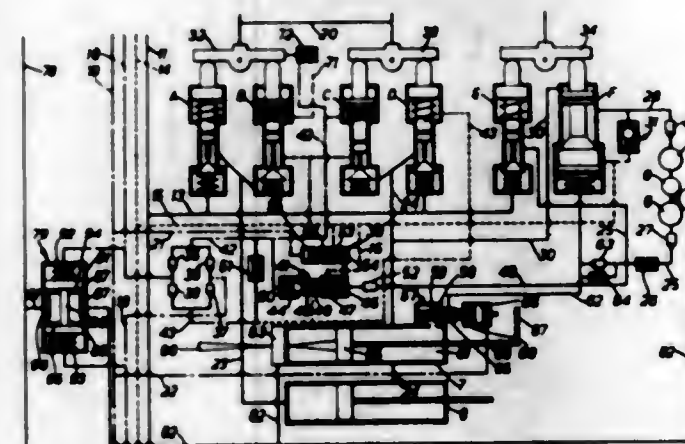


Apparatus for removing the surface irregularities, such as excess welding, from bars or tubes or other workpieces of elongated form comprising a rotary milling cutter and guide means which when the apparatus is in use abuts the bar or tube and maintains the axis about which the cutter rotates parallel with the axis of the bar or tube at least when the cutter is in a cutting position and which guides the cutter as it is moved around the bar or tube, the arrangement permitting ready application of the apparatus to a workpiece without elaborate "setting up" operations and yet will limit the cutter to removal of only a predetermined amount of material.

3,381,581

## ROOF SUPPORT ASSEMBLY HAVING ELECTRICALLY OPERATED SIGNALLING MEANS

James Carnegie, "Black Sails," Greenway Lane, Charlton Kings, Cheltenham, Gloucester, England  
Filed Oct. 11, 1965, Ser. No. 494,336  
Claims priority, application Great Britain, Oct. 12, 1964, 41,628/64  
5 Claims. (Cl. 91-1)



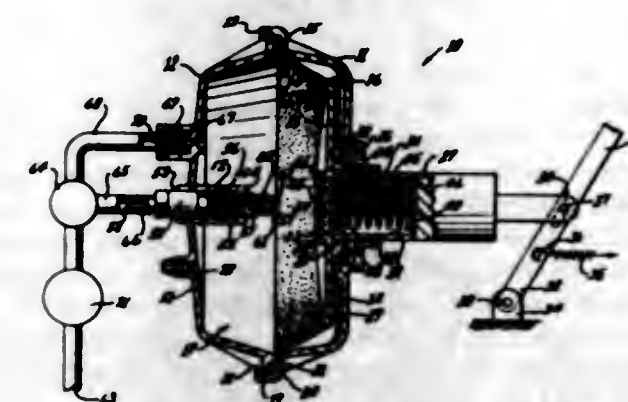
This disclosure relates to a mine roof support assembly which includes a series of fluid pressure operated advanceable roof supports. Such assemblies typically include means for providing fluid pressure for hydraulic advancement of the roof supports toward the mine face. This disclosure teaches a system for indicating to the operator the condition of successively advanced roof supports,

each roof support having signaling means operable to give an electrical signal of a condition of the roof support. Electrically operated indicating means and a single electric signal conveying means are connected to all of the roof supports. Each roof support further includes switch means responsive to the means for providing fluid pressure and operable automatically to connect the signaling means of the roof support to the single signal conveying means upon occurrence of a change in fluid pressure associated with an advancing operation, whereby to cause the indicating means to indicate the condition of that roof support. Thus a single electric signal conveying means is connected sequentially to successive ones of the roof supports so that the operator knows the condition of each roof support as it is advanced. The assembly preferably includes signal line means interconnecting the switch means of adjacent roof supports, the means for providing fluid pressure having means associated with each of the roof supports and coupled with the signal line means to provide a first fluid pressure signal to the signal line means upon completion of the advancing operation of the associated roof support. The switch means of each roof support is responsive to the first fluid pressure signal sent along the signal line means from the previous roof support to connect the associated signaling means to the signal conveying means. The switch means of each roof support is also preferably responsive to its own first fluid pressure signal to disconnect its associated signaling means from the signal conveying means.

3,381,582

## FLUIDIC OPERATED MULTIPOSITION ACTUATOR OR THE LIKE

Robert L. Golden, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware  
Filed June 24, 1966, Ser. No. 560,271  
12 Claims. (Cl. 91-47)



This disclosure relates to an actuator having a fixed wall and a flexible movable wall interconnected together to define a chamber therebetween, the flexible wall carrying a valve member that is movable relative to the flexible wall and the fixed wall carrying a valve seat member that projects into the chamber and has a flexible tubular member thereon forming the valve seat against which the valve member will engage to close the valve seat when the movable flexible wall moves to a predetermined position toward the fixed wall.

3,381,583

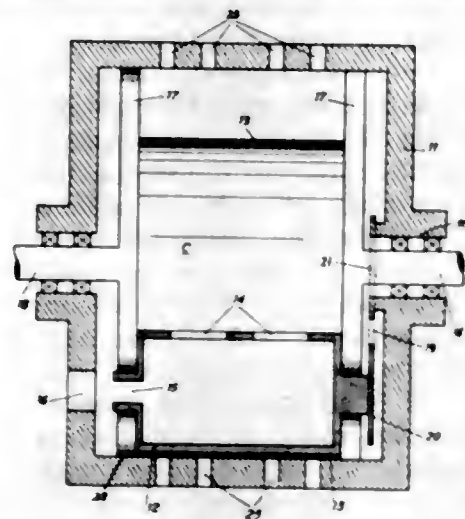
## VOLUMETRIC MACHINE

Jean Vansteene, 1 Rue de Bretagne, Amboise, Haute-de-Seine, France  
Filed Nov. 19, 1965, Ser. No. 508,647  
Claims priority, application France, Nov. 20, 1964, 995,644  
10 Claims. (Cl. 91-56)

A fluid handling machine, such as a fluid motor or



pump, has an inner member rotating with a pair of cheek discs within a housing and moving a flexible strip between



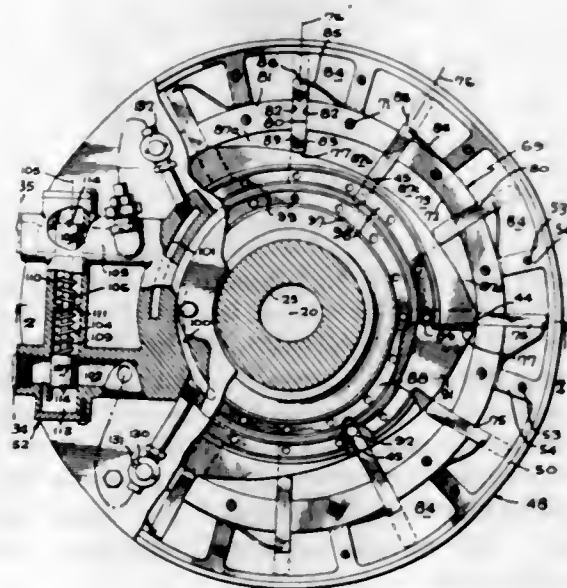
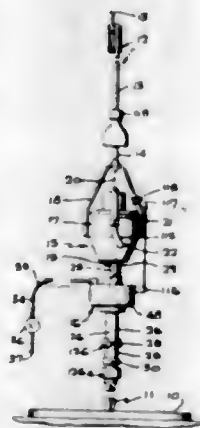
the cheek discs so that a working chamber of varying volume is formed.

3,381,584

## VANE TYPE ROTARY DEVICES

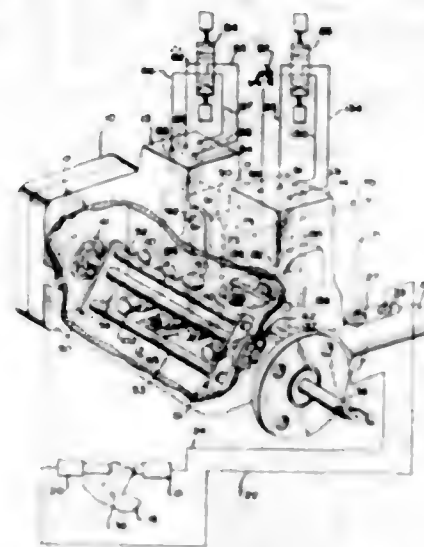
Josef Bartos, La Puente, Calif., assignor to Abegg and Reinhold Co., Los Angeles, Calif., a corporation of California

Filed May 7, 1965, Ser. No. 454,055  
15 Claims. (Cl. 91-104)



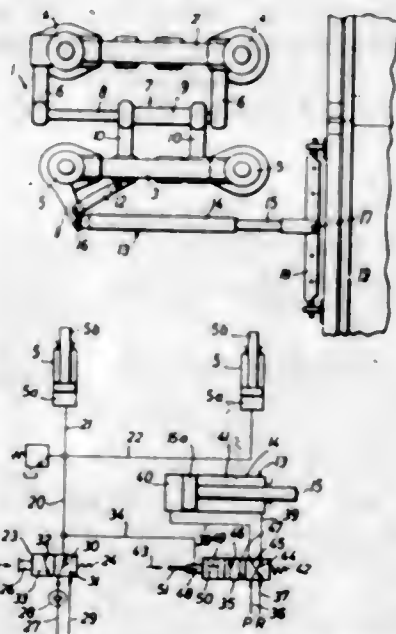
A rotary vane type fluid handling mechanism, especially useful as a well pipe spinner, to be connected to the underside of a well swivel, and rotatively drive the kelly. The device has a rotor with a plurality of lobes which coact with vanes mounted movably to an outer housing, and with the rotor containing fluid inlet and outlet passages for introducing pressure fluid in a relation driving the rotor and the swivel stem in either of two opposite directions.

3,381,585  
MULTIPOSITION SERVO CONTROL MECHANISM  
Ernst F. Kleissig, Roger O. Griffiths, and Kenneth C. Mahaffy, Racine, Wis., assignors to Racine Hydraulics & Machinery, Inc., a corporation of Wisconsin  
Filed July 11, 1966, Ser. No. 564,163  
15 Claims. (Cl. 91-178)



A multiposition servo control mechanism in which a control valve for positioning a member is controlled by a rock shaft operating a lever with the shaft having a plurality of different rotative positions established by control pistons with an adjustable null position and a feedback signal is also supplied to said lever to modify the action of the control valve.

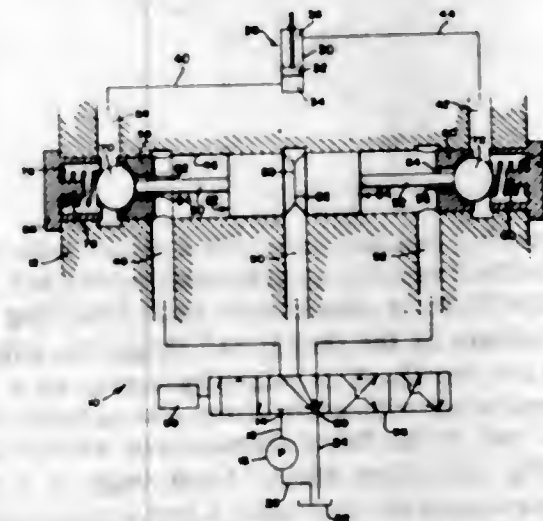
3,381,586  
MINE ROOF PROP AND ADVANCING ARRANGEMENT  
Harry Rosenberg, Ludinghausen, Germany, assignor to Gewerkschaft Eisenhütte Westfalen, Wethmar, near Lunen, Westphalia, Germany  
Filed June 6, 1966, Ser. No. 555,346  
Claims priority, application Germany, June 10, 1965, G 43,831  
11 Claims. (Cl. 91-217)



1. In a mine roof prop and advancing arrangement for use with an elongated mining conveyor, including a pair of pressure fluid medium energized extensible and retractable mining prop frames, pressure fluid medium energized frame advancing motive means having a first motive part and a second motive part operatively interconnected for relative linear movement alternately toward and away from each other, one said frame being con-

nected with one said motive part for linear movement therewith and the other said frame being connected with the other said motive part for linear movement therewith whereby to achieve alternate advancement of said frames with the respective motive part upon corresponding alternate high and low force resultant pressure fluid medium energizing of said frames and said motive means, and auxiliary pressure fluid medium energized conveyor urging piston-cylinder means including a double acting piston member and a cylinder member operatively interconnected for relative linear movement in a direction alternately toward and away from one another, one said member being connected to said one frame and the other said member being adapted to engage operatively such mining conveyor to urge such conveyor in a given operative linear direction in dependence upon such relative linear movement between said members, the improvement which comprises control valve means for controlling automatically the auxiliary pressure fluid medium for said urging piston-cylinder means and having a biasing counter force normal position and a pressure fluid medium responsive energized position, said valve means in one of said positions permitting positive flow of auxiliary pressure fluid medium to urge said urging piston-cylinder means in one of said alternate directions and said valve means in the other of said positions preventing such positive flow, said valve means being in coupled operative flow communication with the pressure fluid medium used for achieving said alternate advancement of said frames, whereby when the force of said pressure fluid medium used for advancement of said frames exceeds the counter force of the normal position of said valve means said valve means will change to said energized position and when said counter force exceeds the force of said pressure fluid medium used for advancement of said frames said valve means will change to said normal position, to control automatically the flow of pressure fluid medium for urging said piston-cylinder means in dependence upon the difference between said counter force and the force of said pressure fluid medium used for advancement of said frames and in turn in dependence upon the positive and non-positive flow positions of said valve means.

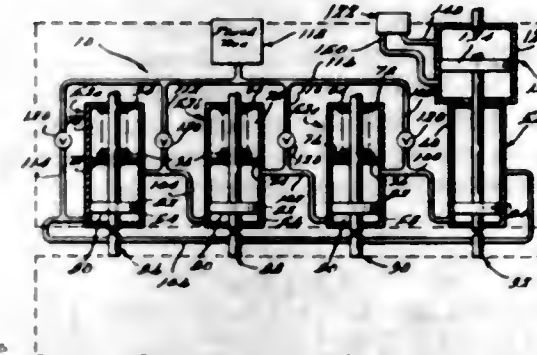
3,381,587  
HYDRAULIC CONTROL SYSTEM  
Donald J. Parquet, Dike, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware  
Filed Sept. 10, 1965, Ser. No. 486,331  
1 Claim. (Cl. 91-420)



A hydraulic system for controlling a two-way hydraulic cylinder and including a pair of normally closed check valves for preventing the return of fluid from either side of the cylinder, a pair of opposite coaxial pilot pistons actuatable to respectively open the check valves, and a control valve for porting pressurized fluid to either side

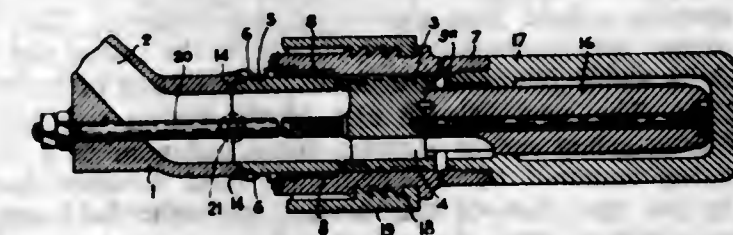
of the cylinder and to the pilot pistons to open the check valve and dump the unpressurized side at the cylinder, or for porting pressure only to the pilot pistons to open both check valves, dumping both sides of the cylinder.

3,381,588  
SETTING FIXTURE LEVELING APPARATUS  
Ralph K. Londal, Farmington, Mich., assignor to Automotive Pattern Co., Detroit, Mich., a corporation of Michigan  
Filed Mar. 14, 1966, Ser. No. 534,082  
2 Claims. (Cl. 91-411)



In a leveling apparatus, a plurality of cylindrical chambers, a piston rod reciprocally mounted in each of the chambers, a plurality of piston members mounted one on each of the piston rods and adapted to reciprocate therewith within the chambers, each of the piston members having first and second face portions, conduit means comprising a plurality of fluid conduits communicating the first face portion of one of the piston members with the second face portion of another of the piston members, one of the piston rods projecting axially outwardly from its associated chamber, an auxiliary chamber mounted coaxially of the associated chamber and having a control piston reciprocally disposed therewithin and connected to the projecting end of the one piston rod, a first actuating fluid disposed in the plurality of cylindrical chambers and adapted to be serially communicated through the fluid conduits, and a second actuating fluid in the auxiliary chamber adapted to effect reciprocation of the control piston, whereby the control piston will move axially within the auxiliary chamber and effect movement of the one piston rod which will in turn bias its associated piston member and thus serially communicate the first actuating fluid through the fluid conduits to cause the simultaneous movement in the same direction of the other of the piston members and piston rods.

3,381,589  
HYDRAULIC JACK SYSTEMS  
Hew Dalrymple Fanshawe, Edinburgh, Scotland, assignor to F.N.R.D. Limited, London, England, a British company  
Filed Sept. 17, 1964, Ser. No. 397,085  
Claims priority, application Great Britain, Sept. 19, 1963, 36,987/63  
6 Claims. (Cl. 92-112)



1. An hydraulic jack system comprising a piston member, a cooperating cylinder member movable relatively to said piston member, a hollow stem member of substan-



tially the same diameter as said piston member having one end in abutment with said piston member, a hollow support having a universal-pivot type mount on which the other end of said stem member is supported, means including said hollow stem member and said hollow mount providing a fluid connection to one operating face of said piston for causing extension of the jack, a flexible hollow bolt member of substantially smaller diameter than said piston member, one part of said bolt member being fixed to said piston member and providing passage to an hydraulic connection in said piston member to another operating face thereof for causing retractive movement of the jack, and means for anchoring another part of said bolt member to said support so that said bolt member is under tension, said bolt member passing through said pivotal mount and said stem member to said anchoring means and acting to hold said stem member onto said pivotal mount and at the same time to provide connection for actuating fluid to the other operating face of the piston member for retraction of the jack.

3,381,590

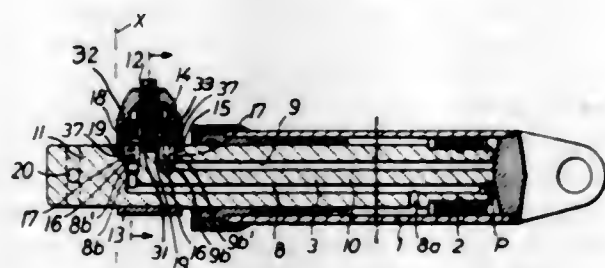
#### HYDRAULIC ACTUATOR FOR LONG-WALL MINING CONVEYOR ADVANCING APPARATUS

Harry Rosenberg, Ludinghausen, and Karl-Heinz Plester, Wethmar, near Lunen, Germany, assignors to Gesellschaft Eisenhütte Westfalen, Wethmar, near Lunen, Westphalia, Germany

Filed Aug. 2, 1966, Ser. No. 569,711

Claims priority, application Germany, Aug. 5, 1965, G 44,363

5 Claims. (Cl. 92-140)



This specification discloses a novel hydraulic actuator device of the piston and cylinder type. In this device, the piston has a piston rod associated therewith, and there are provided a hydraulic fluid supply conduit or passage and a hydraulic fluid return conduit or passage therein. One of the conduits or passages communicates with one face of the piston, and the other conduit communicates with the opposite face of the piston. The remote ends of these conduits communicate with a surface of the piston rod which is external of the cylinder and is intermediate the ends of the piston rod. This communicating surface of the piston rod is flattened and has mounted therein hydraulic coupling means which is correspondingly flattened at the mating surface thereof. There is suitably provided a sealing ring means between the valve base plate and the piston rod surface so as to provide a fluid pipe connection therebetween. The valve means has conduits corresponding to the piston rod conduits and is connected to an external source of hydraulic fluid. The non-enclosed end of the piston rod suitably has coupling means thereon for attachment to a device being actuated by the hydraulic fluid actuator hereof. In the operation of this device, hydraulic fluid may be provided to either face of the piston and returned from the area proximate to the other face of the piston, thus providing for movement of the piston in both directions as desired.

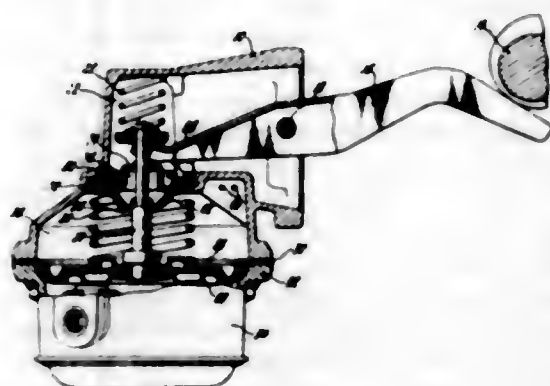
3,381,591

#### FUEL PUMP WITH OIL SEAL DIAPHRAGM

Dimitar Toschkoff, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation of application Ser. No. 526,219, Feb. 9, 1966. This application Apr. 12, 1967, Ser. No. 630,462

8 Claims. (Cl. 92-168)



A fuel pump in which a longitudinally reciprocable plunger is adapted to actuate a pumping diaphragm through an oil seal protector assembly, the latter including a flexible sealing diaphragm of special hub and peripheral margin construction insuring an effective long life seal against leakage along the plunger and sealing diaphragm hub interface and also around the periphery of the sealing diaphragm.

3,381,592

#### MACHINE FOR PRODUCING BAGS OF PLASTIC MATERIAL

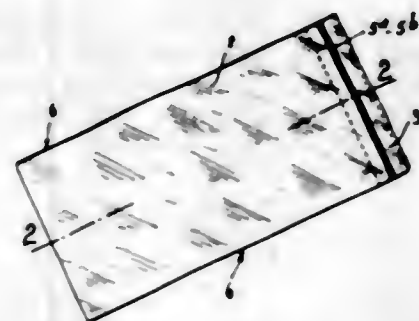
Leon Ravel, Sainte-Sigolene, Haute-Loire, France, assignor to Fayard & Ravel, Sainte-Sigolene, Haute-Loire, France, a company of France

Filed June 17, 1965, Ser. No. 464,677

Claims priority, application France, Aug. 7, 1964,

8,982, Patent 1,412,593

2 Claims. (Cl. 93-8)



A bag making machine in which a sheath with opposite edges and a pair of closing strip sections are fed in edge-wise superposition to two drums each receiving in turn opposite surfaces of the sheath and strips, the strips being welded to the sheath at its edges by means of a welding wheel cooperating with each drum, the opposite sides of the sheath and strips being transversely welded together intermittently and then cut to form bags at a welding station downstream of the drums, a first compensating system being interposed between the drums and the downstream welding station to compensate for the intermittent stoppage at the downstream station and a compensating and regulating system between the downstream welding station and the first compensating system for modifying the speed of the drums to compensate for elongation or slipping of the sheath and strips engaging the drums.

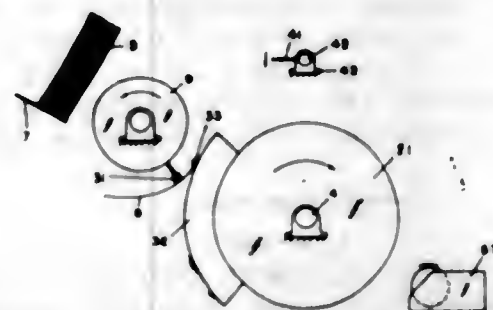
3,381,593

#### MACHINE AND METHOD FOR SECURING AN AUXILIARY BLANK TO A MAIN CARRIER BLANK

Hermont G. Gentry, Atlanta, Ga., assignor to The Mead Corporation, a corporation of Ohio

Filed Mar. 7, 1966, Ser. No. 532,365

9 Claims. (Cl. 93-37)



1. A machine for withdrawing a multi-panelled auxiliary blank from a hopper and for folding and affixing said auxiliary blank to a main blank during movement of said main blank along a predetermined path, said machine comprising a rotatable drum, feeder means for with drawing said auxiliary blank from the hopper and for moving it toward said drum, gripper means on said drum for engaging a portion of said auxiliary blank and for holding it in fixed position on said drum, folder means on said drum for engaging a part of said auxiliary blank and for folding said part outwardly and over into generally flat face contacting relation with the adjacent part of said auxiliary blank and for holding said auxiliary blank in folded condition, means for applying adhesive to a part of said auxiliary blank and for forcing it into firm contact with the main blank, and means for releasing said gripper means and said folder means.

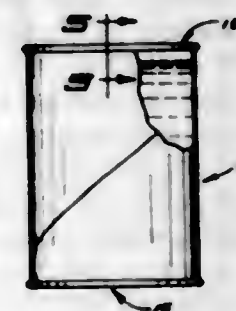
3,381,594

#### LIQUID PACKAGE AND PROCESS FOR PRODUCING THE SAME

Donald H. Ellerbrock and Jerome J. Galtier, St. Louis, Mo., and James D. Beckley, Kansas City, Kans., assignors to R-C Can Company, Hazelwood, Mo., a corporation of Missouri

Continuation of application Ser. No. 156,886, Dec. 4, 1961. This application May 27, 1965, Ser. No. 459,347

13 Claims. (Cl. 93-39.1)



The disclosure relates to a container for liquids such as motor oil and the like and having a cylindrical body wall made from helically wound layers of material with the edges abutted to form a spiral butt joint and having a metal end closure on each end thereof provided with a depressed center portion which defines an annular wall the outer circumference thereof being slightly larger than the inside circumference of the tubular body to displace the same outwardly when forcibly inserted therein and being connected to said body by a double locked seam construction to provide a liquid-tight container. In the form disclosed the butt joint is filled with a plastic filler material particularly designed to provide a continuous peripheral marginal end portion at each end of the tubular body

capable of being flared outwardly and peripherally stretched sufficiently to form a double locked seam without interruption or breaking of the continuity of said body wall end portion. The invention also relates to the process for producing such a container which includes the flaring out of the end portions of the spirally wound laminated body wall to facilitate initial insertion of the enlarged metal end portion and produce the double locked seam between each metal end and the end portion of the body wall.

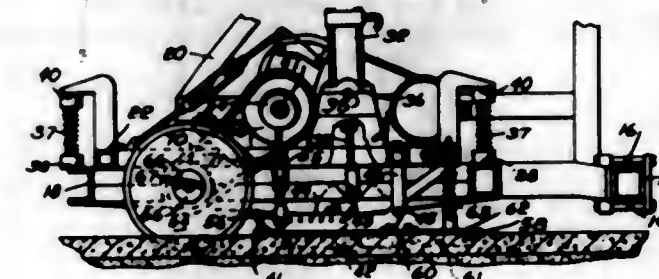
3,381,595

#### JOINT FORMING APPARATUS FOR CONCRETE SURFACES

Raymond A. Hanson, % R. A. Hanson Co., Palosau, Wash. 99161

Filed May 27, 1966, Ser. No. 553,416

5 Claims. (Cl. 94-45)



A joint forming apparatus including a supporting framework carried by tracks along a concrete slab. One or more movable frames are vertically adjustable relative to the framework and carry joint forming devices for producing a slot in the slab surface. The joint forming devices include slotting blades and associated discs, and reciprocating movement is imparted to both the discs and blades by appropriate powered devices. Automatic control of the elevation of the slotting devices is also disclosed.

3,381,596

#### ELECTROPHOTOGRAPHIC COPY SHEET

Larry J. Bresina, St. Paul, Minn., Elmer D. Horne, Hudson, Wis., and Richard A. Miller, White Bear Lake, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Nov. 20, 1964, Ser. No. 412,857

8 Claims. (Cl. 95-1)

1. An electrophotographic copysheet having on one surface thereof an imagewise distribution of a colored dye-stuff capable of photoreduction with a color change in the presence of zinc oxide and in the absence of oxygen, and a substantially air impermeable, light transparent coating thereon, the interfacial areas between said transparent coating and said copysheet surface containing a colorless peroxide oxidizing agent.

3,381,597

#### SHUTTER MECHANISM FOR PHOTOGRAPHIC CAMERA

Robert B. Morton, Chicago, Ill., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

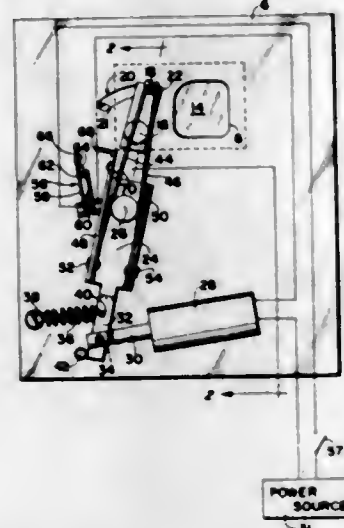
Filed Sept. 13, 1965, Ser. No. 486,653

8 Claims. (Cl. 95-55)

1. A shutter mechanism for a photographic camera comprising: means defining an exposure aperture; shutter means movable between a light blocking position and a light unblocking position with respect to said exposure aperture;



transmission means including energy-storing means operatively engaging said shutter means, said transmission means being movable through an exposure cycle; and  
drive means for moving said transmission means rapidly in a first direction during a first portion of said exposure cycle to apply a first high velocity driving force to said shutter means, said first driving force causing initial movement of said shutter means from said light blocking position toward said light unblocking position and simultaneously causing said energy-storing means to store energy and then rapidly to impart the stored energy to said shutter means to drive said shutter means at augmented velocity



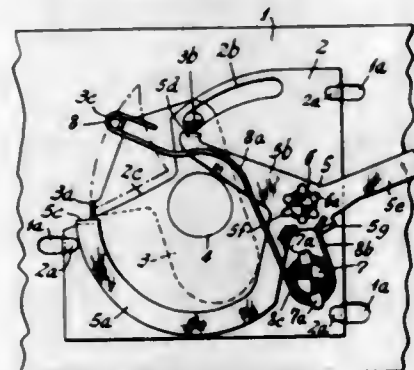
toward and to said light unblocking position, said drive means moving said transmission means rapidly in a second direction during a second portion of said exposure cycle to apply a second high velocity driving force to said shutter means, said second driving force causing initial movement of said shutter means from said light unblocking position toward said light blocking position and simultaneously causing said energy-storing means to store energy and then rapidly to impart the stored energy to said shutter means to drive said shutter means at augmented velocity toward and to said light blocking position, said energy-storing means absorbing shock from said drive means at the initiation and termination of each portion of said exposure cycle.

3,381,598

**AUTOMATIC PHOTOGRAPHIC SHUTTER**  
Franz W. R. Starr, Calmbach, Germany, assignor to Proctor-Werk Alfred Gauthier, G.m.b.H., Calmbach, Black Forest, Germany, a corporation of Germany

Filed Sept. 30, 1965, Ser. No. 491,723  
Claims priority, application Germany, Oct. 3, 1964, G 41,693

8 Claims. (Cl. 95-59)

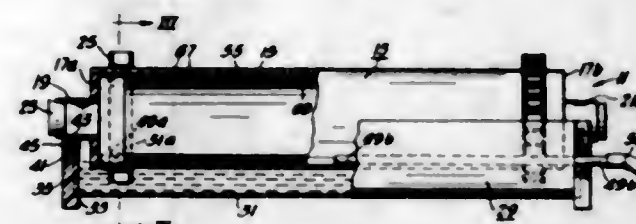


An automatic photographic shutter that has a single shutter blade and a driving mechanism associated with

the blade for operating the same. A cocking and release lever and a driving spring are provided in addition to a plurality of projecting portions on the shutter blade. A guide engages one of the projecting portions to limit the movement thereof and a supporting edge engages another of the projecting portions to provide a support for the movement thereof. The projecting portions engage sections of the lever to be moved thereby from a rest position through a cocked position to release position in which the projection portions become separated from the lever to permit the blade to swing from a closed position to an open position and back to a closed position as the projecting portions follow the guide and the edge.

3,381,599

**PHOTOGRAPHIC METHOD AND APPARATUS**  
Duane G. Banks, % Sherman H. Barber, 418 Revere Drive, Monroeville, Pa. 15146  
Filed June 27, 1966, Ser. No. 560,779  
10 Claims. (Cl. 95-89)



1. Apparatus for use in processing flexible photographic media having a light-sensitive coating on one surface comprising:

- a tubular container comprised of a cylindrical shell and spaced apart end walls;
- a tubular conduit fixed in each end wall and communicating with the interior of said tubular container, said tubular conduits being in axial alignment with the longitudinal axis of said container;
- an open container for holding a fluid having a shell and end walls wherein each there are mounted a plurality of rollers adapted to engage said tubular conduits and rotatably support said container in a horizontal attitude, there being an annular space between the shell of said container and the shell of said receptacle;
- a plurality of radial vanes mounted to and extending from the shell of said tubular container, said vanes lying in a plane generally perpendicular to the longitudinal axis of said tubular container;
- a tube mounted lengthwise to the inside surface of the shell of said open container and having therein an aperture located opposite said vanes; and
- conduit means mounted to said tube for flowing water therein, said water emerging from said aperture as a jet in an angular direction against said vanes whereby said cylindrical tube rotates about its longitudinal axis, said water also partially filling said open container and partially buoyantly supporting said tubular container.

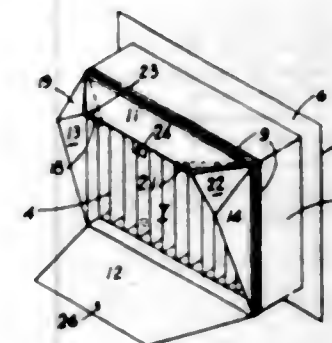
3,381,600

**DIRECTIONAL CONTROL AIR DIFFUSER**  
Allan R. Getzin, Jeffersontown, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Aug. 9, 1966, Ser. No. 571,345  
7 Claims. (Cl. 98-40)

A directional air diffuser assembly including a flow-through housing having vanes pivotally mounted along the peripheral edge of the downstream outlet in successive side-by-side edge-surrounding relationship, the vanes

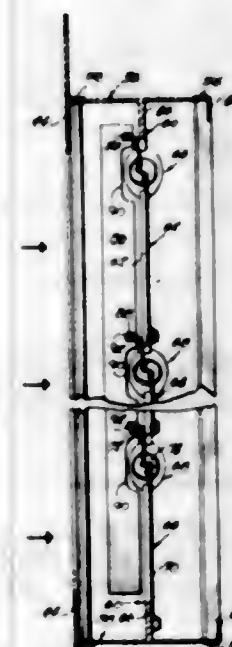
being of larger surface area than the outlet so that the free edges of the vanes coincide and contact when in



closed position outside the plane determining such downstream outlet.

3,381,601

**AIR DAMPER ASSEMBLY INCLUDING SIDEWALL SEALING MEANS**  
Francis T. McCabe, Cook County, Ill., assignor to M & T Engineering Company  
Filed Aug. 29, 1966, Ser. No. 575,745  
16 Claims. (Cl. 98-121)



1. An air damper assembly comprising in combination:
  - (a) a rectangular frame having top, bottom and opposed side members defining a plane perpendicular to the air flow path, each member having a longitudinally extending shelf parallel to the frame plane so as to define a rectangular shelf around an air flow opening;
  - (b) a blade assembly including a plurality of individual longitudinally extending blades, each of said blades supported at opposite ends by pivot means fixedly secured in said frame opposed side member shelves, each of said blades having an upper and lower section and an intermediate offset section, said offset section having a center-line defining the blade pivotal axis, the length of each of said blades being greater than the opening between opposed side member shelves so that the side edge portions of said blade upper section overlap the frame opposed side member shelves on one side thereof and the side edge portions of said blade lower section overlap the frame opposed side member shelves on the other side thereof whereby the side edge portions and the

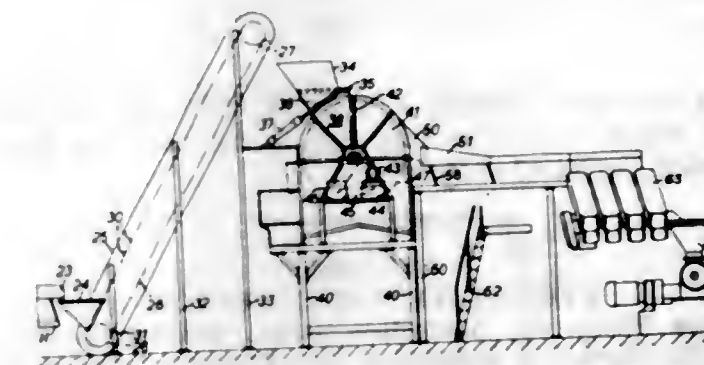
frame opposed side member shelves effect a seal when the blade assembly is in a closed position, each of said blade longitudinal edges in sealing engagement with the longitudinal edge of the adjacent blade, the upper longitudinal edge of the uppermost blade and the lower longitudinal edge of the lowermost blade overlapping the frame top and bottom shelves, respectively, when said blade assembly is in a closed position; and,

(c) linkage means interconnecting said blades for simultaneous opening and closing of said blades comprising said blade assembly.

3,381,602

**MANUFACTURE OF BEVERAGES AND THE LIKE**  
Leonard Gluckstein and William T. Everington, London, England, assignors to J. Lyons & Company Limited, London, England, a British company  
Filed Nov. 12, 1963, Ser. No. 323,030  
Claims priority, application Great Britain, May 31, 1963, 21,973/63

6 Claims. (Cl. 99-239)



Apparatus for production of a citrus fruit product includes a conveyor on which fruit, such as oranges in whole form is brought to an elevator where it is elevated and deposited into a hopper. The fruit is released from the hopper in batches each of which is dropped into a separate section of a Ferris wheel where it is heat treated for a short period and to such an extent that the skin of the fruit is at a higher temperature than the interior thereof. The heat-treated fruit is then discharged from the Ferris wheel onto the rear of two parallel arranged jiggling conveyors and is discharged at the front end of each conveyor through vertical guide means onto a bank of high-speed comminuting knife discs inclined at an angle to the guide tubes. The comminuted fruit from each comminuting bank is then deposited into a common hopper from which it discharges into a screw type extractor from which the liquid product and unwanted comminuted fruit solids are separately obtained.

3,381,603

**MACHINE FOR INJECTING CURING LIQUID INTO MEAT PRODUCTS**

Hans A. Jensen and Augustus H. Eberman, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois  
Filed Jan. 26, 1966, Ser. No. 523,061

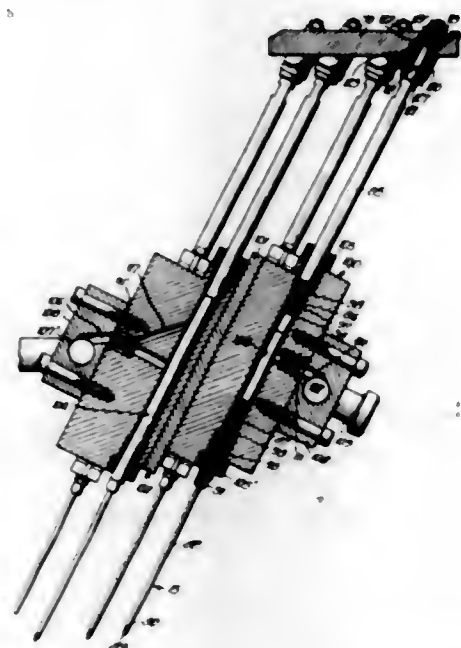
12 Claims. (Cl. 99-257)

A machine for injecting curing liquid into bacon slabs or like products which comprises a conveyor on which the slabs are advanced to an injecting station where a plurality of injection needles are mounted on an overhead support frame which is reciprocated to force the needles into the slabs with the latter held on the conveyor by spring pressed pivotally mounted plates. The needles are mounted in bores in a manifold to which brine is supplied and each needle has telescoping sections and operates as



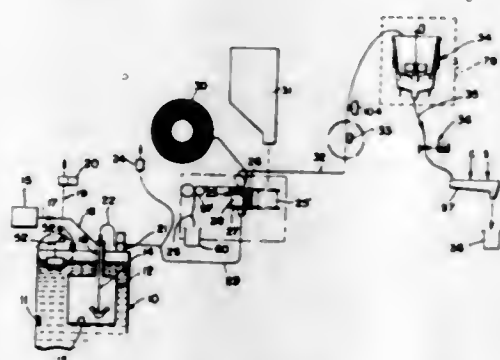
a pump to force the brine into the slabs in uniform amounts according to the normal advance of the needles, with the pointed section of each being adapted to retract

opened in response to the dispensing of a food product to permit the insertion of the food product into the oven,



so as to avoid breaking if it meets with any hard material which may have been left in the slab and which obstructs the travel of the needle.

**3,381,604**  
**COFFEE VENDING DEVICE**  
George Bixby, Jr., Scottsdale, Ariz., assignor to Automatic Marketing Industries, Inc., Phoenix, Ariz., a corporation of Arizona  
Filed June 6, 1966, Ser. No. 555,514  
4 Claims. (Cl. 99-283)

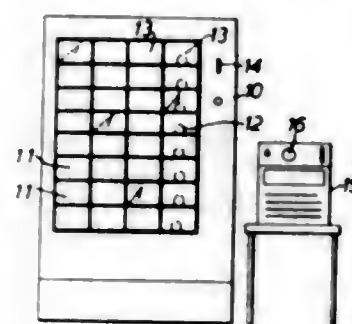


A coffee vending device having a brewing chamber coupled by means of a resilient hose to a double container reservoir, sensing means being associated with the resilient hose for controlling the flow of liquid to the reservoir and a float valve associated with the reservoir for controlling blending of liquid coffee in the double, nested containers.

**3,381,605**  
**VENDING AND DISPENSING MECHANISMS**  
Peter Harold Smith, Maidenhead, England, assignor to Microtherm, Limited  
Filed July 13, 1966, Ser. No. 565,022  
Claims priority, application Great Britain, July 13, 1965, 29,648/65  
7 Claims. (Cl. 99-332)

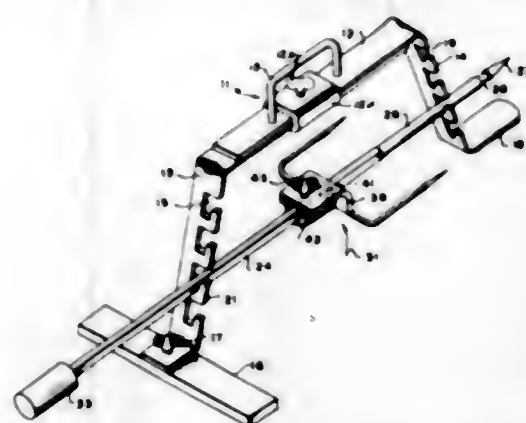
This disclosure relates to a vending machine having a microwave oven for heating food products dispensed by the machine. The door leading to the microwave oven is

opened in response to the dispensing of a food product to permit the insertion of the food product into the oven,



and recloses automatically after opening at the end of the heating period.

**3,381,606**  
**COOKING DEVICE**  
Cyril F. Koley, 1636 Chestnut St., South Plainfield, N.J. 07060  
Filed June 23, 1966, Ser. No. 559,990  
7 Claims. (Cl. 99-421)



A portable cooking device for use over an open fire including a unitary self supporting frame and an adjustable spit.

**3,381,607**  
**PROCESS AND APPARATUS FOR REMOVING LIQUID FROM A MOVING WEB OF PAPER AND THE LIKE**  
Horace W. Clark, Chillicothe, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio  
Filed Aug. 1, 1966, Ser. No. 569,458  
9 Claims. (Cl. 100-37)

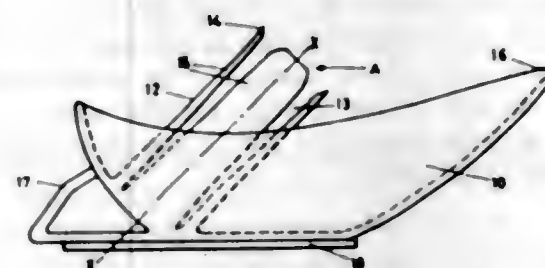


1. In a process for removing of liquid from a liquid-containing moving web of paper and the like wherein said web is passed through a nip of a pair of press rolls at least one of which is a grooved type of roll having sub-surface cavities for the temporary retention of a liquid under the influence of surface tension forces, liquid is transferred from said web into said cavities by rolling pressure from said press rolls and temporarily retained therein after passing through said nip, the improvement which comprises

passing said liquid containing cavities through a second nip formed between said grooved roll and a third plain roll,

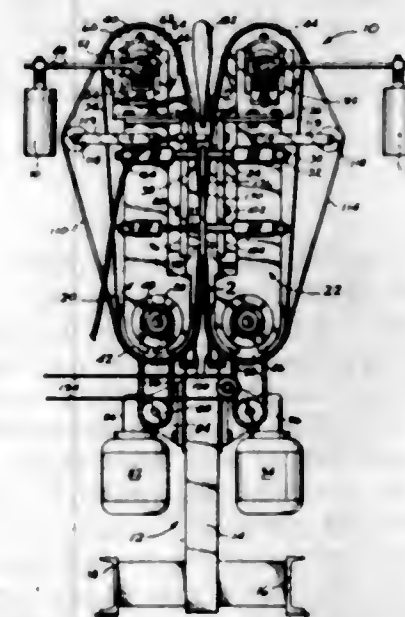
lifting said liquid from said cavities and depositing it onto the surface of said grooved roll by rolling action of said plain roll, and thereafter removing said liquid from the surface of said grooved roll.

**3,381,608**  
**JUICE-SQUEEZERS FOR ORANGES AND SIMILAR FRUITS**  
Sigurd Walter Bengtsson, Rallgatan 6, Goteborg, Sweden  
Filed Dec. 2, 1965, Ser. No. 511,181  
Claims priority, application Sweden, Dec. 10, 1964, 14,909/64  
8 Claims. (Cl. 100-100)



A group of flexible molded knife blades are rigidly supported at one end by a receptacle, the other end of each blade being sharp along its periphery, the blades being arranged to jointly define a hollow cylindrical space having seed-retaining slots between the blades, each blade's free end being resiliently deflectable radially inwardly and returnable to a normal position.

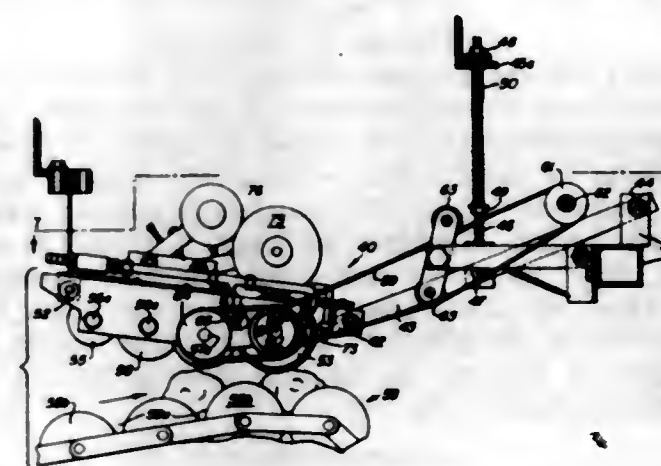
**3,381,609**  
**FILTER PRESS**  
Neil Makarty, Jr., Rte. 2, Box 2126, Seattle, Wash. 98110  
Continuation-in-part of application Ser. No. 388,770, Aug. 11, 1964. This application June 20, 1966, Ser. No. 563,007  
11 Claims. (Cl. 100-110)



1. A press for extracting liquid from a liquid-solid mixture comprising opposed converging walls forming one

set of sides of a processing chamber of diminishing side-to-side dimension progressing in the direction of the convergence of the walls, which walls are impervious to liquid flow therethrough, at least one of said walls being movable and operating to transport material to be filtered through said processing chamber; opposed elongated flow barriers in fluid-tight relationship with said converging walls, extending in the direction of the convergence of said walls, and forming another set of sides of the processing chamber; means extending in the direction of the convergence of said walls dividing the chamber into a filtrate zone for holding filtrate, which zone is bounded on one side by a flow barrier, and a zone for holding material to be filtered spaced laterally from this filtrate zone; and means connected to the filtrate zone for drawing off filtrate therein.

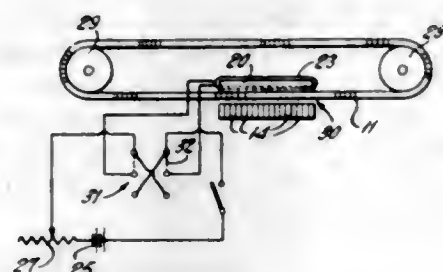
**3,381,610**  
**MACHINE AND METHOD FOR MARKING FRUITS AND VEGETABLES AND THE LIKE, PARTICULARLY POTATOES**  
Don E. Everingham, Idaho Falls, Idaho, assignor to Novus Automation, Inc., Idaho Falls, Idaho, a corporation of Idaho  
Continuation-in-part of application Ser. No. 461,380, June 4, 1965. This application Sept. 13, 1966, Ser. No. 589,152  
19 Claims. (Cl. 101-35)



A method and machine for marking potatoes and other generally similar items wherein individual items to be marked are conveyed sequentially under a printing die. The die is mounted at one end of an elongate marking head that is yieldably and resiliently mounted to move upwardly and downwardly in accordance with various sizes of the respective items to be marked. A series of pilot rollers, formed for cushioned gripping action on the items passing thereunder, are mounted on the marking head in advance of the printing die so as to firmly hold the individual items as they are advanced toward and under the die. The items to be printed are usually washed prior to the printing operation and are wet or moist when passed to the printing die. At the feed side of the printing die, a blast of air is directed against the localized portion to be printed of the item, for drying such area and holding surrounding moisture back as the item is fed under the printing die. The marking ink is normally of a type that coagulates at a temperature below a predetermined minimum. In order to prevent ink deterioration upon application to the item, the blast of air and the printing die are heated to a temperature that will maintain the ink above the specified minimum temperature. The printing die is advantageously heated by means of a jet of heated air directed against the printing die.



**3,381,611**  
**ADJUSTABLE ELECTROMAGNETIC TYPE SLUG**  
**HOLDER IN HIGH SPEED CHAIN PRINTER**  
 Thomas P. Foley, Huntington, N.Y., assignor to Potter  
 Instrument Company, Inc., Plainview, N.Y., a corpora-  
 tion of New York  
 Filed Nov. 7, 1966, Ser. No. 592,537  
 6 Claims. (Cl. 101-93)

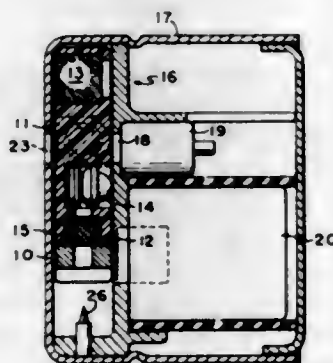


The specification and drawings disclose a chain printer in which an electromagnet holds the type against a back-up bar.

**3,381,612**  
**COLOR REPRODUCING SYSTEM**  
 Manuel J. Lecha, Barcelona, Spain, assignor to Salvat  
 Editores, S.A., Barcelona, Spain, a corporation of  
 Spain  
 Continuation-in-part of application Ser. No. 569,922,  
 Aug. 3, 1966. This application Aug. 30, 1967, Ser.  
 No. 664,376  
 Claims priority, application Spain, Feb. 15, 1964,  
 296,878

10 Claims. (Cl. 101-401)  
 Color printing methods wherein color component separation images are multiplexed on a lesser number of printing plates reproducing the subject by half tone ink images the same in number and color as the original images. The plates may be at least two less in number than the original images. The black ink image is formed by about 42%, 29% and 29%, respectively, of yellow, magenta, and cyan ink. During multiplexing of the black image with each of the primary color component images, both images are exposed on the film from about the same positions relative to the film.

**3,381,613**  
**SAFE AND ARMING MECHANISM FOR FUZE**  
 George Webb, Richmond, Ind., assignor to Avco Corpora-  
 tion, Richmond, Ind., a corporation of Delaware  
 Filed July 3, 1967, Ser. No. 650,818  
 3 Claims. (Cl. 102-70.2)



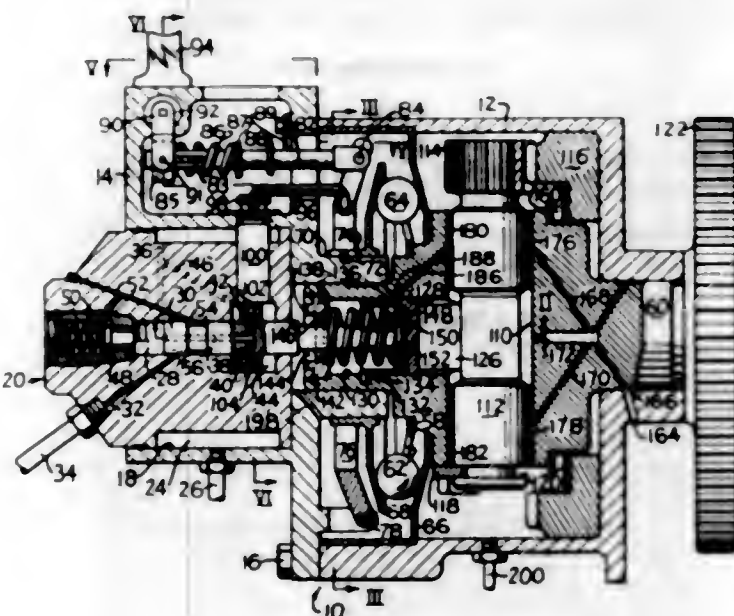
This is a mechanism for incorporation in a fuze of the proximity type, powered by a thermal battery. The fuze is adapted for use in a bomblet. The mechanism includes a thermal battery and an electric detonator and its unarmed condition is characterized as follows: first, by a short-circuit on the detonator; second, by misalignment of a lead on an electric detonator. The fuze is armed by

spin, arming weights releasing a slider, which impacts a stab primer against a stab firing pin, the resultant percussive forces driving another firing pin into the thermal battery to actuate the same. Additionally, the movement of the slider aligns the lead with the electric detonator and removes the short-circuit from the detonator, whereby the fuze is fully armed.

**3,381,614**  
**ACID PRETREATED POLYETHYLENEGLYCOL**  
**TEREPHTHALATE SHEET AS INSULATION**  
**FOR SOLID ROCKET PROPELLANT CHARGES**  
 Heinz Ratz, Kolner Str. 179, Troisdorf, Germany; Hein-  
 rich Brachert, Mulheimer Str. 12, Troisdorf-Oberlar,  
 Germany; and Ulf Richter, Osenau Post Odenthal,  
 Germany  
 No Drawing. Filed Sept. 28, 1966, Ser. No. 582,506  
 Claims priority, application Germany, Oct. 1, 1965,  
 D 48,337

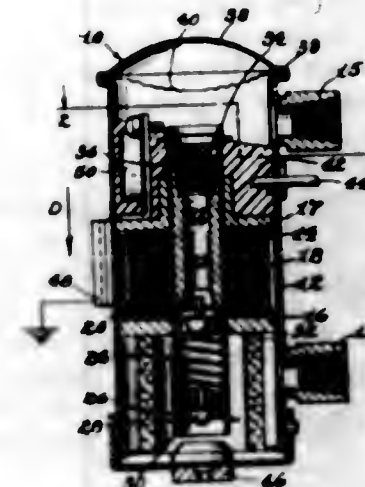
5 Claims. (Cl. 102-103)  
 The invention relates to the use of polyethyleneglycol terephthalate sheet that has been pretreated by immersion into at least one member selected from the group consisting of nitric and sulfuric acids as an insulator for double base rocket propellant charges. The pretreatment produces a change in the sheet's surface which facilitates bonding without impairing the chemical and mechanical properties of the sheet.

**3,381,615**  
**DRIVING AND TIMING MECHANISM**  
**FOR FUEL INJECTION PUMP**  
 John M. Bailey, East Peoria, Ill., assignor to Caterpillar  
 Tractor Co., Peoria, Ill., a corporation of California  
 Filed Dec. 9, 1966, Ser. No. 600,450  
 3 Claims. (Cl. 103-2)



1. In a device of the character described, a housing; a rotatable drive shaft extending into said housing and having a first bore extending axially inward from one end thereof; said first bore receiving a combination pumping and distributing member; a second bore extending axially through said drive shaft and communicating with said first bore centrally of said drive shaft; said second bore receiving a camshaft for rotation therein; lobe means formed on said camshaft for selectively axially reciprocating said pumping and distributing member in said first bore; first circumferential gear means formed on one end of said camshaft; and, second normally stationary gear means outward of said drive shaft and concentric therewith for engaging said first gear means to cause rotation of said camshaft upon rotation of said drive shaft.

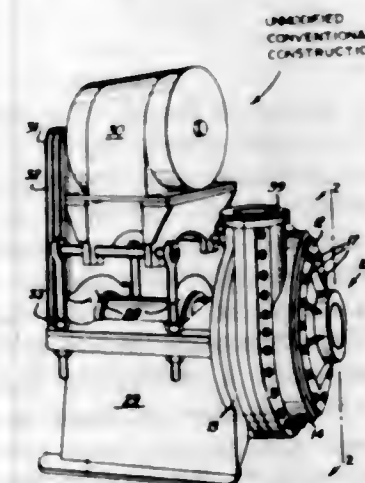
**3,381,616**  
**ELECTROMAGNETIC FLUID PUMP**  
 Harry P. Werthelmer, Horseheads, and Ralph V. Brown,  
 Cayuta, N.Y., assignors to The Bendix Corporation, a  
 corporation of Delaware  
 Filed July 13, 1966, Ser. No. 565,004  
 9 Claims. (Cl. 103-53)



A reciprocating plunger electromagnetic fluid pump in which plunger motion is controlled by solid state circuitry and electromagnetic coils. A switching transistor, alternately in the conducting and non-conducting states, drives the plunger against a spring when the transistor is conducting and when the transistor is in the non-conducting state the field in the main pump coil collapses and the spring drives the plunger back. The transistor is held in the non-conducting state during the back-travel of the piston by a second coil which is magnetically linked to the plunger. Transistor protection is provided by any of a variety of voltage limiting devices to control the base-to-collector voltage.

**3,381,617**  
**METHOD OF INCREASING THE CAPACITY OF**  
**RUBBER-LINED CENTRIFUGAL PUMPS AND**  
**THE PUMPS RESULTING THEREFROM**  
 Harold E. Wright, Salt Lake City, Utah, assignor to The  
 Galigher Company, Salt Lake City, Utah, a corporation  
 of Utah

Filed May 31, 1966, Ser. No. 553,979  
 4 Claims. (Cl. 103-103)

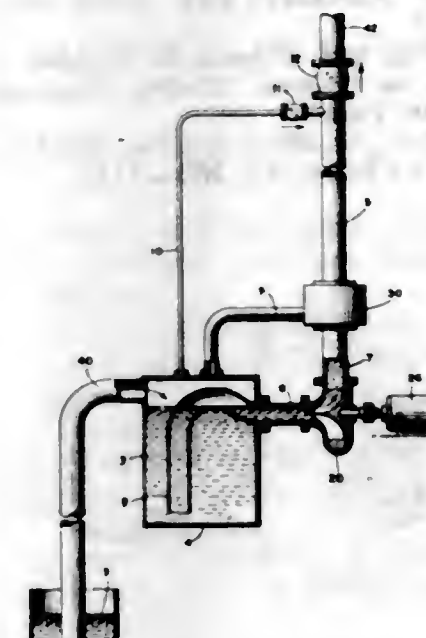


A method of rebuilding and of thereby increasing the capacity of a conventional rubber-lined centrifugal pump having casing sections bolted together in face-to-face relationship to define a pumping chamber and a pressure dis-

charge opening, one of the casing sections being provided with a suction inlet. The casing sections are separated and reassembled after inserting a rubber-faced expander member therebetween to provide an enlarged pumping chamber and discharge opening. The impeller is either modified by increasing blade size or replaced by an impeller whose blade size is correlated with the enlarged pumping chamber. The suction intake is also increased in size by replacing it with one of larger diameter and fastening it to the customary reinforcement ribs on the exterior of the pump facing. The rubber lining of the new suction inlet may either be vulcanized to the old rubber lining of the pumping chamber or may be provided by a corresponding portion of a replacement lining for the entire pump. The resulting pump constitutes part of the invention.

**3,381,618**  
**SELF-PRIMING SYSTEM FOR**  
**HORIZONTAL PUMPS**  
 Pellegrino E. Napolitano, Brooklyn, N.Y., assignor to  
 Hudson Engineering Company, Hoboken, N.J., a cor-  
 poration of New Jersey  
 Continuation-in-part of application Ser. No. 556,629,  
 June 10, 1966. This application Apr. 10, 1967, Ser.  
 No. 633,663

12 Claims. (Cl. 103-113)



During repriming of a horizontal pump by recycling liquid from the discharge conduit of the pump to the suction well for the pump, air is displaced from the suction well through an air vent. Air may also be bled from the impeller casing of the pump, preferably by a conduit leading to the upper portion of the suction well.

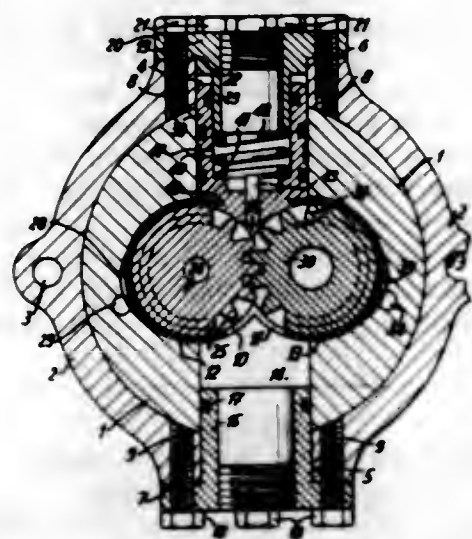
**3,381,619**  
**GEAR HYDRAULICAL MACHINE**  
 Pierre Mingot, Morges, Switzerland, assignor to Prematex  
 S.A., Morges, Switzerland, a corporation of Switzerland  
 Filed July 1, 1966, Ser. No. 562,200  
 Claims priority, application Switzerland, July 14, 1965,  
 9,847/65

14 Claims. (Cl. 103-126)

1. An hydraulic gear machine, particularly a motor, a pump and so on, comprising at least two toothed wheels pivoted in a body meshing the one with the other, in which the diameter of the trunnions bearing at least one of these toothed wheels is substantially equal to the one of a circle passing through the summit of the teeth of the corresponding toothed wheel and which comprises a piston, linearly displaceable in a bore provided in the



body, and presenting a frontal face comprising concave surfaces intended to cooperate with the teething of the



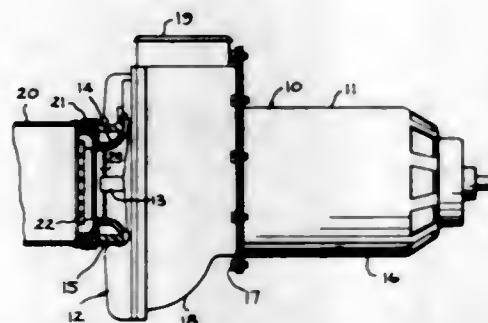
toothed wheels in order to ensure the tightness of the high pressure chamber.

3,381,620

#### MEANS TO ACHIEVE CLOSE CLEARANCE BETWEEN STATIONARY AND MOVING MEMBERS

Donald S. Cushing and Thomas E. Jenkins, Louisville, Ky., assignors to General Electric Company, a corporation of New York

Filed Nov. 30, 1965, Ser. No. 510,505  
10 Claims. (Cl. 103-111)



Means to achieve close clearance between stationary and moving members wherein one of the members is malleable. The malleable member will deform to the extent of any interference upon initial movement of the moving member. The deformed member will remain deformed, due to its malleable nature, and thus provide the closest possible clearance without actual interference between the stationary and moving members.

3,381,621

#### SELF-PRIMING PUMP

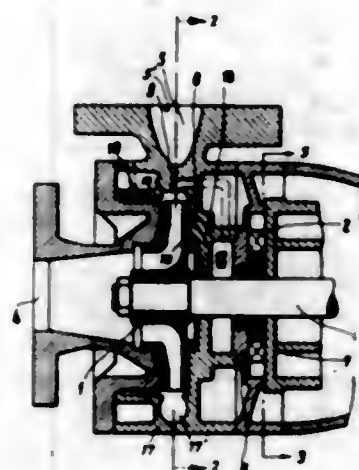
Reinhold Luhmann, Erlangen, and Walter Hagemann, Itzehoe-Nordsee, Germany, assignors to Siemens & Halske mbH., Itzehoe, Holstein, Germany

Filed Aug. 2, 1966, Ser. No. 575,208  
Claims priority, application Germany, Aug. 3, 1965, 98,619

6 Claims. (Cl. 103-113)

1. In a self-priming centrifugal pump unit, at least one full-admission normal-priming stage having a main outlet opening, an impeller in said full-admission stage for rotation in a predetermined direction to produce a main flow of liquid to be pumped, a volute-type chamber arranged in said full-admission stage for receiving liquid from said

impeller during rotation thereof and connected to said main outlet opening for discharge of liquid, said volute-type chamber increasing in cross-section from its initial smallest area towards its connection with said main outlet opening and having an auxiliary outlet opening therein, a self-priming venting stage disposed outside said main flow of liquid, a suction chamber in said venting stage, and duct means permanently connecting said suction chamber

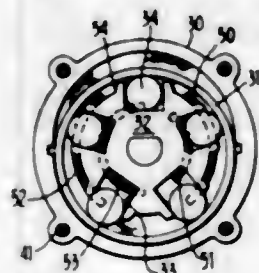


of the venting stage to said auxiliary outlet opening of the full-admission stage for removing air and other gases from said full-admission stage to prime the latter, said auxiliary outlet opening being located in said volute-type chamber in the region extending from said initial smallest area of the volute-type chamber approximately halfway around said impeller in said predetermined direction of rotation thereof.

3,381,622

#### FLUID PUMP AND MOTOR

Stewart Wilcox, Canoga Park, Calif.  
(7024A Darby Ave., Reseda, Calif. 91335)  
Filed Jan. 19, 1966, Ser. No. 521,701  
9 Claims. (Cl. 103-120)



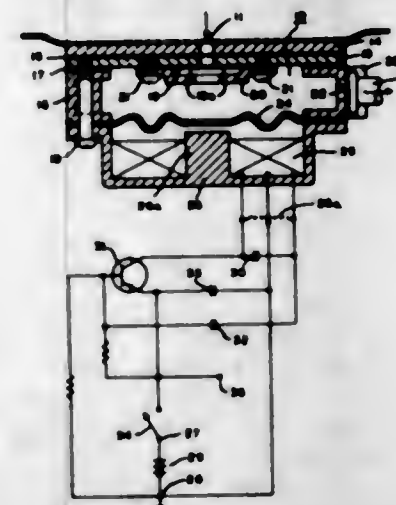
This invention relates to the art of pumping fluids, and particularly to a pump which has a variable rate of delivery while maintaining a constant pressure. In fact, with the applicant's pump, the flow can be reversed. Basically, the pump of the present invention utilizes a casing within which is placed a cavity ring surrounding a rotor. Movement of the cavity ring from a perfectly concentric position with respect to the rotor (zero flow) away from such a concentric position increases the amount of flow. This element standing alone has been known in the past and pumps have been suggested in which the movement of the cavity ring results from an increase in the amount of output pressure in the outlet port of the pump. Obviously if a pump is delivering fluid, and the outlet conduit is suddenly closed, there is immediately created a tremendous increase in the pressure within the system which may affect the pump or the motor. As indicated, the prior art has suggested

utilizing this increase in pressure to position the cavity ring with respect to the rotor so that it was substantially concentric and therefore the great increase in pressure was neutralized by eliminating, or at least greatly decreasing, the throughput of the pump.

Prior art has also suggested various modifications of porting arrangements which will avoid some of the problems of early pumps. Most of the early roller and blade pumps, as was true of the gear pumps from which they stemmed, had a radially discharging inlet on one side of the casing and an outlet from approximately the opposite side. An improvement was suggested in pumps which had no variability as to rate of delivery (i.e., those in which the rotor and casing were fixed with respect to their location) to deliver liquid axially of pump rotor at one side so that fluid could flow behind the blade or rotor as well as outside of it. However, heretofore no one has suggested such porting arrangements for variable delivery pumps. The applicant has discovered that by slightly modifying the porting arrangements heretofore known it is possible to provide this type of porting for variable delivery pumps.

#### 3,381,623 ELECTROMAGNETIC RECIPROCATING FLUID PUMP

Harold F. Elliott, 800 Westridge Drive,  
Menlo Park, Calif. 94026  
Filed Apr. 26, 1966, Ser. No. 545,335  
2 Claims. (Cl. 103-152)



An electromagnetic reciprocating fluid pump comprises a cylindrical pump chamber of nonmagnetic material. The lower flat wall of the chamber is in the form of a resilient diaphragm sealed to the cylindrical wall around its periphery, the diaphragm being of high-remnance paramagnetic material magnetized radially from its center outward. Below the diaphragm is a solenoid comprising a central core and a cup-shaped magnetic member forming essentially a closed magnetic path including the diaphragm. The upper wall of the pump chamber includes inlet and outlet ports, each having a one-way check valve. The solenoid winding comprises reactance means forming a part of a resonant circuit which, with an associated electronic valve, forms a source of periodic or pulsating unidirectional current for vibrating the diaphragm to pump fluid supplied to the inlet port.

#### 3,381,624 FAIL-SAFE CONTROL FOR HYDRAULIC CROSS-CENTER PUMP

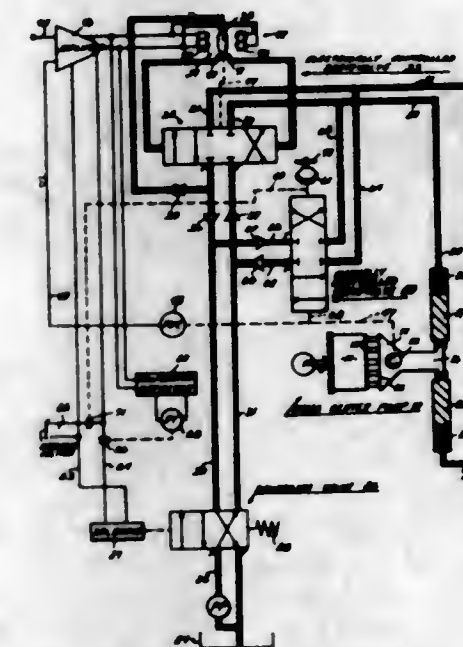
Ellis H. Born, Columbus, Ohio, assignor to Abex Corporation, New York, N.Y., a corporation of Delaware  
Filed Sept. 9, 1966, Ser. No. 578,331  
11 Claims. (Cl. 103-162)

1. A system for changing the displacement of a cross-center hydraulic pump operated in association with elec-

trical control circuitry, said pump having displacement changing means positioned by hydraulic piston means, said system comprising:

an electrically controlled servovalve and a manually controlled servovalve each for regulating the application of pressure fluid from a source to said piston means,

a reversing valve controlled by a solenoid, said reversing valve being connected through no-return valve means oriented to direct pressure fluid from said source to said piston means through said electrically controlled servovalve when said solenoid is energized

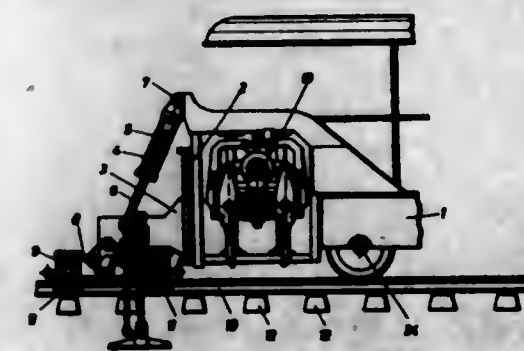


and directing flow to said piston means through said manually controlled servovalve when said solenoid is not energized, both said servovalves being biased to a no-signal position in which they block flow therethrough to said piston means, means energizing said solenoid and means for deenergizing said solenoid in response to a malfunction of predetermined nature in said electrical control circuitry, and means for deenergizing said solenoid when said manually controlled servovalve is moved from said no-signal position.

3,381,625

#### TRACK RAISING APPARATUS

Franz Planzer and Josef Theurer, both of  
Johannsgasse 3, Vienna, Austria  
Filed July 21, 1965, Ser. No. 473,584  
Claims priority, application Austria, Aug. 7, 1964, A 6,818/64  
3 Claims. (Cl. 104-7)



A track raising apparatus comprising a track gripper and a jack supporting the machine frame. The track

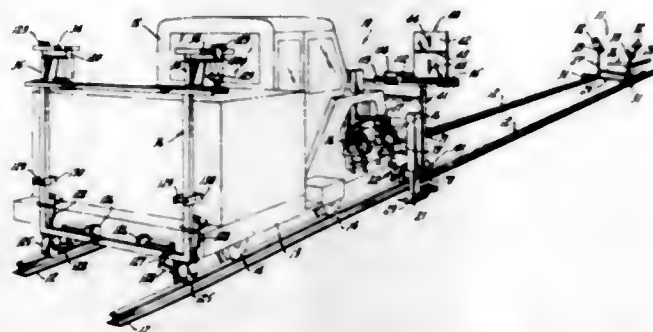


gripper is moved upwardly in respect of the machine frame to raise the track and the jack cylinder is moved upwardly with the track gripper for additional raising of the track while the machine frame is supported on the ballast.

### 3,381,626 TRACK WORKING ASSEMBLY AND CONTROL SYSTEM

Russell J. Fagan, James E. Anderson, Bruce W. Bradshaw, and David G. Strasser, Ludington, Mich., assignors to Jackson Vibrators, Inc., Ludington, Mich., a corporation of Illinois

Filed Mar. 25, 1966, Ser. No. 537,387  
16 Claims. (Cl. 104-7)

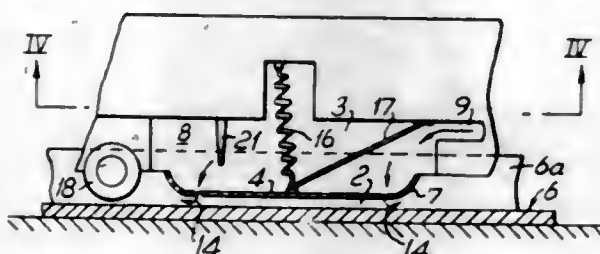


1. A track working assembly comprising, in combination, a tamper, jacks and rail clamps mounted on said tamper, a plurality of actuators coupled to said jacks for raising track and shifting it from side to side, a light carriage adapted for movement along the track, a first light source mounted on said carriage in a predetermined horizontal plane above the track, a second light source mounted on said carriage in a predetermined vertical plane along the track, a first light sensor mounted on said tamper in a predetermined horizontal plane above the track, a second light sensor mounted on said tamper in a predetermined vertical plane along the track, means for preventing said first sensor from sensing light from said first source, a first mask on said tamper between said sources and said sensors and disposed to create with light from the first source a pattern on said first sensor, a second mask on said tamper between said sources and said sensors and disposed to create with light from the second source a pattern on said second sensor, a first circuit controlled by said first sensor for operating the actuators which raise the track, and a second circuit controlled by said second sensor for operating the actuators which shift the track from side to side.

### 3,381,627 VEHICLES

William Barrie Hart, Dibden, Purlieu, Alan John Bing, Lyndhurst, and Roger Boulton Stroude, Egham, England, assignors to Hovercraft Development Limited, London, England, a British company

Filed July 19, 1966, Ser. No. 566,273  
Claims priority, application Great Britain, July 22, 1965, 31,231/65  
10 Claims. (Cl. 104-23)



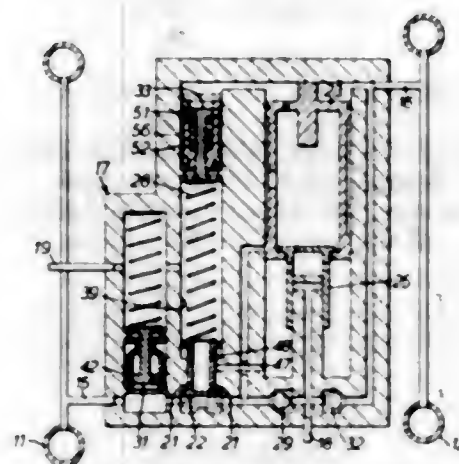
1. A vehicle which obtains at least occasional support from a cushion of pressurized gas formed and contained

between the vehicle body and the surface over which the vehicle operates, provided with a chamber having a movable wall part which faces the surface, the wall part being flexibly connected to the remainder of the chamber so as to be movable towards and away from the surface, gas supply means for supplying pressurized gas to the chamber interior, cushion-forming means for directing gas from the chamber to between the wall part and the surface so as to form said cushion of gas therebetween and resilient means for biasing the wall part away from the surface against the loading of gas in the chamber.

### 3,381,628 WAGON SPEED-CONTROL SYSTEM

Dennis E. Lambeth, Cheltenham, and Anthony G. L. Shore, Winchcombe, England, assignors to Dowty Technical Developments Limited, Brockhampton, England, a British company

Filed Sept. 8, 1966, Ser. No. 577,987  
Claims priority, application Great Britain, Sept. 16, 1965, 39,546/65  
6 Claims. (Cl. 104-162)



1. A system for controlling the speeds of wagons moving along a railway track, comprising at least one pair of hydraulic displacement devices fixed to the track so that both devices execute contraction and then extension movements, for the most part at least, together under rolling engagement by a pair of co-axial wagon wheels, and control valve mechanism providing controllable connections between each device and either a low pressure liquid source or a high pressure liquid source, said mechanism including a speed-sensing valve responsive to the flow rate of liquid discharge by contraction of a first one of said devices, the speed-sensing valve acting when the flow rate is less than a pre-determined value to cause liquid discharged by both devices to flow to the low pressure source, and acting when the flow rate exceeds the pre-determined value to cause liquid discharged by both devices to flow to the high pressure source, and a position-sensing valve including operating means responsive to the quantity of liquid flowing from and to the second of said devices, the operating means acting on the position-sensing valve substantially upon completion of liquid discharge from the second device to the low pressure source, to connect both devices to the high pressure source, and acting substantially upon completion of the ensuing high pressure liquid flow into the second device to isolate the high pressure source from both devices.

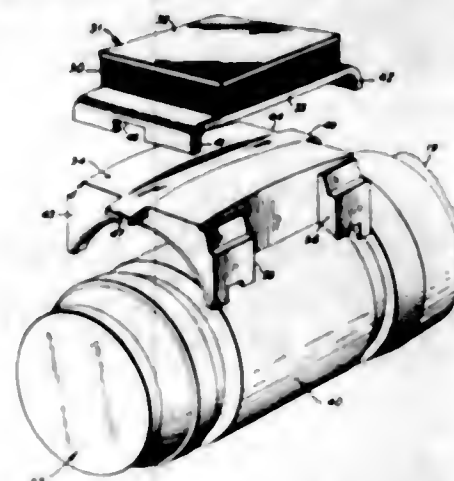
### 3,381,629 CUSHION MOUNTED BEARING ADAPTOR FOR RAILWAY TRUCKS

Walter B. Jones, Columbus, Ohio, assignor to The Buckeye Steel Castings Company, Columbus, Ohio

Filed July 1, 1965, Ser. No. 468,905  
3 Claims. (Cl. 105-218)

An elastomeric element arranged between each bearing assembly and a load bearing portion of associated frames

of a railway truck. The elastomeric elements accommodate axial movements of the bearing assemblies of each conveying of the mould frames and common drive means for the three-dimensional rotation of the mould frames,

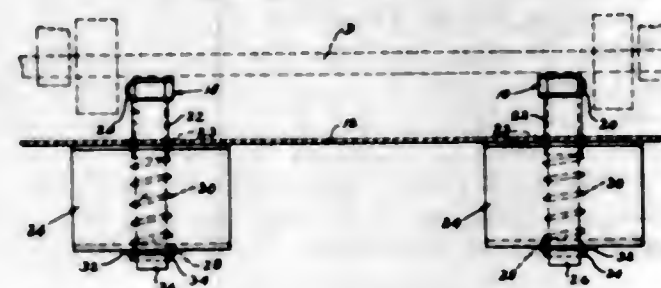


axle and eliminate or reduce lateral impact which would otherwise be applied to the truck frames.

### 3,381,630 GUIDE RAIL STRUCTURE FOR RAILWAY FLAT CARS

Dallas W. Rollins, St. Charles, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Oct. 31, 1966, Ser. No. 590,600  
7 Claims. (Cl. 105-368)



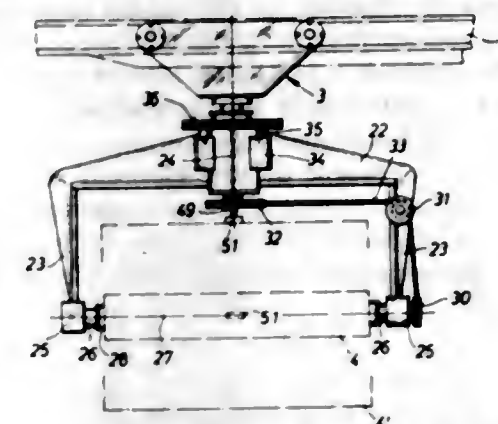
1. A railway flat car adapted to transport a trailer secured thereon comprising, a generally flat deck, a hitch mounted on the deck adapted to engage and secure the kingpin of the trailer, a pair of spaced, generally parallel guide rails on the deck extending longitudinally of the railway car with said hitch being positioned between the guide rails, each rail having a rail section generally adjacent the hitch mounted for movement between an erect position projecting above the deck and a retracted position closely adjacent the upper surface of the deck, and means biasing the movable rail sections to erect position, said rail sections being moved to retracted position against said biasing means upon a generally downward force being exerted against the rail sections and being returned to erect position under the influence of said biasing means after said downward force is removed.

### 3,381,631 INSTALLATION FOR THE PRODUCTION OF HOLLOW CHOCOLATE BODIES

Roland Hörnlein, Schwabach Gmund, and Gerold Domhan, Waldstetten, Kreis Schwabach Gmund, Germany, assignors to Walter Hörnlein Metallwarenfabrik KG, Schwabach Gmund, Germany

Filed Sept. 28, 1965, Ser. No. 490,912  
Claims priority, application Germany, Oct. 6, 1964, H 53,954; Aug. 20, 1965, H 56,922, H 56,923  
32 Claims. (Cl. 107-8)

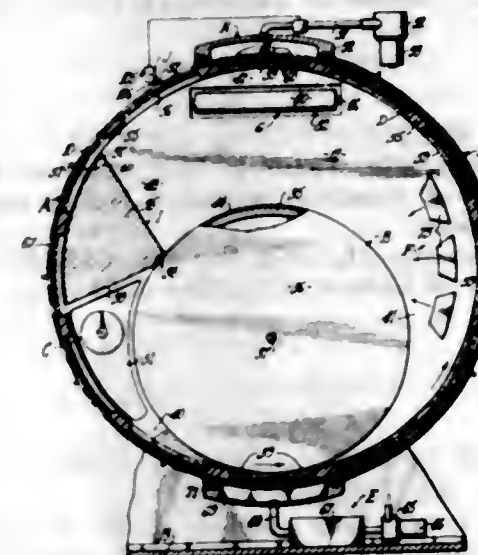
An installation for the production of hollow chocolate bodies, having an endless conveying path for a plurality of individually three-dimensionally rotatable mould frames arranged in a row endlessly one behind the other, with common conveying means for the common further



also with arrangements for the halting of the mould frames in their three-dimensional rotational movements.

### 3,381,632 METHOD AND APPARATUS OF MOLDING PIZZA PIE CRUSTS, CHEESE SLICES AND THE LIKE

Nicholas E. Postecorvo, 18234 Valley Vista, Tarzana, Calif. 91356  
Filed Oct. 22, 1965, Ser. No. 502,069  
13 Claims. (Cl. 107-8)



Disclosed herein is a method and apparatus for automatically molding pizza pie crusts and the like, wherein bulk dough is fed from a hopper into a chamber defined between converging cylindrical male and female surfaces of rollers or drums rotating substantially in unison at a narrow pass where the surfaces are nearly tangent, the dough, in moving through said pass, being squeezed into shallow mold cavities in the female mold drum, assisted by suction which is applied to each cavity as it moves through the pass; the patties then being carried upwardly to an overhead position by the rotating female drum, where they are discharged onto a suitable receiving surface such as a conveyor, air pressure being applied to the cavities at said overhead position and co-operating with gravity in effecting release of the patties from the mold cavities.

### 3,381,633 MOULD ELEMENTS FOR MACHINES FOR MOULDING PARALLELEPIPEDICAL ARTICLES

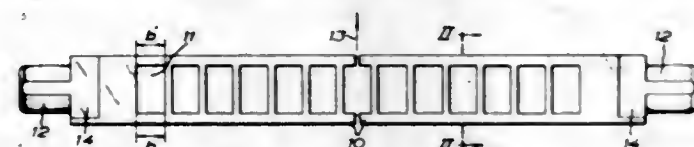
Ake Hans Gustaf Birch-Jensen, Arlov, Sweden, assignor to Svenska Sockerfabriks Aktiebolaget, Malmo, Sweden

Filed Sept. 28, 1966, Ser. No. 582,651  
Claims priority, application Sweden, Oct. 4, 1965, 12,811/65  
1 Claim. (Cl. 107-19)

1. In a mould element for making parallelepipedal moulded cubes from a moist composition of sugar crystals



by vibrating said mould element to compact said composition in at least one mould cavity formed by said mould element at the same time moving such element in a direction substantially perpendicular to the vibrating movement, comprising a bar having two opposite flat surfaces, said mould cavity extending through said bar between said surfaces substantially perpendicularly to the intended movement of said element as well as to the intended vibrating movement and opening at its opposite ends at said surfaces, at least one of said ends being closed by an external separate base member when the

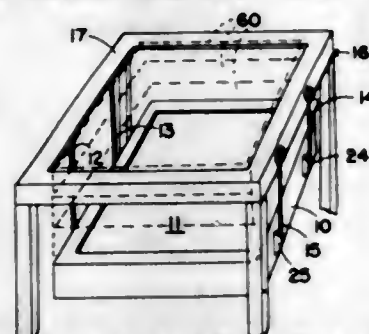


mould element is in use, two opposite flat end walls and two opposite flat side walls bounding said mould cavity and joining each other at four corners thereof, said end walls being substantially parallel with each other and being substantially perpendicular to the intended direction of movement of said mould element, said side walls extending in the intended direction of movement of said mould element, the improvement that said flat side walls diverge slightly in the intended direction of movement of said mould element to the leading end of said mould cavity.

### 3,381,634 SELF-LEVELING DEVICE

Henry H. Rothschild, Teaneck, N.J., assignor to Caddy Corporation of America, Secaucus, N.J., a corporation of New Jersey

Filed July 21, 1967, Ser. No. 655,107  
8 Claims. (Cl. 108-136)

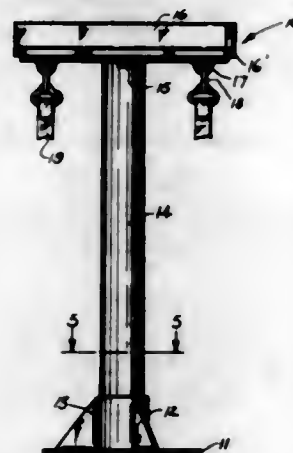


The invention relates to a self-leveling storing and/or dispensing platform relying on coil spring compensation for changes in weight in which all of the self-leveling mechanism is held within the platform structure.

### 3,381,635 PORTABLE UTILITY CHAIR

George F. Pforr, 3502 Brookside Drive, Rapid City, S. Dak. 57701

Filed Oct. 7, 1966, Ser. No. 585,051  
1 Claim. (Cl. 108-150)



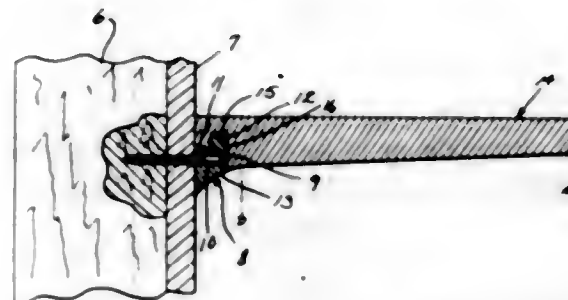
A conveniently portable chair for use by fishermen or

spectators at a game, the chair including a base screw threaded to a stand having a hinged seat secured to the upper end, the under side of the seat being provided with eyelets to which opposite ends of a strap may be secured to allow convenient transportation thereof over a person's shoulder.

### 3,381,636 SHELF MOUNTINGS

Erwin W. Selberlich, 1719 W. Reid Drive, Appleton, Wis. 54911

Filed Oct. 27, 1966, Ser. No. 589,901  
9 Claims. (Cl. 108-152)

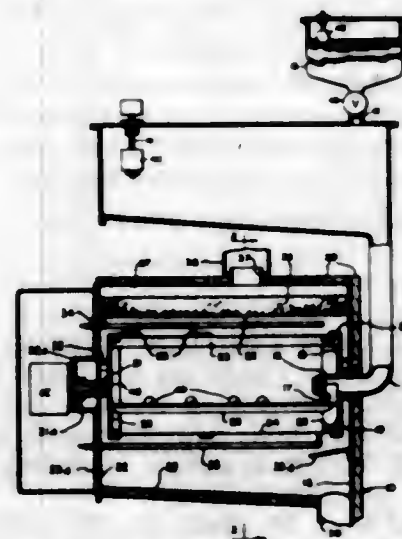


A shelf mounting comprising an elongated strip having a top ridge and having an inner edge adapted to bear against the wall which is greater depth than its outer edge, securing screws extending through the mounting strip below the ridge, and a shelf of uniform cross-section having a bottom recess at its inner edge shaped to interfit with the mounting strip and its ridge, the inner edge of the shelving being of increased thickness to conceal the screw heads and to provide increased bearing surface, with the increased thickness of the shelf merging into said increased thickness at the bottom of the mounting strip.

### 3,381,637 APPARATUS FOR DISPOSAL OF SEWAGE SLUDGE

Robert P. Farrell, Jr., Louisville, and Johann F. Schulte, Valley Station, Ky., assignors to General Electric Company, a corporation of New York

Filed Apr. 11, 1966, Ser. No. 547,066  
16 Claims. (Cl. 110-8)



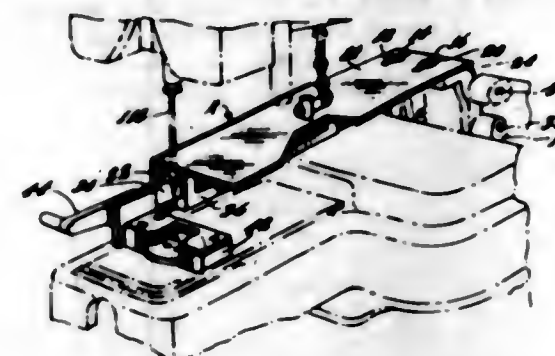
The sewage sludge incinerator of this apparatus is operated in a batchwise manner, sewage sludge being charged and then after removal of water by filtration the sludge is heated and dried and finally burned. Novelty

of this apparatus centers in the combination of control means for regulating the weight of sludge deposited in the incinerator for disposal by combustion so that the volume of sludge charged into the incinerator on each successive cycle will be varied automatically according to the solids content of the sewage sludge feed.

### 3,381,638 BUTTON SEWING ATTACHMENT

Isaac Pope, Philadelphia, Pa., assignor to Frank Saxon, Jr., Philadelphia, Pa.

Filed Oct. 22, 1965, Ser. No. 500,600  
14 Claims. (Cl. 112-114)

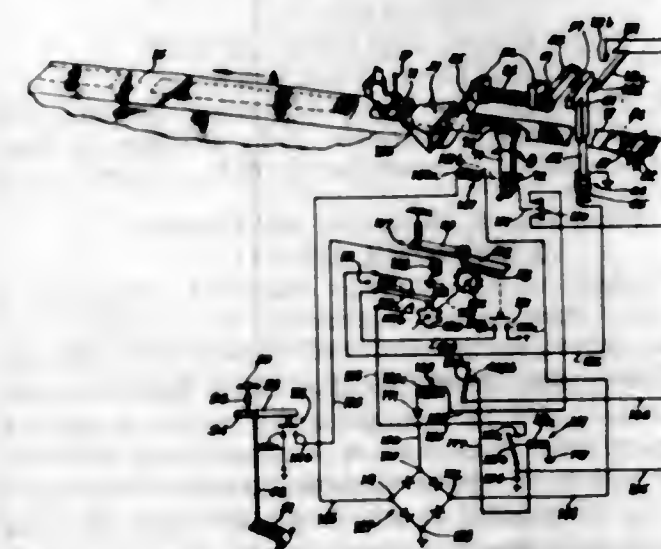


A button sewing attachment including a button holder which is rotatable between a horizontal position and a vertical position. The button holder is attached to a carrier which is horizontally reciprocable between a forward position corresponding to the horizontal position of the button holder and a rearward position corresponding to the vertical position of the button holder. The said button sewing attachment also including solenoid means responsive to the reciprocable action of the carriage to change the stitch pattern of the button sewing machine.

### 3,381,639 APPARATUS FOR FEEDING AND CUTTING STRIP MATERIAL

Samuel E. Miller, Wilmette, Ill., assignor to Quick Service Textiles, Inc., Chicago, Ill., a corporation of Illinois

Filed Feb. 21, 1966, Ser. No. 538,500  
4 Claims. (Cl. 112-130)

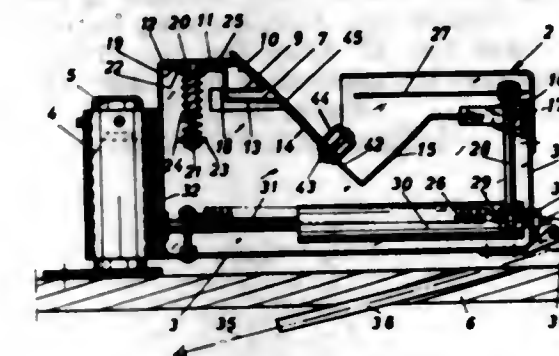


The invention relates to apparatus for sewing predetermined lengths of a material in strip form to a second strip of material at spaced intervals along the latter. The successive lengths of the first-mentioned material are fed to the sewing station intermittently and are cut off to the predetermined length cyclically by automatic or semi-automatic means.

### 3,381,640 APPARATUS FOR APPLYING RIBBONS AT SLITS OF CLOTHINGS

Mats Ingvar Davidson, Nyngarden, Gaughester, Sweden

Filed Mar. 7, 1966, Ser. No. 532,170  
9 Claims. (Cl. 112-147)

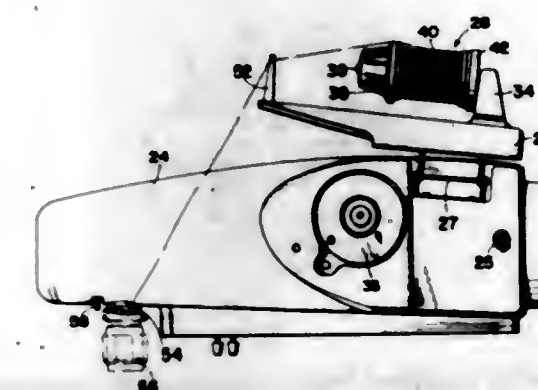


An attachment for a sewing machine to apply a ribbon of textile material along the borders of a slit in clothing such as a shirt or blouse. Folding means are provided for folding the ribbon prior to being applied to the borders of the slit. The folding means has an open end in front of the presser foot of the sewing machine and has an inclined wall upon which the ribbon is placed extending longitudinally of the folding means. A horizontal groove is provided in the wall extending longitudinally thereof and a folding rail is movable transversely of the wall to cooperate with the groove so as to fold a ribbon when placed on such wall. The groove is also provided with spring biased means so as to grasp the ribbon firmly when folded. The folding rail is provided with spring biased means which may be operated by the knee of the operator.

### 3,381,641 ZIGZAG SEWING MACHINE THREAD SPOOL UNWINDERS

Edward W. Bialy, Hillside, and August M. Gardner, Elizabeth, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 30, 1965, Ser. No. 483,596  
1 Claim. (Cl. 112-218)



A means is disclosed which will allow an axial thread spool unwinder to feed thread coils properly to a zigzag sewing machine, when the sewing machine is sewing with its hinged cover plate in either opened or closed position. More specifically the thread spool will not rotate while feeding the coils of thread to the zigzag machine and therefore, the thread will not snag and/or break. The means for accomplishing this result include placing a thread guide post on the external surface of the hinged cover plate, in spaced relation and substantial axial align-

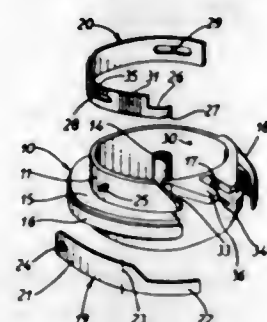


ment with the thread spool unwinder so that the thread will be withdrawn axially from the unwinder through the upright thread guide member.

3,381,642

**BOBBIN CASE HOLDER FOR SEWING MACHINES**

Luigi Bono, Pavia, Italy, assignor to Necchi Società per Azioni, Pavia, Italy  
Filed July 27, 1965, Ser. No. 475,216  
Claims priority, application Italy, July 31, 1964, Patent 740,311  
1 Claim. (Cl. 112-229)

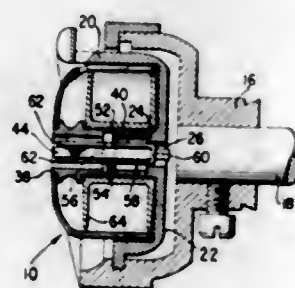


A bobbin case holder for sewing machines comprising an improved tensioning device for the lower thread, said device comprising an arcuate clamping member of varying radius fitted along the external cylindrical wall of the bobbin holder for clamping the lower thread against said wall, and a resiliently flexible arcuate leaf spring fitted on said wall over said clamping member, said leaf spring being circumferentially displaceable along the extent of said clamping member.

3,381,643

**BOBBIN-SUPPORTING ASSEMBLIES FOR SEWING MACHINES**

Arthur S. Meloy, Jr., Morris Plains, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey  
Filed Oct. 10, 1966, Ser. No. 585,554  
3 Claims. (Cl. 112-231)



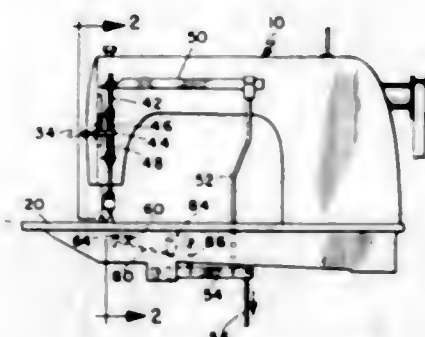
1. A sewing machine bobbin supporting assembly comprising a cup-shaped open ended bobbin-case carrier, a bar extending diametrically across one open end of said carrier and formed with an inner and exterior surface, said bar being formed in the exterior surface with a latch-lever engaging lip, a cup-shaped bobbin case having a circular end head formed with an opening and a tubular bobbin-supporting arbor secured to said end head and extending axially within said carrier, a spring-biased latch-lever pivotally mounted within said arbor on a transverse pin secured within said arbor intermediate the arbor ends, said latch lever including a finger grip at one end segment and a foot at the other end segment, said latch lever being disposed within said arbor such that said

finger grip end segment protrudes through the opening in said circular end head and said latch lever foot engages said lip thereby releasably to lock said bobbin case against axial movement relatively to said carrier, said latch lever foot is formed with a heel at one end and a toe at the other end, said heel being adapted to engage said lip in one position of the latch lever and said toe being adapted to engage a bobbin mounted within said bobbin case in another position of the latch lever, and means for preventing rotation of said bobbin case relatively to said carrier.

3,381,644

**THREAD CUTTER FOR SEWING MACHINE**

Robert E. Davy, La Mesa, Calif., assignor to Coroga Co., Anaheim, Calif.  
Filed Feb. 18, 1966, Ser. No. 528,487  
6 Claims. (Cl. 112-252)



The thread cutter is adaptable to most sewing machines, particularly industrial types, and is operable by various means to cut the thread at the end of a line of stitching, the action of the cutter not being critical in relation to the needle stroke or timing of the mechanism. The simple structure is independent of the stitching mechanism, but utilizes the looper action to draw the thread across the cutter blade, which is of circular form to allow rotation to a fresh cutting edge portion when needed, and adjustable stop means is used to control the precise positioning of the blade in cutting position.

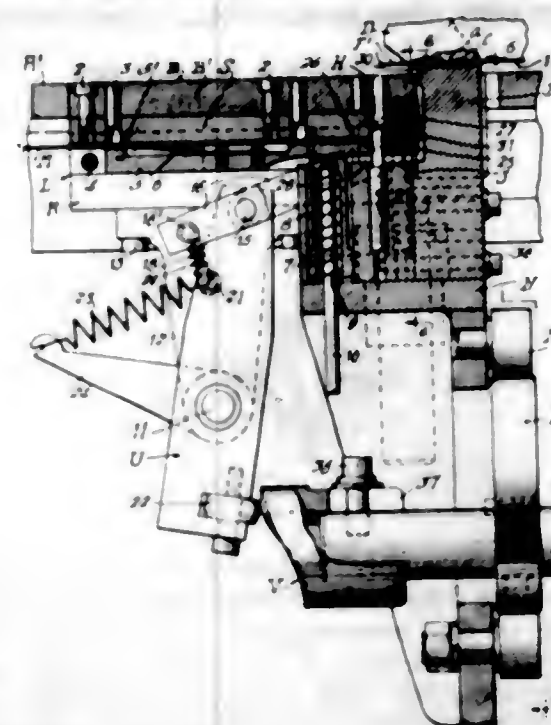
3,381,645

**CONTAINER POURING SPOUT INSERTING MACHINE**

Milton H. Klausmann and Henry J. Brucker, Summit, and Anthony J. O'Lenick, Fairlawn, N.J., assignors to Seal-Spout Corporation, Mountainside, N.J., a corporation of New Jersey  
Filed Feb. 1, 1966, Ser. No. 524,028  
8 Claims. (Cl. 113-1)

1. A machine of the character described comprising a main support plate having a guideway for a strip of flat blanks for spouts, means for feeding said strip through said guideway step-by-step, a die block fixed on said support at one side of said guideway and said strip, a complementary die block and a support block therefor carried by said main support plate at the other side of said guideway to reciprocate to and from said fixed die, said die blocks being formed to simultaneously bend the blank to form a body portion and side wings for a spout and to punch said body portion at the end of one step of movement of the strip upon movement of said reciprocable die toward the fixed die block, means for reciprocating said support block in timed relation to the step-by-step feeding of said strip, a guide channel into which a completed spout is inserted at each step of movement, and means including a ram mounted on and movable with said support block and operative upon movement of said support block, said

movable die block and said ram toward said fixed die block to sever said completed spout from the strip in said

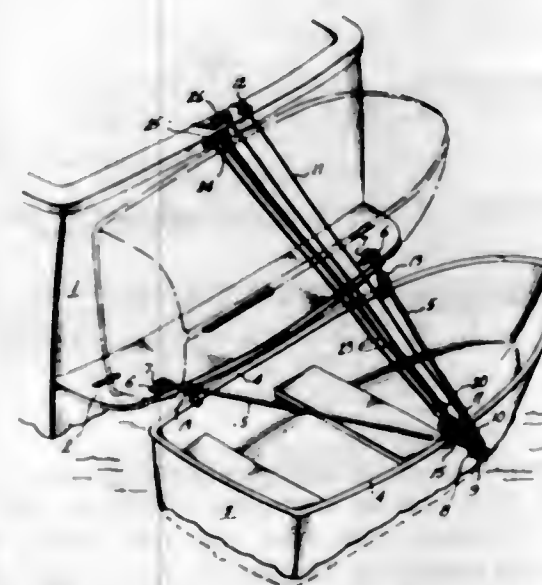


channel and to convey the spout in said channel to a predetermined point.

3,381,646

**CABIN CRUISER DINGHY DAVIT**

Alva John Ledford, 7724 192nd Place SW., Edmonds, Wash. 98020  
Filed Sept. 12, 1966, Ser. No. 578,878  
12 Claims. (Cl. 114-43.5)



1. A cabin cruiser dinghy davit comprising a frame, means attachable to a cabin cruiser stern and guiding said frame for swinging between a lowered substantially horizontal position overlying a dinghy while floating and an upright position raised alongside the transom of the cabin cruiser, gripping members carried by said frame engageable with opposite side portions of a dinghy and movable relatively toward and away from dinghy-gripping relationship, one of said gripping members being movably carried on said frame and means extending from the stern portion of the cabin cruiser and connected to said movable gripping member for effecting relative movement of said dinghy-gripping members to grip a dinghy therebetween and for swinging said frame from said lowered position to said raised position to lift and tilt the dinghy.

3,381,647

**FULL AIRFOIL SAIL**

Harry Keeler, 150 Purdue Ave., Berkeley, Calif. 94708  
Filed Oct. 12, 1966, Ser. No. 586,072  
9 Claims. (Cl. 114-102)

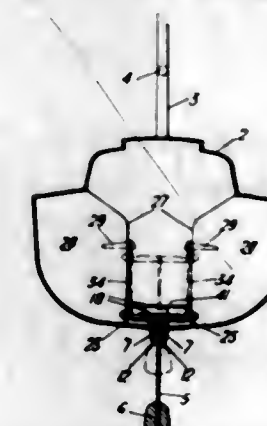


A full airfoil sail has a plurality of rigid, horizontal, vertically spaced apart ribs, each having the shape of an airfoil cross-section, encased in the sail. The ribs slide up and down a rotatable mast. When the sail is lowered the sail and ribs may be received in a furl box for storage. Differential shaped sails may be interchanged for different tacks.

3,381,648

**RETRACTABLE CENTERBOARDS FOR YACHTS**

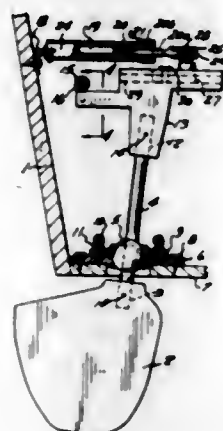
Willem Frederik Vonck, 15 David's Road, Forest Hill, London, England  
Filed Feb. 13, 1967, Ser. No. 615,559  
Claims priority, application Great Britain, Mar. 1, 1966, 8,963/66  
8 Claims. (Cl. 114-138)



A yacht has a centerboard which is slidable upwards and downwards through a slot in the hull, and, instead of mounting the centerboard within a casing as is usual to prevent water entering the hull through the slot, a resilient gasket is provided around the slot bearing against the sides and ends of the centerboard. Fixing devices are provided for securing the centerboard in its lower position and the centerboard has a laterally projecting flange at its top which overlies the gasket and two laterally projecting arms acted upon by screw jacks for raising and lowering the centerboard. The arms run on guide surfaces in the hull to provide the top of the centerboard with the support as it is raised or lowered.



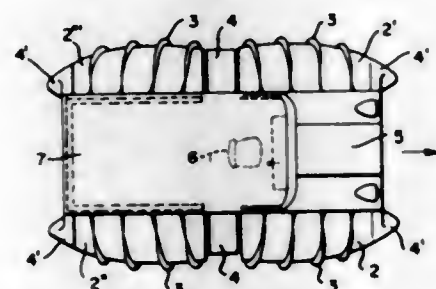
**3,381,649**  
**BOAT STEERING MECHANISM**  
 Lyle O. Ward, 615 River St.,  
 Port Huron, Mich. 48060  
 Filed Dec. 7, 1966, Ser. No. 599,857  
 6 Claims. (Cl. 114-169)



A rudder post carrying a rudder and mounted on a universal joint in the hull of a boat, and surmounted by and rigidly engaging the center portion of a lever. Drive means engaging an end of said lever to drive the lever and the post in pivotal travel about said universal joint. A fulcrum mounted to a wall of said boat, a universal joint engaging said fulcrum, and carried by the opposite end portion of said lever and having slidable travel relative to said lever toward and from said universal joint to vary the leverage ratio between said drive means and said universal joint, and said fulcrum and said universal joint, whereby the mechanical advantage of said lever may be varied as desired.

**3,381,650**  
**AMPHIBIOUS VEHICLE HAVING THE DRIVING AND FLOATING SCREW ROTORS ON ITS BOTH SIDES**

Isamu Itoh and Kiyoshi Imamura, Tokyo-to, Japan, assignors to Ishikawajima-Harima Jukogyo Kabushiki Kaisha, Tokyo-to, Japan, a Japanese company  
 Filed Sept. 26, 1966, Ser. No. 582,075  
 Claims priority, application Japan, Dec. 17, 1965, 40/102,556  
 4 Claims. (Cl. 115-1)



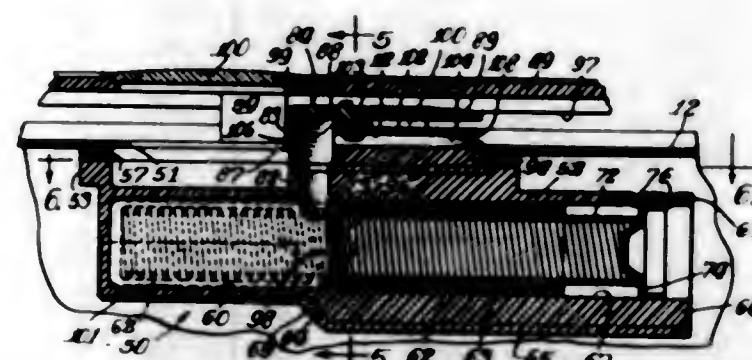
A surface vehicle for traveling on land or water. The vehicle has front and rear pairs of screw rotors which are supported for rotary movement about their axes. Each screw rotor consists of an elongated rotor body which has an outer tapered end and a substantially constant diameter from the region of its outer end to its inner end, and each of the rotor bodies fixedly carries at its exterior a helically wound fin means which has a width which is but a small fraction of the diameter of the rotor body and which in the region of the inner end thereof has a plurality of convolutions of substantially the same diameter while in the region of the outer end of each rotor body the fin means has an end convolution of a substantially smaller diameter.

**3,381,651**  
**FLUID FILTER ASSEMBLY HAVING A WARNING INDICATOR**  
 Robert C. McKinlay, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
 Filed May 31, 1967, Ser. No. 642,397  
 5 Claims. (Cl. 116-70)



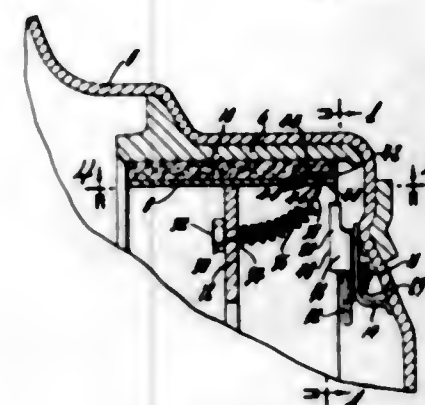
A fluid filter assembly including filtering material through which the fluid to be filtered passes and an indicator warning of dirt contamination of the filter to the extent that filtering efficiency is impaired. A visual signal is given by the indicator when a significant pressure drop across the filtering material is sensed by the indicator as occurs when the filtering material becomes clogged with dirt.

**3,381,652**  
**VISUAL-AUDIBLE ALARM FOR A VACUUM CLEANER**  
 Harold W. Schaefer, Bloomington, and Elmer E. Bruning, Normal, Ill., assignors to National Union Electric Corporation, Stamford, Conn., a corporation of Delaware  
 Filed Oct. 21, 1965, Ser. No. 499,551  
 14 Claims. (Cl. 116-114)



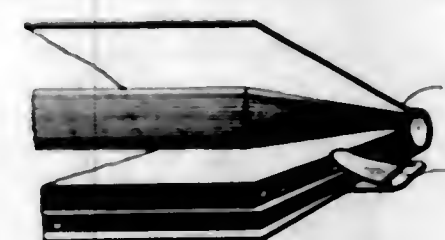
2. In combination, a suction cleaner having a casing with an air inlet and an air outlet, a filter in said casing interposed between said inlet and said outlet, suction means in said casing for causing air flow from said inlet through said filter to said outlet, and a combined visual-audible signal device for indicating clogging of said filter, said signal device comprising a housing, a pressure responsive member movable in said housing in response to a differential pressure between the inside and outside of said casing, said housing having air passage means communicating between the inside and outside of said casing and effective to expose opposite portions of said member to the pressures at the inside and outside of said casing, means providing a visible signal in response to movement of said member upon partial clogging of said filter, means operative in response to movement of said member beyond a predetermined position upon further clogging of said filter for increasing the flow of air from outside said casing through said housing to the inside of said casing, and means providing an audible signal in response to the increased air flow.

**3,381,653**  
**BRAKE LINING WEAR SIGNAL WITH CENTRIFUGAL CONTROL**  
 Richard C. Rike, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
 Filed Feb. 2, 1967, Ser. No. 613,553  
 7 Claims. (Cl. 116-114)



In preferred form, this disclosure describes a brake lining wear signalling device including a centrifugally controlled striker mounted on a conventional vehicle wheel and movable between operative and inoperative positions in response to vehicle speed. An associated spring has one end connected to a brake shoe web and the other end releasably secured in the lining mounted on the shoe. A predetermined amount of lining wear releases the one spring end for engagement by the striker, only during relatively low vehicle speeds, to provide an audible signal during each revolution of the wheel drum.

**3,381,654**  
**AUTOMATICALLY OPERATING BOOKMARK**  
 Ross E. Hupp, 4961 La Gama Way, Santa Barbara, Calif. 93105, and William R. Gallagher, 1550 Hillside Drive, Glendale, Calif. 91208  
 Continuation-in-part of abandoned application Ser. No. 560,218, June 24, 1966. This application May 12, 1967, Ser. No. 648,514  
 6 Claims. (Cl. 116-119)

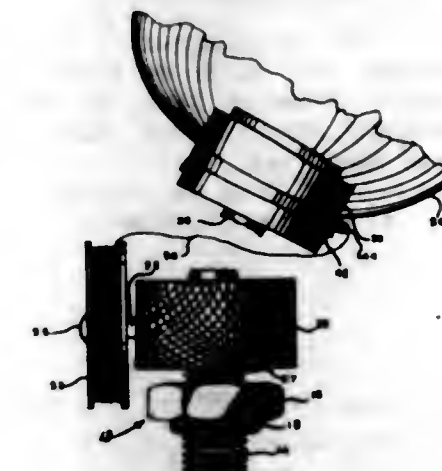


A one-piece bookmark made of a plane strip of flexible, resilient material has a clip portion spaced from one end with a holding tongue in the plane of the strip to clip the bookmark to pages of a book and an indicator portion with a page indicating marking tongue at the end of the strip with the free end of the page indicating tongue extending over the clip portion so that the end of the page indicating tongue will overlie pages of the book. The edge of the page indicating tongue is inclined so that turning a page will automatically cam the tongue out of the path of the page, the tongue returning to its original position to indicate the next page.

The tongues are formed from the plane of the strip by slitting the strip with the ends of the slits curved to distribute the stress of flexing and bending the tongues and to provide space for pages held by the holding tongue. The material adjacent the end of the slit in the clip portion is

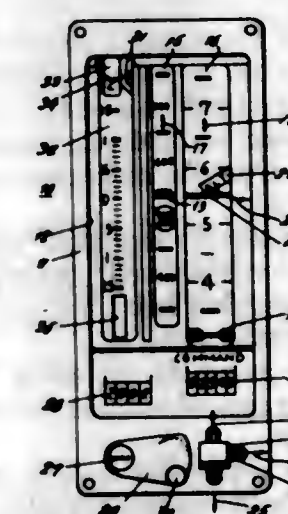
deflected from the plane of the strip to provide greater gripping effect of the clip portion. The clip portion and indicator portion may be joined along a bend or crease in the strip to form an angle between the portions so the page indicating tongue may overlie more pages.

**3,381,655**  
**RESCUE BALLOON**  
 Donald G. Rozzella, 349 S. Ursula, Aurora, Colo. 80010  
 Filed July 7, 1966, Ser. No. 563,581  
 6 Claims. (Cl. 116-124)



A complete rescue balloon assembly includes a gas tank having a valve assembly simply actuated by tightening two parts of the valve together. A frangible connector in the valve assembly permits a filled balloon to be severed from the tank and means associated with the balloon retains the gas therein. An anchor line connected to the balloon at one end and the tank at the other end permits the balloon to rise, tethered to the tank.

**3,381,656**  
**VERTICAL SCALE INDICATOR**  
 Joseph M. Ohniskian, Kingston, and Herbert B. Stolove, Flushing, N.Y., assignors to Kollman Instrument Corporation, Elmhurst, N.Y., a corporation of New York  
 Filed June 30, 1965, Ser. No. 468,502  
 12 Claims. (Cl. 116-129)



This disclosure broadly teaches a vertical scale indicator in which a plurality of reading such as, for example, altitude, air speed, rate of climb, and so forth, may be viewed through the window of an instrument by means of open loop tapes having graduations cooperating with

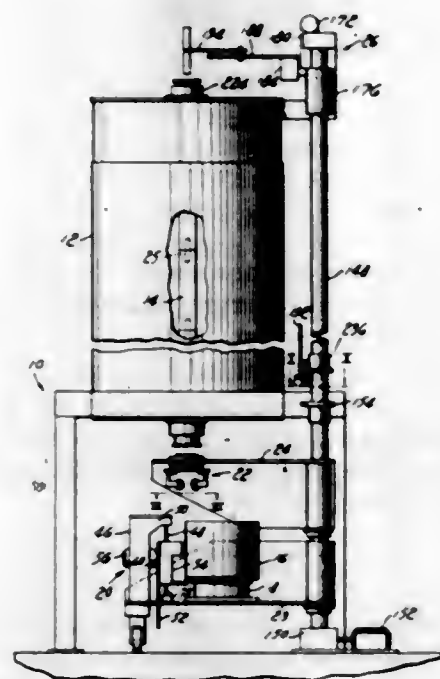


a stationary reference line to permit quick and simple observation. If a particular command reading is desired to be compared with the actual conditions, a movable command marker is provided which moves into alignment with the particular reading of the movable tape associated with the command reading. If the reading of the movable tape moves out of view, the command marker is operated so as to be movable only to the upper or lower extremes of the window. An intermittent motion mechanism stores the remainder of the reading. The command marker will again be moved into alignment with the movable tape when the command reading again is visible in the window by means of the intermittent motion mechanism.

3,381,657

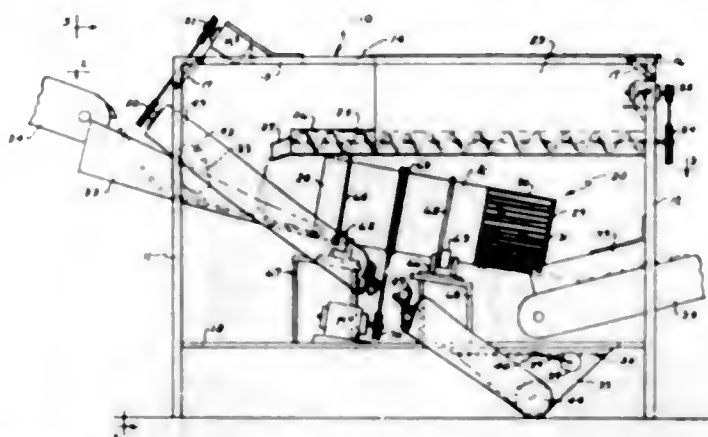
**CARBON DEPOSITION FURNACE**

Walter L. Johnson, Plakstow, N.H., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York  
Filed Feb. 18, 1966, Ser. No. 528,622  
10 Claims. (Cl. 118-2)



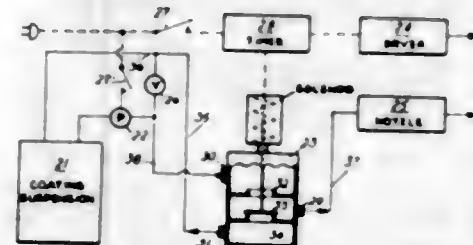
1. Apparatus for treating articles, which comprises: a treatment compartment, a magazine adapted to support a plurality of articles therein, a drive assembly for advancing a succession of articles upwardly through the treatment compartment, a feeding assembly mounted in spaced relationship with both the drive assembly and the magazine operable to remove articles from the magazine and insert them in the drive assembly, an article removal assembly mounted adjacent the top of the treatment compartment operable to engage treated articles emerging from the compartment for transfer to a collection area, said article removal assembly including a column rotatably mounted in spaced relationship with the treatment compartment, a sleeve mounted for reciprocal motion on the column, means mounted on the sleeve operable to be moved into gripping engagement with a blank emerging from the furnace, detecting means mounted on the treatment compartment operable to detect when a blank emerging therefrom has reached a predetermined point, and means responsive to activation of the detection means for activating said gripping means.

3,381,658  
**APPARATUS FOR SUGAR COATING DOUGHNUTS**  
Francis E. Porambo, Elizabeth, N.J., assignors to Francis Crullers, Inc., Elizabeth, N.J., a corporation of New Jersey  
Filed Jan. 4, 1966, Ser. No. 518,651  
2 Claims. (Cl. 118-19)



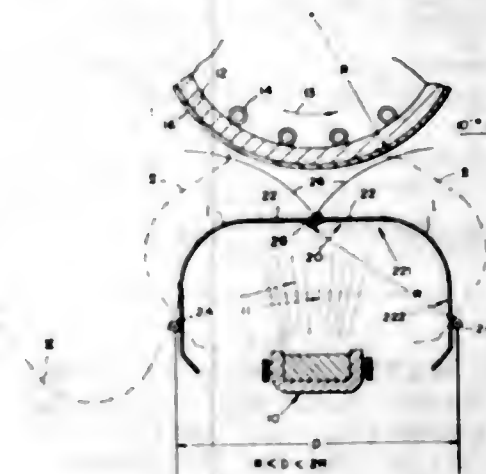
An apparatus for sugar coating doughnuts which comprises a first hopper to supply sugar positioned over the device, a rotating drum into which the doughnuts tumble and are coated with sugar, an open cage formed of bars that is rotatable and extends along the longitudinal axis from the drum to tumble and flip the doughnuts to remove excess granular sugar and a second hopper and screen to receive the surplus granular material and separate and throw off particles that are larger than the granular sugar, and a conveyor to carry the sieved sugar back to the charging end of said rotatable drum.

3,381,659  
**DRAGÉE PREPARATION AND APPARATUS THEREFOR**  
Peter Rieckmann, Mannheim-Waldhof, Heinz Schalk, Mannheim, and Eckhard Theel, Mannheim-Sandhofen, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., a corporation of Germany  
Continuation-in-part of application Ser. No. 331,639, Dec. 5, 1963, which is a division of application Ser. No. 252,275, Jan. 16, 1963. This application Dec. 29, 1966, Ser. No. 605,648  
Claims priority, application Germany, Jan. 20, 1962, B 65,598  
4 Claims. (Cl. 118-19)



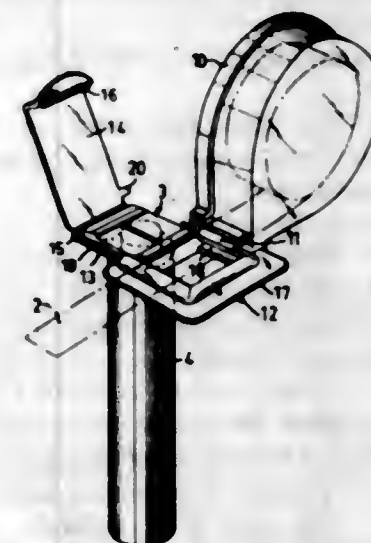
Improvements in the apparatus for use in the automatic production of dragées comprising a rotatable coating kettle for holding pill centers to be coated, spray means for delivering coating suspension from a supply tank onto said pill centers, means for delivering heated gas onto said pill centers and means for exhausting heated gas, the improvement in combining the aforesaid components with a gear pump, a safety valve, a solenoid steered three-way valve and specifically associated conduits interrelating them all so that the spraying period, the inactive period and the drying period are automatically controlled, the amount of suspension to be delivered being directly controlled by the control of the spraying period.

3,381,660  
**VAPOR DEPOSITION APPARATUS INCLUDING PIVOTED SHUTTERS**  
Benjamin Bassan, Framingham, Mass., assignor to National Research Corporation, Newton Highlands, Mass., a corporation of Massachusetts  
Filed June 9, 1967, Ser. No. 644,840  
1 Claim. (Cl. 118-49)



A vacuum coating apparatus with a curving substrate holder, an elongated source of coating vapors and a pair of pivoted shutters between substrate and source, all mounted in a vacuum chamber. The shutters protect the walls of the chamber from coating vapors in both open and closed positions and reflect heat back to the source in both positions and provide a gradual control of coating rate by movement between the two positions.

3,381,661  
**APPLICATORS FOR SUBSTANCES TO STRIP MATERIAL**  
Frank Donald Brandel, Gislaved, Sweden, assignor to AB Mahl & Normen, Gislaved, Sweden, a corporation of Sweden  
Filed Oct. 7, 1965, Ser. No. 493,732  
Claims priority, application Sweden, Oct. 10, 1964, 12,203/64  
1 Claim. (Cl. 118-410)

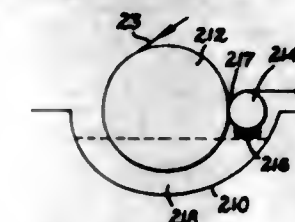


An applicator for applying a paste-like substance to strip material. The strip is contained in a magazine with a U-shaped holder, and the paste-like substance is contained in a supply container which can be screwed into an internally threaded socket in a loose block which can be inserted in a guide in the holder. The block is provided with a cover which anchors the block to the holder and

together with a path on the block defines a passageway for the strip. The block has an elongated passage between the socket and the path to supply the strip with the paste-like substance.

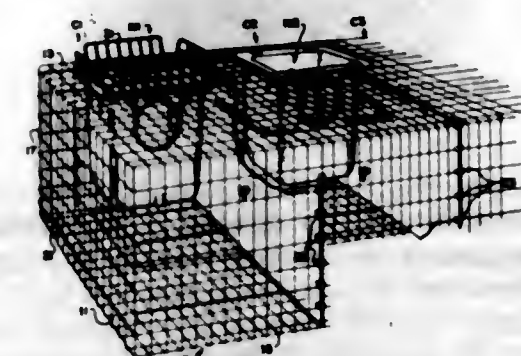
3,381,662  
**ELECTROPHOTOGRAPHIC MICRO-COPY PRINTER**

Edwin R. Kolb, University Heights, James I. Richardson, Warrensville Heights, and Francis Humstiger, Parma Heights, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware  
Original application Nov. 27, 1962, Ser. No. 240,253, now Patent No. 3,299,787, dated Jan. 24, 1967. Divided and this application Apr. 27, 1966, Ser. No. 545,628  
10 Claims. (Cl. 118-637)



A single and multi-color electrophotographic apparatus employs a charger with wires arranged diagonally with respect to the path of advancement of the image bearing member. The developer system includes a recirculating system automatically controlling the developer concentration. The developer unit includes a squeegee roller and a counterelectrode system, the squeegee roller being cleaned by a mechanical cleaner contacting the roller along its length. A color registration system is also described.

3,381,663  
**MINK NEST**  
Donald W. Dayton, 2nd and B Sts., Gresham, Ore. 97030  
Continuation of application Ser. No. 525,441, Feb. 7, 1966.  
This application Aug. 1, 1967, Ser. No. 657,709  
9 Claims. (Cl. 119-15)



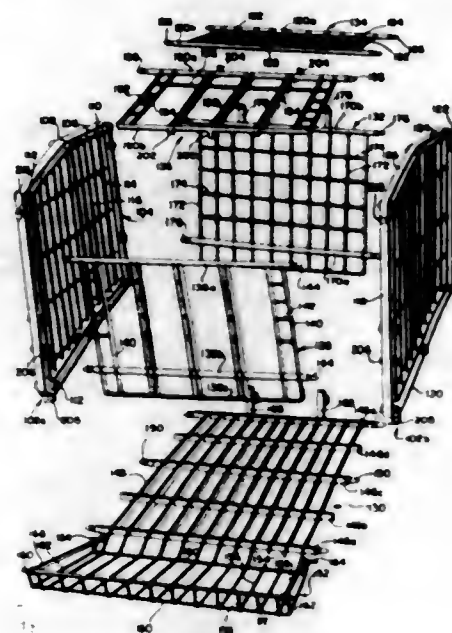
A mink nest adapted to be supported by a mink pen having side walls, a bottom wall and a removable top. One of the side walls having an animal access opening provided therein. The nest is made of plastic material with curved interior corners.

3,381,664  
**SMALL ANIMAL CAGE**  
Quinto Barlocchi, Milan, Italy  
(Calle de Padua 97, Barcelona 6, Spain)  
Continuation-in-part of application Ser. No. 306,801, Sept. 5, 1963. This application Dec. 12, 1966, Ser. No. 601,052  
4 Claims. (Cl. 119-17)

A snap apart plastic cage having side wall members formed with edge portions carrying socket means snap-



ingly receiving the heads of elements bridgely extending a sensing means which determines whether there has been between the members with wall forming panel formations a buildup of feed in the trough and a time delay switch



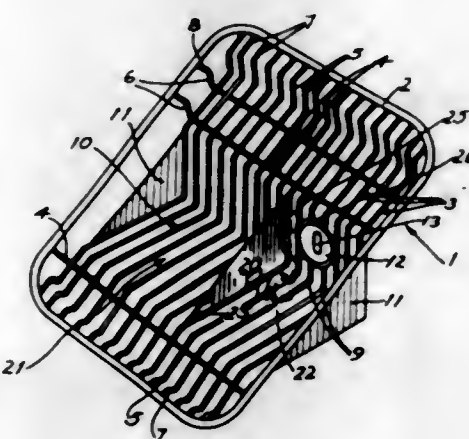
provided on the elements to constitute the front, top, back and bottom walls for the cage.

3,381,665

**ANIMAL CAGE LID**

Anthony Natale, Roselle, N.J., assignor to Maryland Plastics Incorporated, New York, N.Y., a corporation of Maryland

Filed Oct. 31, 1966, Ser. No. 590,725  
5 Claims. (Cl. 119-18)



The present invention is directed to an animal cage lid having a separator in the feed trough. The separator is pivotally mounted on a wire and is movable from an upright to a prone position. Means are provided on the wire for holding the separator in its upright position. Preferably, the wire comprises a pair of angled legs and the separator is pivotally mounted on one of the legs and the holding means are mounted on the other leg. The holding means preferably comprise a pair of knobs on said other legs which are spaced from each other and extend in opposite directions.

3,381,666

**BUILDUP CLEARING MEANS FOR AUTOMATIC POULTRY FEEDER**

William T. Bradshaw, Atlanta, and John J. Swinney and Kenneth W. Hagans, Canton, Ga., assignors to Bramco Inc., Canton, Ga., a corporation of Georgia

Filed Nov. 8, 1965, Ser. No. 506,726  
7 Claims. (Cl. 119-51.11)

A poultry feeder having a hopper and a feed trough with an endless conveyor which is driven in a circular path and cut on and off by a timer in combination with



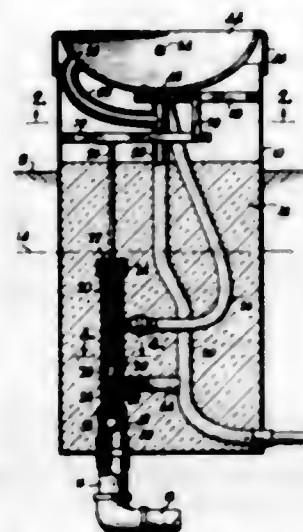
which reduces the effective cycle of the timer in the event of a buildup.

3,381,667

**ANIMAL WATERING INSTALLATION**

Mervin Warner Martin, 8028 Washington, Kansas City, Mo. 66112

Filed July 18, 1966, Ser. No. 566,069  
11 Claims. (Cl. 119-75)



1. An animal watering installation adapted for outside use above the surface of the ground, the latter having a freeze line at a distance below the surface, said installation comprising:

- a support extending above the surface of the ground;
- a receptacle;
- means mounting said receptacle on the support for shifting between a non-filling draining position and a filling position;
- an inlet port in the receptacle;
- an insulated inlet conduit communicating with said inlet port and extending below the freeze line for coupling to a pressurized water supply;
- a drain in the receptacle;
- an insulated outlet conduit coupled to said drain and extending below the freeze line;
- a pipe connected to said inlet conduit below the freezing line and extending below the latter;
- valve means for said inlet conduit within the pipe below said pipe and inlet conduit connection and having operating positions for opening and closing said inlet conduit to the passage of water through said pipe; and

pressure-responsive mechanism intercoupling said valve and said means mounting said receptacle to normally yieldably dispose the receptacle in said non-filling draining position when said valve is in said closed position and operable to open said valve when said receptacle is shifted to said filling position in response to a predetermined pressure exerted thereon,

whereby water will flow from the pipe to said receptacle until the pressure is removed from the receptacle whereupon said valve closes and excess water in the inlet conduit and receptacle gravitates below the freezing line through said pipe and outlet conduit, respectively.

3,381,668

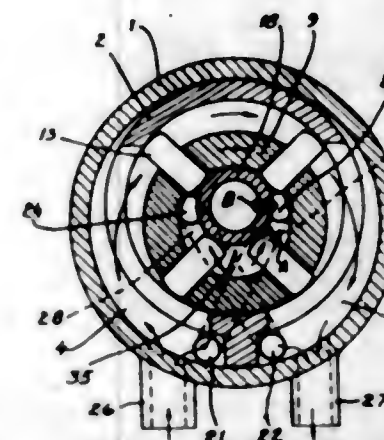
**ROTARY MACHINE**

Bengt Assar Ågren, Stromsund, Sweden, assignor to Svedia Dental-Industrie AB, Enköping, Sweden, a Swedish joint-stock company

Filed Oct. 22, 1965, Ser. No. 501,796

Claims priority, application Sweden, Oct. 23, 1964, 12,778/64

4 Claims. (Cl. 123-8)



The invention relates to a rotary machine such as an engine, a pump, or the like in which within an outer housing three eccentrically arranged cylindrical members are mounted longitudinally of said housing and being eccentrically disposed so as to provide working spaces therebetween and an end cover having supply and exhaust openings communicating with said openings, said end cover being rotatably adjustable to shift said openings relative to said working spaces.

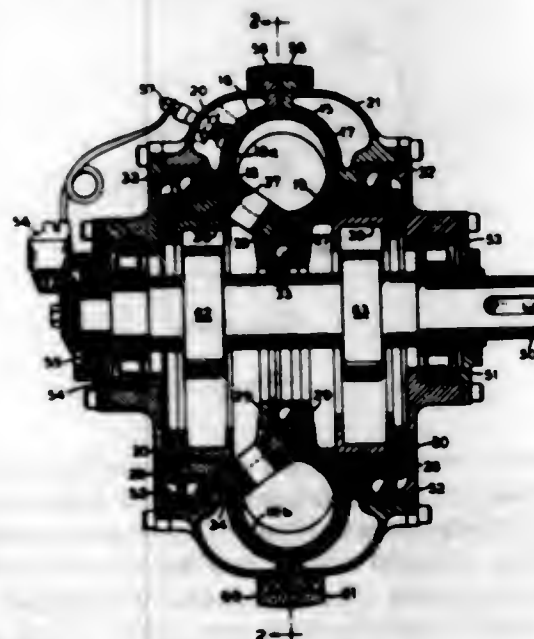
3,381,669

**ROTARY INTERNAL COMBUSTION ENGINE**

Tragott Tschudi, Flushing, N.Y., assignor to Tschudi Engine Corporation, Flushing, N.Y.

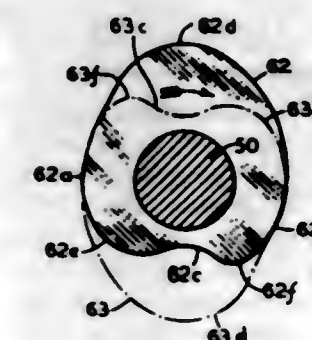
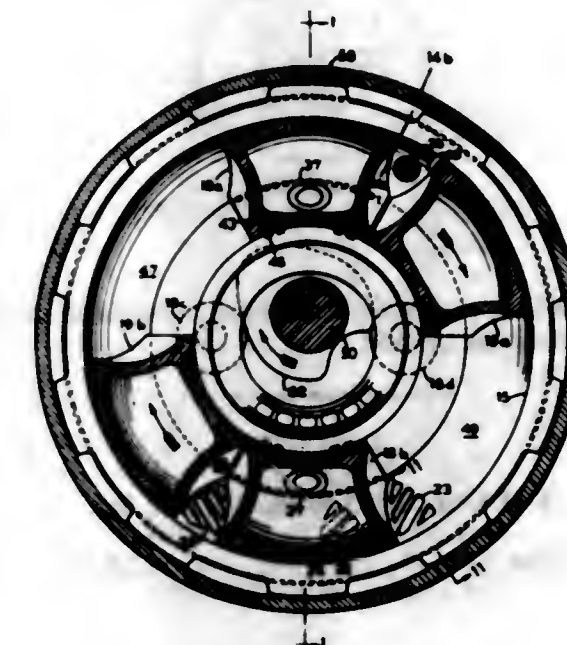
Filed Oct. 31, 1966, Ser. No. 590,918

9 Claims. (Cl. 123-11)



1. In a rotary four cycle internal combustion engine comprising a stationary engine block having an axis, a pair of mating rotors coaxially mounted in the engine

block for rotation in respect thereto, the engine block and the rotors together defining a toroidal chamber; a drive shaft extending transversely of the toroidal chamber and having an axis parallel to the axis of the engine block but being eccentric in relation thereto; a pair of diametrically opposite pistons fixed to each of said rotors and arranged for revolving movement in the toroidal chamber, the pistons subdividing the chamber into four compartments; a pair of diametrically opposite cam follower rollers fixed to each of said rotors and spaced angularly 90° from the pistons on the respective rotor; and a pair



of identical cams fixed on the drive shaft, extending radially therefrom and so spaced along the shaft axis as to be in engagement with a respective one of the pairs of cam follower rollers, each cam having two diametrically extending axes perpendicular to each other and intersecting at the shaft axis, one cam axis being longer than the other cam axis, a concave index cam face and an ovate cam face opposite thereto along the longer cam axis, and the cams being angularly offset by 180° in respect of each other; the improvement of two cam lobes opposite each other along the shorter axis of each cam and asymmetric in respect of the longer axis.

3,381,670

**ROTARY INTERNAL COMBUSTION ENGINE**

Lester H. Kincaid, 1605R Hebron Road, Heath, Ohio 43055

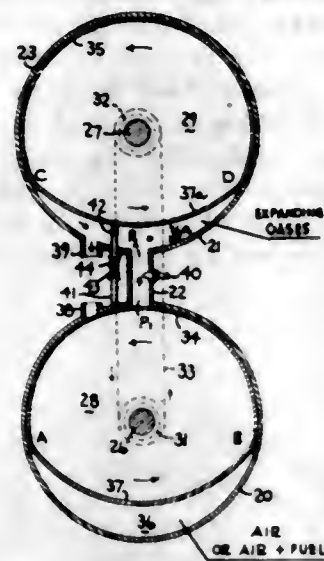
Filed Jan. 31, 1967, Ser. No. 612,994

5 Claims. (Cl. 123-14)

An engine comprising a rotary pump section for compressing combustion fuel mixture into a combustion chamber, means to ignite the mixture in the chamber, a rotary motor section actuated by gases from the chamber,



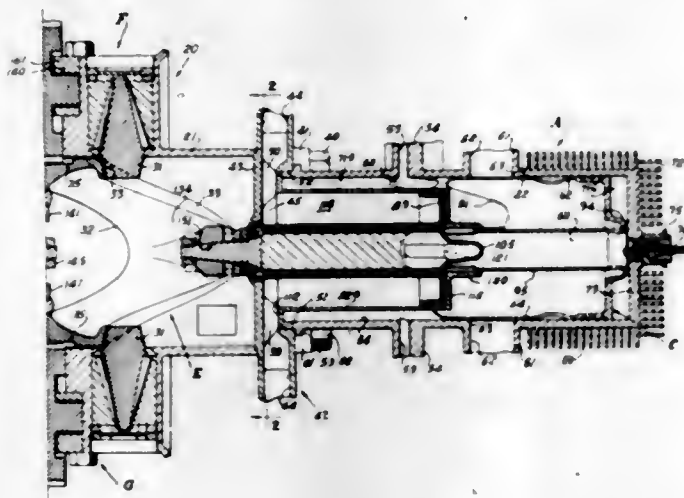
said sections each having a lobate rotor, the rotors being phased to open and close the ports of the chamber in al-



ternation so that the ignited mixture expands to drive the rotor of the motor section.

### 3,381,671 ENGINES

T H Duff, 1003 Santa Monica St.,  
San Antonio, Tex. 78201  
Filed Apr. 12, 1966, Ser. No. 542,034  
15 Claims. (Cl. 123-45)

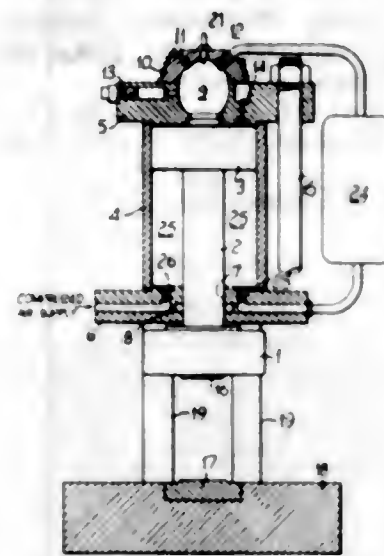


An engine having opposed cylinders aligned along a common axis and pistons disposed therein and interconnected by a centrally positioned assembly including a cam engageable with cam surfaces in the engine body for rotating the pistons and central connecting assembly as a unit as the pistons reciprocate in the cylinders. Power transfer from the central connecting assembly is provided by gear teeth along the cam meshing with gears supported by the engine housing for transferring power from the reciprocating rotating central assembly to rotatable gears supported by the engine housing. Ports in the cylinder wall and pistons skirt are aligned during the reciprocating rotation of the pistons for fuel intake and exhaust. In one form of the engine fuel is drawn into each cylinder beneath the piston therein, compressed on the power stroke, and transferred into the combustion chamber. Another form of the engine has a central fuel chamber provided in each piston communicating with the combustion chamber into which one portion of a fuel charge is transferred through a series of chambers within the piston while another portion of the fuel charge, generally the air, is drawn into and transferred from beneath the piston into the combustion chamber independently of the fuel charge portion in the central chamber at the piston.

### 3,381,672 IMPULSE FORMING AND LIKE MACHINES

Stephen Albert Tobias and Farhang Bakhtar, Birmingham, England, assignors to National Research Development Corporation, London, England, a British corporation

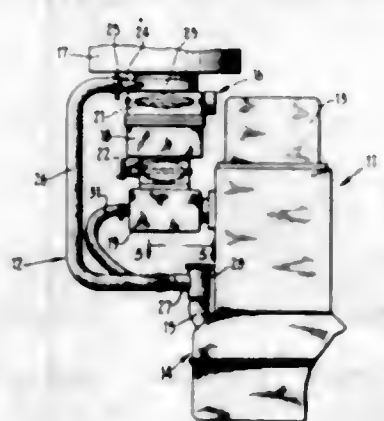
Filed Apr. 4, 1966, Ser. No. 540,086  
Claims priority, application Great Britain, Apr. 6, 1965, 14,613/65  
2 Claims. (Cl. 123-46)



In an impulse forming machine in which the release of chemical energy in an energy chamber causes an impulse of a piston/cylinder combination to overcome a backing pressure of compressed gas and to impulse the forming dye of the machine, use is made of the impulse stroke to further compress the gas within the cylinder and a valve is provided to permit the charging of a storage system with the super compressed gas within the cylinder. The gas stored within the storage system is then employed to charge the energy chamber for subsequent impulse strokes.

### 3,381,673 CRANKCASE VENTILATION SYSTEM

William Robert Drysdale, 355 Frederick Ave.,  
Hayward, Calif. 94544  
Filed Nov. 22, 1965, Ser. No. 509,035  
6 Claims. (Cl. 123-119)

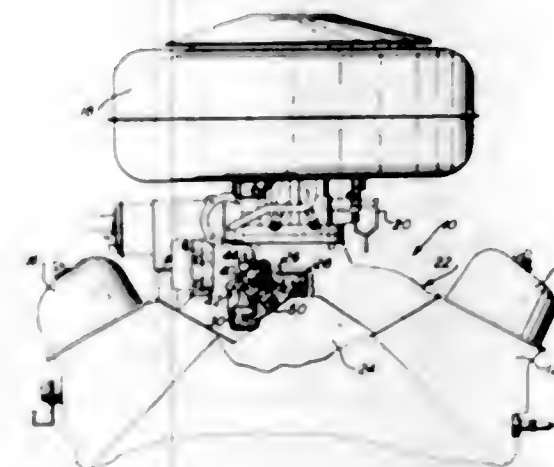


An apparatus is described for conveying fumes from the crankcase of an engine into its fuel induction system without allowing escape of such fumes to the atmosphere or permitting them to adversely affect the air-fuel ratio of the induction system. The apparatus includes two separate conduits which communicate the engine crankcase with the fuel induction passage of the engine, one of the conduits terminating at the induction passage at a position above the throttle valve and the other terminating below the throttle valve. An oil filler cap is provided with a Y-extension to facilitate connection of the conduits to the

crankcase, and a ring is adapted for positioning in the induction passage between the air cleaner and carburetor to provide a means for connecting one of the conduits to the induction passage at a position above the throttle valve.

### 3,381,674 CRANKCASE EMISSION SYSTEM INTEGRATED INTO ENGINE INTAKE MANIFOLD

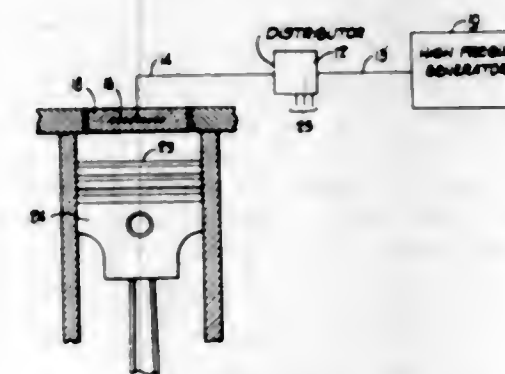
Jack G. Thom, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed Jan. 27, 1966, Ser. No. 523,345  
3 Claims. (Cl. 123-119)



An intake manifold for an internal combustion engine. The manifold includes internally formed passage means communicating between the engine dead air space and a plurality of manifold runners so that crankcase vapors are directed to the combustion cylinders of the engine. The manifold passage means are oriented to discourage entry of the air-fuel mixture present in the runners into the passage means. Valve means, responsive to manifold vacuum, are located in the passage means to restrict the flow of crankcase vapors therethrough upon manifold vacuum reaching a predetermined value.

### 3,381,675 HIGH-FREQUENCY IGNITION SYSTEM

Edward L. Schiavone, 10502 Insley St.,  
Silver Spring, Md. 20902  
Filed Sept. 29, 1965, Ser. No. 491,180  
7 Claims. (Cl. 123-148)

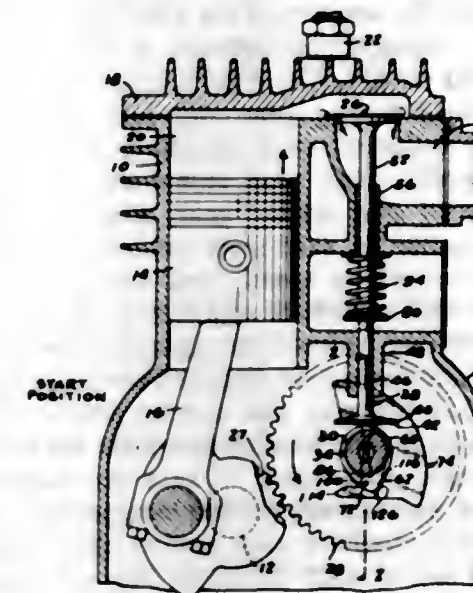


This invention relates to an electronic ignition device for an internal combustion engine of the reciprocating piston type and more particularly to an ignition device which produces ignition by means of a high-frequency electrical field. The device includes a source of high voltage radio frequency energy and an electrode embedded in an insulating body positioned adjacent the end of the piston when the piston is in the forward end of its stroke. A conventional distributor controls the application of the high frequency energy to the electrode and to the piston.

The high frequency electric field produced between the electrode and the piston produces ignition of the compressed fuel.

### 3,381,676 COMPRESSION RELIEF MECHANISM

Kenneth W. Campen, Kiel, Wis., assignor to Tecumseh Products Company, a corporation of Michigan  
Continuation of application Ser. No. 424,915, Jan. 12, 1965. This application Apr. 12, 1967, Ser. No. 630,465  
17 Claims. (Cl. 123-182)



1. In an internal combustion engine, a compression relief mechanism comprising a valve controlling a port adapted to connect a combustion chamber of the engine with atmosphere, a cam follower, a camshaft, a primary cam on the camshaft, a valve spring biasing said follower against said primary cam, said primary cam having a fixed profile normally operative on said cam follower to effect cyclical opening and closing of said valve in response to camshaft rotation, a secondary cam supported on said camshaft for movement transversely thereof in a plane intersecting the path of travel of said follower and adjacent said primary cam and means supporting said secondary cam for movement between a run position clear of said follower and a start position where said secondary cam is operative to engage said follower during rotation of said camshaft, said last mentioned means including pivot means carried by said camshaft for rotation therewith and a flyweight pivotable on said pivot means relative to said camshaft to a run position in response to centrifugal force acting on said flyweight when engine speed exceeds cranking speed, spring means biasing said flyweight against centrifugal force to pivot said flyweight to a start position when engine speed equals or is less than cranking speed and means carried on said pivot means and operably connected to said flyweight for rigidly supporting said secondary cam in said start position thereof when said flyweight is in said start position thereof, said last-mentioned means being actuated by movement of said flyweight to its run position to permit movement of said secondary cam to its run position.

3. In an internal combustion engine having a cylinder, a piston reciprocable in the cylinder and defining therewith a combustion chamber, a rotary crankshaft, a connecting rod operably interconnecting said piston and crankshaft, valve train means including inlet and exhaust valves operable to respectively control flow of air to and exhaust of gases from said combustion chamber, a camshaft rotatable about an axis parallel to said crankshaft, a gear train drivingly connecting said crankshaft to said camshaft including a timing gear fixed on said camshaft,



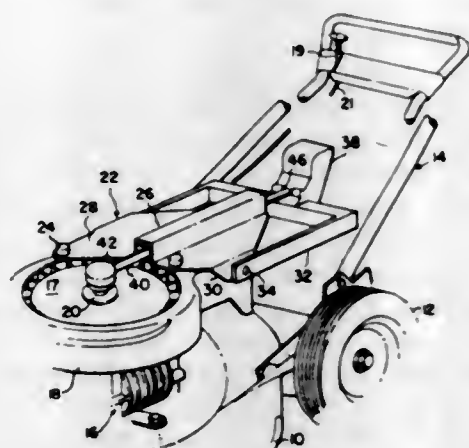
and inlet and exhaust cams fixed on said camshaft and having fixed profiles for respectively operating said inlet and exhaust valves, one of said inlet and exhaust cams being disposed adjacent one side of said timing gear, said valve train means further including a follower and a spring associated therewith for biasing said follower into tracking relation with said one cam whereby rotation of said one cam operates said one of said valves, the combination therewith of a compression release mechanism disposed generally between said timing gear and said one cam comprising a pin supported on said timing gear and extending from said one side thereof toward said one cam parallel to the rotational axis of said timing gear, a flyweight pivotally supported on said pin and responsive to centrifugal force acting thereon as the engine exceeds cranking speed to pivot in a path disposed between said one side of said timing gear and said follower from a start position adjacent said camshaft to a run position spaced outwardly from said camshaft but inwardly of the periphery of said timing gear, a spring biasing said flyweight inwardly to said start position thereof at and below engine cranking speed, and auxiliary cam means supported by said camshaft and timing gear for rotation therewith including follower engaging means movable between a run position thereof disposed inwardly and clear of the path of said follower and a start position protruding outwardly for engagement with said follower during a predetermined angle of rotation of said one cam to thereby hold said one valve open in the compression stroke of said piston, said auxiliary cam means also including support means fixed to said flyweight for movement therewith, said support means being oriented relative to said flyweight and said follower engaging means to engage and support said follower engaging means in said start position thereof when said flyweight moves to said start position thereof and to permit said follower engaging means to move to said run position thereof when said flyweight moves to said run position thereof.

3,381,677

**ENGINE STARTER**

Edwin J. Hunter, Riverside, Calif., assignor to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Mar. 2, 1966, Ser. No. 531,260  
2 Claims. (Cl. 123-185)



As a starting mechanism, the crankshaft has an overrunning clutch and a pulley which has a pull spring drivingly engaged therewith. The spring is a flat band type and is adapted to return to its initial condition by its own action when released after being pulled. The spring is pulled by means of a foot pedal lever pivoted at one end adjacent the crankshaft and carrying a pedal pad on its other end. The other end of the pull spring is secured to the lever adjacent the pedal pad to be operated by foot pressure.

**ERRATUM**

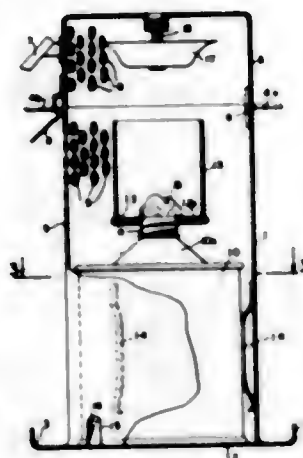
For Class 125-11 see:  
Patent No. 3,381,765

3,381,678

**ALCOHOL HEATING AND COOKING STOVE**

Clifford H. Fry, Tucson, Ariz., assignor to Umco Corporation, Watertown, Minn., a corporation of Minnesota

Filed Oct. 8, 1965, Ser. No. 494,132  
6 Claims. (Cl. 126-4)



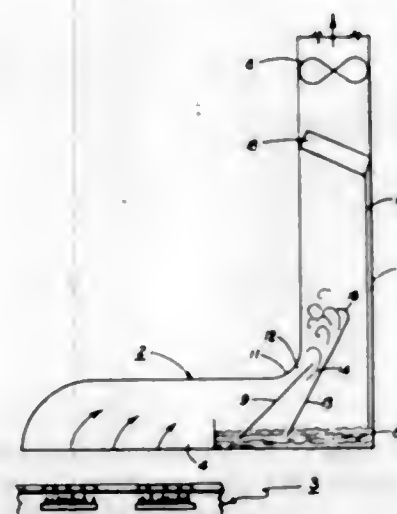
An alcohol-burning combined heating and cooking stove having a casting made in two sections hinged together at a point above the burner, so that when the upper section is swung over on its pivot through 180°, its side rests against the side of the lower section, and the top edges of both sections lie in substantially the same plane to support a cooking utensil. Also the commercial can in which the fuel is solid is inserted in the stove in place of any special fuel container, so that the necessity of pouring fuel from one container to another is avoided.

3,381,679

**VENTILATION AND SCRUBBING ASSEMBLY**

Don J. Gonzalez, Valley Station, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed May 26, 1966, Ser. No. 553,159  
4 Claims. (Cl. 126-299)



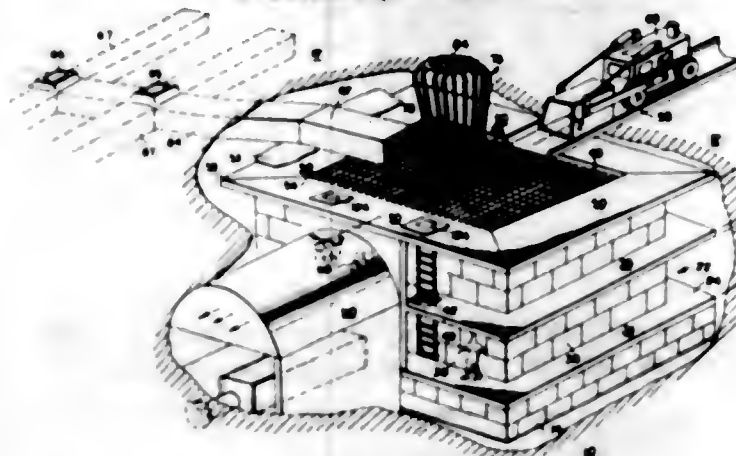
A ventilating hood for scrubbing a gas stream from a cooking source including a scrubbing liquid supply means having a venturi-like aspirating passage cooperating therewith to permit aspiration of scrubbing liquids into the vented gas stream from the cooking source.

3,381,680

**SNOW MELTING SYSTEM**

Philip Retz, 1783 Lanier Place NW., Washington, D.C. 20009

Filed Oct. 22, 1965, Ser. No. 502,023  
3 Claims. (Cl. 126-343.5)



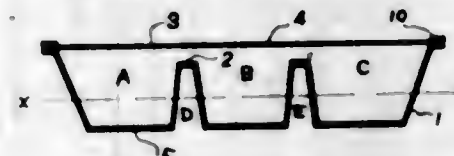
This invention relates to a system for harvesting snow by delivering or catching the snow at a specified collection zone and melting the collected snow under sanitary conditions so as to produce a supply of clean water.

3,381,681

**RECEPTACLE FOR FROZEN FOOD**

Jiro Nagashima, New York, N.Y. (753 Kamitaga, Atomi-shi, Japan), and Akira Aoki, New York, N.Y. (230 Ida, Kawasaki-shi, Japan)

Filed June 1, 1965, Ser. No. 460,268  
Claims priority, application Japan, May 13, 1965,  
40/27,604, 40/27,605  
4 Claims. (Cl. 126-369)



A receptacle for steam cooking food therein and in which the interior is compartmented by upwardly extending portions of the receptacle bottom forming portions which define the compartments. The compartments are spaced so that two paired upwardly extending portions defining the compartments are spaced and define exteriorly of the receptacle a space therebetween which closes at the top of the outside space and is provided with apertures at the top. The partitions or walls terminate within the receptacle at levels below a removable cover on the receptacle and thus are spaced from the inner side of the cover. Steam for cooking food contained in the receptacle enters the container through the above-mentioned apertures and the space between the cover and the compartment-forming walls allows the steam to enter the interior of all the compartments for cooking the food therein. Through holes are provided in the cover for allowing ingress and egress of steam.

3,381,682

**ADJUSTABLE ELECTRODE ASSEMBLY FOR A PLETHYSMOGRAPH**

Štěpán Fígar, Prague, Czechoslovakia, assignor to Československá akademie věd, Prague, Czechoslovakia

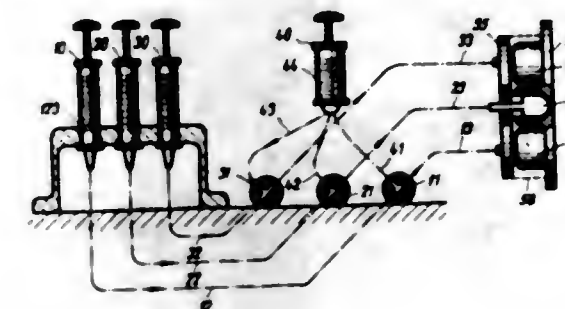
Filed July 14, 1965, Ser. No. 471,890

Claims priority, application Czechoslovakia,  
July 27, 1964, 4,319/64

12 Claims. (Cl. 128-2.05)

1. An electrode assembly for a plethysmograph and the like comprising, in combination:  
(a) a support member;

(b) an electrode member;  
(c) hydraulic jack means interposed between said support member and said electrode member for moving said members in a predetermined direction relative to each other;  
(d) a pressure vessel communicating with said jack means;



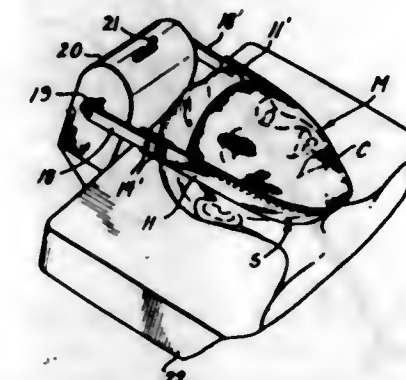
(e) a continuous liquid column substantially filling said jack means and a portion of said pressure vessel, said column having an end face in said pressure vessel;  
(f) actuating means for shifting said end face in said vessel; and  
(g) indicating means for indicating the position of said end face.

3,381,683

**FACIAL MASK WITH VIBRATING MEANS**

Kenneth R. Runde, 6626 Christopher Drive, St. Louis, Mo. 63129

Filed June 21, 1965, Ser. No. 465,515  
4 Claims. (Cl. 128-63)



A face mask for cosmetic and therapeutic purposes made of porous material which has lateral expansion but which is relatively inexpandable longitudinally along straps which extend from under an expandable chin pocket along the jaw bone and past the top of the head. The straps may be connected to eccentric trunnions on the ends of a rotating shaft to impart vibration to the face and under-chin areas of the subject being massaged.

3,381,684

**THERAPEUTIC APPARATUS FOR SUPPORTING PORTIONS OF THE BODY**

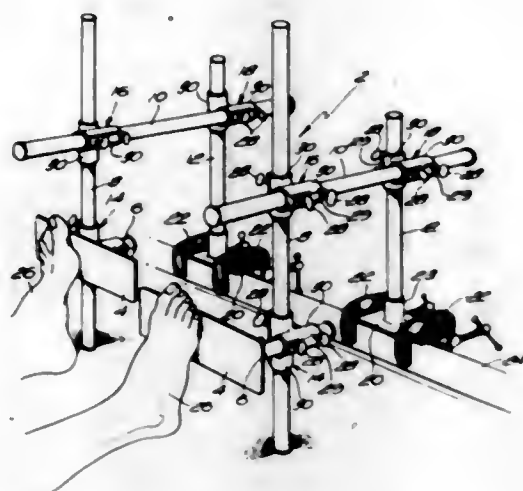
Robert T. Anderson, 75 Spring St., West Roxbury, Mass. 02132

Filed Sept. 29, 1965, Ser. No. 491,107  
4 Claims. (Cl. 128-68)

An adjustable therapeutic support for holding certain portions of the body consisting of four hollow tubular members slideably and adjustably connected by joint



members having two tubular passageways therethrough at right angles to one another with locking screws lock-communication with a recess in the hub portion which in turn is in communication with the interior of the barrel.



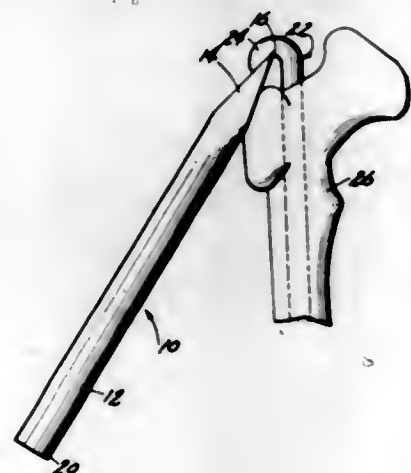
ing the tubular members in the passageways and a supporting plate connected to one of the tubular members.

3,381,685

# PROCESS OF EXTRACTING AN INTRA-MEDULLARY ROD FROM A BONE

Charles R. von Solbrig, 6400 S. Keeler Ave., Chicago, Ill. 60629

Continuation of application Ser. No. 430,657, Feb. 5, 1965. This application July 10, 1967, Ser. No. 652,370 1 Claim. (Cl. 128-92)



A process for extracting an intramedullary rod from a bone with an extractor having a substantially smooth elongate shank portion, a head portion having a tapered configuration forming a transverse narrow edge with the edge having a cut-out therein; wherein the head portion of the extractor is wedgedly placed between the bone and the rod and an axial force is applied thereto to remove the rod from the bone.

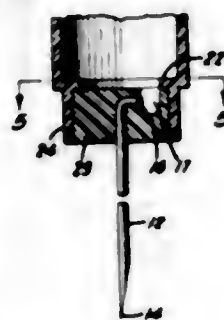
3,381,686

# NEEDLE MOUNTING IN A HYPODERMIC SYRINGE

Edward S. Pierce, Sinking Spring, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania

Filed Apr. 6, 1965, Ser. No. 445,963 6 Claims. (Cl. 128-221)

A hypodermic syringe including a barrel having a hub portion in which the inner end of the cannula is imbedded, said inner end including an angular portion in



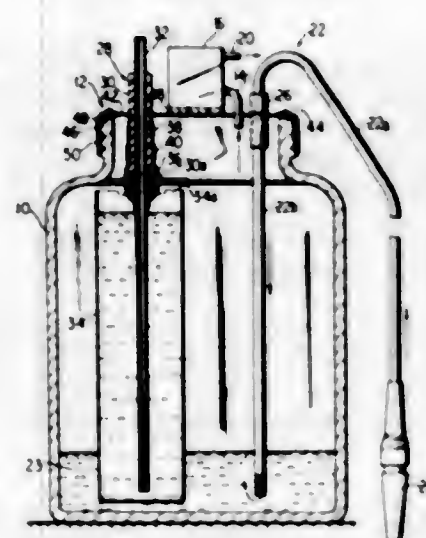
The angular end portion of the cannula imbedded in the hub serves to prevent displacement of the cannula.

3,381,687

# SUCTION APPARATUS

Harold W. Andersen and Charles H. Harrison, Oyster Bay, N.Y., assignors to H. W. Andersen Products, Inc., Oyster Bay, N.Y., a corporation of New York

Filed Oct. 22, 1965, Ser. No. 501,101 12 Claims. (Cl. 128-276)



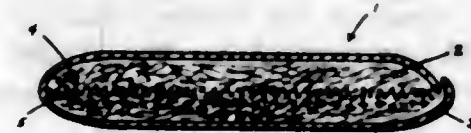
A suction or vacuum apparatus particularly adapted for use in drainage body cavities such as the chest cavity, the apparatus including in a single unit elements constituting a water seal to prevent back flow of air to the cavity being drained, a vacuum control device for easy adjustment of the degree of negative pressure, and a pump trap preventing liquid from being drawn into the pump, the several elements being contained in, or mounted on the removable lid of, a single container, the liquid in which acts as a water seal and pump trap while a vacuum control receptacle and tube is suspended from the lid within the container.

3,381,688

# ABSORBENT PADS WITH SILICA GEL LAYER FOR USE AS SURGICAL RECEPTACLES

Donatas Satas, Palatine, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts

Filed Aug. 12, 1963, Ser. No. 301,417 7 Claims. (Cl. 128-296)



1. An absorbent article comprising a mass of fluid absorbent material and a fluid directional control zone

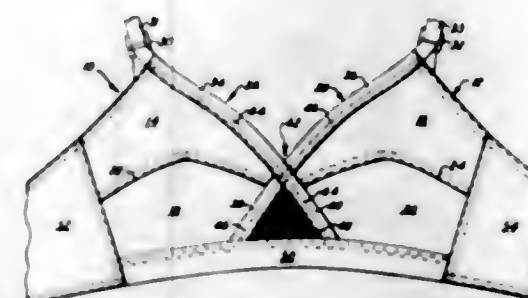
having a surface thereof contiguous with absorbent material of said mass, said surface of the control zone comprising a material carrying finely divided particles of a size from about 5 millimicrons to 1 micron having a surface area of from 100 to 500 square meters per gram of said particles and wettable by fluid to be absorbed by said absorbent material, said particles being substantially uniformly distributed throughout the surface area of said zone in an amount to provide a rate of capillary flow of fluid along the surface of said zone greater than the rate of capillary flow of fluid in the mass of said absorbent material.

3,381,689

# BRASSIERE

Charles M. Sachs, West Englewood, N.J., assignor to International Playtex Corporation, Dover, Del., a corporation of Delaware

Filed May 29, 1967, Ser. No. 642,035 10 Claims. (Cl. 128-483)



A brassiere that accommodates to chest cavity expansion and contracting particularly with respect to the area of the body just below the breasts. It utilizes a substantially nonstretch, triangular-shaped, mesh-like piece of fabric "on-the-bias" so that when the brassiere experiences girthwise stress, a biasing stretch within said triangular fabric is produced in the girthwise direction which permits the brassiere to accommodate to chest cavity expansion and contraction and maintains it in proper position on the body during use.

3,381,690

# TOBACCO PRODUCT

Joseph N. Schumacher, Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey

No Drawing. Filed Nov. 8, 1965, Ser. No. 506,861 9 Claims. (Cl. 131-17)

1. A tobacco product having added thereto an amount sufficient to alter the flavor or aroma of a tobacco product of a compound selected from the group consisting of 5-methylfurfuraldehyde and 5-methyl-2-acetyl-furan.

3,381,691

# TOBACCO PRODUCT

Joseph N. Schumacher and Donald L. Roberts, Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey

No Drawing. Filed Nov. 8, 1965, Ser. No. 506,882 16 Claims. (Cl. 131-17)

1. A tobacco product having added thereto an amount sufficient to alter the flavor or aroma of the tobacco product of a compound selected from the group 2,4-diphenylcrotonaldehyde, diphenylether, 2-acetonyl-4-methyl-5-hydroxypropan, 2-methyl-5-isopropylpyridine, 6-methyl-2,5-heptanedione, 6-methyl-3-heptene-2,5-dione, and 6-methyl-5-hepten-2-ol.

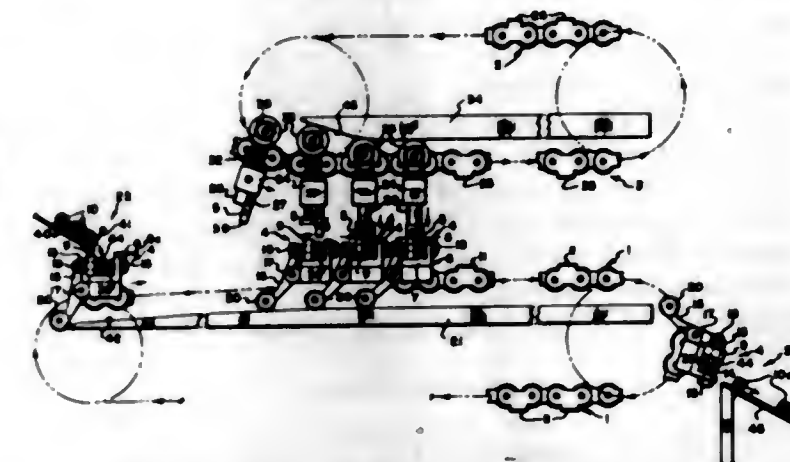
3,381,692

# CIGAR PRESS

Patrick W. Shellenberg, Richmond, Va., assignor to The American Tobacco Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 6, 1966, Ser. No. 540,684 3 Claims. (Cl. 131-87)

Press for shaping otherwise completed cigars. Specially arranged and constructed mold section mechanism in association with two superposed pairs of endless chains



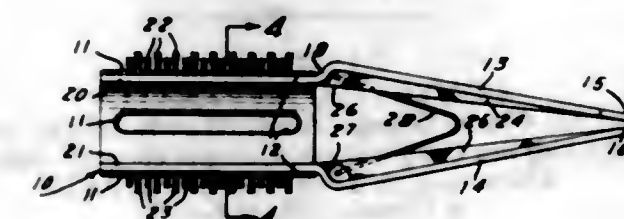
which because of its special construction has a desired high rate of production.

3,381,693

# HAIR CURLER AND STARTER

Bernice M. Stevens, 4175 Verdugo View Drive, Los Angeles, Calif. 90065

Filed Apr. 13, 1964, Ser. No. 359,211 3 Claims. (Cl. 132-34)



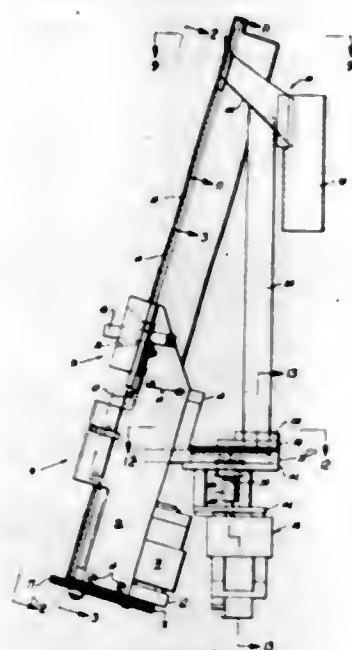
3. A hair curler and starter, said starter being removable from said curler and re-useable with a plurality of said curlers, said curler having an elongated hollow cylindrical body member, said body member having at least one pair of diametrically opposed longitudinally extending elongated slots, said starter having a pair of elongated arms pivotally connected at one end thereof, the opposite free ends of said arms carrying a plurality of bristles, resilient means connected to said arms, said resilient means urging said arms apart from each other and into engagement with the inside of said body member adjacent to said slots, so that said bristles extend through said slots and protrude substantially outwardly from the outer periphery of said body member to engage and hold the outer ends of the hair to facilitate winding said hair around said curler, said arms adapted to be compressed against the urging of said resilient means to move said arms together and retract said bristles inwardly so that the overall diameter of the bristle carrying ends of said arms is less than the inside diameter of said body member, to permit the free insertion and removal of the bristle carrying ends of said arms through said body member so that said curler may be left in the hair while said starter is removed from said curler and successively inserted into and removed from a plurality of said curlers to facilitate winding the hair around said curlers.



3,381,694

## COIN-HANDLING APPARATUS

Paul H. Lempke, Reno, Nev., assignor to Nevada Electronics, Reno, Nev., a corporation of Nevada  
Filed Aug. 12, 1966, Ser. No. 572,037  
15 Claims. (Cl. 133-1)

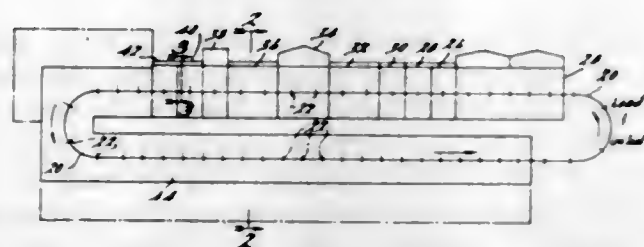


A vertical riser channel adapted to receive coins from an accept/reject mechanism and containing helical coin lift screw for carrying coins upwardly in edge-to-edge relation to be delivered to a hopper and coin receiving tube means. In one form of the invention the upper end of the track is arranged to separate coins for alternate delivery to a pair of tubes. A coin discharge mechanism for discharging coins from the bottom of each coin stack within a tube is also provided. In one form of the invention the coins are alternately discharged from each of the pair of tubes.

3,381,695

## CONVEYING APPARATUS

Chester G. Clark, Grosse Pointe Woods, Mich., assignor to The Udyllite Corporation, a corporation of Delaware  
Filed Aug. 3, 1966, Ser. No. 570,020  
8 Claims. (Cl. 134-77)



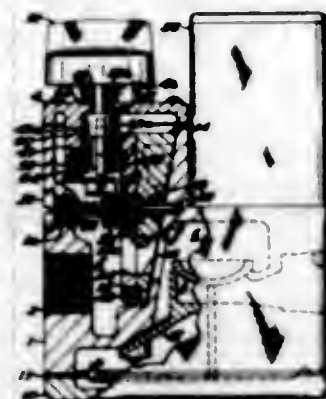
1. In a conveying machine, the combination including a first, second and third group, each comprising a plurality of work stations; first, second and third rail means extending along said first, second and third group of work stations, respectively, for movably supporting workpieces disposed at spaced intervals therealong; means for moving said first and said third rail means up and down above the work stations, means for selectively moving said second rail means up and down above the work stations independently of said first and said third rail means, the several said rail means when in a raised position disposed with said second rail means in position to receive workpieces from said first rail means and with said third rail means in position to receive workpieces from said second rail means, first transfer means for transferring workpieces in one station increments along said first and said third rail means, second transfer means for simultaneously transferring a first plurality of workpieces through a mul-

multiple-station increment from said first rail means to said second rail means and for simultaneously transferring a second plurality of workpieces through the same multiple-station increment from said second rail means to said third rail means when said several rail means are in said raised position, said second transfer means operable at an interval of once for each plurality of operations of said first transfer means equivalent to the number of workpieces in said first plurality.

3,381,696

## SAFETY FUEL VALVE

Kelth T. Krueger, Garden Grove, Calif., assignor to Honeywell Inc., a corporation of Delaware  
Filed May 14, 1965, Ser. No. 455,912  
10 Claims. (Cl. 137-66)

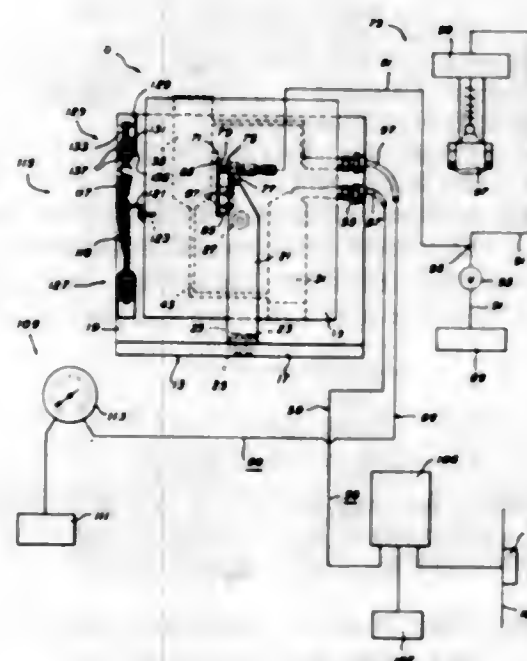


A safe-lighting safety valve for main and pilot gas burners, wherein a manually-operable rotary disc valve is movable to a "pilot" position and an "on" position and is spring biased to a closed position but is capable of being held open against the spring's bias by a latching mechanism response to the presence of a pilot burner flame.

3,381,697

## DIFFERENTIAL PRESSURE CONTROLLER

Walker L. Wellford, Jr., 135 St. Albans Fairway, Memphis, Tenn. 38111  
Filed Nov. 17, 1965, Ser. No. 508,312  
7 Claims. (Cl. 137-82)



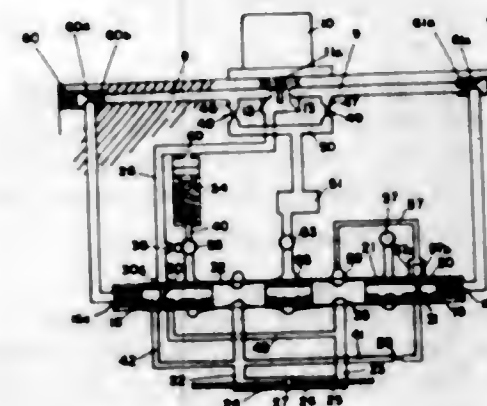
A differential pressure controller adapted to receive a first signal and compare it with a standard signal, and on the basis of this comparison cause a control device to be actuated. The pressure controller includes a pivotable body portion having two chambers therein connected by a passage and which have mercury contained therein. The

pressure controller is provided with first and second conduit means respectively connecting the signal to one of the chambers adjacent the upper end thereof and the standard signal to the other of the chambers adjacent the upper end thereof for causing a shift in the mercury from one chamber to another when the first signal is decreased or increased from a balanced condition so that the increased weight of the mercury in one of the chambers causes pivot of the body portion to cause the control device to be actuated.

3,381,698

ADJUSTABLE PRESSURE GAIN CONTROL  
SERVO VALVE SYSTEM

Paul F. Hayner, Lexington, and Gerald L. Bernier, Lawrence, Mass., and Richard B. Henderson, Nashua, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware  
Filed Mar. 16, 1964, Ser. No. 352,246  
17 Claims. (Cl. 137-85)



1. In a hydraulic servo valve system, in combination, a pilot hydraulic amplifier in a chamber containing fluid, pilot return line means from said amplifier chamber, a control piston in a piston chamber, a pair of load ports communicating with said piston chamber, main supply and return lines connected to said piston chamber, fluid supply lines connecting points on said amplifier chamber to opposite ends of said piston chamber to cause said piston to selectively connect said load ports to a pressure source when there is an input signal to said pilot amplifier, means for sensing load pressure, and means for applying said load pressure to said pilot return line means to modify the pressure therein.

3,381,699

## WATER TREATMENT APPARATUS

Wilson R. Coffman, 15820 Lashburn St., Whittier, Calif. 90603  
Filed Oct. 22, 1965, Ser. No. 500,589  
9 Claims. (Cl. 137-101.21)



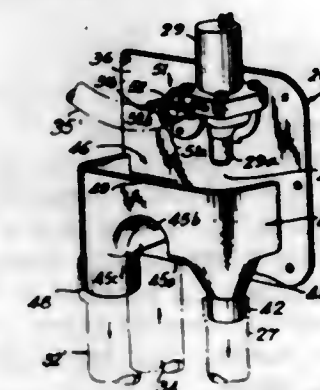
1. An apparatus adapted to introduce predetermined volumes of liquid chemical additive into a stream of water

flowing through a main including, a water meter arranged in the main to measure the volume of water flowing there-through, cam operated switch means driven by the meter and connected with a power source and with a pair of power lines, said switch means shiftable into and out of contact with each of the power lines for equal periods of time, a cut-off switch connected with said power lines and with a clock motor, a first cam driven by the clock motor at a rate faster than the cam operated switch means and adapted to shift contact in the cut-off switch from one of the power lines to the other of said power lines after the clock motor has operated a predetermined period of time, a second cam driven by the clock motor each time one of the power lines is contacted at the first mentioned switch, normally open switch means connected with the power source and with a pump motor and related to the second cam, said second cam adapted to close the switch means to energize the pump motor for a predetermined period of time during each period when the clock motor is energized, and a pump arranged between and connected with the main and a chemical supply and driven by the pump motor.

3,381,700

## HOUSEHOLD WASHING APPLIANCE

Per Roland Frymark, Huddinge, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden  
Filed Nov. 2, 1965, Ser. No. 506,060  
Claims priority, application Sweden, Nov. 3, 1964, 13,241/64  
10 Claims. (Cl. 137-216)



1. In a household washing appliance comprising a receptacle for items to be washed, the combination of a liquid supply line for introducing liquid to the receptacle, a drain pump having an inlet connected by a first conduit to receive liquid from the receptacle and an outlet from which liquid is discharged through a liquid discharge line to waste, an assembly comprising a panel, means for removably mounting said assembly on the appliance, said panel having a first opening extending there-through and a first fitting communicating with the opening and extending from the outer surface or face thereof, said liquid supply line including a first conduit connected to said first fitting, the inner face or surface of said panel having structure fixed thereto which provides a path for flow of liquid and is in communication with the first opening, said structure having a discharge orifice at a first level which is directed to discharge downward therefrom, means at the inner face or surface of said panel which provides a trough having a bottom and an open top at a second level below the first level and into which liquid is discharged from the discharge orifice,

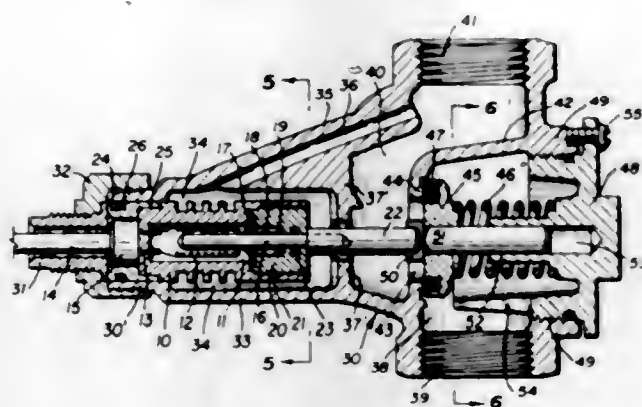


the bottom of said trough having a first downward extending hollow element, said liquid supply line including a second conduit having an end connected to said hollow element,

the bottom of said trough having a second downward extending hollow element, and a third conduit connected at one end to said second hollow element and at its other end to the inlet of said drain pump, said third conduit providing an alternative path of flow for liquid unable to flow to the appliance through said second conduit.

### 3,381,701 SWITCHLESS ELECTROTHERMAL ACTUATOR WITH CONSTANT ELECTRICAL CURRENT INPUT

John F. Sherwood, Wheat Ridge, and Andrew W. Zmuda, Denver, Colo., assignors to Thermal Hydraulics Corporation, a corporation of California  
Filed Dec. 2, 1964, Ser. No. 415,330  
7 Claims. (Cl. 137—339)



1. A switchless electrothermal actuator for imparting motion to mechanism, comprising
  - (a) a high pressure casing containing expansible and contractible material and a reciprocal shaft having a piston portion in the casing and a work-contacting portion extending beyond the casing,
  - (b) an electrical heating element in the casing and a constant electrical current input connected to said element for heating the expansible material and actuating the shaft,
  - (c) a valve housing surrounding and enclosing the high pressure casing in spaced relationship thereto for circulation of a cooling medium between the casing and housing for cooling the casing and its contents,
  - (d) a fluid inlet and a fluid outlet in the housing, and
  - (e) a cooling medium in the housing having temperature lower than the temperature of the high pressure casing when heated by the heating element, said cooling medium circulating through the space between the casing and housing in heat extracting relationship to the exterior of the casing walls for controlling the temperature of the casing and expansible material without means for varying or interrupting the constant flow of electrical current thereto.

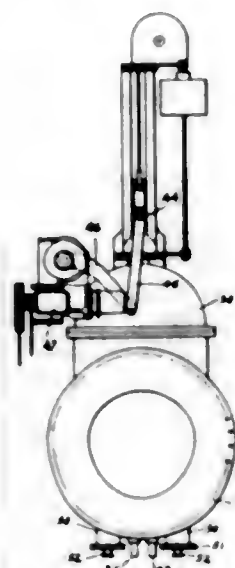
### 3,381,702 WATER-COOLED VALVE FOR BLAST FURNACE STOVES

Hugh B. Carr, Carnegie, Pa., assignor to S. P. Kinney Engineers, Inc., Carnegie, Pa., a corporation of Pennsylvania

Filed Dec. 6, 1965, Ser. No. 511,602  
5 Claims. (Cl. 137—340)

This application pertains to a water-cooled valve designed particularly for use with the burners of blast furnace stoves. The valve body is fabricated from sections

which are welded together. The valve gate seats against valve rings held in the body by wedges which, at the lower quadrant of the valve body, are in the form of integral webs, and which, in the diametrically-opposite sides of

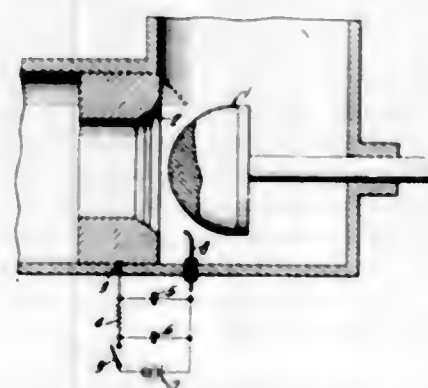


the valve body and at the top of the valve rings are removable when the bonnet of the valve is removed. Upon removal of the last two mentioned wedging elements, the rings may be lifted out through the open top of the body.

### 3,381,703 SELF-ADJUSTING VALVE SEAT

Irving J. Hutkin, San Diego, Calif., assignor to Whittaker Corporation, Los Angeles, Calif., a corporation of California

Filed Apr. 7, 1965, Ser. No. 446,246  
17 Claims. (Cl. 137—341)



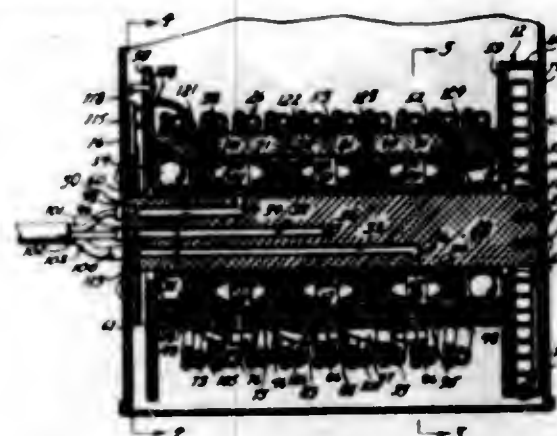
This patent describes a self-adjusting valve comprising a valve seat member, and receivable therein and in precise conformity therewith, a valve member, both members being electrically conductive, and at least one of said members being infiltrated by a metallic material having a melting point below that of either of said members; and an electrical circuit comprising the self-adjusting valve and an electrical power source.

### 3,381,704 HOSE REEL

Howard M. Richardson, 2807 Benner St., Philadelphia, Pa. 19149  
Filed Apr. 22, 1965, Ser. No. 450,020  
9 Claims. (Cl. 137—355.17)

The instant invention is concerned essentially with a hose reel for use with plural conduits or hoses wherein a central shaft is fixed and provided with axially spaced circumferential annuli, about which a rotary spool is mounted to defined annular chambers between the spool, annuli and shaft. The shaft is provided interiorly with passageways communicating with respective chambers,

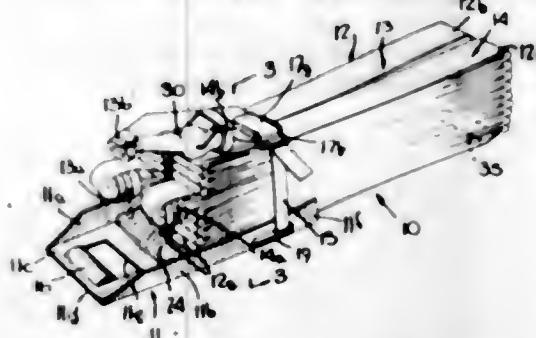
and several conduits are connected through the spool for communication with respective chambers, while the



chambers are provided interiorly with sealing means for sealing engagement with the interior of the spool.

### 3,381,705 FOLDING AND PACKAGING OF HOSE OR THE LIKE

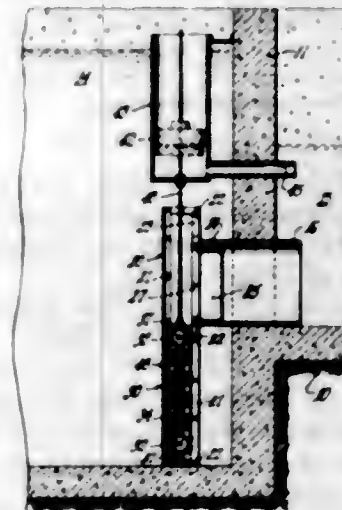
Joseph P. Murphy, 25 Clarendon Place, New Brunswick, N.J.  
Filed Sept. 8, 1965, Ser. No. 485,680  
17 Claims. (Cl. 137—355.28)



Coupled lengths of standard fire hose folded and stacked on handled tray; hose folded and stacked on tray in particular manner (see specification); belt having quick-release buckle holds hose stack on tray; tray has rubber mat providing slip-resistant bottom, and may have attached mount for releasably connecting standard Y-type hose coupling; so-formed hose package is used in particular manner (see specification).

### 3,381,706 ROLL-ON GATE VALVE

Edward L. Hendey, 558 Pendleton St., Banning, Calif. 92220  
Filed June 24, 1964, Ser. No. 377,617  
5 Claims. (Cl. 137—423)



1. A gate valve comprising in combination: a fluid duct having an inlet orifice surrounded on the

upstream side thereof by a surface lying substantially in a single plane;

a carriage movable relative to the orifice;

a pair of spaced parallel rolls rotatably mounted on the carriage;

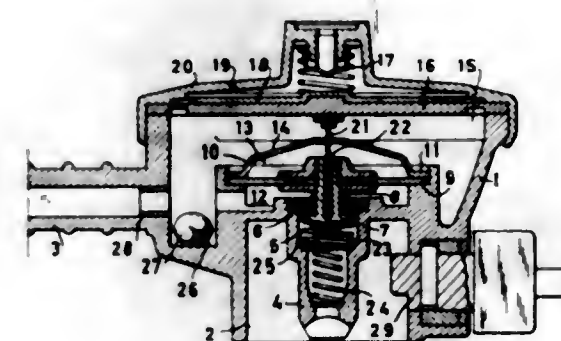
an extended surface, fluid impervious, endless, flexible belt upstream from said orifice and passing around the rolls, a surface on one run of the belt lying substantially in said plane and sealingly engageable with the first mentioned surface in response to fluid pressure exerted over an extended surface on the one run of the belt by fluid upstream from said orifice and said belt;

means for positively positioning the carriage and belt relative to the orifice to regulate fluid flow through the orifice;

and means for guiding said carriage in a direction parallel to said plane to roll the belt over the surface and across the orifice to cover or uncover the orifice.

### 3,381,707 AUTOMATIC CONTROL VALVE PARTICULARLY FOR GAS BOTTLES

Frede Reinholdt Andersen, deceased, late of Niverod, Denmark, by Edith Bruhn Andersen, administrator, Niverod, Denmark, assignor to A/S Teknova Nivan, Denmark, a company of Denmark  
Filed Oct. 31, 1966, Ser. No. 591,002  
Claims priority, application Denmark, Nov. 10, 1965, 5,795/65  
2 Claims. (Cl. 137—489.5)



A valve structure for the controlled discharge of a fluid, mainly bottled gas, comprising a pilot or auxiliary valve controlled by the discharge pressure to determine the admission of the fluid from an inlet to a control pressure chamber which is in open throttle communication with an outlet. The control pressure chamber is bounded by a yieldable member forming a partition between said chamber and an outlet chamber. The member carries a main valve cooperating with a main valve seat through which direct communication may be established between the inlet and the outlet chamber. The main valve is spring-loaded in its closing direction and is forced open by increasing the pressure difference between the control pressure chamber and the outlet chamber.

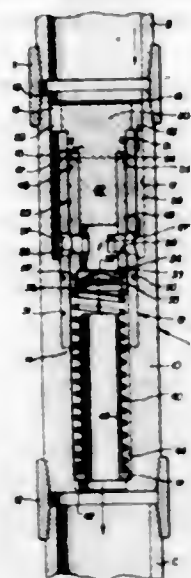
### 3,381,708 FLUID FLOW REGULATOR

David V. Chenoweth, Houston, Tex., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California  
Filed Sept. 7, 1965, Ser. No. 485,440  
6 Claims. (Cl. 137—504)

A fluid flow regulator in which a regulator piston sleeve is slidable in a body and carries an orifice through which fluid flows and tends to shift the sleeve against the force of a spring along body ports to throttle the flow of fluid

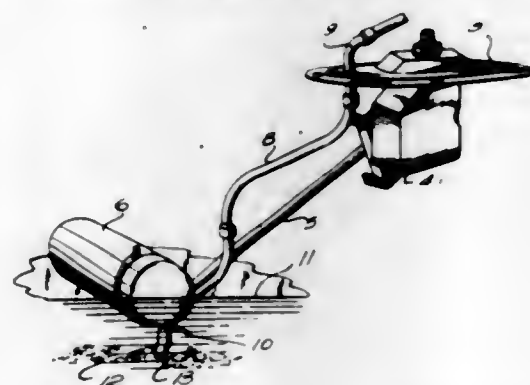


therethrough and maintain the fluid pressure drop through the orifice substantially constant, the piston sleeve extending into an annular body cylinder containing fluid to dampen the movement of the piston sleeve in the body.



a lockout lever for precluding accidental movement of the thrust reverser assembly during flight.

**3,381,709**  
**DEVICES FOR DRAWING LIQUID FROM TANKS AND THE LIKE**  
Dario Pregno, Dr. Luis Belaustegui 1472, Buenos Aires, Argentina  
Filed July 21, 1965, Ser. No. 473,697  
4 Claims. (Cl. 137-578)

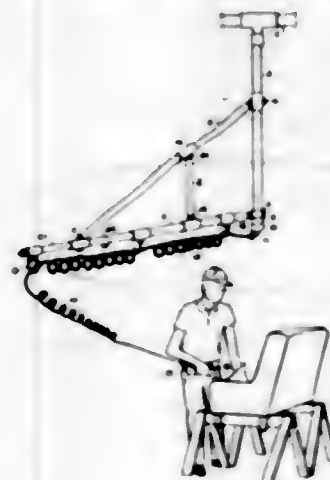


In a fuel tank or the like having a mounting plate fixed in the top wall thereof, a liquid gauge depending from the mounting plate and including an elongated movable arm the free end of which is attached to a float; a liquid draw off conduit including a rigid outlet tube fixed in the plate, a rigid inlet nozzle fixed either to the arm or the float, a flexible hose interconnecting and communicating the outlet tube with the inlet nozzle, and a spacer which may be positioned either on the arm, inlet nozzle or float to engage the bottom of the tank and thereby insure that the inlet of the nozzle will always be spaced at least a predetermined distance above the bottom of the tank.

**3,381,710**  
**VALVE ASSEMBLY**  
Frank Hribar, Jr., Kirtland, and Wayland A. Tenku, Mentor, Ohio, assignors to Fluid Regulators Corp., Painesville, Ohio, a corporation of Ohio  
Filed Nov. 23, 1964, Ser. No. 413,015  
22 Claims. (Cl. 137-596.13)

A valve assembly for controlling the actuation of a thrust reverser assembly and the like, including a pair of manual valves selectively operative to direct low pressure fluid against the piston of a slave valve, direct high pressure fluid against such piston, or cut off fluid flow thereto altogether; a bypass valve and solenoid valve

**3,381,711**  
**POWER SUPPLY FOR PORTABLE POWER TOOLS**  
Carl W. Fye, P.O. Box 261, Newton, N.C. 28658, and  
Leiter T. Pannell, P.O. Box 493, Claremont, N.C. 28610  
Filed Apr. 29, 1965, Ser. No. 451,902  
10 Claims. (Cl. 137-615)

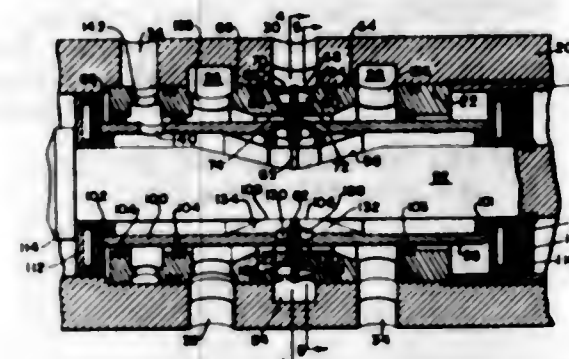


Power is supplied to a pneumatic power tool through a hose running along an arm, revolvable any number of times, to a turn-down point which would circumscribe a work area as it might be moved along a path about its periphery, from which the hose revolvable with the arm must swing inwardly to reach the power tool, thereby minimizing the interference of the hose with the operator of the tool. The arm and the hose are separate entities as far as their functions are concerned.

**3,381,712**  
**HYDRAULIC CONTROL VALVE**  
Richard Arthur Wittren and Donald Ray King, Cedar Falls, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware  
Filed Mar. 21, 1966, Ser. No. 536,108  
8 Claims. (Cl. 137-625.2)

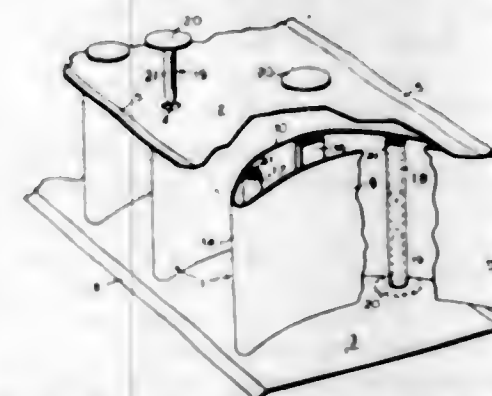
6. A valve comprising: a valve body having a cylindrical bore and an inlet and first and second outlet ports; a disk-like valve member coaxially mounted in said bore and secured at its outer periphery to said body; first and second annular outer valve seats associated with said body and coaxially spaced from the opposite sides of said valve member, the first and second outlet ports respectively communicating with said bore on opposite sides of

the valve member interiorly from the valve seats and the inlet port communicating with both sides of the valve member exteriorly of said valve seats; and actuating means operably connected to the central portion of the valve member to axially shift the central portion of the



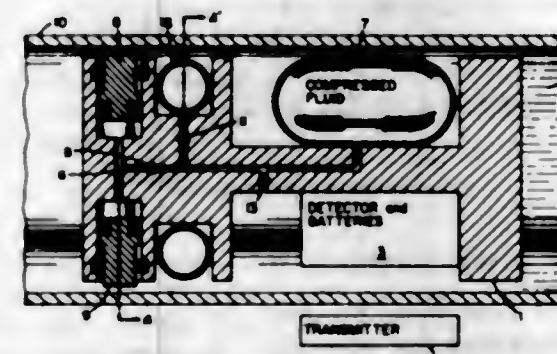
valve member relative to the valve body between a first position wherein it seats against said second outer valve seat to disconnect the second outlet from the inlet and a second position wherein it seats against the first outer valve seat to disconnect the first outlet from the inlet.

**3,381,713**  
**TURNING VANE AND RAIL CONSTRUCTION**  
Gordon R. Jacobson, 4248 Newberry Court, Palo Alto, Calif. 94306  
Filed Oct. 14, 1965, Ser. No. 496,105  
6 Claims. (Cl. 138-39)



A hollow, air turning vane formed from sheet material to provide a concave front wall having air deflecting surface and a rear wall having a convex rear surface. One of said walls is bent to form parallel, open-ended, cylindrical sections extending transversely across the vane for driving pins or nails into said open ends to secure each vane between rails or the opposed side walls of an air duct.

**3,381,714**  
**PIPELINE BLOCKING DEVICE AND PROCESS FOR ITS USE**  
Irvin D. Johnson, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio  
Filed June 29, 1965, Ser. No. 467,896  
10 Claims. (Cl. 138-97)



The present invention comprises devices and processes for controlling flow in pipeline by use of a pig transport-

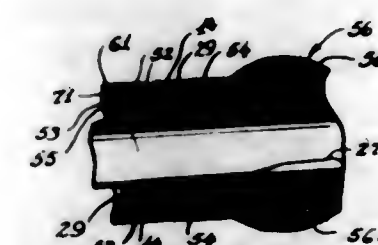
able through a pipeline, stopping means located on the pig for holding the pig fixedly in place within the pipeline, flow control means on the pig for controlling the flow of liquid through the pipeline, and an actuation means mounted on the pig for actuating the stopping means and the flow control means in response to a signal transmitted from the exterior of said pipeline pig, wherein the actuating means is responsive to radiant signals generated outside said pipeline pig.

**3,381,715**  
**GLASS-REINFORCED THREADS WITH SILICA POWDER DISPOSED THEREIN**  
Vesta F. Michael, Wichita, Kans., assignor to Rock Island Oil & Refining Co., Inc., Wichita, Kans., a corporation of Kansas  
Filed Feb. 25, 1964, Ser. No. 347,163  
2 Claims. (Cl. 138-109)



A glass-reinforced resin pipe having female threads formed therein is provided with silica powder disposed in said resin adjacent glass reinforcements. The glass reinforcements are longitudinally disposed in said pipe, under tension.

**3,381,716**  
**THREADED PIPE CONSTRUCTION**  
Vesta F. Michael, Wichita, Kans., assignor to Rock Island Oil & Refining Co., Inc., Wichita, Kans., a corporation of Kansas  
Original application Oct. 12, 1962, Ser. No. 230,093 now Patent No. 3,291,881, dated Dec. 13, 1966. Divided and this application June 2, 1966, Ser. No. 554,719  
6 Claims. (Cl. 138-109)



A glass-reinforced plastic pipe is provided having pre-tensioned, filamentous reinforcements embedded in a cured resin. The opposed pipe ends have male and female threads formed thereon. The threads formed thereon are disposed adjacent and bonded to longitudinal glass filaments under tension whereby the shear strength of such threads is improved. Also, the female threads have helical filamentous glass reinforcements disposed in the thread crest portions to increase the hoop strength thereof.

**3,381,717**  
**BLOWN POLYPROPYLENE TUBULAR FILMS**  
Frederick S. Tyrrel, Fairfield, Conn., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia  
No Drawing. Filed June 3, 1966, Ser. No. 554,985  
8 Claims. (Cl. 138-137)

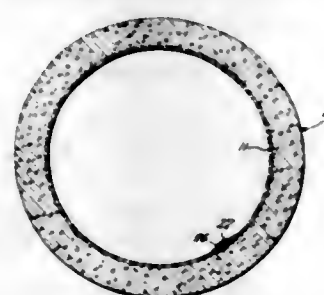
Three-ply tubular blown films having two nucleated polypropylene outer layers with an ethylene-vinyl acetate copolymer core.



**3,381,718**  
**LINED CONCRETE PIPE**  
 Arnold Darrow, 11626 Hillcrest Road,  
 Dallas, Tex. 75230

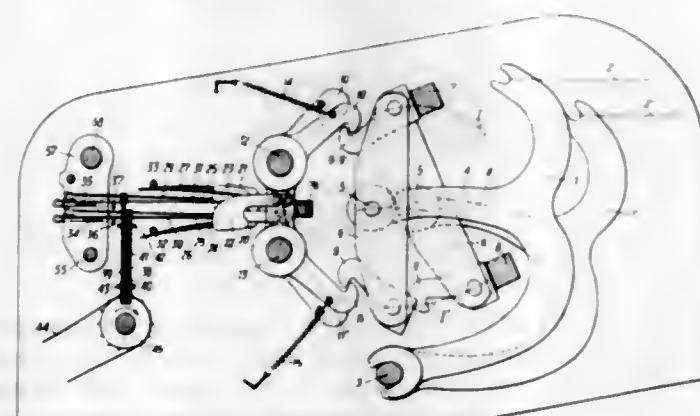
Continuation-in-part of application Ser. No. 187,616,  
 Apr. 16, 1962. This application Nov. 1, 1963, Ser.  
 No. 321,393

2 Claims. (Cl. 138—141)



1. A lined concrete pipe having a facing liner covering at least a major portion of the inside surface thereof to protect the concrete against corrosive action of acids, gases or alkali, and a coating of epoxy resin adhesive bonding said liner to the inside surface of said concrete pipe, said facing liner comprising a plurality of plies bonded together to form a laminated sheet including at least a pair of thin plies of a previously set or polymerized vinyl plastic sheet material which is resistant to corrosive action of oxidized hydrogen sulfide and a ply of fabric backing material bonded to the plastic sheet material and disposed immediately adjacent the inside surface of the pipe and having the property of displaying a greater bonding affinity to the epoxy resin adhesive than said vinyl plastic sheet material.

**3,381,719**  
**DOUBLE LIFT DOBBIES**  
 Marcel Favre, Faverges, France, assignor to Gebr.  
 Staubli & Co., Zurich, Switzerland  
 Filed June 1, 1966, Ser. No. 554,501  
 Claims priority, application France, June 1, 1965,  
 19,045  
 5 Claims. (Cl. 139—68)



A double lift dobby in which the baulks are arrested by arrester hooks actuated by two groups of draw needles. Each group is made of a pair of these needles and each needle of the pairs is associated with only one of the two arrester hooks arresting a respective baulk. The draw needles are actuated by draw rails operating out of phase with one lagging the other slightly by a double pick and the draw needles of a same group by one pick in the working cycle of the dobby. The working cycle of the dobby is equivalent to two picks corresponding to 360°. The draw needles of the various groups are actuated without a jerky operation of the arrester hooks. The baulks are actuated at respective ends by pusher rails driven reciprocally out of phase 180° for each double pick. The draw needles themselves are associated with reading

needles reading a pattern card so that the desired baulks are arrested in a forward position corresponding to a raised heald position under control of the pattern card.

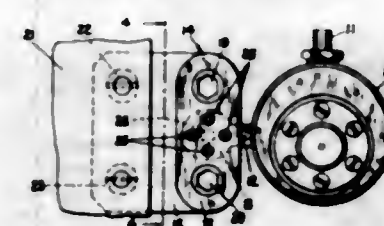
**3,381,720**  
**ENCLOSED DRIVE FOR LOOMS**  
 Theodore S. Higgins, Woonsocket, R.I., assignor, by mesne  
 assignments, to John Donald Marshall and Horace L.  
 Bomar, trustees, The Carolina Patent Development  
 Trust

Filed Oct. 10, 1966, Ser. No. 585,493  
 4 Claims. (Cl. 139—122)



1. In a loom having opposed flexible filling inserting members, wheels to which said flexible members are attached and by which they are alternately advanced and retracted, a driven shaft in said loom and means for oscillating said wheels in unison which comprises at each wheel an enclosed gear housing having an oil reservoir and a first gear member fixed for rotation with said wheel, a second gear member and cooperating rack disposed in driving relation with said first gear member, a crank member fixed to the end of said driven shaft within said housing, a bracket element adjustably attached to said rack and a pitman interconnecting said crank and bracket and means for distributing of oil in said reservoir to the movable components within said enclosed housing.

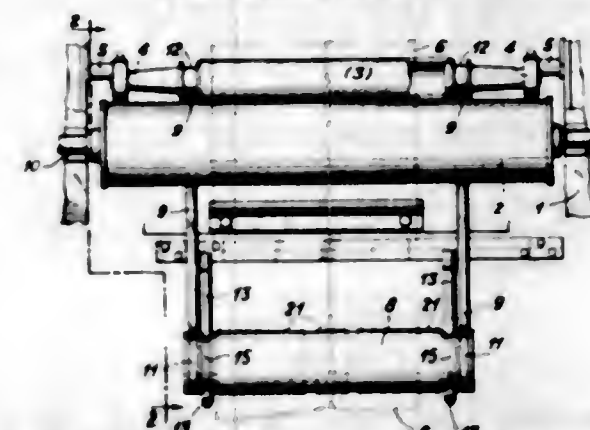
**3,381,721**  
**NOZZLE POSITIONER FOR JET LOOMS**  
 John H. Nydam, North Uxbridge, Mass., assignor, by  
 mesne assignments, to John Donald Marshall and  
 Horace L. Bomar, trustees, The Carolina Patent De-  
 velopment Trust  
 Filed Jan. 16, 1967, Ser. No. 609,561  
 3 Claims. (Cl. 139—127)



A nozzle positioner for fluid jet looms with universal adjustment means for selectively directing the nozzle and west propelling fluid jet emitted from the latter to predetermined and opposed points at the opposite side of the loom.

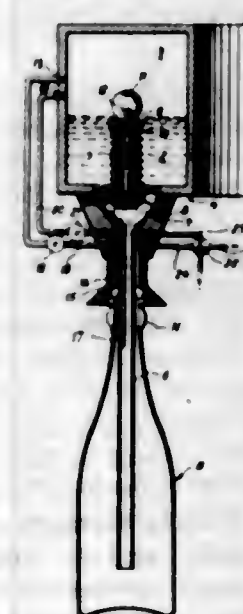
**3,381,722**  
**CLOTH BEAM DRIVE MEANS FOR LOOMS**  
 Erwin Pfarrerwaller, Winterthur, Switzerland, assignor to  
 Sulzer Brothers Limited, Winterthur, Switzerland, a  
 Swiss company

Filed Nov. 26, 1965, Ser. No. 509,975  
 Claims priority, application Switzerland, Nov. 30, 1964,  
 15,459/64  
 11 Claims. (Cl. 139—310)



There is disclosed a cloth beam drive for a loom in which a cloth beam is suspended by means of two endless loops running in grooves at the ends of the cloth beam and running over a driven cloth pull-off roll, with hooks depending from the loom frame to limit transitional motions of the cloth beam.

**3,381,723**  
**APPARATUS FOR FILLING BEER BOTTLES AND THE LIKE**  
 Karl Quest, Dortmund, Germany, assignor to Holstein  
 and Kappert Maschinenfabrik Phonix G.m.b.H., Dort-  
 mund, Germany  
 Filed Dec. 10, 1965, Ser. No. 512,995  
 5 Claims. (Cl. 141—39)

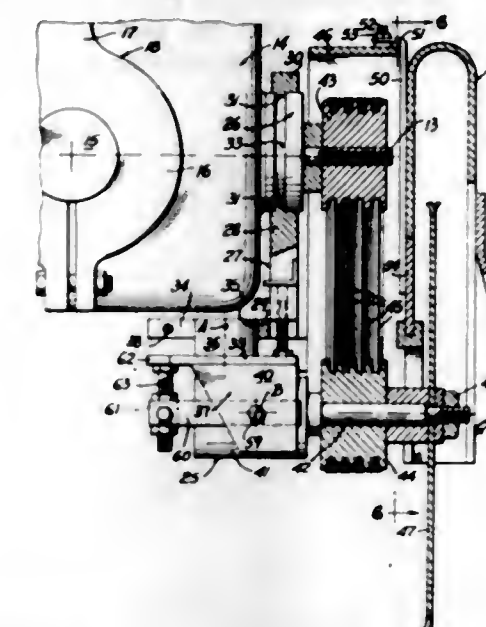


A filling apparatus having a tank containing a supply of carbonated liquid, a cushion of compressed gas above the liquid, and a downwardly extending fill tube receivable in an empty container. Diverse fluid flow conduits having valves and communicating with the space above the liquid level in the tank to relieve turbulence throughout the filling cycle.

**3,381,724**  
**ATTACHMENT FOR RADIAL ARM SAWS**  
 John David Martin, 2137 Amberwood Lane,  
 San Jose, Calif. 95132  
 Filed Jan. 18, 1966, Ser. No. 521,334  
 7 Claims. (Cl. 143—6)

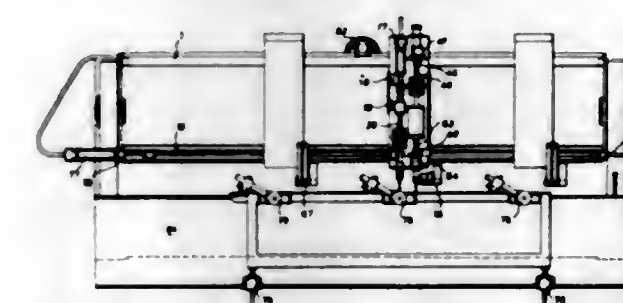
An auxiliary spindle attachment facilitating use of a smaller than normally required circular blade on a radial

arm saw. A frame attachable to the blade supporting side of the motor of a conventional radial arm saw and including a yoke for supporting a bearinged blade support-



ing spindle in offset, parallel relation to the motor shaft, yet closer than the latter to the work supporting table and adjustable about both vertical and horizontal axes to achieve various cutting angles and adjustments.

**3,381,725**  
**AUTOMATIC DRILL AND INSERTING MACHINE**  
 Alfred Locher, Darststrasse 62, Mellen,  
 Zurich, Switzerland  
 Filed Apr. 21, 1966, Ser. No. 545,533  
 Claims priority, application Switzerland, Oct. 22, 1965,  
 14,783/65  
 22 Claims. (Cl. 144—3)



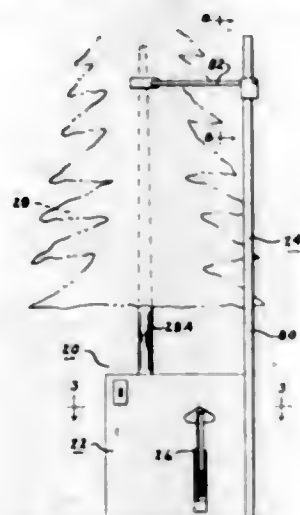
An inserting device for the insertion of fittings into previously drilled holes into windows, doors and the like and their frames. The device comprises an inserting head for insertion of the fittings into the holes, a shaft for the inserting head movable in an axial direction, means for imparting rotary movement and feed movement to the shaft during the insertion of a fitting in the direction of the workpiece, a stop element attached to the shaft to limit the feed and to fix simultaneously the angular position of the shaft in a predetermined angular end position, and a fixed impact element for the stop element, said stop element participating in the rotary and feed movement of the shaft and runs against the fixed impact element tangentially upon reaching a predetermined feed limit corresponding to the depth of the insertion.

**3,381,726**  
**TREE BORING APPARATUS**  
 Garold E. Apple, R.R. 4, Plymouth, Ind. 46563  
 Filed Apr. 20, 1966, Ser. No. 544,033  
 7 Claims. (Cl. 144—93)

1. A tree boring apparatus comprising a base, a means for holding a drill bit and for reciprocating the bit verti-

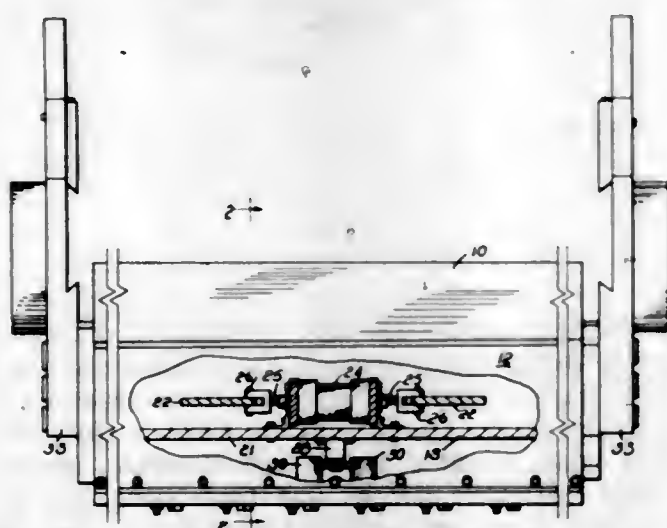


cally, a motor for driving the bit, means adjacent the bit for positioning the lower end of the trunk of a tree over the bit, a tree positioning device connected to said base and extending upwardly therefrom, said device including a vertically positioned post parallel with said bit and spaced therefrom, an arm on said post extending laterally therefrom to a position substantially over said



bit, means on said arm having an open side for engaging the trunk of a tree and retaining the trunk in an upright position, and means for adjusting said arm vertically on said post in spaced relation to the bit, said tree positioning device being secured to said base and spaced a substantial distance from the drill bit and the arm thereof extending generally horizontally from said post.

**3,381,727**  
**OSCILLATING PLYWOOD LATHE KNIFE**  
Leonard L. Hayes, Lewiston, Idaho, assignor to Potlatch Forests, Inc., Lewiston, Idaho, a corporation of Delaware  
Filed Mar. 10, 1966, Ser. No. 533,173  
3 Claims. (Cl. 144-212)

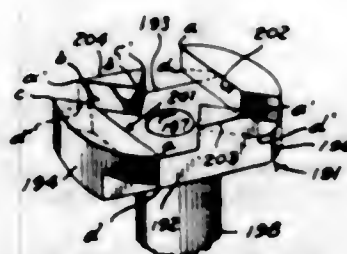


1. An oscillating knife apparatus mounted on a plywood veneer lathe for peeling a rotating log mounted longitudinally between opposing lathe spindles, said apparatus comprising:

(a) an elongated horizontal knife carriage mounted on the lathe for transverse movement to and from the rotating log, said carriage having a right triangular-shaped vertical cross section that is hollow in which an inclined upper surface defines the hypotenuse of the triangle, a horizontal plate defines one leg of the triangle, and a vertical front section defines the other leg of the triangle, said vertical front section of the carriage having vertically spaced longitudinal dovetail slide ways formed thereon and two horizontal dovetail slots that are formed therethrough between the slide ways;

- (b) a vertical knife carrier movably mounted on said slide ways for movement parallel to the log, said knife carrier having an inclined top surface that forms a flat surface coplanar with the upper surface of the carriage to facilitate the discharge of veneer, and a front surface directed toward the log, and lugs that extend rearwardly from the carrier through the slots of the carriage;
- (c) a longitudinal knife fixed to the knife carrier for peeling the log, said knife having a cutting edge projecting tangentially relative to the log surface engaged thereby; and
- (d) hydraulic drive means mounted within the hollow of said carriage and operatively connected to the carrier lugs for reciprocating the knife carrier and knife relative to said knife carriage to facilitate the peeling operation.

**3,381,728**  
**ROUTING TOOL**  
Milton Goldstein, Long Beach, N.Y., assignor to John Barsha and A. Abba Orlinger, both of New York, N.Y., and said Milton Goldstein, as trustees for the benefit of themselves and others, with respective alternate trustees  
Filed Mar. 7, 1966, Ser. No. 532,387  
3 Claims. (Cl. 144-219)

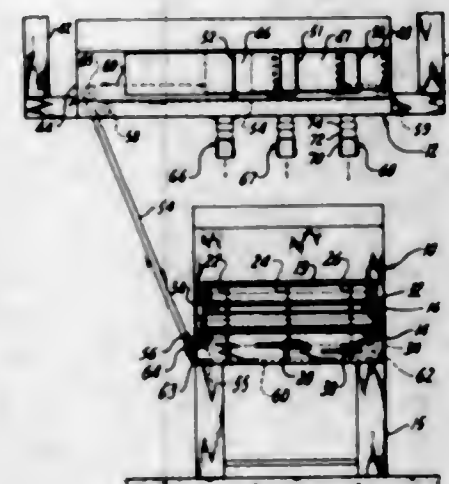


1. A router bit having its cutting face perpendicular to its axis of rotation,

- (i) a plurality of circumferentially spaced apart, similarly shaped and outer positioned, substantially triangular cutting teeth with the leading cutting edge of each of them being parallel to said axis and based in the periphery of the circle of longest diameter outlined by the outermost point on said face, and the trailing outer peripheral face of each of which teeth recedes backwardly inwardly from said leading cutting edge away from a cylinder traced by the rotation of said edge to provide adequately practical clearance during routing; the inner cutting edge perpendicular to said leading cutting edge at the leading cutting point forming a sufficient angle of rake with the radius passing through said leading point of each of said teeth; and the face bounded by the outer face and inner cutting edge and the trailing edge joining them also receding toward said first mentioned outer face in a direction backwardly from the leading cutting point to provide an adequately practical clearance; and
- (ii) a plurality of inner teeth triangularly shaped alike and being similarly positioned relative to one another with each of them spaced apart from a respective one of said outer teeth to alternate with them; and with the body of each of the inner teeth being positioned within and spaced away from the periphery of a circle traced by the leading cutting point of each of them, said circle being at least coincident with the circle traced by the inner end of the inner cutting edge of each of the outer teeth and at most only overlapping it by a distance radially significantly less than half of the largest thickness radially of an outer tooth; the leading cutting edge of each of the inner teeth being located as to the rest of such

tooth in the same way as the leading cutting edge of each outer tooth is located as to the rest of the outer tooth; the inner cutting edge of each inner tooth being perpendicular to its leading cutting edge and being spaced away at an acute angle from the outer end of a radius through its leading cutting point adequate to provide a sufficient angle of rake for its inner leading cutting edge; and the trailing plane through said last cutting edge and extending away from it receding progressively further away from the plane traced by rotation of said edge sufficiently to provide adequate practical clearance; each respective tooth of each of said pluralities (i) and (ii) being so spaced from the next one of its plurality to provide substantial balance during rotation whereby said rotation is substantially free of vibration.

**3,381,729**  
**BOARD FEET INDICATOR AND METHOD**  
Robert M. Dunn, 2730 Pennsylvania Ave., W. Ext., Warren, Pa. 16365  
Filed May 4, 1966, Ser. No. 547,532  
11 Claims. (Cl. 144-312)

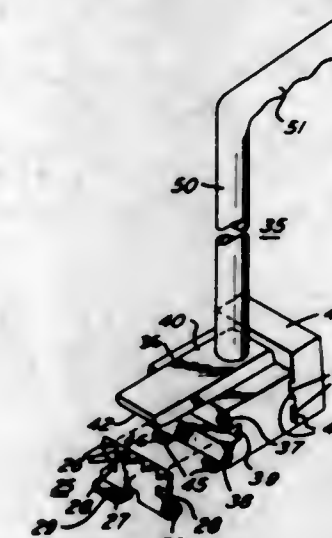


1. Apparatus for edging a board comprising, a table, defining an elongated path of movement for a board to be edged, sawing means selectively moveable to fixed locations transversely of said path at one end thereof to define one side of at least one longitudinal portion of said path, scale means, indicator means having a movement adjacent said scale directly related to the movement of said sawing means, and said scale means having indicia thereon located to indicate in conjunction with said indicator means the number of board feet in boards of various lengths having a width determined by the location of said sawing means.

**3,381,730**  
**CLIP DRIVING TOOL**  
Ray E. Ombelt, Berwyn, Pa., assignor to Powerlock Floors, Inc., Philadelphia, Pa., a corporation of Pennsylvania  
Filed May 19, 1966, Ser. No. 551,399  
7 Claims. (Cl. 145-46)

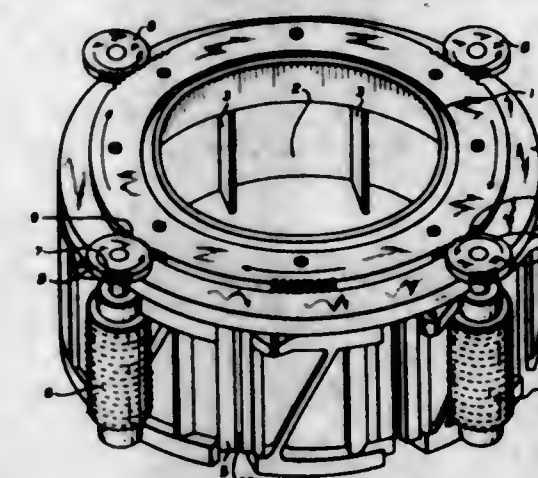
1. A clip driving tool for securing a floor board to a channel comprising  
a main body portion having an end with a lower face portion for clip engagement,  
a pressure plate carried by said main body portion and extending beyond said end for engaging a floor board to be secured with the channel,  
fulcrum means on said main body portion at the lower part thereof, said fulcrum means having a portion for channel rim underface engagement, and

a handle member in secured relation to said main body portion and disposed thereabove for movement of said pressure plate to floor board engaging position,



said main body portion having a striker member carried by the other end thereof.

**3,381,731**  
**FOOD PRODUCT PERFORATING AND SLICING APPARATUS**  
Clifford K. Bath, Berwick, and Roy M. Spangler, Wapwallopen, Pa., assignors to Wise Potato Chip Co., Berwick, Pa., a corporation of Pennsylvania  
Filed Apr. 18, 1966, Ser. No. 543,216  
4 Claims. (Cl. 146-56)



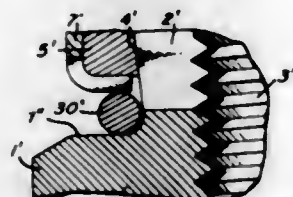
1. An apparatus for automatically perforating and slicing food products, comprising rotatable means for receiving the products, perforating means operatively associated with said rotatable means, means for rotating said rotatable means and said perforating means, means for slicing said product, and impeller means for guiding said product into said slicing means, said perforating means positioned before said slicing means whereby perforated slices are removed from said product.

**3,381,732**  
**LOCKNUT**  
Walter Engelmann, Weingartenstrasse 35, Esslingen (F.R.G.), Germany  
Original application Dec. 4, 1962, Ser. No. 242,291.  
Divided and this application Apr. 13, 1966, Ser. No. 542,303  
Claims priority, application Germany, Dec. 6, 1961, E 22,876; Austria, Apr. 17, 1962, A 3,175/62  
10 Claims. (Cl. 151-19)

A locknut which consists of a nut body with a neck portion of smaller diameter and having an internal screw thread extending continuously through the body and the neck portion while the neck portion has a smooth, conical outer surface tapering toward the body and includes radial



slots dividing the same into a plurality of arcuate radially resilient segments; a closed clamping ring with a complementary smooth conical inner surface tapering similar to the conical outer surface of the neck portion which is shorter than the neck portion in the axial direction and is displaced from the non-clamping position into the clamping position by axial movement away from the nut body so that an annular gap is formed between adjacent surfaces of the nut body and the clamping ring which increases in its axial dimension when the clamping ring is in the clamping position; an annular securing element at

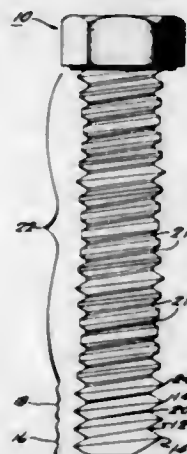


least partially embracing the neck portion is inserted into the gap to retain the clamping ring in the clamping position whereby the annular securing element is of such a dimension in the axial direction as to be insertable into the gap only when the clamping ring is in the clamping position which is brought about also by the use of a material for the annular securing element which possesses substantial rigidity against changes in the cross-sectional dimension corresponding to the axial direction in order to be capable of producing a counter force sufficient to retain the clamping ring in the clamped position.

3,381,733

## THREAD FORM

Glenn W. Stanwick, 1325 Valley Ridge Drive, Brookfield, Wis. 53005  
Filed July 1, 1966, Ser. No. 562,371  
6 Claims. (Cl. 151-22)



A male thread form which, especially under conditions of repeated shocks or vibrations, resists removal from the female thread form into which it is inserted, the resistance to removal being effected by variations in the crest and root diameters of the thread throughout the length of the stud or other male member.

3,381,734

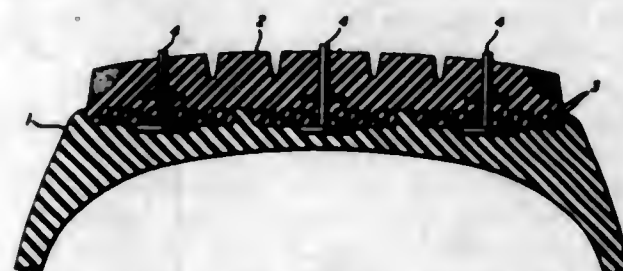
## REMOVABLE TREAD TIRE FOR ICY GROUND

Carlo Barassi and Giulio Cappe, Milan, Italy, assignors to Pirelli S.p.A., Milan, Italy  
Filed Jan. 12, 1966, Ser. No. 520,225  
Claims priority, application Italy, Feb. 2, 1965, 2,317/65

8 Claims. (Cl. 152-176)

A pneumatic tire having a carcass, a reinforced removable tread ring carried by the carcass, and a plurality of

spikes extending through the ring and being secured therein, one end of each of the spikes projecting from the outer

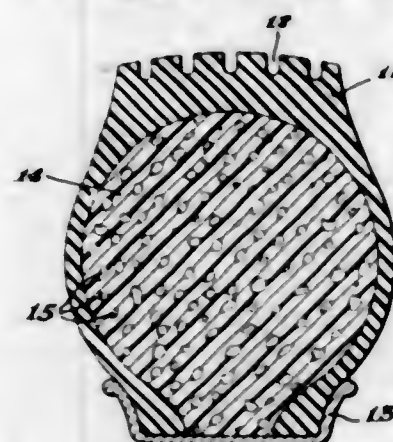


surface of the tread ring, and the other end having a head formed thereon which is secured between the inner surface of the tread ring and the outer surface of the carcass.

3,381,735

## DEFLATION-PROOF VEHICLE TIRES

Thomas D. Talcott, Midland, and Richard F. Smith, Bay City, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan  
Filed May 5, 1966, Ser. No. 547,842  
7 Claims. (Cl. 152-313)

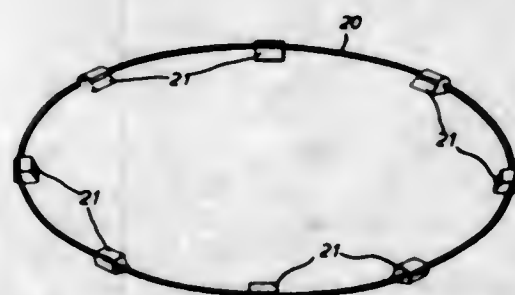


An automotive vehicle tire comprising a casing and a filler material confined at least in part by the casing, the filler material being a foamed elastomer having voids therein. The elastomer having a Bashore resilience versus temperature characteristic which has a major maximum point above a line defined by 55 percent at 112° F. and 40 at 472° F., a compression set less than 50 at all operating temperatures, and a minimum tear strength of 2.5 pounds per inch at all operating temperatures. Examples of suitable foamed materials include ethylene-propylene terpolymer, polyisoprene, polybutadiene, and silicone rubber.

3,381,736

## TIRE

Peter Ford, Erdington, Birmingham, and John Henry Hughes, Dootill, Tamworth, England, assignors to Dunlop Rubber Company Limited, London, England, a British company  
Filed Feb. 23, 1966, Ser. No. 529,324  
Claims priority, application Great Britain, Mar. 6, 1965, 9,599/65  
9 Claims. (Cl. 152-362)



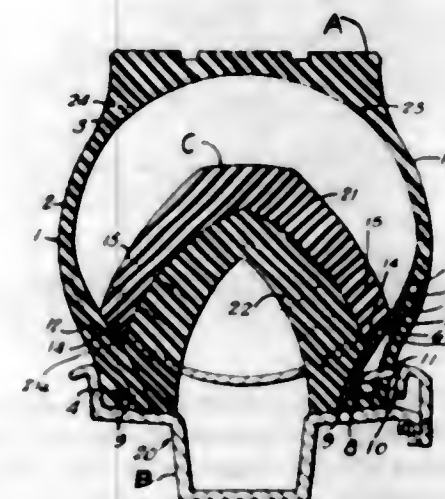
A pneumatic tire manufactured by a casting process which comprises pouring suitable material into a mould

in which at least one bead wire is located by means of outwardly of the fixed jamb housing and into engagement blocks mounted on the wire. The blocks are made of a material which has similar physical properties to the material of the bead region of the finished tire.

3,381,737

## TUBELESS TIRE FOR USE WITH SIDEWALL THRUSTING BUFFERS

Tilden William Johnson, 5630 Sawtelle Blvd., Culver City, Calif. 90230  
Continuation-in-part of application Ser. No. 424,746, Jan. 11, 1966. This application May 19, 1966, Ser. No. 552,383  
16 Claims. (Cl. 152-391)



This invention comprises a buffer useable, thin sidewall, thick radially reinforced bead and adjacent annulus tubeless tire with a low profile action in thin sidewalls above said thickened bead area with one or more beads and sidewall annulus extensible because only radially reinforced, said extensible bead formed by leaving usual wire bead core space hollow with an aperture from tire bead outside to said hollow bead space through which a substantially inextensible bead strap can be inserted and tensioned and fastened to an airtight fit of said bead to a rim.

One version of said strap consisting of severable, connectable sections.

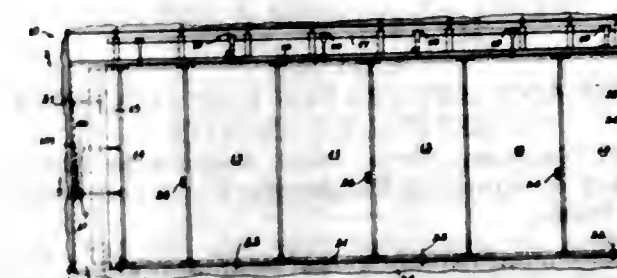
One version of said bead structure being formable by use of a high heat resistant, stretchable hollow tube as a tire bead core for anchoring carcass reinforcement with radial reinforcements extending for overlap with all direction tire reinforcement that marks the termination of area extensibility. Said bead structure further strengthened by use of an outside bead reinforcement similar to a section of a rim flange, or a rim flange, having bolting means to attach to said tire bead core inextensible reinforcement.

3,381,738

## MOVABLE SPACE DIVIDER STRUCTURES

Charles R. Good, Springport, Ind., Donald S. Harris, Dallas, Tex., Robert L. Lindahl, Trenton, Mich., and Bennett W. Merrill, New Castle, Ind., assignors to New Castle Products, Inc., New Castle, Ind., a corporation of Indiana  
Original application July 29, 1963, Ser. No. 298,367. Divided and this application Sept. 26, 1967, Ser. No. 670,535  
3 Claims. (Cl. 160-40)

A partition consisting of a series of movable panels which are extendable across a wall opening in an extended position, and a jamb panel movable within a fixed jamb housing and operated by a lever to move

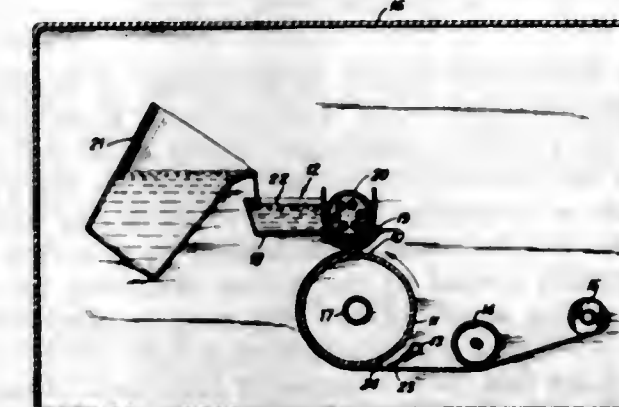


end engagement and forming an effective sound-retarding seal between adjacent panels.

3,381,739

## METHOD AND APPARATUS FOR PROCESSING MATERIALS INTO FOIL AND STRIP FORM

Thomas Gordon Hart, San Francisco, Calif., assignor to Phelps Dodge Corporation, New York, N.Y., a corporation of Delaware  
Filed Aug. 20, 1965, Ser. No. 481,339  
24 Claims. (Cl. 164-64)

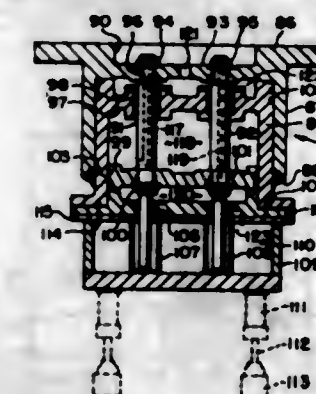


A method and apparatus for forming sheet or strip material by flowing liquid through an elongated channel and on to a surface which is wet by the liquid, and causing the liquid to form a bridge between that surface and a moving surface adjacent to that surface to coat the moving surface with a film of liquid which is solidified and stripped from the moving surface as a continuous sheet.

3,381,740

## FOUNDRY MOLDING MACHINE

Gilbert J. Janke, Parma, and Warren A. Blower, Brecksville, Ohio, assignors to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio  
Filed July 7, 1965, Ser. No. 469,983  
9 Claims. (Cl. 164-173)



A pneumatic foundry molding machine utilizing a squeeze piston-cylinder assembly employing tandem pressure receiving surfaces interconnected by polished guide rods extending through a partition, whereby the larger diameter surfaces of the assembly need not be highly

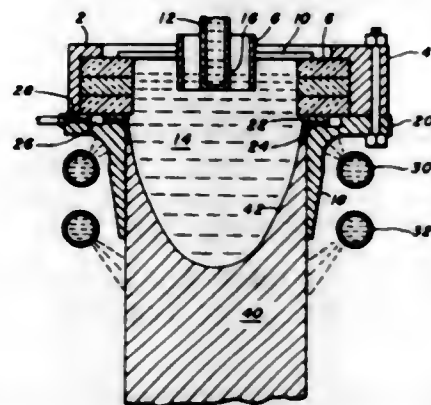


finished, the force exerted by the tandem pressure receiving surfaces being additive so that greater squeeze force is obtained with a smaller size assembly.

paratus having demonstrated utility in connection with the forming of comparatively-large, defect-free, thin-walled, precisely-dimensioned castings from molten alloys and the like in controlled environments.

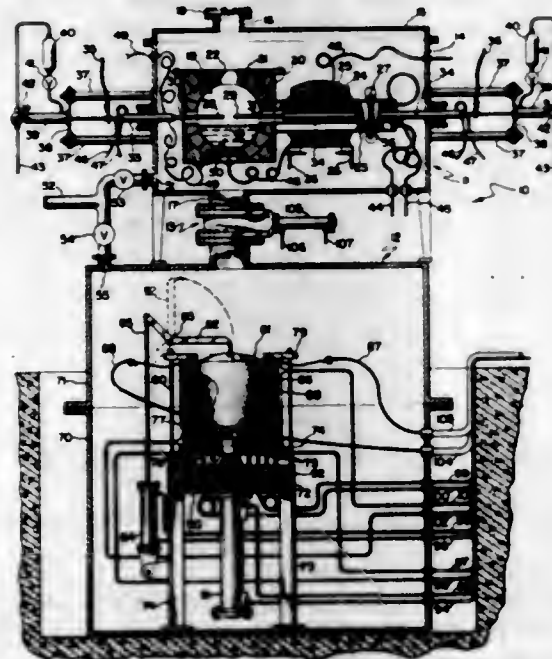
### 3,381,741 METHOD AND APPARATUS FOR CONTINUOUS CASTING OF INGOTS

George R. Gardner, Berea, Ohio, assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania  
Continuation of application Ser. No. 286,349, June 7, 1963. This application Apr. 13, 1966, Ser. No. 542,424  
14 Claims. (Cl. 164-73)



In the continuous casting of aluminum or aluminum alloy ingots wherein a body of molten metal is maintained adjacent to a chilled continuous casting mold and continuously fed therinto, the surface finish of the ingot produced can be markedly improved by extracting heat in two zones. The first zone is established by a surface disposed laterally inward of the surface describing the second zone. The length of the first zone is considerably shorter than that of the second zone and the inward projection of the first zone is generally less than 0.15 inch. The length of the first zone generally varies between about  $\frac{1}{16}$  and  $\frac{3}{4}$  inch whereas the length of the second zone may be 1 to 2 inches or more.

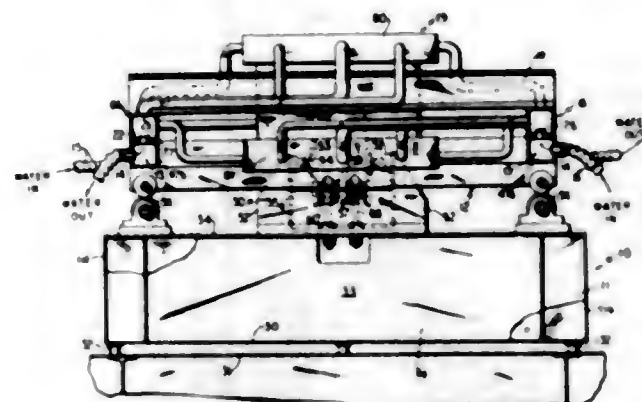
3,381,742  
**METAL CASTING AND SOLIDIFICATION**  
Herbert Greenwald, Jr., Columbus, Ohio, assignor to North American Rockwell Corporation, a corporation of Delaware  
Continuation-in-part of application Ser. No. 508,318, Nov. 17, 1965. This application June 23, 1967, Ser. No. 652,392  
10 Claims. (Cl. 164-256)



This invention pertains generally to metal casting and solidification, and particularly concerns methods and ap-

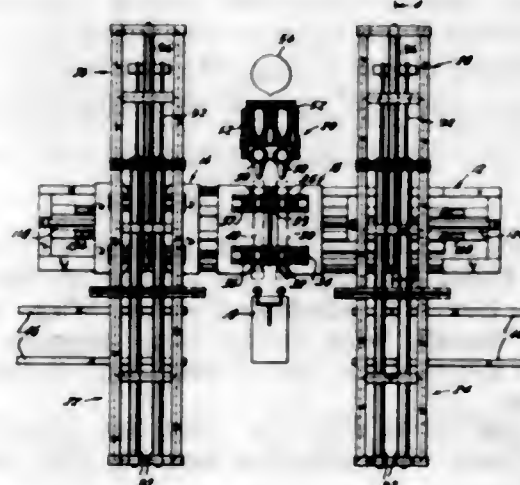
### 3,381,743 QUICK-CHANGE MOUNTING FOR WATER-COOLED MOLD

Charles H. Bode, Jr., Upper St. Clair Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware  
Filed Oct. 15, 1964, Ser. No. 444,002  
6 Claims. (Cl. 164-283)



A continuous-casting mold is mounted in a vertically reciprocating horizontal rectangular frame. On each of two opposite sides of the frame, separable cooling-water manifolds are mounted, one on the other, with self-acting make-and-break connections therebetween. The mold is secured within the frame to beams bridging the upper manifolds. Piping conducts water from the upper manifolds to and from water-cooling passages in the mold. Flexible hose connected to the lower manifold provides for a supply of cooling water thereto and its return. On lifting the beams, and the upper mold-supporting manifolds, the self-acting connections are broken.

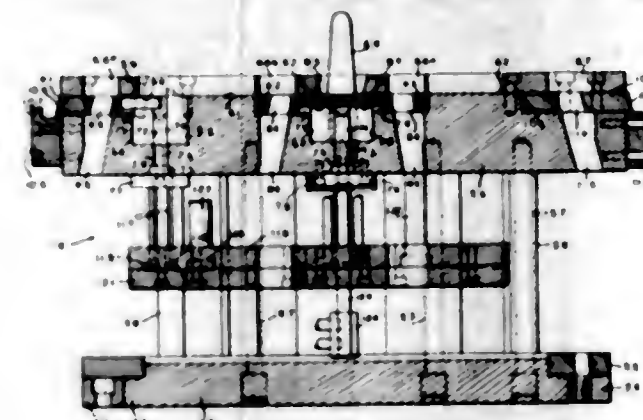
3,381,744  
**CENTRIFUGAL CASTING MACHINE WITH  
SHUTTLE CAR OPERATING BETWEEN  
ARRANGED WORK STATIONS**  
Russell W. Taccone, Erie, Pa., assignor to Shalmoon Industries, Inc., New York, N.Y., a corporation of Delaware  
Filed Oct. 23, 1965, Ser. No. 502,917  
18 Claims. (Cl. 164-295)



1. A centrifugal casting machine comprising a shuttle track with shuttle car means thereon, a first station having metal pouring means at one side of the track, a second station comprising pipe pulling means on one side of the track and a mold spray means on the other side

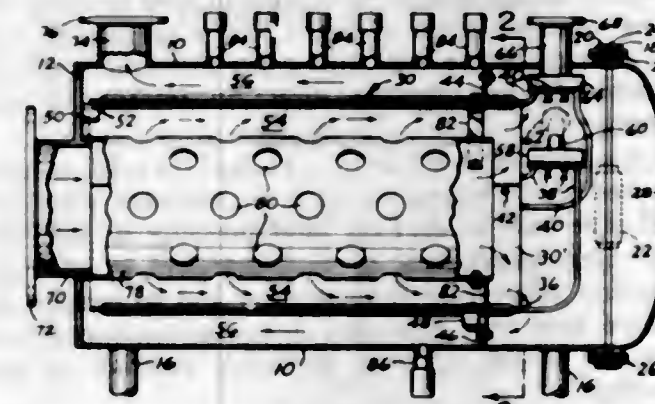
of the track at a point opposite the pipe pulling means, one station being midway between the ends of the track, the other station being near one end and being duplicated near the other end, the shuttle car means having spaced molds resting on spin wheels and having motor means to drive the spin wheels, and means to shuttle the shuttle car means on the track between a first and a second station.

3,381,745  
**APPARATUS FOR DIE CASTING KEY PLUGS**  
Roy C. Spain, Salem, Va., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware  
Filed Aug. 24, 1965, Ser. No. 452,248  
12 Claims. (Cl. 164-303)



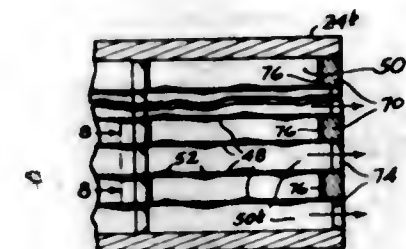
A die casting apparatus for the manufacture of plugs for key lock assemblies which will provide the intricate slotting in the plug in a single casting operation utilizing a multi-cavity two-part separable mold with each mold cavity formed by an upper mold core having a circular recess with a central plate depending therefrom and a lower die block having a cylindrical cavity with a rear core, a side core, a core forming the keyway and an opposing core nest.

3,381,746  
**VAPOR CONDENSING APPARATUS**  
Karl H. Wiegmann, Huntingdon Valley, Pa., and John H. Leary, Cherry Hill, N.J., assignors to Hall Corporation, Halthoro, Pa., a corporation of Pennsylvania  
Filed Dec. 16, 1966, Ser. No. 602,252  
9 Claims. (Cl. 165-111)



A vapor condenser having a hollow housing adapted to be evacuated to sub-atmospheric pressure and in which a tubular refrigerated condenser unit is spaced from the housing periphery and forms with the latter inner and outer chambers which communicate with each other at the front end of the housing. A vapor inlet communicates the inner chamber at the rear end of the housing with a source of vapor to be condensed, and a vapor outlet communicates the outer chamber, also at the rear end of the housing, with a source of sub-atmospheric pressure. Thus, vapors are caused to pass along the condenser unit from the inlet to the outlet in a countercurrent flow path.

3,381,747  
**VENTILATING SYSTEM**  
William J. Darm, 1313 SE. 12th Ave., Portland, Ore. 97214  
Filed May 9, 1966, Ser. No. 548,635  
1 Claim. (Cl. 165-166)



Apparatus for recovering heat from air including an elongated housing, substantially parallel metallic sheets within the housing extending between opposed ends and sides of the housing, spacers within the housing adjacent such opposite sides spacing the sheets from each other, a plastic sealant sealing opposed edges of the sheets adjacent said spacers to the interior of the housing, ridges in the sheets extending transversely of the housing sides promoting turbulence, and supply and exhaust port means effective to promote a movement of air in one direction through the housing through a set of channels defined between said metallic sheets and another supply and exhaust port means for effecting the movement of air in the counterflow direction through channels defined between said metallic sheets interspersed with the first-mentioned set of channels.

3,381,748  
**METHOD FOR SEALING LEAKS IN  
PRODUCTION PACKERS**  
Beldon A. Peters and Weldon W. Whitaker, Houston, and Warren E. Holland, Kingsville, Tex., assignors to Esso Production Research Company, a corporation of Delaware  
Filed Dec. 16, 1965, Ser. No. 514,264  
8 Claims. (Cl. 166-14)



A method for repairing leaks in a production packer wherein a low density sealant fluid containing particles of an insoluble polymer is forced through the tubing string between two piston-like members until the lowermost member emerges from the lower end of the tubing and at least part of the sealant is displaced into the wellbore beneath the packer.

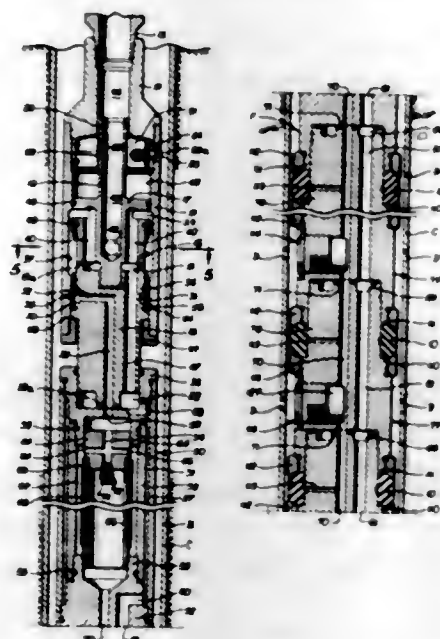


3,381,749

**MULTIPLE INJECTION PACKERS**

David V. Chenoweth, Houston, Tex., assignor to Baker Oil Tools, Inc., Commerce, Calif., a corporation of California

Filed Sept. 7, 1965, Ser. No. 485,428  
23 Claims. (Cl. 166-55)



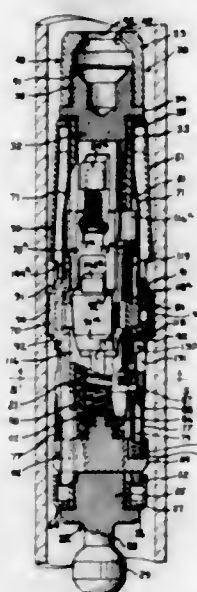
Apparatus for injecting fluids into well bore formations in which a plurality of packings mounted on a body structure seal against the well casing to form a plurality of separated zones in the casing isolated from each other, the zones communicating with the surrounding formation through casing perforations located between the packings, the body structure having a fluid passage and a separate flow path leading therefrom to each zone, a flow regulator being disposed in each path to separately control the rate of flow therethrough to its associated zone.

3,381,750

**APPARATUS FOR SIGNALING THE LOCATION OF RECESSES IN A FLOW CONDUCTOR**

Norman F. Brown, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,358  
23 Claims. (Cl. 166-64)



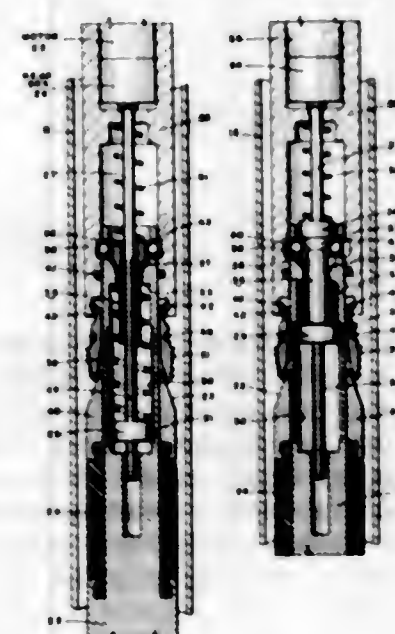
A signaling device movable through a flow conductor for signaling the position of recesses therein and having laterally outwardly expandable sensor members movable on the mandrel between inner retracted positions and outer expanded positions, latch means engageable with the sensor means to prevent movement of the sensor means from expanded to retracted position

until a predetermined movement of the mandrel relative to the sensor means has taken place to move the latch means out of latching position to permit the sensor means to move to retracted position. The mandrel is yieldably held against longitudinal movement relative to the sensor means to create a pressure signal indicating the engagement of the sensors of the device with the recess in the conductor. The device is designed for operation in either longitudinal direction, and for selectively rendering the device operative during movement in only one or the other of such longitudinal directions, if desired.

3,381,751

**BOTTOM-HOLE SHUT-IN TOOL**

Donald R. McLelland, Houston, Tex., assignor to Esso Production Research Company  
Filed Oct. 31, 1966, Ser. No. 590,838  
8 Claims. (Cl. 166-65)



1. Apparatus for plugging a well pipe comprising: a housing; a mandrel movable relative to said housing; rotatable means connected to said housing; pipe-gripping means connected to said housing adapted to be forced into pipe-gripping engagement with the interior of said well pipe upon movement of said mandrel in one direction relative to said housing and to be released from pipe-gripping engagement with the interior of the well pipe upon movement of said mandrel in an opposite direction relative to said housing; an expandable packer means arranged on said mandrel adapted to be expanded into engagement with said well pipe wall to seal off fluid pressure in said well pipe upon movement of said mandrel in said one direction relative to said housing and to retract and release said well pipe seal upon movement of said mandrel in an opposite direction relative to said housing; releasable locking means initially preventing movement of said mandrel in said one direction relative to said housing; compression means arranged in said mandrel adapted upon release of said locking means to move said mandrel in said one direction relative to said housing and force said pipe-gripping means into pipe-gripping engagement and to expand said packer means into engagement with said well pipe wall; means arranged on said rotatable means and connected to said mandrel movable in response to rotation of said rotatable means to cause said compression means to compress when said rotatable means is rotated in one direction and to permit said compression

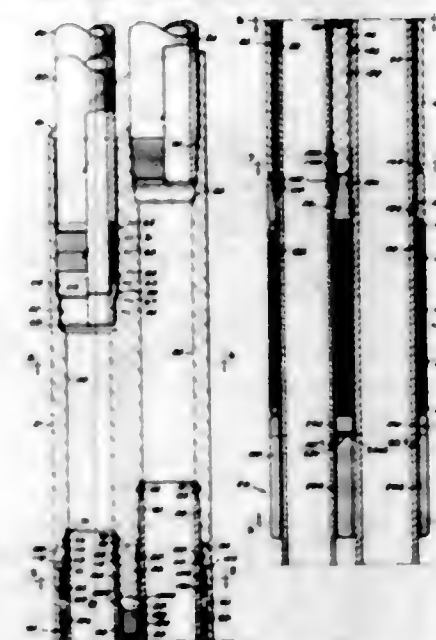
means to expand from a compressed condition when rotated in a reverse direction; and means arranged in said housing adapted to rotate said rotatable means, rotation of said rotatable means in one direction causing said compression means to compress and said locking means to release, and rotation of said rotatable means in an opposite direction causing said compression means to expand and said locking means to lock said mandrel in position.

3,381,752

**WELL TOOLS**

Thomas L. Elliston, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed Dec. 6, 1965, Ser. No. 511,697  
11 Claims. (Cl. 166-120)



A multiple string hydraulic-set well packer having means for locking the same in anchored sealing position and means for releasing it from such position for removal from the well.

3,381,753

**FLUID FLOW CONTROL SYSTEM FOR WELLS**

John V. Fredd, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware  
Filed Sept. 20, 1965, Ser. No. 488,362  
19 Claims. (Cl. 166-147)



A fluid flow control system particularly adapted for multiple production zone wells, having production flow conduits communicating with each of the separate zones, and a control fluid conduit communicating with each of the other conduits through a flow control device in-

cluding valve means for preventing flow between each of the flow conduits to the production zones and operable to selectively control flow through each of said conduits and said control conduit. A valve for such system removably insertable into the flow conduits at the point of communication of the control fluid conduit with said production flow conduit.

3,381,754

**CASING CLEANING DEVICE**

William S. Tompkins, 275 Las Flores Drive, Bakersfield, Calif. 93305

Filed Jan. 10, 1966, Ser. No. 519,498  
9 Claims. (Cl. 166-170)



The invention consists of an electric motor in a housing from which a shaft rotatably driven by the motor extends, a plurality of holders arranged radially around the shaft and pivoted thereto for swinging radially outwardly in response to centrifugal force resulting from rotation of the shaft, each holder having secured thereto a stiffly resilient member the outer end of which carries cleaning means brought into cleaning engagement with a casing wall by outward swinging of the holder. In one form, the stiffly resilient member is a metal cable; in another, a spring carrying a star wheel. The housing is prevented from rotating by star wheels gripping the casing wall and continuously urged into gripping engagement by radially acting springs.

3,381,755

**SAND RETAINER PLUG**

Lige T. Morrison, Tia Juana, Venezuela, assignor to Esso Production Research Company, a corporation of Delaware

Filed Mar. 18, 1966, Ser. No. 535,410  
6 Claims. (Cl. 166-191)



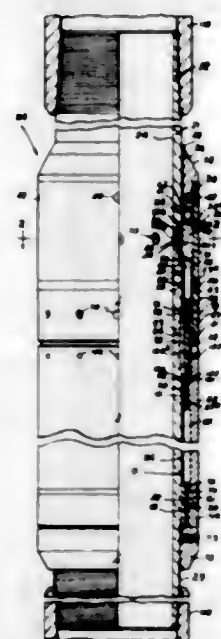
Apparatus for gravel packing a well including a perforated liner extending below a packer, a tubular mandrel



mounted in fixed position at the lower end of the liner, a cup packer axially slidable on the mandrel, and means for limiting the axial movement of the cup packer with respect to the mandrel.

### 3,381,756 WELL TOOLS

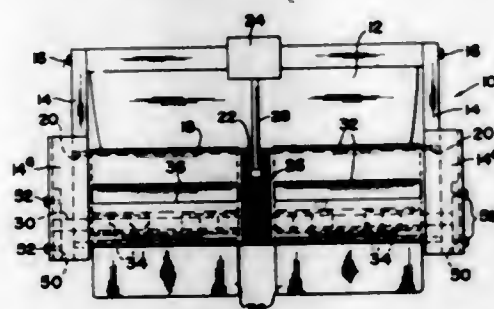
James E. Reagan, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware  
Filed Sept. 3, 1965, Ser. No. 484,791  
19 Claims. (Cl. 166-224)



Selective stage cementing tools having a full opening bore provided with lateral outlet passages providing communication between the bore of the tool and the exterior thereof, and having a valve member restrained in closed position by shear means, actuated by piston means subjected to fluid pressure resisting opening movement of said valve means in addition to said shear means, in one case having a confined fluid pressure charge resisting movement of the piston means and the valve member and in another case having a pressure area on the piston means exposed to pressure exteriorly of the tool for resisting movement of the valve means to open position, the outlet passages being closed by closure members floated into the lateral flow passages with the cement slurry being pumped therethrough. The strength of the shear screws and the pressure force resisting movement of the piston means controlling the opening of the valve to permit flow of cement outwardly through the passages.

### 3,381,757 BOAT PROPULSION DEVICE

Judson Orle Haynes, 392 N. Monroe Road,  
Tallmadge, Ohio 44278  
Filed Jan. 5, 1967, Ser. No. 607,442  
2 Claims. (Cl. 170-145)

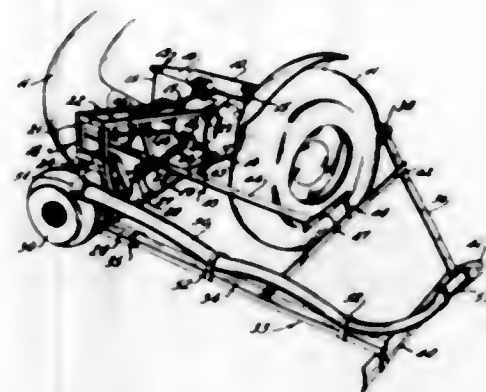


A paddle wheel apparatus for propelling a boat through water where the individual paddles of the paddle wheel

or drum move substantially radially inwardly and outwardly of the paddle wheel as it rotates whereby the paddles extend outwardly substantially their full length from the paddle wheel as they drive through the water but are slid inwardly into the wheel as they rotate. The paddles are journaled to a fixed shaft mounted eccentrically within the paddle wheel and extend through axially directed slots in the body of the paddle wheel.

### 3,381,758 UNBANKER FOR SMALL TREES

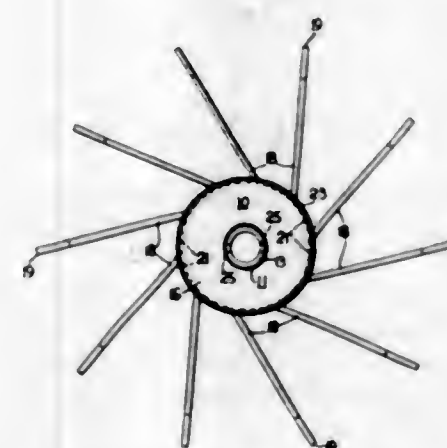
La Marcus C. Hawes, Box 402, Dade City, Fla. 33525;  
Ernest H. Coats, Rte. 1, Box 232, Zephyrhills, Fla. 33599; and Fred W. Cooper, 706 E. Buford Ave., Dade City, Fla. 33525  
Filed July 7, 1965, Ser. No. 469,982  
5 Claims. (Cl. 172-33)



Apparatus for mounting on a supporting vehicle for moving matter such as earth on a supporting surface comprising an earth engaging blade with means for mounting the same for elevational adjustment on a supporting vehicle, a fluid nozzle and means for mounting the same in operative relation to said blade, a supply hose connected to said fluid nozzle whereby when said blade is mounted on a supporting vehicle and is operated to move matter upon such supporting surface and fluid pressure is admitted through said supply hose and fluid nozzle matter will be moved in addition to that moved by said blade.

### 3,381,759 ROTARY CULTIVATOR WHEEL

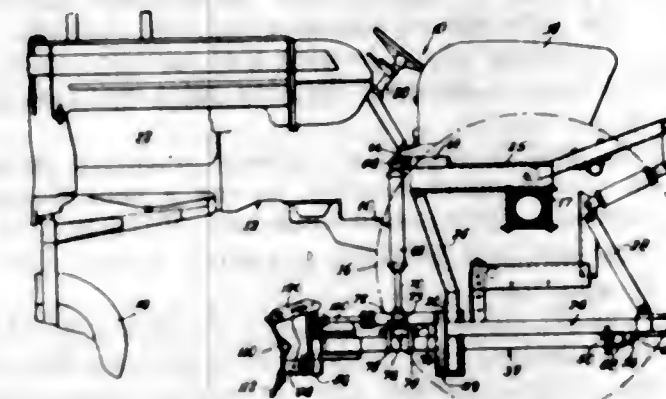
August G. Buhr, deceased, late of Hales Corners, Wis., by Mariam E. Buhr, executrix, Waukesha, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis., a corporation of Delaware  
Filed July 6, 1965, Ser. No. 469,939  
1 Claim. (Cl. 172-540)



A fabricated cultivator wheel consisting of side plates spaced apart by a series of identical tines welded to such plates at the peripheries thereof.

### 3,381,760 GRADER BLADE AND MOUNTING MEANS THEREFOR

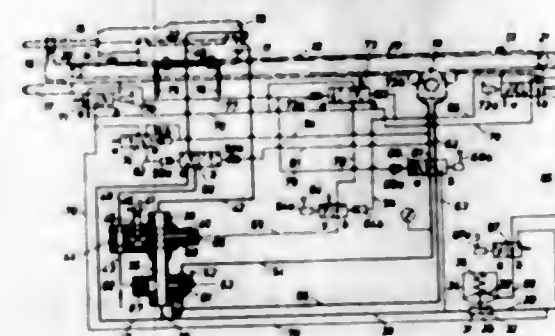
Lionel C. Broad, New Roads, La., assignor to The Thomson Machinery Company, Inc., Thibodaux, La., a corporation of Delaware  
Filed June 8, 1965, Ser. No. 462,243  
2 Claims. (Cl. 172-788)



The disclosure sets forth a mounting means for mounting a grader blade underneath a vehicle between the front and rear wheels of the vehicle, which in the preferred embodiment has a subframe suspended below the axis of the rear wheels of the vehicle, an auxiliary frame partly embraced by the subframe and pivotally connected thereto rearwardly of the rear wheel axis of the vehicle on an axis extending generally longitudinally of the vehicle, and a bracket on a part of the auxiliary frame forward of the rear wheel axis of the vehicle for receiving a grader blade, the bracket being pivotable about a vertical axis on the auxiliary frame, and means for pivotally adjusting the position of the bracket and a blade carried thereon about longitudinal, vertical and transverse horizontal axes, respectively, relative to said vehicle.

### 3,381,761 AUTOMATIC ROCK DRILLING MEANS

Carl Anders Hansson, Johanneshov, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden  
Filed Oct. 13, 1965, Ser. No. 495,450  
Claims priority, application Sweden, Oct. 14, 1964, 12,377/64  
19 Claims. (Cl. 173-19)

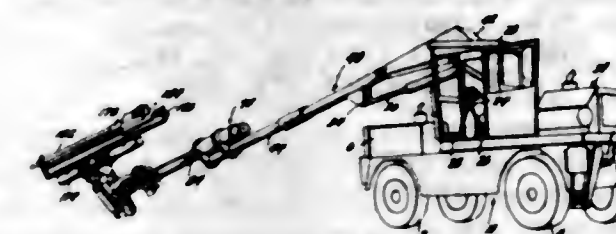


Automatic rock drilling apparatus is provided as powered and controlled by pressure fluid and including a rock drill fed along a supporting shell therefore by a reversible feed motor which provides for automatically defining the depth of a hole to be drilled. The feeding direction of the motor is controlled by means of a reversing valve shiftable from a forward to a backward feed position by a servo motor. A limit switch valve actuated by the rock drill is provided forwardly on the shell and is included in a servo circuit together with the servo motor for automatically defining the depth of the hole drilled by creating a pressure condition in the servo motor causing shifting of the reversing valve to the backward feed position when the forward limit switch valve is actuated by the

drill. A flushing valve is also included and controlled by a servo circuit coupled in parallel with the feed motor for directing flushing liquid or air to the drill steel of the rock during, respectively, forward and backward feed movement thereof. Also included is a servo motor and valve device in which a pressure fluid actuated servo motor housing is the plug in a rotary plug valve for controlling the pressure fluid supply to the rock drill. The plug passage in the valve is closed and opened by a plunger movable by the servo motor in the housing with this movement being released in response to the rock drill actuating the forward limit switch valve in order to cut down the pressure fluid supply during backward feed movement of the rock drill.

### 3,381,762 MOBILE BREAKER

Samuel P. Lewis and Samuel J. Nardone, Phillipsburg, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey  
Filed Nov. 26, 1965, Ser. No. 509,837  
9 Claims. (Cl. 173-27)



Wheeled, self-powered vehicle having a turntable which mounts a fluid pressure source and a tool carrying boom. The boom is pivotally mounted, and has a pivotable extensible portion which carries means for rotating the tool, and means for pivoting the tool independently through two transverse arcs.

### 3,381,763 REMOVABLE GROUND-PENETRATING STAKE

Carl G. Matson, 401 E. Central Blvd.,  
Kewanee, Ill. 61443  
Filed July 26, 1966, Ser. No. 567,953  
2 Claims. (Cl. 173-91)



1. A removable ground-penetrating stake comprising an elongated element having opposite ends, hammer means slidable back and forth on and lengthwise of the element, and two-way means confining the hammer means to the element and for limiting its movement to opposite driving and withdrawing strokes, said two-way means including driving and withdrawing anvil portions rigid on and spaced apart lengthwise of the element, and driving and withdrawing striker portions rigid on the hammer means and spaced apart lengthwise a distance different from the spacing of the anvil portions and adapted to strike and impart driving and withdrawing blows to the driving and withdrawing anvil portions selectively upon

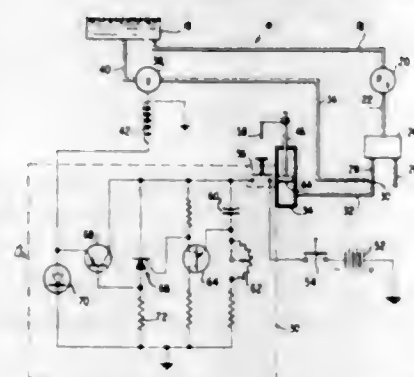


movement of the hammer means through its driving and withdrawing strokes respectively, characterized in that the hammer means is of sleeve-like construction having a length less than that of the element and including opposite end portions, at least one of which is in the form of a cup-like recess opening toward the proximate end of the element, said recess having a transverse bottom serving as a striker portion and a marginal wall extending lengthwise from said bottom, the other hammer means end portion serving as the other striker portion, and the anvil portions are spaced on the element respectively lengthwise beyond said striker portions, said recess and its associated anvil portion being so relatively dimensioned that said anvil portion is receivable within the recess and surrounded by the marginal wall during movement of the hammer means on both driving and withdrawing strokes.

3,381,764

### MOBILE HYDRAULIC HAMMER WITH HAMMER STROKE CONTROL

Norman L. Peterson, Wauwatosa, and Robert F. Leder, Milwaukee, Wis., assignors to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin  
Filed Oct. 13, 1966, Ser. No. 586,536  
5 Claims. (Cl. 173-115)

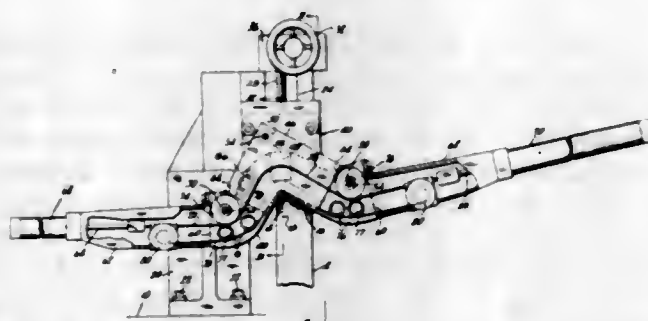


1. In a vehicle having a weighted impact tool for breaking concrete pavement and the like, a hydraulic circuit having a motor for raising said tool at a substantially constant rate and a dump valve which when opened allows the tool to drop by gravity, a variable resistance controlled electrically charged timing means which is started as the tool passes a given point near the point at which the tool impacts the pavement, said timing means being connected to said dump valve to open the same after a preselected elapsed time after starting, and manual means for varying said resistance whereby the elapsed time, the height to which the tool is raised and the force of the dropped impact of the tool is varied.

3,381,765

### GRINDING WHEEL DRESSING APPARATUS

Burt W. Weisel, Jackson, Mich., assignor to Camshaft Machine Company, Jackson, Mich., a corporation of Michigan  
Filed Mar. 3, 1966, Ser. No. 531,592  
10 Claims. (Cl. 125-11)



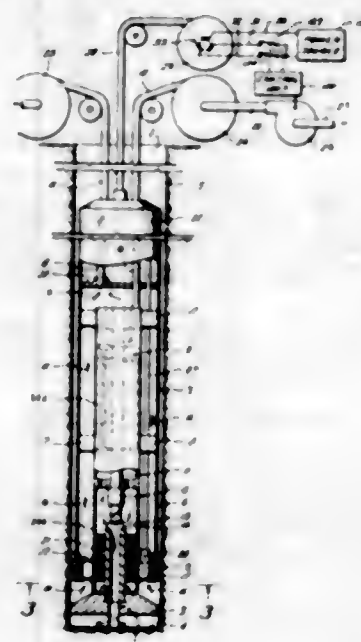
1. Grinding wheel dressing apparatus comprising, in combination,  
(a) a support member,

- (b) a track defined on said support member, said track including a pair of spaced, parallel guide surfaces and having first and second ends,
- (c) a carriage mounted for movement along said track, said carriage including guide members closely, slidably engaging said track guide surfaces,
- (d) a dressing tool support mounted upon said carriage for selective adjustment in a direction transverse to the direction of movement of said carriage,
- (e) a grinding wheel dressing tool mounted upon said tool support having a dressing point mounted thereon,
- (f) a flexible, elongated, tension member mounted on said support member having a central portion disposed adjacent said track and affixed to said carriage and end portions extending beyond the ends of said track,
- (g) means guiding said tension member central portion adjacent said track to form said tension member central portion into a configuration substantially similar to that of said track, and
- (h) tension member actuating means mounted on said support member associated with said tension member end portions adapted to axially translate said tension member and move said carriage along said track.

3,381,766

### DRILLING SYSTEM

Clyde E. Bannister, 2727 Carolina Way, Houston, Tex. 77005  
Filed Nov. 9, 1964, Ser. No. 409,735  
5 Claims. (Cl. 175-106)



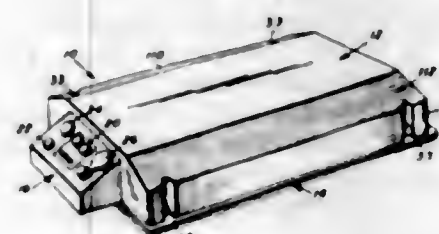
1. Apparatus for creating a hole in the earth, comprising,  
means for drilling said hole,  
said drilling means having conduit means for carrying a fluid into and away from the hole to remove portions of the earth from the hole as the drilling is proceeding,  
means for preventing said fluid from passing between said drilling means and the hole wall and thereby forcing said fluid to exit only through said conduit means,  
said preventing means including a member expandable to close off the passage between the drilling means and the hole wall, said member having a central volume in communication with a fluid line, said fluid being coupled to a piston-operated pressure generator including a first piston and having a captive fluid in said line, said first piston being actuated by a piston

operated pressure actuator including a second piston coupled for motivation by fluid coming into said drilling means, said first piston producing a higher pressure in said fluid line than said incoming fluid produces on said second piston, first valve means for decoupling said pressure actuator from said incoming fluid and second valve means for closing off said fluid line, and control means for actuating said first and second valve means to cause selectively said member to contract with or without fluid coming into said drilling means and to expand selectively said member with fluid coming into said drilling means.

3,381,767

### PORTABLE ELECTRONIC WHEEL LOAD SCALE

Wilson Wayne Raligh, Baltimore, Md., assignor to Loadometer Corporation, Baltimore, Md., a corporation of Maryland  
Filed Feb. 28, 1967, Ser. No. 619,277  
9 Claims. (Cl. 177-126)

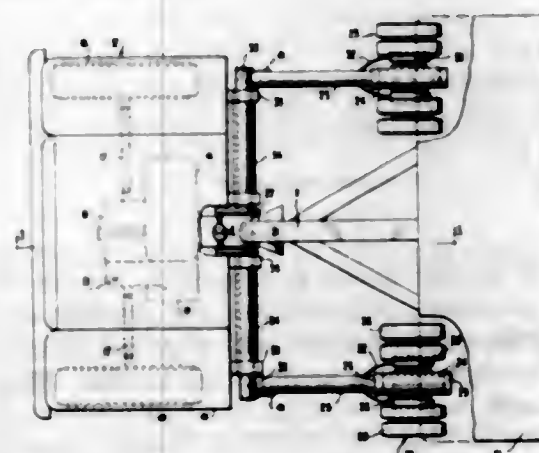


A portable electronic scale having a base, a weighing platform and three electronic load cells supporting the platform on the base. Scales may provide local weight indication, or may be connected singly or in combination to a remote indicator.

3,381,768

### TOWING VEHICLE FOR MOBILE HOMES OR TRAILERS

John Alexander Neely, Jr., P.O. Box 273, Anderson, S.C. 29622  
Continuation-in-part of application Ser. No. 320,103, Oct. 30, 1963. This application Nov. 7, 1966, Ser. No. 592,488  
10 Claims. (Cl. 180-14)

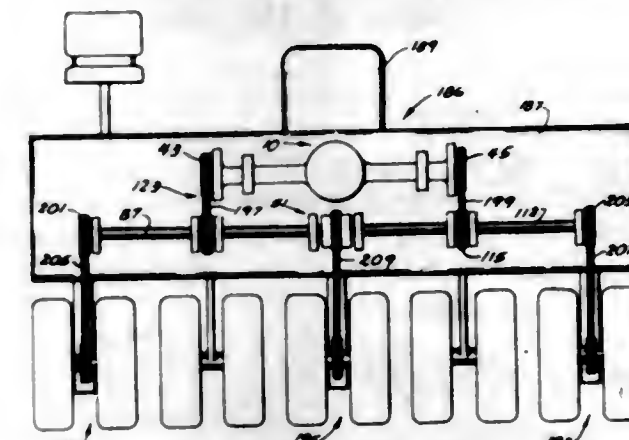


A vehicle particularly adapted for towing large mobile homes and other heavy trailers having very low ground clearance. The towing vehicle is characterized by front wheel drive and laterally spaced trailing rear wheel assemblies with a hitch disposed between and well forwardly of the rear wheel assemblies to provide fifth wheel stabilizing of the caravan. The trailing wheel assemblies are of reduced size to permit passage under the draft tongue and floor of the trailer during turning.

3,381,769

### PROPORTIONAL DIFFERENTIAL MEANS

Vernon H. Reiser, 10617 Poppleton Ave., Omaha, Nebr. 68124  
Filed Feb. 10, 1966, Ser. No. 526,489  
12 Claims. (Cl. 180-22)

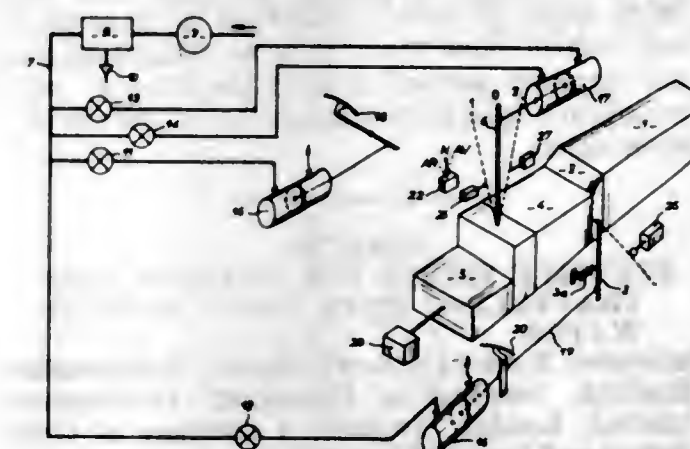


A proportional differential means with three driving axle shafts adapted to be used on construction vehicles such as pneumatic tire rollers, dozers push-tractors, loaders and off highway vehicles. The differential means is connected to a power source on the vehicle which includes a frame with left and right primary drive wheel means thereon. A third drive wheel means is also provided on the frame means and is located in a vertical plane substantially equidistant from each of the primary drive wheel means. The differential means has a gear means which includes separate gears independently connected to the primary drive wheels. A connecting power means connects the third drive wheel means to the gears whereby the speed of rotation of the third drive wheel means multiplied times its diameter will be one-half the summation of the respective rotational speeds of the primary drive wheel means multiplied by their respective diameters.

3,381,770

### REVERSING SERVO-CONTROL DEVICE

Jean Fauchere, Bourg-la-Reine, Seine, France, assignor to Richier, Societe Anonyme, Paris, France, a company of France  
Filed Apr. 25, 1966, Ser. No. 544,779  
Claims priority, application France, Apr. 29, 1965, 15,209  
2 Claims. (Cl. 180-77)



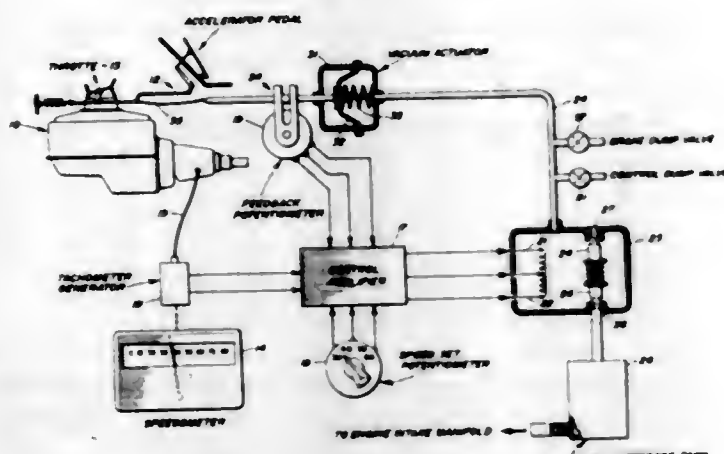
A reversing servo-control device for a vehicle comprising, in combination with the engine, the clutch, the gearbox, the reverser and the brakes as generally used in a vehicle, actuating hydraulic means respectively associated with said brakes, clutch and reverser, electrically operated valve means associated with said hydraulic means, and a control lever having forward, neutral and backward positions, normally being in the neutral position, and which, when maintained in forward or backward position determines the operation in succession of said hydraulic means by the intermediary of said valve means.



3,381,771

**AUTOMOBILE SPEED CONTROL**

Cyrus M. Granger, Lutherville, Michael Slavin and Ralph W. Carp, Baltimore, and Peter St. C. Manson, Glenarm, Md., assignors to The Bendix Corporation, Baltimore, Md., a corporation of Delaware  
Filed May 17, 1966, Ser. No. 550,744  
10 Claims. (Cl. 180-105)



1. A speed control system for an automobile having throttle regulated propulsive means and brakes, comprising means providing a first electrical signal corresponding to the desired automobile speed, means providing a second electrical signal corresponding to the actual vehicle speed, means providing a third electrical signal corresponding to the position of the throttle of said propulsion means, means combining said first, second and third signals to provide an error signal, a pressure fluid source, a pressure fluid actuator for positioning said throttle proportionately to the pressure of fluid applied thereto, a pressure control valve having a sealed chamber, first valve means for controlling the admission of fluid under pressure to said chamber and second valve means for controlling the exhaustion of fluid from said chamber, a conduit connecting the chamber of said control valve to said actuator, and amplifying means controlling said first and second valve means to either admit fluid under pressure to said control valve chamber or to exhaust fluid from said chamber depending upon the sense of said error signal and in proportion to the magnitude of said error signal.

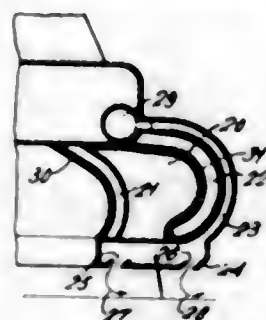
3,381,772

**FLEXIBLE SKIRTS FOR VEHICLE FOR TRAVELLING OVER LAND AND/OR WATER**

Christopher Sydney Cockerell, Bassett, Southampton, England, assignor to Hovercraft Development Limited, London, England, a company of Great Britain and Northern Ireland  
Continuation-in-part of applications Ser. No. 837,502, Sept. 1, 1959, and Ser. No. 329,562, Dec. 10, 1963.  
This application May 6, 1965, Ser. No. 453,656  
Claims priority, application Great Britain, Sept. 1, 1958, 27,978/58  
6 Claims. (Cl. 180-128)

A gas cushion vehicle having a flexible skirt structure forming at least part of the peripheral boundary of the gas cushion which includes a wall composed of an array of flexible tubular elements arranged in side-by-side relation. The tubular elements are either disposed sufficiently close together to form a substantially continuous

wall, or are spaced apart and support a flexible membrane which serves to form a gas-tight enclosure for the cushion. The skirt structure may include a plurality of such flexible walls spaced from one another, the space between



the walls being made gas-tight and inflated, and the tubes may be used to conduct pressurized fluid to the lower edge of the structure for the formation of a fluid curtain therebeneath.

3,381,773

**ACOUSTIC RESISTANCE**

Gerrit Schenkel, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Co., Inc., New York, N.Y., a corporation of Delaware  
Filed Feb. 21, 1967, Ser. No. 617,543  
Claims priority, application Netherlands, Mar. 30, 1966, 66-4,150  
7 Claims. (Cl. 181-31)

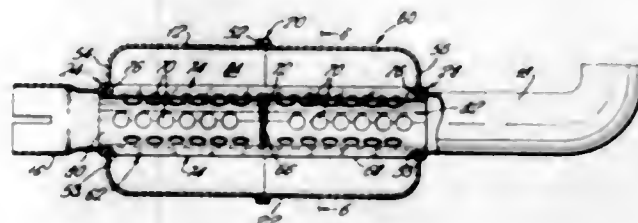


An acoustic resistance for use in a microphone comprising a plurality of sintered metal grain pressed into a support body composed of a resilient synthetic resin.

3,381,774

**MUFFLER WITH INTERCONNECTED END BELLS AND TELESCOPED INNER PIPE**

Bertil Stadel, Oak Park, and Edward H. Hoglund, Park Ridge, Ill., assignors to Mercury Metal Products, Inc., Schaumburg, Ill., a corporation of Illinois  
Filed July 10, 1967, Ser. No. 652,193  
5 Claims. (Cl. 181-59)

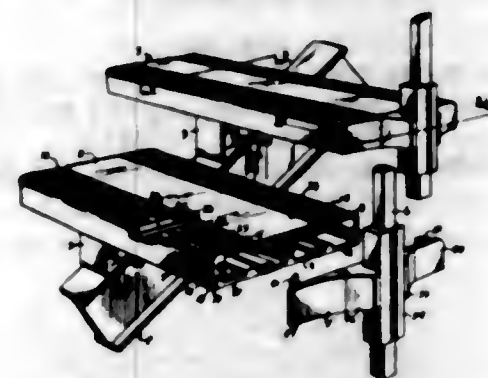


An engine muffler which is assembled by use of a plurality of circumferential crimps. The muffler comprises a pair of bells or cylindrical end caps which may have disposed therebetween a cylindrical section. The cylindrical end caps and the cylindrical section have annular lands and lips suitable for crimping. Each cylindrical end cap has a pipe which is telescoped into its end portion and crimped thereto. A plurality of baffles may be inserted between the end bells or end bells and cylindrical section. The muffler is assembled and the baffles are secured therein by circumferential crimping of the end bells, or by the circumferential crimping of the end bells to the respective ends of the cylindrical section. The same crimp that holds the end bells together, or the end bells and the cylindrical section also secures the baffles within the muffler. The parts are constructed to enable a wide variety of types and sizes of mufflers to be made from the same parts.

3,381,775

**STAIR TREAD STRUCTURE**

Harold F. Livers, Kansas City, Mo., assignor to Livers Bronze Company, Kansas City, Mo., a corporation of Missouri  
Filed Jan. 3, 1967, Ser. No. 606,848  
10 Claims. (Cl. 182-228)

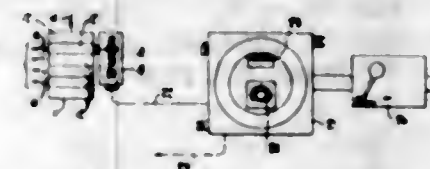


The stair structure having stair tread composed of elongate metal members adapted for production by extrusion and joined together in an open top pan with a tread member in said open top. The stair tread including a forward or front portion that forms a portion of the pan and also the stair tread nosing with an anti-slip surface thereon. The stair tread pan having closed ends formed by a center part having suitable extensions to adapt to the tread depth, said center portion having a sleeve mounted therein and supporting a baluster.

3,381,776

**SOLID STATE TIMING CONTROL FOR SINGLE CYCLE PROGRESSIVE LUBRICATING SYSTEMS**

Thomas J. Gruber, Chagrin Falls, and William W. Lyth, Cleveland, Ohio, assignors to Eaton Yale & Towne Inc., a corporation of Ohio  
Filed June 3, 1965, Ser. No. 461,018  
7 Claims. (Cl. 184-6)



A lubrication control system for dispensing a measured amount of lubricant within a predetermined period of time having a lubrication dispensing piston, an electronic timing circuit responsive to movement of the piston and a warning device controlled by the timing circuit for signalling a failure of the lubricating system to dispense an amount of lubricant within the predetermined time interval.

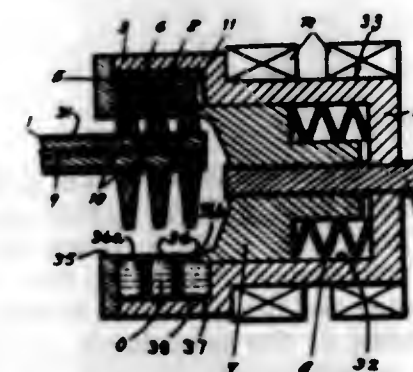
3,381,777

**LUBRICATION OF SPEED-CHANGING MECHANISM**

Jacques Fléchy, Paris, France, assignor to Ateliers Metallurgiques de Saint-Urbain, Frouville, Haute-Marne, France, a company of France  
Continuation-in-part of application Ser. No. 312,970, Oct. 1, 1963. This application June 20, 1966, Ser. No. 558,916  
Claims priority, application France, Oct. 2, 1962, 911,044  
10 Claims. (Cl. 184-6)

1. A speed-changing unit, comprising: a drive shaft; drum means having wall means defining an annular, inwardly opening channel, said wall means including an annular end wall defining an opening into said drum means, said drive shaft extending through said opening;

a plurality of radially tapered disks nonrotatably and axially slideably mounted upon said drive shaft within said drum means; ring means axially slideably and nonrotatably disposed within said channel, said ring means being interleaved with and continuously engaged by said disks, said ring means and said end wall having substantially coaxial, annular bearing surfaces near their radially inner edges slideably engageable with the axial surfaces of said disks adjacent thereto, the diameter of the opening in said end wall being not materially larger than the inside diameter of said ring means; bearing means rotatably supporting said drum means for rotation around an axis parallel with the axis of said drive shaft;

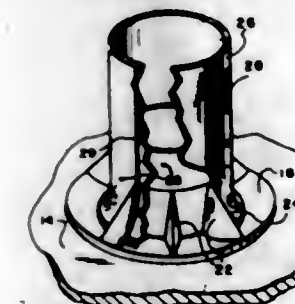


pressure means disposed for engagement with the disk remote from said end wall for urging said disks and said ring means together and toward said end wall; a source of fluid lubricant and passage means for directing said lubricant into said channel in an amount in excess of the amount required to fill the channel, excess lubricant within said channel being discharged from said drum means through the opening in said end wall, whereby, when said drum means is rotated, said lubricant fills said channel to an effective level immersing said ring means; and actuating means for rotatably supporting said drive shaft and for effecting relative radial movement between said drum means and said drive shaft, whereby said speed changing is effected.

3,381,778

**ENERGY ABSORBING DEVICE**

Georg F. von Tiesenhausen, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration  
Filed Nov. 4, 1966, Ser. No. 592,680  
1 Claim. (Cl. 188-1)

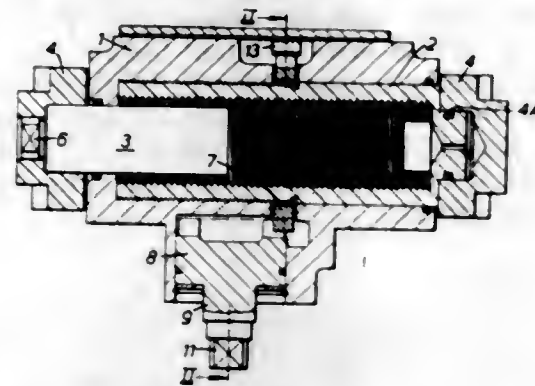


A nonreusable energy absorbing device having a ring member with a plurality of recesses formed therein and cutting members and a guide member mounted in each recess. A sleeve is slidably mounted on each guide member such that the sleeve can be cut into strips and the strips deformed so as to absorb energy. Each sleeve has longitudinal calibration grooves formed therein that are in alignment with a cutting member so that groove depth influences the cutting force required. A second ring member has one end of each sleeve attached thereto.



**3,381,779**  
**BRAKE ADJUSTER MECHANISMS**  
Charles Newstead, Birmingham, England,  
assignor to Girling Limited

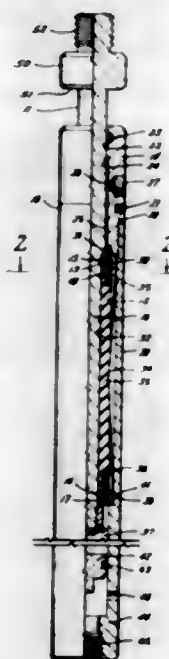
Filed Sept. 30, 1966, Ser. No. 583,487  
Claims priority, application Great Britain, Sept. 3, 1965,  
37,868/65  
5 Claims. (Cl. 188—79.5)



An adjuster for drum brakes including a housing having a screw-threaded bore, a sleeve having screw-threaded engagement in the bore, a shaft within the sleeve in screw-threaded engagement therewith, the screw-threads between the housing and the sleeve and between the sleeve and the shaft being of the same hand. A ring gear rotates the sleeve relative to the housing and the shaft to produce axial displacement of the shaft and sleeve in opposite directions, relative to the housing, the sleeve and the shaft at their outer ends abutting the adjacent ends of the brake shoes.

**3,381,780**  
**WELL TOOL SHOCK ABSORBER**

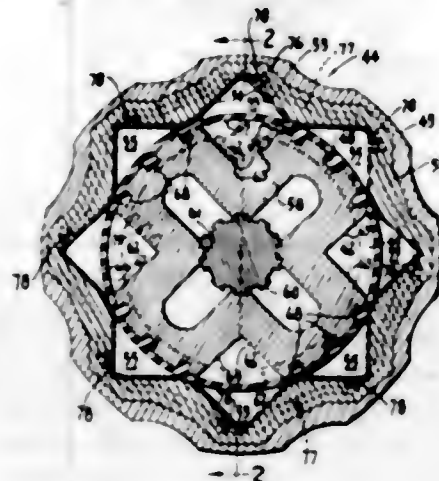
John E. Stachowiak, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas  
Filed Apr. 1, 1966, Ser. No. 539,393  
5 Claims. (Cl. 188—86)



The particular embodiment described herein as illustrative of one form of the invention in shock absorbers includes an elastomeric member in a housing, the member forming a working chamber and a passageway in communication with the working chamber. An actuator extends into the housing and engages the member. In response to kinetic energy of a moving body, the actuator can compress the elastomeric member which functions to displace hydraulic fluid from the working chamber into an auxiliary chamber via the passageway. In response to compression of the elastomeric member, the flow area

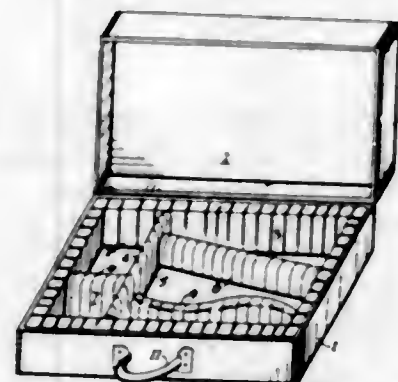
through the passageway is progressively decreased while kinetic friction between the elastomeric member and housing is progressively increased, thereby providing a resultant variable damping coefficient such that the device will impart a substantially constant rate of deceleration to the moving body.

**3,381,781**  
**LIQUID IMPACT ROTARY BRAKE**  
Donald V. Summerville, Jr., 103 Russell St.,  
Buffalo, N.Y. 14214  
Filed Aug. 30, 1965, Ser. No. 483,484  
7 Claims. (Cl. 188—90)



A fluid brake including a blind housing having a stator and a rotor therein, a source of pressurized fluid, and conduit means for injecting pressurized fluid into opposed cavities in said rotor and stator to provide a braking action in response to the increasing of the pressure of said fluid.

**3,381,782**  
**CARRYING CASE CONSTRUCTION**  
Gerald S. Ikelhelmer, 1215 5th Ave.,  
New York, N.Y. 10029  
Filed Mar. 22, 1966, Ser. No. 536,419  
8 Claims. (Cl. 190—51)

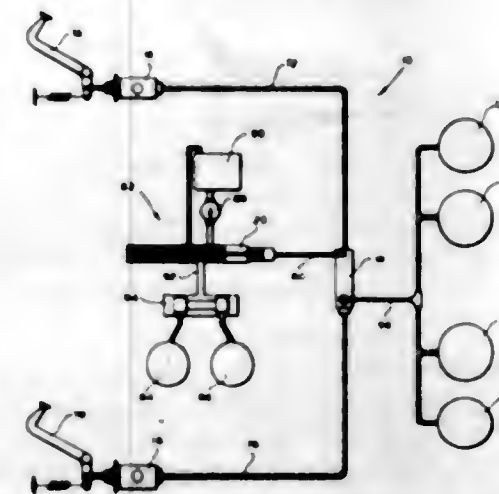


A carrying case that has partitioning members for generating compartments of various sizes and shapes. The interior of the case has cushioning and shock absorbing material with slits for holding the partitioning members in various positions. In addition the partitioning members have shock absorbing material which also has slits for holding additional partitioning members.

**3,381,783**  
**CLUTCH AND BRAKE CONTROLS FOR INCHING VEHICLE**  
Francis Earl Brukner, Battle Creek, Mich., assignor to  
Clark Equipment Company, a corporation of Michigan  
Filed Sept. 6, 1966, Ser. No. 577,216  
3 Claims. (Cl. 192—4)

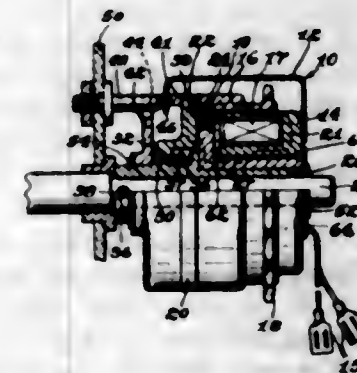
2. For use with a vehicle having fluid actuated brakes and a drive train including a clutch, an inching and braking system comprising a valve with an elongated body,

a longitudinally extending bore in the said body, a first piston slidably disposed in the said bore for longitudinal movement and defining with the said bore first and second longitudinally spaced apart chambers, first and second ports communicating with the said first chamber, third and fourth ports communicating with the said second chamber, spring means for biasing the said first piston toward the said first chamber, a second bore extending longitudinally through the said first piston, a second piston slidably disposed in the said second bore and actuatable longitudinally to a position blocking communication of the said third port with the said second chamber, and spring means for biasing the said second piston toward the said first chamber so that when pressurized fluid is supplied to the said first chamber the said second piston



is actuated to block communication of the said third port with the said second chamber and then the said first piston is actuated to force fluid out of the said second chamber through the said fourth port, first operator controlled fluid pressure generating means connected to the said first port, second operator controlled fluid pressure generating means connected to the said third port, fluid actuated means connected to the said second port for decreasing the power transmitting capacity of the clutch, and conduit mean connecting the brakes with the said fourth port so that actuation of the said first generating means first decreases the power transmitting capacity of the clutch and then applies the brakes and actuation of the said second generating means applies the brakes only.

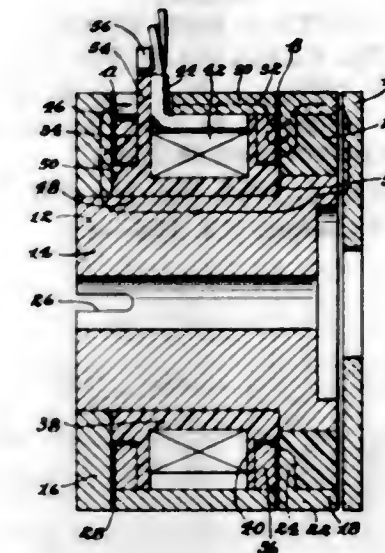
**3,381,784**  
**ELECTROMAGNETIC CLUTCH AND BRAKE**  
Donald L. Miller, Horseheads, N.Y., and Fred R. Birdsall, Sayre, Pa., assignors to The Bendix Corporation, a corporation of Delaware  
Filed May 9, 1966, Ser. No. 548,548  
1 Claim. (Cl. 192—18)



An electromagnetic clutch and brake adapted to be mounted on a single support shaft. The single shaft supports input armature, magnetic coil and non-rotatable magnetic body, a sliding power transferring armature

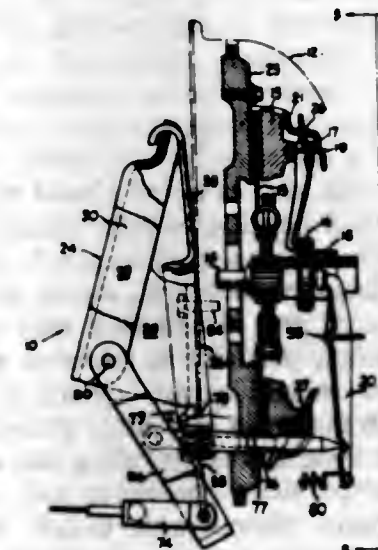
and fixed braking element. The sliding power transferring element is spline-connected to the power output shaft and is spring-biased against the braking element which is connected by a support to the magnetic body to prevent rotation.

**3,381,785**  
**COMBINED COIL MOUNTING AND BEARING FOR AN ELECTROMAGNETIC CLUTCH**  
Charles A. Mendenhall, 303 Wisteria Way,  
Horseheads, N.Y. 14845  
Filed Oct. 26, 1966, Ser. No. 589,614  
3 Claims. (Cl. 192—66)



The improvement in an electromagnetic clutch consisting of an annular bobbin for mounting a stationary electromagnetic coil; said bobbin has a U-shape cross sectional area and is made of plastic material having suitable bearing properties such as "Delrin." An input shaft is rotatably mounted within and axially restrained by said bobbin; whereby, the need for conventional bearings is eliminated.

**3,381,786**  
**REMOTE SPRING CLUTCH CONTROL USING OUTSIDE SPRING**  
Sidney U. Gatewood, Roseville, Mich., assignor to  
Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois  
Filed Aug. 1, 1966, Ser. No. 569,289  
4 Claims. (Cl. 192—89)



1. A linkage and load spring assembly for a clutch of the remote spring type comprising an elongated bracket



having a first end and a second end and being adapted to be mounted on a power plant of a vehicle, a lever having a first end pivotally mounted to said first end of said elongated bracket, an actuator rod pivotally secured to said lever between the ends thereof, a load spring having one end connected to said second end of said elongated bracket and an opposite end connected to said second end of said lever, means connected to said second end of said lever to cause pivotal movement of said lever with respect to said elongated bracket, and means operatively connecting said actuator rod to said clutch.

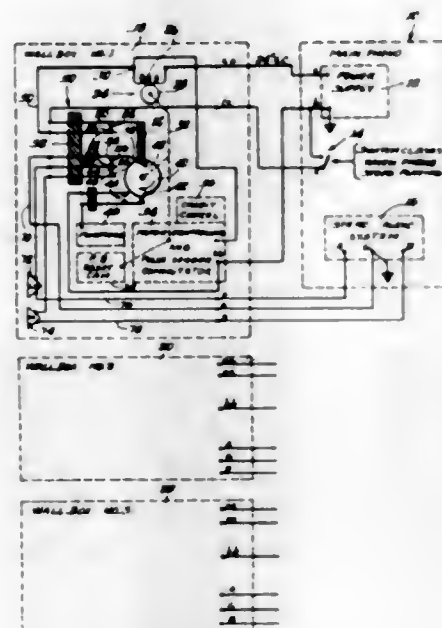
3,381,787

# SWITCHING SYSTEM FOR REMOTE PHONOGRAPH REPRODUCING UNIT

Fred H. Osborne, Williamsville, and Robert L. Pfitzer, Buffalo, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed Apr. 8, 1966, Ser. No. 541,264

5 Claims. (Cl. 194-15)



1. A switching system for interconnecting a coin-operated remote phonograph reproducing unit, including loudspeaker means, with a main phonograph at which records are selected and played, comprising motor means in said remote unit, motor control means in said remote unit connected to said motor means for operating said motor means in predetermined manner as an incident to the making of a selection in said remote unit, a cam in said remote unit operatively connected to said motor means, said motor control means stopping said motor means with said cam in a predetermined position following the making of a selection, audio switch means operatively connected with said cam and closed with said cam in said predetermined position to interconnect said loudspeaker means with said main phonograph to reproduce sound from said main phonograph, motor switch means operated by said cam and closed with said cam in said predetermined position partially to establish a power circuit to said motor means, power means in said main phonograph, switch means in said main phonograph open when said main phonograph is operating and closed when said main phonograph stops operating, and means interconnecting said main phonograph switch means, said power means, said remote unit power circuit to run said motor means and thereby to advance said cam a predetermined increment to open said audio switch means and said motor switch means to de-energize said motor means

and to de-activate said loudspeaker means upon closing of said main phonograph switch means.

3,381,788

# TYPE BLOCK CARRIER FOR A TYPEWRITING MACHINE LEVER

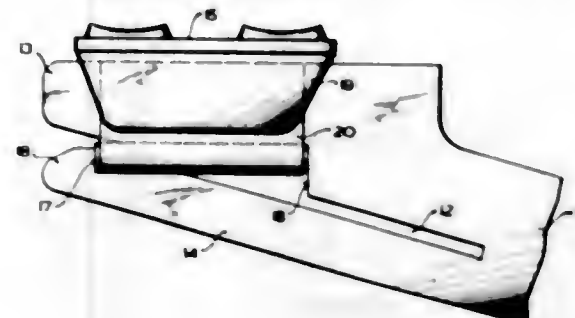
Olaf Melsner and Reinhard Rodrian, Berlin, Germany, assignors to Alfred Rasmayer & Albert Rodrian, Berlin, Germany, a German company

Filed Feb. 13, 1967, Ser. No. 615,657

Claims priority, application Germany, Feb. 15, 1966,

R 42,620

4 Claims. (Cl. 197-36)



The invention relates to a typewriter lever assembly comprising a type block carrier, a typewriter lever proper and a spring and abutment retaining means for retaining the type block carrier on the lever, the carrier being constituted by two U-shaped portions manufactured separately and subsequently bonded together, the type block being mounted on one of the portions.

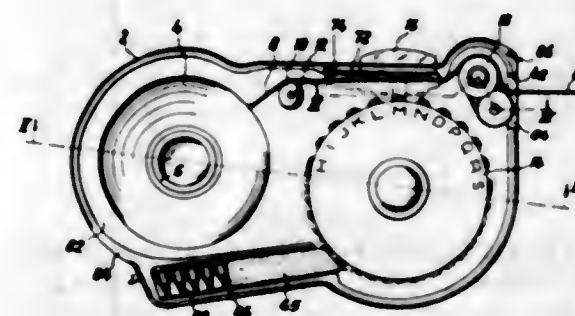
3,381,789

# SELECTIVE TAPE PRINTER

James E. Hawes, 233 Harvard St., Milton, Mass. 02146

Filed Dec. 9, 1965, Ser. No. 513,154

12 Claims. (Cl. 197-45)



1. A device for selectively printing the pressure-sensitive adhesive surface of a tape with any desired legend including a source of tape, a character wheel having a series of different characters generally equally spaced from an axis, means to guide a length of tape past and spaced from the characters on the character wheel with the adhesive surface of the tape facing the characters, means mounting the character wheel for rotation relative to the length of tape and generally about the axis defined by the characters, a source of pigment, means coating the surface of the characters with pigment from said source of pigment, and means to selectively cam the adhesive surface of a segment of tape and any desired character on the character wheel into contact whereby the adhesive surface of the tape picks up the coating of pigment on the selected character and the tape thereby may be printed with the characters in any desired order to form a legend.

3,381,790

# ROLLING CONTACT TYPEWHEEL PRINTER

Roger Chavenaud, Levallois-Perret, and Georges Janoska, Courbevoie, France, assignors to Société à Responsabilité Limitée: Société Lamy d'Etudes et de Recherches "Soler," Courbevoie France, a corporation of France

Filed May 10, 1967, Ser. No. 637,514

Claims priority, application France, May 13, 1966,

61,454

8 Claims. (Cl. 197-51)



The invention relates to a typewriter device wherein printing is effected by a platen roll or rolls mounted to revolve about centers arranged at the perimeter of a pressure disc or discs, the or each roll in operation entering into contact with a paper strip which is moved step by step between the disc or discs and an associated drum having characters on its surface.

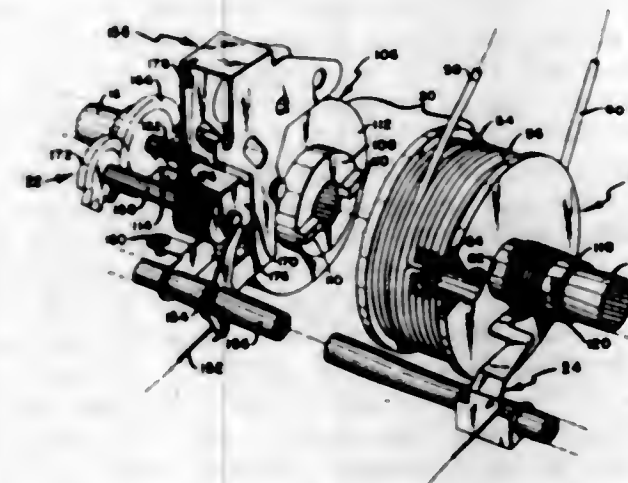
3,381,791

# TYPEWRITER CARRIAGE CONTROL

Samuel D. Cappotto, Syracuse, and Carl P. Anderson, Homer, N.Y., assignors to SCM Corporation, New York, N.Y., a corporation of New York

Filed Oct. 5, 1965, Ser. No. 493,098

8 Claims. (Cl. 197-64)



Typewriter or the like having a carriage movable transversely of a print point and a non-stepping carriage advancing mechanism operatively connected to a power source for controlling the movement of the carriage in the letter feed direction at a rate less than a normal tabulation rate. The non-stepping mechanism includes a continuously rotating gear train, a normally idle wheel connected to the carriage and a key operable linkage for frictionally coupling the rotating gear train to the wheel for controlling the carriage movement in the letter feed direction.

3,381,792

# CONVEYING APPARATUS

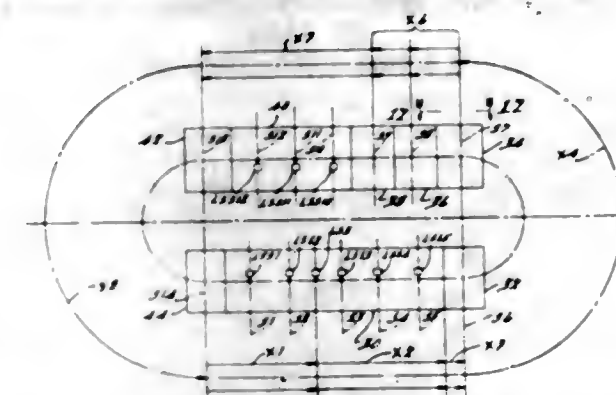
Chester G. Clark, Grosse Pointe Woods, and Louis J. Minbiolo, Jr., and Leon J. Plankowski, Detroit, Mich., assignors to The Udyllite Corporation, a corporation of Delaware

Filed June 22, 1966, Ser. No. 559,559

10 Claims. (Cl. 198-19)

1. A conveying machine for conveying work racks through a series of treating stations comprising a frame,

an elevator chassis mounted on said frame, rail means on said chassis extending along a series of treating stations including at least one section of cell stations, work rack supporting means at each of the stations, a plurality of work carriers movably mounted on said rail means, engaging means on each said carrier for engaging and suspending a work rack therefrom, means for moving said chassis to and from a raised position and a lowered position, said engaging means on said work carriers when said chassis is in said lowered position disposed below and in horizontal clearance relationship relative to the work racks disposed on said supporting means, transfer means for intermittently advancing said carriers and work racks



suspended therefrom along said rail means when said chassis is in said raised position and said carriers when said chassis is in said lowered position, and control means operable for controlling said transfer means for positioning said carriers when in said lowered position in alignment beneath work racks on said supporting means and effecting a withdrawal thereof in response to the ascending movement of said chassis and for depositing different work racks at the treating stations thus vacated, said control means further including sensing means at each of said cell stations and operable for controlling the transfer of work carriers to and from said cell stations in a preselected ordered sequence.

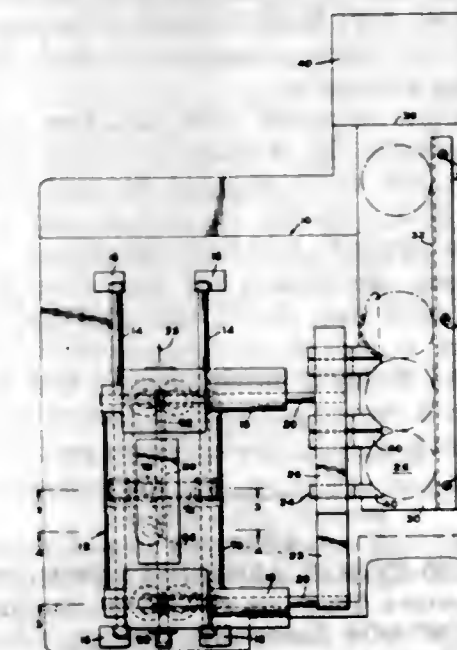
3,381,793

# TRANSFER DEVICE

Douglas E. Booth, Dearborn Heights, Mich., assignor to Bernard J. Wallis, Dearborn, Mich.

Continuation of application Ser. No. 430,044, Feb. 3, 1965. This application Feb. 15, 1967, Ser. No. 628,195

11 Claims. (Cl. 198-19)



A transfer device for moving workpieces through successive stations including a carriage movable in a path along the stations, the carriage having work-gripping



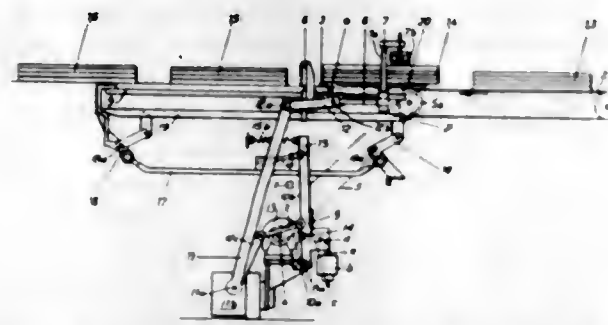
fingers thereon movable into work-engaging and retracted positions, and a barrel cam having two cam tracks with cam followers therein one for actuating the carriage and the other for actuating the work-gripping fingers.

3,381,794

# DEVICE FOR FEEDING STACKS OF BOOKS OR THE LIKE TO THE CUTTING STATION OF A MACHINE

Günther Heldorn, Hannover, Germany, assignor to Messrs. H. Wohlenberg Kommanditgesellschaft, Hannover, Germany, a corporation of Germany  
Filed June 9, 1965, Ser. No. 462,703  
Claims priority, application Germany, Sept. 4, 1964, W 33,365

8 Claims. (Cl. 198—21)



1. In a device for feeding stacks of books or the like to a station where the stacks will be operated upon, said device comprising,

a conveyor means for conveying the stacks to a stop means;

a stop means fixedly mounted on said device for halting movement of the stacks being conveyed by said conveyor means; said stop means having an end past which said stacks are moved to proceed to the station;

an operating mechanism having a rotatable shaft; the improvement comprising,

a ram for being moved into engagement with each stack when the stack is in engagement with said stop; said ram moving the stack past said end of said stop means; a gripper device in opposed relationship to said ram, whereby movement of said ram toward said gripper device traps and secures the stack therebetween;

a cam device connected with said ram for alternately holding same in a first position where said ram is in engagement with a stack and in a second position where said ram is disengaged from any stack; said cam device being connected to said shaft of said operating mechanism;

a feed trolley connected with said ram and with said gripper device for moving both in a first direction to move the stack engaged by said ram and said gripper device toward the station, and in a recovery direction opposite said first direction;

and a timing mechanism for coordinating the movement of said cam device and said trolley, whereby said ram is moved into engagement with a stack when said trolley is moving in said first direction and said ram is moved out of engagement with any stack when said trolley is moving in said recovery direction.

3,381,795

# TWO-STAGE AUGER ELEVATOR

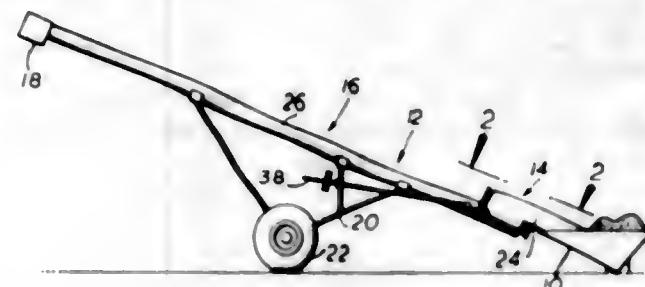
Arthur G. Barows, Downers Grove, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 31, 1966, Ser. No. 590,785

2 Claims. (Cl. 198—64)

A two-stage grain conveyor having a first stage conveyor comprising a pair of augers, each of which is ro-

tatably mounted in a feed tube; and a second stage conveyor comprising a single auger rotatably mounted in an elongate tube, the feed tubes are arranged in parallel to feed the elongate tube at spaced circumferential points, and the first stage augers are arranged in overlapping relation with the second stage auger.



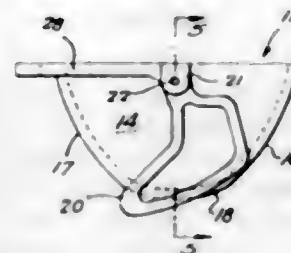
3,381,796

# MOLDED PIVOT BUCKET FOR A CONVEYOR

Vaughn Gregor, 5524 Green Oak St., Hollywood, Calif. 90028

Filed Mar. 3, 1967, Ser. No. 620,529

9 Claims. (Cl. 198—146)



A bucket conveyor assembly consisting of a pair of parallel endless link chains with buckets pivoted between the chains, the buckets being shaped so that they are gravitationally biased toward horizontal upward-facing positions. Each bucket has a top flange projecting from a side edge adapted to overlap the top edge of the adjacent bucket and acting to seal the space between the side-by-side buckets. The chains are mounted on a guide frame having a horizontal bottom material-receiving portion, a horizontal top-discharge portion, and an intermediate vertical elevator portion. Each bucket has a projection cooperating with a pin on an adjacent chain to invert the buckets as they move around the top end of the frame, causing discharge of their contents. Each bucket has a counterweight projection which may be employed in conjunction with pivoted ramps on the frame to tilt the buckets so as to cause discharge thereof at selected positions on the top portion of the frame. The buckets are held in outwardly-facing positions by sliding engagement with transverse wall elements of the frame as the buckets return from the top portion to the bottom portion of the frame.

3,381,797

# BOOK CLAMP

Richard B. Hawkes, Easton, Pa., assignor to T. W. & C. B. Sheridan Company, New York, N.Y., a corporation of New York

Filed Sept. 12, 1966, Ser. No. 578,852

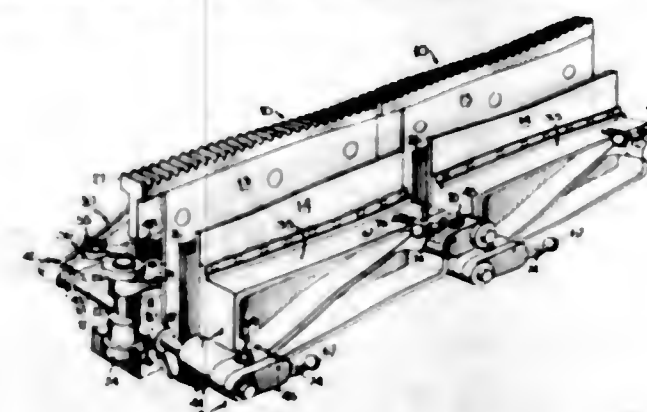
15 Claims. (Cl. 198—180)

1. A book clamp for book binding machines comprising:

an inner clamp assembly having a clamp plate disposed thereon,

an outer clamp assembly having a clamp plate disposed thereon, said outer clamp assembly being oppositely disposed with respect to said inner clamp assembly,

means for aligning said outer clamp assembly relative to said inner clamp assembly, means for moving said clamp assemblies into spaced relation to provide a space between said clamp plates for disposition of a book therebetween, and



a spring assembly secured to each of said clamp assemblies for urging said clamp plates together to clamp a book therebetween, said spring assembly including at least two compression springs disposed in angular relation to each other and to said clamp plates.

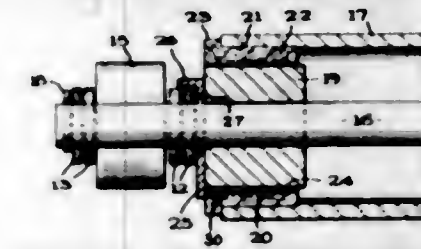
3,381,798

# ROLLER FLIGHT CONVEYOR

Andrew T. Kornylak, 400 Henton St., Hamilton, Ohio 45011

Filed Dec. 16, 1965, Ser. No. 514,348

8 Claims. (Cl. 198—183)



A roller flight conveyor having side chains with certain links carrying flight rollers which include shafts mounted in such links, such shafts having enlarged portions thereon, and hollow flight rollers. Bearings situated between the interior of the flight rollers and the enlarged portions are impregnated with a resin which produces a drag on the rollers enabling them to move loads up inclines of somewhat more than 6°. The preferred resin is rosin.

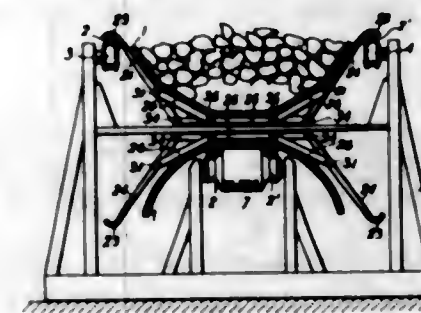
3,381,799

# CONVEYORS

Zdeněk Havelka, Prague, Czechoslovakia, assignor to TRANSPORTA, oborový podnik, Chrudim, Czechoslovakia

Filed Oct. 14, 1966, Ser. No. 586,777

10 Claims. (Cl. 198—191)



A belt conveyor which can adapt itself to the characteristics of the load which is to be carried. The conveyor has an endless belt which is to carry the load, and this belt is supported at its upper run by transversely extend-

ing hanger assemblies which at the upper run of the conveyor extend beneath the belt and are themselves suspended from a pair of endless ropes that are driven to operate the conveyor. The hanger assemblies can automatically swing in response to the load on the belt so as to automatically assume a U-shaped configuration conforming to the load and giving the belt at its upper run a trough-shaped configuration which will be determined by the load itself. At one side, each of the hanger assemblies at the upper run can move freely toward the opposite side of the hanger assembly so that the horizontal forces are greatly reduced.

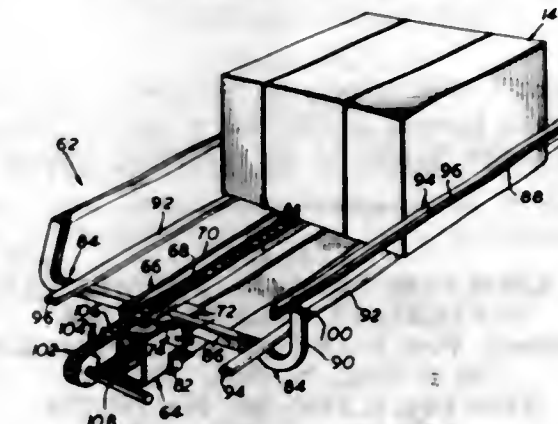
3,381,800

# CONVEYOR OR ELEVATOR

Charles V. Everett, Warrentonville, and Edward Sverelka, Chicago, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 26, 1966, Ser. No. 589,715

4 Claims. (Cl. 198—204)



1. A conveyor of the general character disclosed comprising a substantially rigid, unitary frame defining nearly the full length of the conveyor, and a chain, the frame including a main central member of substantially tubular shape supporting the other elements of the frame, means forming a longitudinal chain supporting surface atop the tubular member and supported thereby, means forming upstanding ribs at the sides of said supporting surface, arms mounted on the tubular member and extending laterally therefrom with upturned outer ends extending upwardly beyond the tubular member, side guide rails secured to the upper extremities of said upturned outer ends, support rods on said arms spaced laterally from said chain supporting surface and having their upper surfaces lying substantially in a common plane with the upper edges of said ribs, the frame having a full open top extending substantially its full length, said chain having an upper advance run on said upper supporting surface and including flat links confined below the upper edges of said ribs and having grabbers extending thereabove, said chain having a lower return run substantially within said tubular member, the chain extending only a short distance beyond the ends of the frame, the tubular member defining substantially the lowermost limit of the frame throughout the length of the frame.

3,381,801

# FLEXIBLE CONVEYOR

Blaise Rastoin, 40 Ave. de la Famouze le Cabot, 13 Marseille, France

Continuation-in-part of application Ser. No. 529,407, Feb. 23, 1966. This application Sept. 28, 1967, Ser. No. 671,463

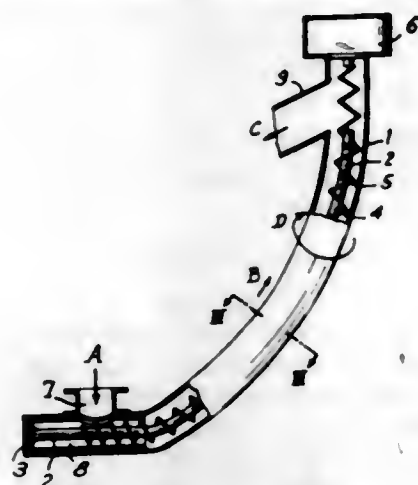
Claims priority, application France, May 20, 1965, 21,010, Patent 1,436,336; Jan. 5, 1966, 21,260, Patent 89,381 (addition)

7 Claims. (Cl. 198—213)

A conveyor for transporting material comprising a flexible tube open at its ends and a flexible core disposed

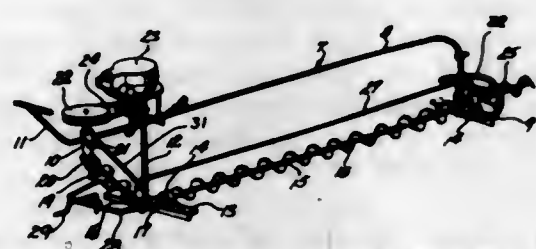


axially within the tube so as to define with the tube a longitudinal flow path of annular cross section. A spiral feed member disposed coaxially in the annular spacing between the core and the tube and means for rotating the



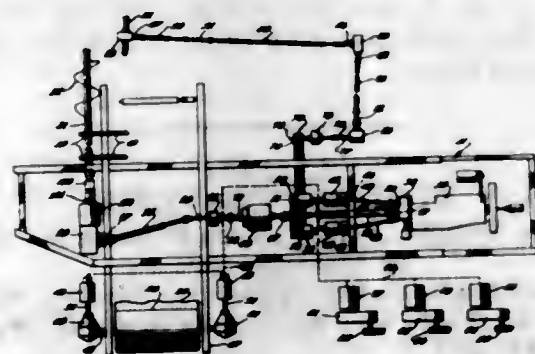
spiral member with respect to the tube to feed material from an inlet formed in one end of the flexible tube towards an outlet formed at the other end thereof.

**3,381,802**  
**APPARATUS FOR MOVING FRUMENTACEOUS MATERIALS AND THE LIKE**  
Roy Levadney, Paul Levadney, and Clarence Levadney, all of Max, N. Dak. 58759  
Filed Dec. 5, 1966, Ser. No. 599,215  
4 Claims. (Cl. 198-213)



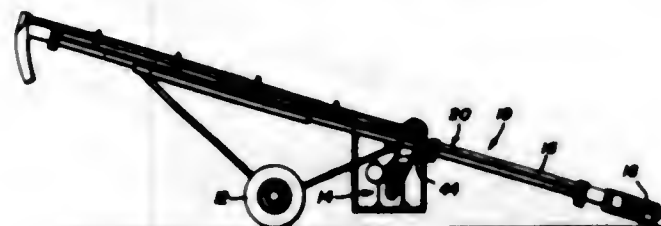
This apparatus includes a novel frame for supporting a three member helical type conveyor and supporting a motor for driving the conveyor members, which frame also supports an elongated sweep member extending along one side of one member of the conveyor.

**3,381,803**  
**RECLAIMER DRIVE**  
Fred T. Smith, Aurora, Ill., assignor to Barber-Greene Company, Aurora, Ill., a corporation of Illinois  
Filed June 13, 1966, Ser. No. 557,920  
11 Claims. (Cl. 198-233)



This invention relates to improvements in mobile reclaimers for flowing loose material from piles for loading, and more particularly relates to an improved form of power divider drive mechanism for the reclaimer.

**3,381,804**  
**CONTROL SWITCH SYSTEM FOR GRAIN AUGERS**  
Albert Bjarko, 405 Mill St., Scooby, Mont. 59263  
Filed July 28, 1966, Ser. No. 568,428  
6 Claims. (Cl. 198-233)



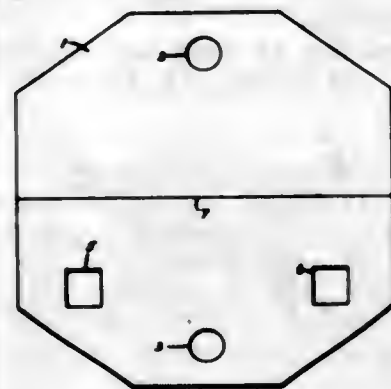
A control system for a portable wheeled auger-type conveyor including motor means drivingly connected to the auger member of the conveyor, the control system including actuators disposed at opposite ends of the conveyor operable, when actuated, to terminate operation of the motor means by which the auger member is driven.

**3,381,805**  
**GETTER ASSEMBLY HAVING SUPPORT OF LOW THERMAL CONDUCTIVITY**  
Paolo della Porta and Cesare Pizzani, Milan, and Mario Zucchini, Treviso, Italy, assignors to S.A.E.S. Getters S.p.A., Milan, Italy, a company of Italy  
Filed Dec. 30, 1966, Ser. No. 606,166  
Claims priority, application Italy, July 8, 1966, 15,889/66; Dec. 1, 1966, 30,615A/66  
10 Claims. (Cl. 206-4)



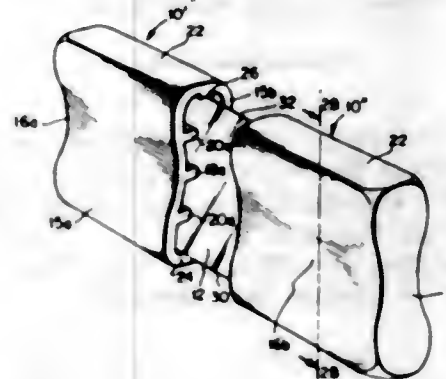
A getter assembly having a getter container and a support for the container wherein the support is made of a material of low thermal conductivity and of high resistance to heating by induction currents. These getter assemblies can be subjected to induction currents while resting on the wall of a vessel such as a glass television picture tube.

**3,381,806**  
**EYEGLASSES HOLDER AND WIPER**  
Robert J. McDonagh, 106 Randolph St., Caldwell, Idaho 43724  
Filed Jan. 9, 1967, Ser. No. 608,172  
3 Claims. (Cl. 206-5)



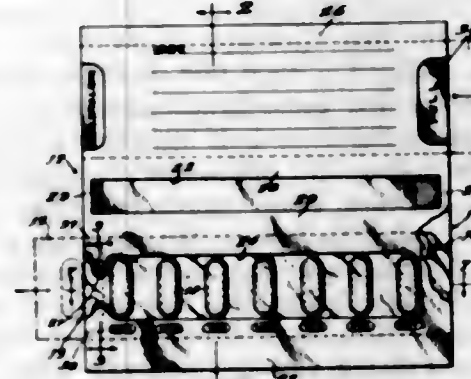
The device is a holder for eyeglasses which can be hung on any suitable support such as a knob on the instrument panel of an automobile. It is composed of a soft fiber which is used to wipe the lens and which can be readily disposed of after use.

**3,381,807**  
**SHEATH FOR KNIVES**  
Donald H. De Vaughn, 106 Redwood Drive, San Rafael, Calif.  
Filed Nov. 21, 1966, Ser. No. 595,851  
3 Claims. (Cl. 206-16)



A sheath for knives comprising side walls of a resiliently yieldable material having inwardly arched middle areas, and provided along the summit lines and the base lines of said arched areas inwardly projecting, longitudinally extending ribs.

**3,381,808**  
**DISPENSING PACKAGE**  
Isaac R. McGraw II, Canandaigua, N.Y., assignor to Wallace & Tiernan Inc., East Orange, N.J., a corporation of Delaware  
Filed Oct. 10, 1966, Ser. No. 585,581  
15 Claims. (Cl. 206-42)



A sheet with a row of domes (downwardly facing cavities for articles) is slidably interposed between two larger sheets bonded to each other except at least in an area including a cut-out portion extending from one edge of the upper larger sheet. The domes of the first sheet are located within that cut-out portion. The bonded sheets may be foldable to cover the domes and the covering one-half of the sheets have an unbonded area from one edge. The cut-out portion may extend to the opposite edge. A fourth sheet may be slidably located between the domed sheet and the bottom larger sheet.

**3,381,809**  
**CARTON FOR COLLAPSIBLE UMBRELLA**  
Reginald Joseph Therley, Montreal, Quebec, Canada, assignor to Telesco Brophy Limited, Montreal, Quebec, Canada  
Filed June 2, 1966, Ser. No. 554,771  
Claims priority, application Canada, May 19, 1966, 960,864  
17 Claims. (Cl. 206-46)

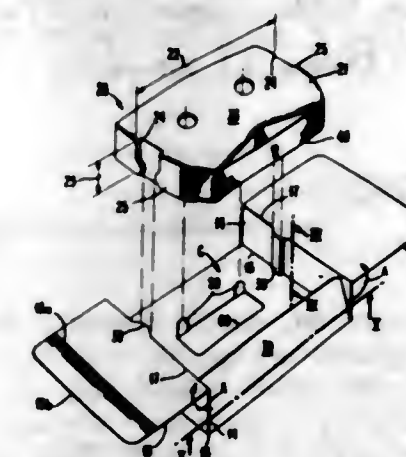
A foldable flat tray including, when erected, double thicknesses of paperboard material in which gusset folds orient end and side walls in right angular relation and wing elements on an inner end wall panel retain the

trays in erected relation, and in which slot portions in one pair of end wall panels accommodate the shank



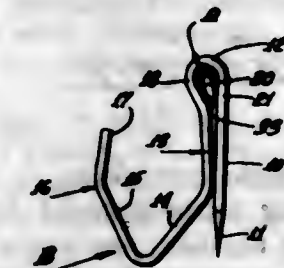
portion of an umbrella therethrough and are flanked by cut-off portions of the gussets folds of tray.

**3,381,810**  
**RIBBON PACKAGE AND PACKAGING METHOD**  
Delmar J. Lasher, Lexington, and Finley Y. Wills, Winchester, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed May 5, 1966, Ser. No. 547,976  
12 Claims. (Cl. 206-52)



A wrap-around carton for packaging typewriter ribbon cartridges is disclosed. The carton is a single piece blank which can be assembled by machine or hand. It comprises integral key tabs for accurately locating the cartridge within the carton, tabs for preventing unwinding of the ribbon, and means for protecting the exposed portion of the typewriter ribbon.

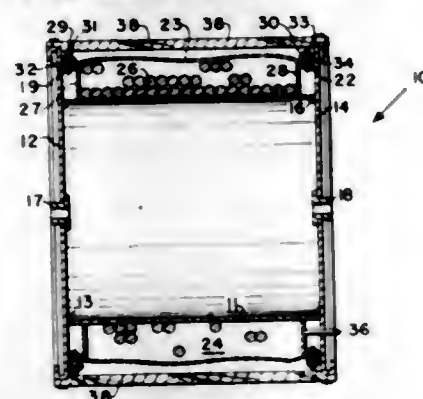
**3,381,811**  
**STACKED DRAPERY PIN HOOKS AND HOLDER**  
Morris A. Saltz, 1083 S. Ogden Drive, Los Angeles, Calif. 90019  
Filed Oct. 10, 1966, Ser. No. 585,463  
9 Claims. (Cl. 206-56)



A drapery pin hook assembly in which a spline passes through the eye portions of a stack of drapery hooks to retain the hooks properly oriented in stacked relation.



**3,381,812**  
**WEATHERTIGHT REEL FOR PIPE-TYPE CABLE**  
 Bernard J. Cohen, Yonkers, N.Y., assignor to Anaconda Wire and Cable Company, a corporation of Delaware  
 Filed Aug. 4, 1966, Ser. No. 570,266  
 4 Claims. (Cl. 206-59)



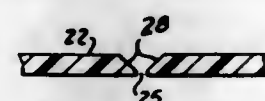
A weather-tight reel for cable cores is formed by spreading an impermeable blanket between the reel flanges onto annular rings that project toward each other from the flanges. The blanket is sealed by the pressure of inflated pneumatic tubes pressing it against the projecting rings.

**3,381,813**  
**HYPODERMIC NEEDLE AND PROTECTOR THEREFOR**  
 George Coanda, Burbank, Calif., and Alfred R. Spaeth, Johnson City, Tenn., assignors to Pharmaseal Laboratories, Glendale, Calif., a corporation of California  
 Filed Sept. 7, 1965, Ser. No. 485,277  
 9 Claims. (Cl. 206-63.2)



A molded hypodermic needle protector closed at one end and telescopically engageable over the needle and wedgedly engageable on the needle hub; the needle hub or protector including fragmentary ribs having portions permitting the passage of sterilization fluid thereby when the protector is disposed on the needle and hub, and the needle hub including a lateral abutment portion engaging an upper portion of the protector so constructed to permit the protector to be twisted off the hub without twisting the needle hub off the hollow tip of hypodermic syringe upon which the hub is used.

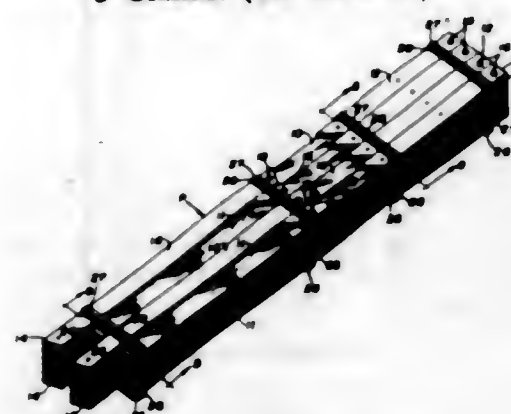
**3,381,814**  
**WASTE RECEPTACLE**  
 James W. Benfield, 60 Pinewood Road, Hartdale, N.Y. 10530  
 Continuation-in-part of application Ser. No. 433,980, Feb. 19, 1965. This application Oct. 22, 1965, Ser. No. 507,984  
 9 Claims. (Cl. 206-63.5)



1. A waste receptacle comprising, a closed container member for receiving waste material from the ends of a pair of forceps or the like, one end of said container having a plurality of equispaced radial slits formed therein so as to form an equal plurality of sectors therebetween, said slits intersecting at a common hole located substantially centrally of said container end, said hole having a diameter greater than the width of any one of

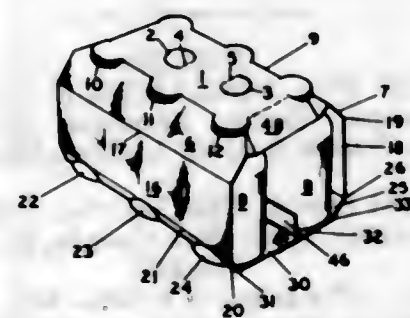
said slits, the outer surface of each of said sectors being scored adjacent each of said slits so as to form a lead on the outer edges of said slits, said lead on said slits facilitating entry of said forceps and waste material into said container, the inner edges of said slits being substantially square, so as to facilitate retention of the waste material within said container upon withdrawal of the forceps therefrom.

**3,381,815**  
**PREFORMED STRUCTURAL FRAME PACKAGE**  
 Gordon L. Marcott, Denver, Colo., assignor to Transworld Enterprise Development, Ltd., Nassau, Bahamas, a corporation of the Bahamas  
 Filed May 10, 1965, Ser. No. 454,259  
 3 Claims. (Cl. 206-65)



A package for transportation to the point of use of a series of frame units, containing a plurality of pairs of components in stacked relation, both side by side and atop one another, with straps or bands around the components, to clamp them together. One component of each pair includes the first of a pair of duplicate legs, which are inwardly inclined at each side of the frame unit when installed, with a first cross brace attached to the upper end of the leg by the same bolt by which it is attached to the leg in the frame unit and disposed longitudinally on the leg, and a beam which spans the legs at the midpoint thereof and attached to the first leg at the same position and by the same bolt as when installed, but disposed longitudinally along the first leg and away from the cross brace. The other component of each pair includes the second leg and the opposite cross brace, attached to the end of the second leg at the same position and with the same bolt as when assembled, and a spacer block which is installed between the duplicate shorter braces, but attached to the second leg by the bolt which attaches the opposite end of the beam to the second leg.

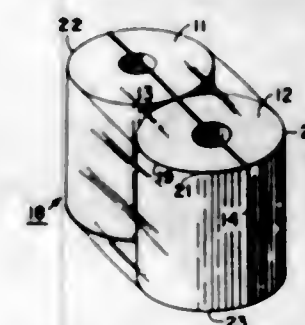
**3,381,816**  
**ARTICLE CARRIER**  
 Homer W. Forrer, Jonesboro, Ga., assignor to The Mead Corporation, a corporation of Ohio  
 Filed Jan. 24, 1966, Ser. No. 522,559  
 3 Claims. (Cl. 206-65)



An open ended wrap-around type article carrier having a top panel overlying the tops of a plurality of packaged

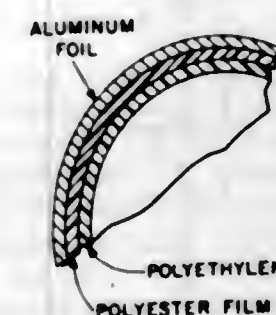
items and having a pair of sloping shoulder panels foldably joined to the side edges thereof is provided with an end panel at each end which is foldably joined to an end edge of the top panel along a fold line spaced inwardly from the side edges of the wrapper blank by approximately one-half the diameter of the packaged items. The end panels are foldably interconnected at their end edges with the adjacent ends of the sloping panels by web panels and the corner edges of the end panels adjacent the packaged items are cut away by arcuate configurations forming continuations of openings formed in the sloping panels for receiving parts of the top of the packaged items. Preferably the top corner of each web panel also is cut away in a manner similar to that by which the adjacent corner of the end panel is cut away. The side edges of a blank from which the carrier is formed thus are substantially straight.

**3,381,817**  
**PACKAGE FOR CYLINDRICAL OBJECTS**  
 Alton R. Harm, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
 Original application Mar. 23, 1964, Ser. No. 353,856, now Patent No. 3,344,577, dated Oct. 3, 1967. Divided and this application Oct. 10, 1966, Ser. No. 649,369  
 3 Claims. (Cl. 206-65)



1. A package for a plurality of cylindrical articles having their axes in parallel relation comprising a web of flexible, heat-sealable thermoplastic material formed into a snug tube surrounding said cylindrical articles and having a seam running substantially transverse to the axes of said articles, a lateral end seam across each end of said tube, said end seams running substantially parallel to the axes of said articles, and an arcuate seam formed at the juncture of each planar side surface of the package with each arcuate end surface of the package.

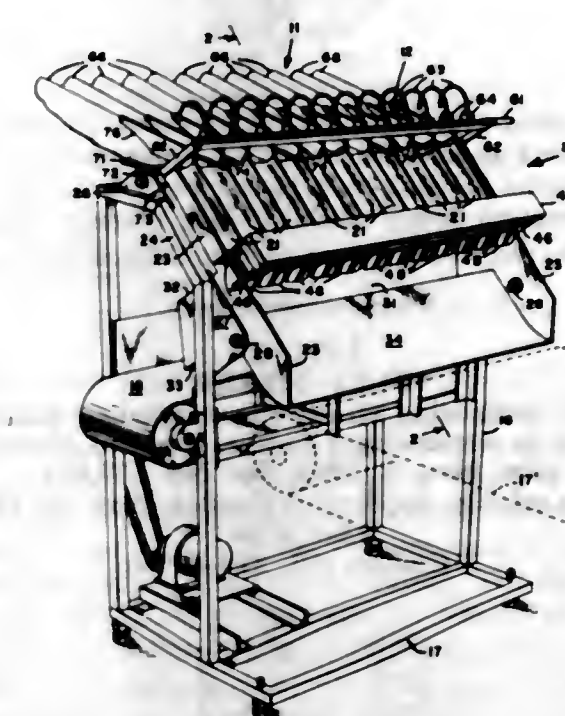
**3,381,818**  
**DENTIFRICE PACKAGE HAVING A LAMINATED FILM BODY**  
 Paul E. Cope, Cincinnati, and Finn Clement, Springfield Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
 Original application Feb. 12, 1962, Ser. No. 172,805. Divided and this application May 3, 1965, Ser. No. 452,920  
 4 Claims. (Cl. 206-84)



A package in which at least a portion of the package body is made from a three layer laminate system com-

prising an outer layer of aluminum foil, an intermediate layer of polyester film, and an inner layer of polyethylene. The package is particularly well suited for storing dentifrice products.

**3,381,819**  
**SORTING MECHANISM FOR PEACH HALVES**  
 Lynn D. Crawford, San Jose, Calif., assignor of one-half to Genevieve I. Hanscom (formerly Magnuson), Saratoga, Calif., and one-half to Genevieve I. Hanscom, Robert Magnuson and Lois J. Duggan (formerly Fox) as trustees of the Estate of Roy M. Magnuson  
 Filed Aug. 1, 1966, Ser. No. 569,509  
 8 Claims. (Cl. 209-73)



1. In a sorting mechanism for removing from a flow of peach halves those halves containing pits or half pits, means providing a plurality of parallel feed paths for peach halves, said feed paths being inclined downwardly in the direction of travel of the peach halves whereby said peach halves attain a desired velocity, means providing a gap in the bottom of each path, a sensing station in each path including photoelectric means disposed in said path to view an article adjacent the entrance end of said gap, a first product receiving means common to all of said paths for a first type of peach half and positioned at the far side of said gap from said sensing station to receive peach halves having a normal trajectory across said gap, second product receiving means common to said paths for products of a second type, and peach half control means for each path controlled by an associated photoelectric means for diverting a product of the second type from its normal trajectory and into said gap for delivery to said second product receiving means.

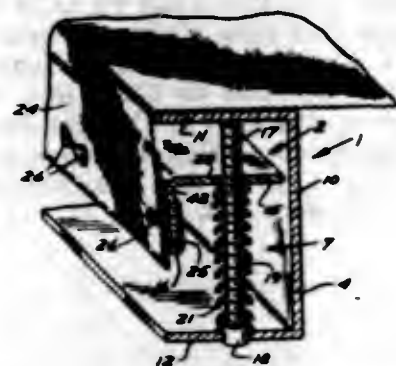
**3,381,820**  
**SCREENING FRAMES AND SCREEN-TENSIONING MEANS THEREFOR**

Methodius C. Cecka, Minneapolis, Minn., assignor to Screen-Tec, Inc., Minneapolis, Minn., a corporation of Minnesota  
 Filed Mar. 7, 1966, Ser. No. 532,211  
 8 Claims. (Cl. 209-403)

A frame for removably receiving a flexible, resilient perforate screen to be maintained under a substantially uniform tension on a planar surface defined by the frame. The frame including a rigid frame defining at least one substantially planar surface for supporting a flexible screen is provided with movable, resilient, adjustable tensioning devices along at least two adjacent marginal ex-



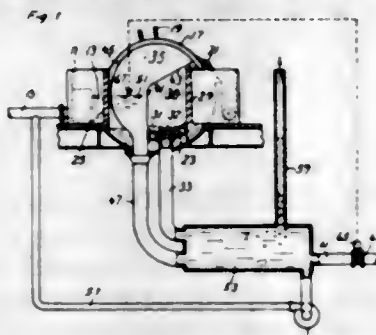
tremities. The tension devices are provided with adjusting means which will not distort the frame and are further adapted to removably connect to spaced apart peripheral marginal areas of a flexible resilient screen and to be adjustable relative to the frame to uniformly secure and



thereby tension the screen on the frame by the use of spaced apart means for imparting movement of the adjusting means relative to a planar portion of the frame, such movement being provided in a manner which will not tend to distort the planar surface defined by the frame.

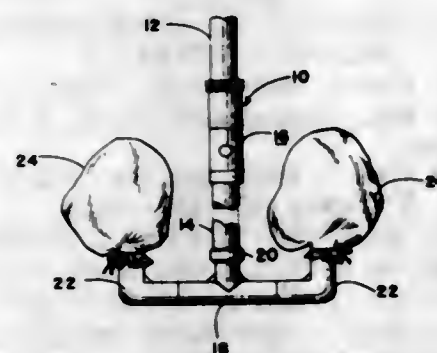
### 3,381,821 PULP FILTER

Klas E. G. Hellström, Mount Royal, Quebec, Canada, assignor to Aktiebolaget Kamyr, Karlstad, Sweden  
Filed Nov. 9, 1965, Ser. No. 507,001  
Claims priority, application Sweden, Nov. 10, 1964, 13,514/64  
2 Claims. (Cl. 210-116)



An improved cellulose pulp filter, which reduces the amount of entrained air discharged with the filtrate, is disclosed. The discharge conduit of a conventional cellulose pulp filter is connected to a closed tank, to which is attached a vent pipe, and a conduit for filtrate recirculation. Control means maintain a desired, predetermined filtrate level in filtrate collection means in the filter.

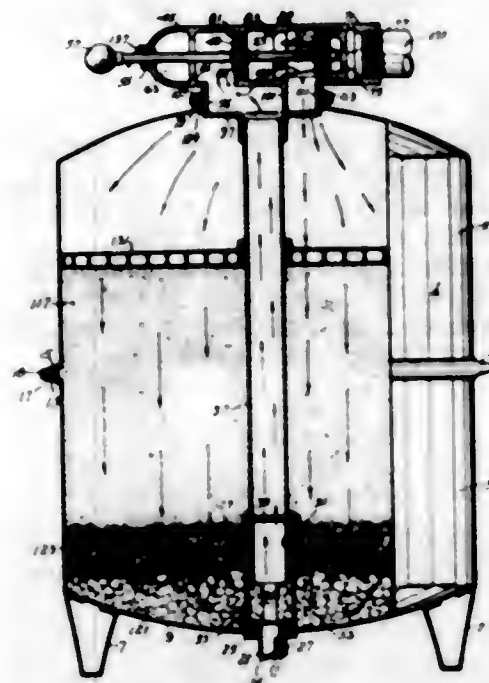
**3,381,822  
FLOW CONTROL AND CIRCULATION VALVE**  
Rand H. Martin, Monterey Park, Calif., assignor to HPE Inc., El Monte, Calif., a corporation of California  
Filed May 5, 1965, Ser. No. 453,287  
3 Claims. (Cl. 210-169)



A flow control valve for circulating swimming pool water consists of a rotatable sleeve placed over the input

line which returns water from the circulating pump to the pool, through filter bags. Aligned ports in sleeve and input pipe permit incoming water to bypass the filter bags and go directly into the pool where a stirring action is created. Rotation of the sleeve closes the bypass ports to direct all of the water through the filter bags before entering the pool.

**3,381,823  
HIGH FLOW SAND GRAVEL TYPE FILTER**  
Floyd M. Nash, Little Rock, Ark., assignor to Jacuzzi Bros., Incorporated, a corporation of California  
Filed Oct. 13, 1965, Ser. No. 495,517  
15 Claims. (Cl. 210-279)



A high flow sand and gravel type filter, involving an underdrain of bonded anthracite aggregate, a pressure free grid exposed above the filter medium, and means providing inflow and discharge of liquid symmetrically with respect to both the underdrain and grid.

**3,381,824  
CUE RACK**  
Gordon L. Blumenfeld, Box 122, Lake Villa, Ill. 60046  
Filed Feb. 18, 1966, Ser. No. 528,541  
6 Claims. (Cl. 211-68)



Pole supported rack for billiard and pool cues and balls. The pole is telescopic and extensibly biased to be held

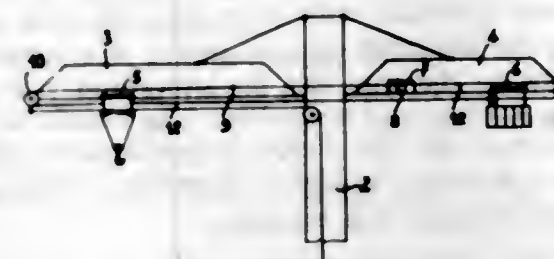
between the floor and ceiling of a room. A platform for the handle ends of the cues is mounted on the pole adjacent the lower end of the pole. A formed wire rack is at the top of the pole and has a plurality of circular loops formed from a single piece of wire and extending to opposite sides of a central open bight of the rack. The central bight fits partially about the pole and the formed circular loops extend to opposite sides of the central bight. A clip compresses the bight into firm engagement with the pole. Formed wire, ball supporting brackets are mounted on the pole between the platform and the formed wire rack in vertically and angularly spaced relation with respect to each other and have generally circular ball supporting receptacles at the ends of the brackets.

**3,381,825  
TRAY CONSTRUCTION**  
Clifford H. Bennett, South Holland, Ill., assignor to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware  
Filed July 22, 1966, Ser. No. 567,213  
7 Claims. (Cl. 211-74)



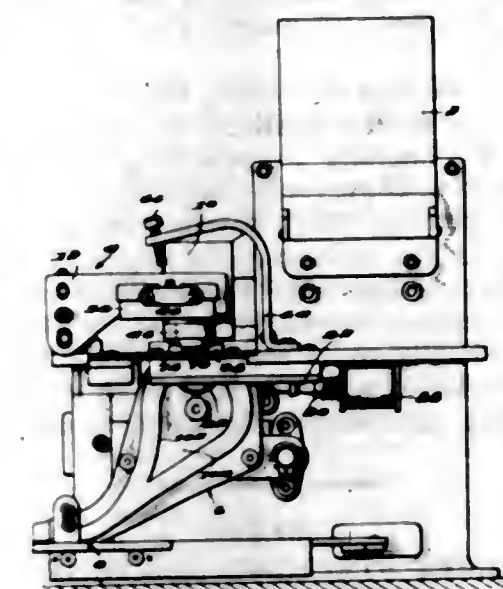
This invention relates to a tray construction and more particularly to a serving tray which is adapted to accommodate one or more cups and one or more sandwiches or some other comestible items.

**3,381,826  
TRANSLATING MEANS FOR THE COUNTERBALANCING CARRIAGES IN TOWER CRANES**  
Pierre Durand, Lyon, France, assignor to Richier, Paris, France, a company of France  
Filed Dec. 22, 1966, Ser. No. 603,806  
Claims priority, application France, Dec. 30, 1965, 46,772, Patent 1,470,368; Nov. 15, 1966, 47,944, Patent 1,508,277  
6 Claims. (Cl. 212-48)



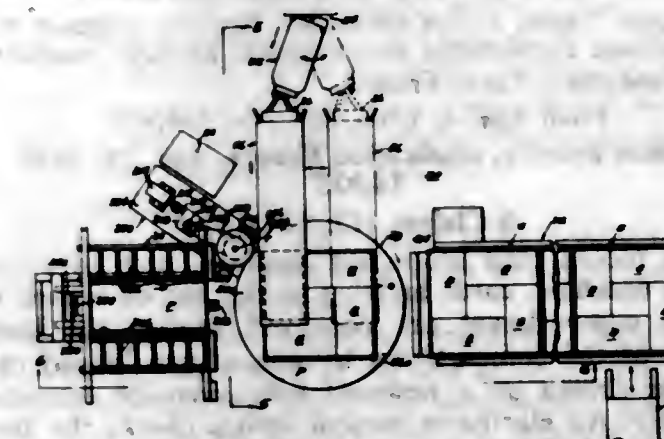
A device for use with a telescopic crane tower which permits the counterbalancing carriage to be moved when the tower is telescoped but which is easily disengageable when the lifting carriage is to be moved without telescoping the tower. The device is connected to either the lifting or counterbalancing carriage and is adapted to be either clamped upon the cable which draws the counterbalancing carriage or disengaged therefrom. In the clamped position the counterbalancing carriage is movable and in the disengaged position the counterbalancing carriage is stationary.

**3,381,827  
BUTTON FEEDING MACHINES**  
Harry C. Dannhardt, Wantagh, N.Y., and John Edward Ellades, Ayer, Mass., assignors to Chandler Machine Company, Ayer, Mass., a corporation of Massachusetts  
Filed Nov. 5, 1965, Ser. No. 506,570  
11 Claims. (Cl. 214-1)



A device for feeding a series of concave or convex buttons with the same side of each button facing in the same direction. Each button is deposited in an opening in a plate and supported in the opening by a movable shelf. A plunger and an abutment concentric with the plunger are mounted on an arm over the opening and movable into engagement with one face of the button. The distance between the end of the plunger and the abutment indicates which side of the button is facing the plunger. The relative positions of the plunger and the abutment are sensed by a switch means which operates a horizontally tilting surface directly under the shelf. A chute is provided on each side of the tilting surface. A button passing through one chute is turned over before reaching the delivery point at the bottom of the chute, while a button passing through the other chute remains in the same position when it reaches the delivery point. The switch operated by the plunger and abutment controls the position of the tilting surface to deflect the button into one chute or the other as it drops from the opening. Thus the button is either turned over or remains with the same side up depending upon the relative positions of the plunger and the abutment.

**3,381,828  
FILLED-BAG STACKING PALLETIZER**  
Robert T. Sheehan, 31530 Myrna Road, Livonia, Mich. 48154  
Filed Feb. 7, 1966, Ser. No. 525,759  
11 Claims. (Cl. 214-6)



This automatic filled-bag-stacking palletizer automatically receives filled bags from a bag feeding conveyor



coupled thereto and deposits and stacks the filled bags on a turntable in one of a number of predetermined patterns in successive tiers of three, four or five bag patterns. When the pallet has been fully loaded, a pallet dispenser then automatically pushes an empty pallet onto the turntable while causing the empty pallet to simultaneously eject the loaded pallet onto the loaded pallet receiver. The stacking conveyor is also mounted on an elevator which raises and lowers it to different levels of stacking.

During the stacking operation, the stacking conveyor is automatically shifted relatively to the turntable both horizontally by laterally reciprocating the carriage on which the stacking conveyor is mounted and vertically by the elevator into successive parallel positions in timed relationship with the rotation of the turntable step-by-step through 90-degree intervals. The elevator is optionally provided with means for reciprocating the stacking conveyor longitudinally to extend and retract the stacking conveyor in order to stack the bags in an oblong pattern upon an oblong pallet when it is desired to use an oblong pallet.

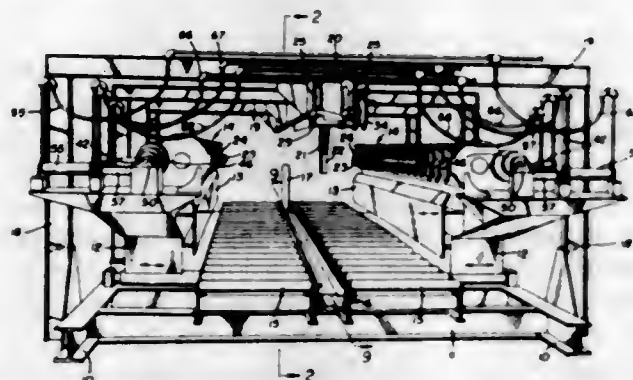
3,381,829

**SHEET STACKING MACHINE**

Douglas Andrew Turner, Salem, Ohio, assignor to Towlsaver, Inc., Los Angeles, Calif., a corporation of California

Filed Mar. 22, 1966, Ser. No. 536,328

4 Claims. (Cl. 214-6)



A sheet stacking machine incorporating oppositely disposed longitudinally extending rows of spaced wheels arranged to simultaneously engage the upper and lower surfaces of the longitudinal edges of a cut section of sheet material so as to support the same and prevent bowing of the same between said rows of spaced wheels.

3,381,830

**CARD RECEIVING COMPARTMENT**

Jacques Vasse, L'Hay-les-Roses, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France

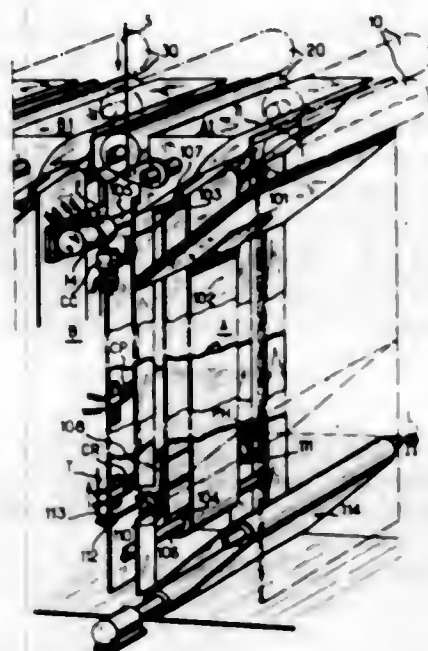
Filed Apr. 4, 1966, Ser. No. 539,970

Claims priority, application France, Apr. 28, 1965, 14,925

6 Claims. (Cl. 214-6)

In a record card processing machine, such as a card sorting machine, cards arriving at the top of a card receiving compartment are conveyed toward the lower section of the compartment by one of two hinged card supports driven by a powered belt conveyor extending vertically. An electromechanical device checks the level of a top card of a stack on one card support automatically to control the conveyor movement at reduced or normal speed. After a card stack is brought to the lower section

of the compartment, the latter may automatically be emptied under control of electro-optical means, even



when the other support is receiving cards at the top of said compartment.

3,381,831

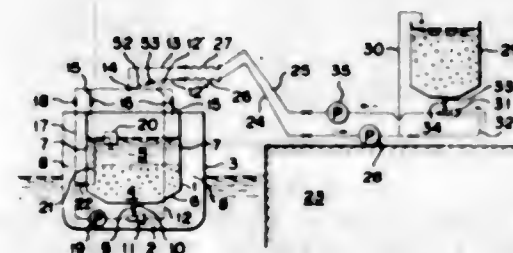
**HYDRAULIC TRANSPORTATION EQUIPMENT FOR SOLUBLE PULVERULENT OR GRANULAR BODIES**

Tanehiko Oka, Nagasaki-shi, Japan, assignor to Messrs.

Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan

Filed Nov. 17, 1966, Ser. No. 595,123

2 Claims. (Cl. 214-14)



The disclosure is directed to the water-borne transportation, and the loading and unloading from bulk carriers, of water-soluble pulverulent or granular material. A transport ship and a shore-based storage installation are provided with holds and tanks, respectively, for receiving soluble pulverulent or granular material and their saturated solution in the coexisting state. The holds and the tanks are provided with respective eduction means for educing the saturated solution into a pipe system, for transfer between the ship and the shore and vice versa, only during loading and unloading. The circulated saturated solution carries the soluble pulverulent or granular material, in a state of coexistence therewith, to effect loading and unloading of this material.

3,381,832

**TIPPER UNLOADER FOR DRAGLINE CARTS**

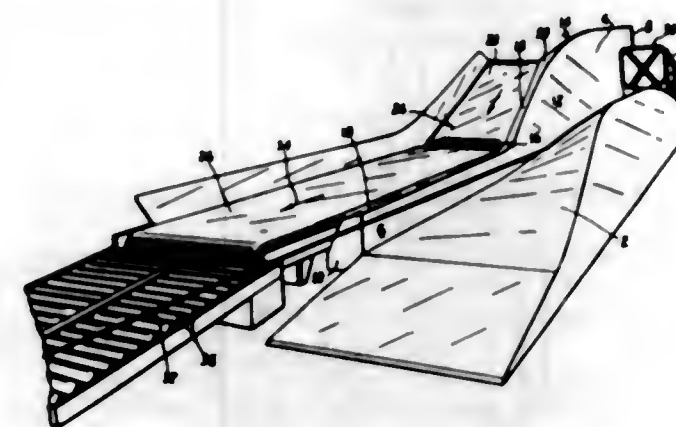
Joseph P. Vilagos, Cooksville, Ontario, and William Bowler, St. Laurent, Quebec, Canada, assignors to Canadian National Railway Company, Montreal, Quebec, Canada

Filed June 13, 1966, Ser. No. 557,247

10 Claims. (Cl. 214-46)

1. Apparatus for unloading an open-sided cart on which parcels are arranged in superimposed layers, comprising an inclined wall surface of gradually decreasing height toward one end thereof, means for tilting the

cart against said inclined surface, means for moving the tilted cart along the length of the wall in the direction of the end of the wall toward which the height of the wall decreases to effect discharge of successive layers of



parcels from the cart over the top of the wall and an inclined conveyor positioned adjacent said wall parallel to the direction of travel of the cart and upon which the parcels discharged over the top of said wall are deposited.

3,381,833

**SELF-SYNCHRONIZING LOAD LIFTING AND LOWERING SYSTEM FOR STRADDLE CARRIERS AND THE LIKE**

Richard O. Gordon, Mequon, Wis., assignor to Clark Equipment Company, a corporation of Michigan

Filed July 14, 1966, Ser. No. 565,154

7 Claims. (Cl. 214-392)

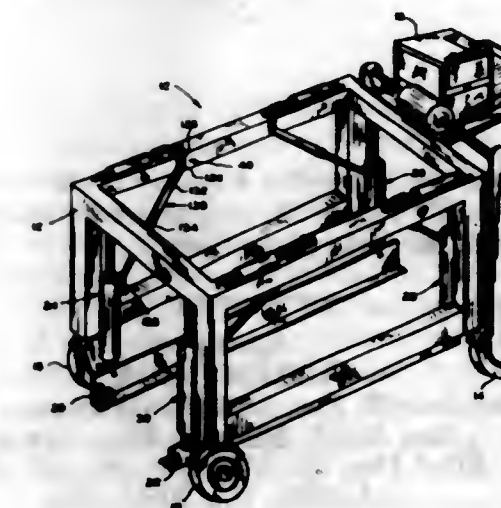
1. For use with a straddle carrier having a frame and a fluid reservoir, a self-synchronizing load lifting and lowering system comprising:  
load engaging means,  
a plurality of load lifting mechanisms,  
each mechanism including:

- a fluid motor connected to the frame and the said load engaging means, the said motor having:
  - a cylinder connected to the said load engaging means, the said cylinder having a head end and a rod end,
  - a piston slidably disposed in the said cylinder and a piston rod connected to the said piston and the frame and extending through the said cylinder rod end,
- a motor control and synchronizing valve including:
  - a body,
  - a bore in the said body,
  - inlet, outlet, first and second motor ports disposed in the said body and communicating with the said bore,
  - the said outlet port being connected to communicate with the fluid reservoir,
  - the said first motor port being connected to communicate with the said cylinder adjacent the said rod end and the said second motor port being connected to communicate with the said cylinder adjacent the said head end, and
- a spool slidably disposed in the said bore the said body and spool being movable relative to each other from a first position in which fluid communication between the said inlet and outlet ports

and the said motor ports is blocked to either a second position in which the said inlet port is placed in fluid communication with the said first motor port and the said outlet port is placed in fluid communication with the said second motor port or a third position in which the said inlet port is placed in fluid communication with the said motor port and the said outlet port is placed in fluid communication with the said first motor port,

a valve actuating motor for moving the said valve body between the said first, second and third positions relative to the said spool and including:

- an elongated cylinder with a head end and a rod end, the said actuating motor cylinder being fixed to the said valve body,
- a first port communicating with the said actuating motor cylinder adjacent the said said rod end thereof and a second port communicating with the said actuating motor cylinder adjacent the said head end thereof,
- a piston slidably disposed in the said actuating motor cylinder,



- a piston rod connected to the said actuating motor piston and frame and extending through the said actuating motor cylinder rod end, and
- spring means connected to the said actuating motor piston rod and cylinder for biasing the said actuating motor cylinder to a predetermined longitudinal position relative to the said actuating motor piston,
- means connected to the said motor cylinder and the said valve spool and responsive to movement of the said motor cylinder for moving the said valve spool to the said first position relative to the said body, and
- a fluid pump,
- the said fluid pump being connected to the said valve inlet port to supply pressurized fluid thereto, and
- means for either supplying pressurized fluid to all of the said first ports of the said actuating motors while communicating all of the said second ports of the said actuating motors with the reservoir or supplying pressurized fluid to all of the said second ports of the said actuating motors while communicating



all of the said first ports of the said actuating motors with the reservoir.

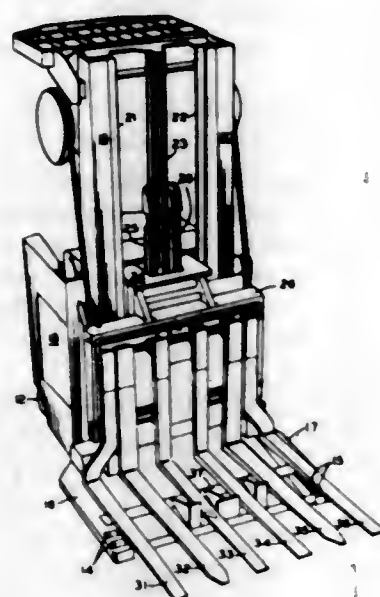
3,381,834

## LIFT TRUCK

Christian D. Gibson, Greene, N.Y., assignor to The Raymond Corporation, Greene, N.Y., a corporation of New York

Filed Jan. 4, 1967, Ser. No. 607,316

3 Claims. (Cl. 214-514)



A detachable comb-line attachment carried on the front arms of a lift truck for stripping soft loads carried on sheets off of the forks of the truck.

3,381,835

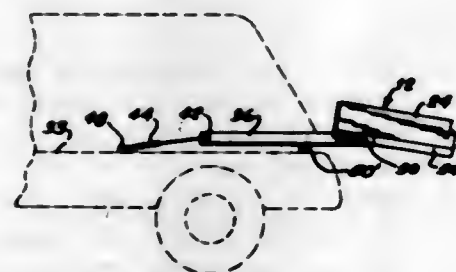
## UTILITY BOX

Theodore W. Lee, 2359 W. Okechobee Road,

Box D-67, Hialeah, Fla. 33010

Filed Dec. 20, 1965, Ser. No. 515,522

5 Claims. (Cl. 214-450)



A utility box that can be removably inserted into the interior of a station wagon for storing all types of equipment, tools, samples, materials and the like, or for storing and hauling dirt, sand, gravel and disposable trash, without scratching or dirtying the wagon interior.

3,381,836

## FORK REACH MECHANISM

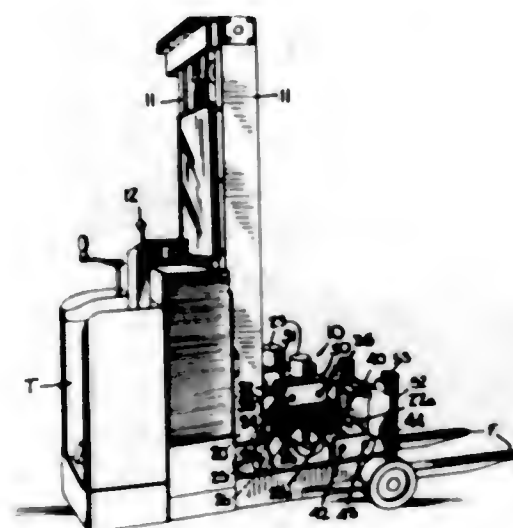
Bronislav L. Ullrich, Jenkintown, Pa., assignor to Eaton Yale & Towne, Inc., a corporation of Ohio

Filed Oct. 5, 1965, Ser. No. 492,995

4 Claims. (Cl. 214-730)

A truck fork reach mechanism is connected to load supports movable on the uprights of the truck and consists of two sets of links each having a pair of upper and lower

links arranged in the same plane. The load carrier and the links attached to the load carrier are offset so that



in fully retracted position the load carrier is nested between the load supports and uprights.

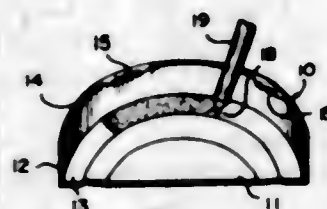
3,381,837

## GASKET-FORMING COMPOSITIONS FOR CONTAINER CLOSURES

Anthony J. Testa, Westwood, and Robert D. Eckert, Arlington, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed Nov. 29, 1966, Ser. No. 597,743

3 Claims. (Cl. 215-40)



Compositions for forming sealing gaskets in rotatable container closures which are composed of a plastisol of a vinyl resin and a minor amount of propylene glycol mono (12-hydroxy stearate). The stearate controls the torque which is required to remove the closure from a sealed container.

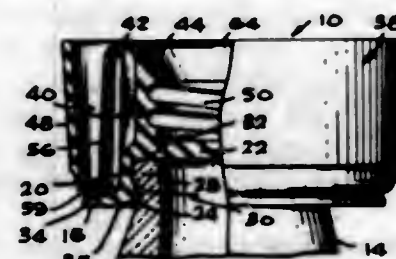
3,381,838

## COMBINATION RECEPTACLE AND BOTTLE SEALING APPARATUS

Thomas H. McClain, 357 Knight Way, La Canada, Calif. 91011, and Carl T. Igo, 8342 Woodley Ave., Sepulveda, Calif. 91343

Filed Oct. 5, 1966, Ser. No. 584,384

13 Claims. (Cl. 215-41)



The combined drinking receptacle and bottle sealing apparatus disclosed herein provides a cylindrical base por-

tion having a transverse member constituting the bottom of the receptacle. A flexible circular sidewall of tapering longitudinal cross-section is integrally formed at one end of the base portion and is adapted to fold on itself about the base portion in a series of coaxial convolutions and to unfold therefrom so as to provide a fluid vessel. The base portion is further provided with a socket means adapted to detachably accept and seal with the dispensing mouth of a bottle.

3,381,839

## STARCH TRAY FOR CONFECTIONERY PRODUCTION

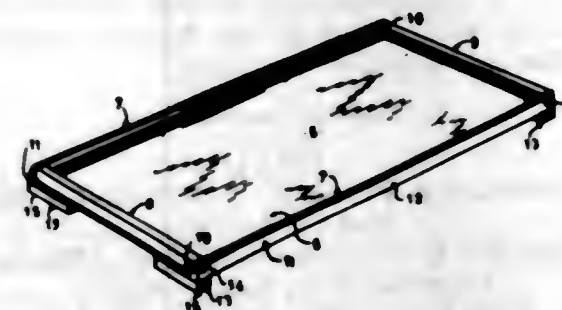
Frank William Rotherham, Rydalmere, New South Wales, Australia, assignor to R. F. Products Pty. Limited, Gladesville, New South Wales, Australia, a corporation of New South Wales, Australia

Filed Apr. 25, 1967, Ser. No. 633,499

Claims priority, application Australia, Apr. 26, 1966,

4,648/66

6 Claims. (Cl. 217-1)



A starch tray particularly for confectionery manufacture comprising a rectangular plywood floor having its lateral portions curved upwardly to form side walls, the ends of the tray being closed by end walls of timber panels secured to the floor and the inner face of the side walls, feet under the corners of the tray floor, and a timber moulding having a concave face and a squared edge fastened beneath each side wall to provide an upright outer surface therefor.

3,381,840

## KNOCKDOWN-TYPE SHIPPING CONTAINER HAVING BUILT-IN FASTENING MEANS

Joseph P. Duggan, 333 86th St., Brooklyn, N.Y. 11209

Filed July 12, 1966, Ser. No. 564,623

3 Claims. (Cl. 217-65)



A knockdown-type shipping container, comprising a plurality of structural members assembled into a container the structural members abutting each other and forming

a three way corner at the respective corners of the container, and at least one fastening means in each abutting structural member where it abuts another structural member at a corner, said fastening means extending from within the abutting structural members into the abutted structural member and being in locking engagement with the abutted structural member, and being retractable into said abutting structural members so as to lie entirely within the abutting structural member when the abutting structural member does not abut another structural member.

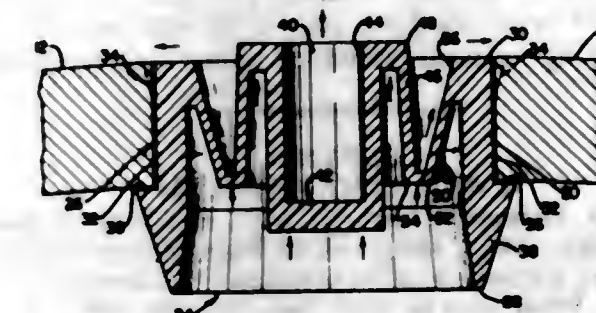
3,381,841

## BUNG FOR BARREL

Howard F. Kusserow, Denver, Colo., assignor to Denver Plastics, Inc., Lakewood, Colo., a corporation of Colorado

Filed Feb. 20, 1967, Ser. No. 617,288

5 Claims. (Cl. 217-108)



1. A bung of resiliently yieldable material for sealing a generally cylindrical bung hole in a barrel or the like, comprising: a sealing section and a combined closure and actuator section for the sealing section; the latter comprising a generally cylindrical shell having an inner end and an outer end; the external wall of the outer portion of said shell being adapted for sealing engagement with the wall of the bung hole; an external annular shoulder formed intermediate the ends of said shell to engage the inner wall of the barrel around the bung hole; the inner portion of said shell comprising a guide skirt converging inwardly from said shoulder to facilitate insertion of said bung; said closure and actuator section including a central, inwardly extending hollow column closed at its inner end and open at its outer end; a first, generally cylindrical, sleeve surrounding said column in spaced relation and connected at its outer end to the outer end of the column; and a second, outwardly diverging, frusto-conical, sleeve surrounding said first sleeve and connected at its inner end to the inner end of the first sleeve and connected at its outer end to the outer end of said shell to complete the closure of said bung; the frusto-conical shape of said second sleeve serving to apply substantial radial outward forces to said shell in response to the axial forces imposed on said column and first sleeve by fluid pressure within the barrel, and thus to increase the sealing effect of said bung.

3,381,842

## SEALED EVACUATED TANK

Henri Paul Vayson, Paris, France, assignor to Societe Generale de Constructions Electriques et Mecaniques (Alsthom), Belfort, France, a French body corporate

Filed Oct. 15, 1965, Ser. No. 496,273

Claims priority, application France, Oct. 15, 1964,

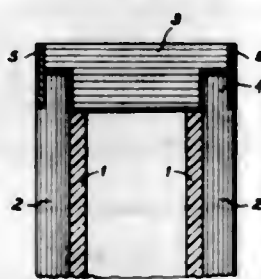
2,557, Patent 1,419,781

2 Claims. (Cl. 220-2.1)

This invention relates to the provision of a cylindrical evacuated sealed tank for electrical machinery operating in a cryogenic medium. The tank of the invention comprises inner and outer cylinders, the inner one being made



from glass or a thermoplastics material and the outer cylinder being formed by applying around the first cylinder a glass cloth impregnated with a thermosetting resin. The second cylinder has axial extensions projecting axially

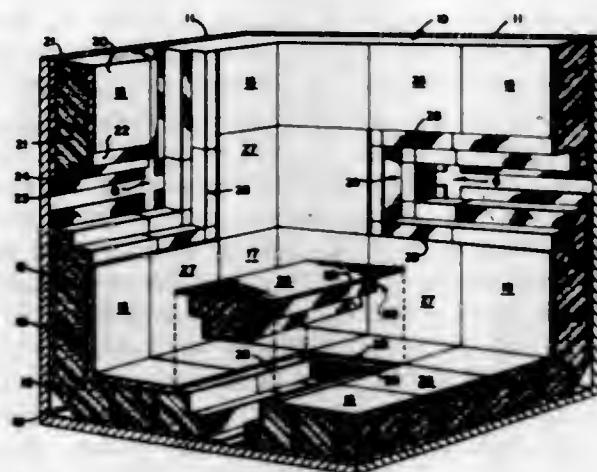


beyond the first cylinder at each end thereof and two end plates are adhered to these extensions and to the end of the first cylinder. These end plates each comprise two portions of different diameters that are co-axially superimposed and made from glass cloth impregnated with a thermosetting resin and moulded under high pressure.

3,381,843

## INSULATION SYSTEM

Charles D. Forman, Elizabeth, N.J., and John F. Reeves, Milwaukee, Wis., assignors to Esso Research and Engineering Company, a corporation of Delaware  
Filed May 6, 1966, Ser. No. 548,309  
4 Claims. (Cl. 220-9)



1. A continuous insulating barrier construction comprising

- a closed supporting structure having inner surfaces of predetermined geometric configuration;
- a plurality of insulation wall panels secured to said inner surfaces of said supporting structure;
- said wall panels having ascendingly stepped side edges defining a gridlike network of gaps therebetween;
- a plurality of insulation plug panels filling the gaps between opposed longitudinal sides of said wall panels;
- each intersection within the gridlike network being filled by an integral extension of one of said plug pieces;
- said extension engaging the ends of three other plug pieces terminating at said grid intersection;
- the innermost layer of said extension being superimposed upon the intermediate layers of said three other plug pieces and the intermediate layers of at least portions of the four wall panels defining said grid intersection.

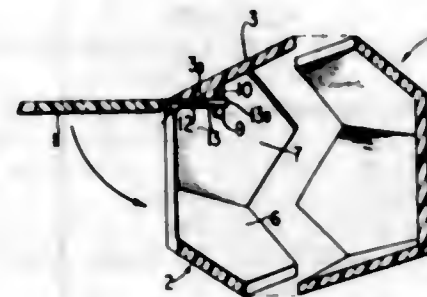
## ERRATUM

For Class 220-24 see:  
Patent No. 3,381,872

3,381,844

## DISPENSER CONTAINERS

Fredda F. S. Sieve, 4 E. 70th St., New York, N.Y. 10021  
Filed June 22, 1966, Ser. No. 559,585  
4 Claims. (Cl. 220-31)

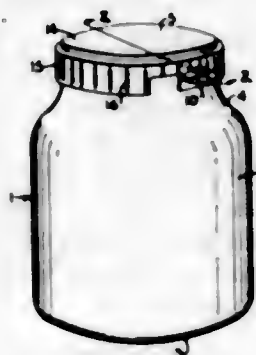


Describes a dodecahedron dispenser container having a hinged cover with the hinge mechanism contained entirely within said dispenser container.

3,381,845

## DISPOSABLE PLASTIC CONTAINER FOR SPRAY GUNS

Roderick B. MacDonald, 6309 W. 99th St., Overland Park, Kans. 66212  
Filed Jan. 3, 1967, Ser. No. 606,622  
1 Claim. (Cl. 220-40)

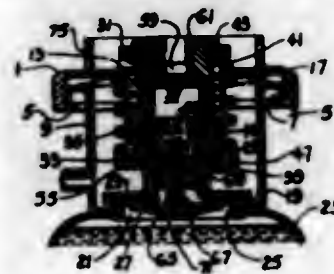


A disposable seamless container of plastic having an airtight cap and adapted to contain liquids such as paint and lacquer during shipment, storage, and mixing by shaking. The container top when the cap is removed engages standard spray guns whereby the contents are sprayed directly therefrom.

3,381,846

## RADIATOR PRESSURE CAP

Bert Lee, Mesa, Ariz., assignor to Joe S. Wells, Colorado Springs, Colo.  
Filed Feb. 7, 1966, Ser. No. 525,741  
14 Claims. (Cl. 220-44)



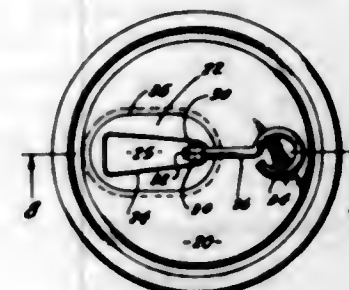
A radiator pressure cap for use with radiators having different pressure ratings in which the closure disk which engages the annular rim of the radiator inlet aperture is urged downwardly by a spring seated against the cap

cover, there being means to selectively vary the spring pressure on the closure disk to provide pressure in accordance with the pressure rating of any radiator to which the cap may be applied. The cap also includes means for selectively varying the position of the closure disk axially with respect to its supporting plunger to adapt the cap to radiators having different filler neck depths.

3,381,847

## EASY OPENING CONTAINER WITH WIRE LEVER

George F. Smyth, Los Angeles, Calif., assignor to Ermal C. Frazee, Dayton, Ohio  
Filed Mar. 4, 1965, Ser. No. 437,021  
11 Claims. (Cl. 220-54)

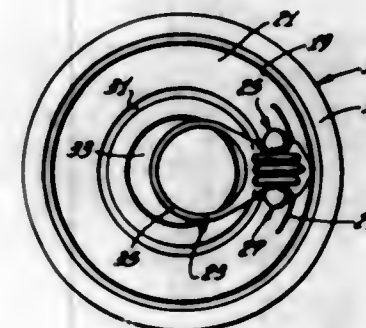


This disclosure describes an easy opening container in which a lever-like member is affixed to a tear portion by attachment means formed integrally with the tear portion. The lever-like member can be utilized as a front opening or rear opening member for removing the tear portion from the container. In a preferred form, the attachment means may include laterally deformable means.

3,381,848

## EASY-OPENING CAN END

Omar L. Brown, Dayton, Ohio, assignor, by mesne assignments, to Ermal C. Frazee, Dayton, Ohio  
Filed Oct. 5, 1966, Ser. No. 584,541  
23 Claims. (Cl. 220-54)



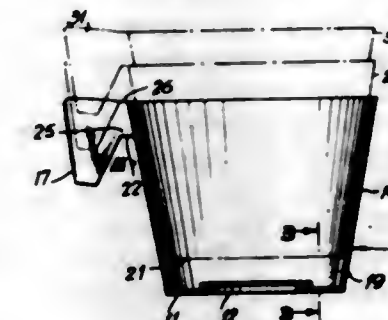
- In a container, the combination of:
  - a container wall of sheet material;
  - a first line of weakness in said container wall defining a tear strip manually removable therefrom;
  - a second line of weakness in said container wall adjacent said first line of weakness and defining a hinge, said hinge being spaced from said first line of weakness by a portion of said tear strip;
  - a tab lying at least partially within the area of said tear strip, said tab having a handle end and a force applying end with the force applying end lying at a preselected location closely adjacent said first line of weakness; and
  - means integral with said tear strip for securing said tab to said tear strip, movement of said handle end of said tab urging said force applying end firmly

against said container wall to cause hinged movement of said portion of said container wall about said hinge to initiate severance of the tear strip along said first line of weakness.

3,381,849

## STACKABLE CUPS

Karl Gosta Karlsson, Granna, Sweden, assignor to Sprinter-Pack AB, Halmstad, Sweden, a corporation of Sweden  
Filed May 26, 1967, Ser. No. 641,638  
9 Claims. (Cl. 220-97)

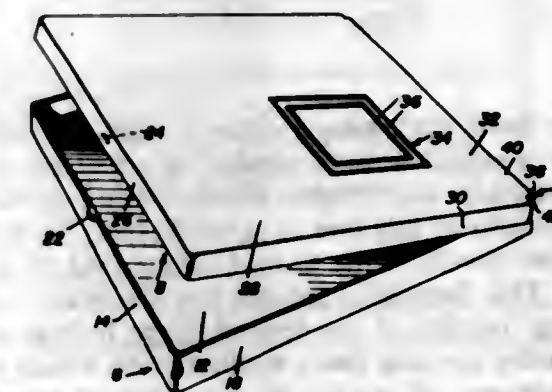


A cup or like vessel is provided with a tab handle connected to the cup by a flange extending radially from the top at one point along the brim of the cup and having a projecting teat inside and extending from the bottom of the cup and partly up the side thereof, with the teat being positioned diametrically opposite said handle of another cup inserted into the first cup for stacking and with the handle flange of the inserted cup being supported by the brim of the cup into which it is inserted at a point diametrically opposite the teat to prevent lateral tilting when a plurality of such cups are stacked together.

3,381,850

## PICTURE CONTAINER

John M. Haugen, Rte. 1, Box 236, Lake Stevens, Wash. 98258  
Filed June 3, 1966, Ser. No. 555,121  
1 Claim. (Cl. 220-31)



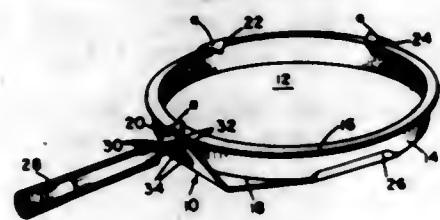
The container disclosed is expressly designed and adapted to store and protect photographic prints and negatives, if desired. It is preferably made of colorful moldable plastic material and provides a highly satisfactory container which lends itself to practical use by a photo developing and finishing establishment and which, as a general rule, is given, without extra charge, to the customer with the supply of prints contained therein. The customer accepts the protectively confined prints for placement in a garment pocket or handbag for convenient handling. Then, after the photos have served their initial purpose they can be and are replaced in the container and thus grouped and kept for subsequent viewing whenever necessary or desired.



3,381,851

**COOKING UTENSIL**

Donald J. Koneval, Warrensville Heights, Ohio  
(1912 Bromton Drive, Lyndhurst, Ohio 44124)  
Filed Oct. 18, 1965, Ser. No. 497,179  
19 Claims. (Cl. 220-85)

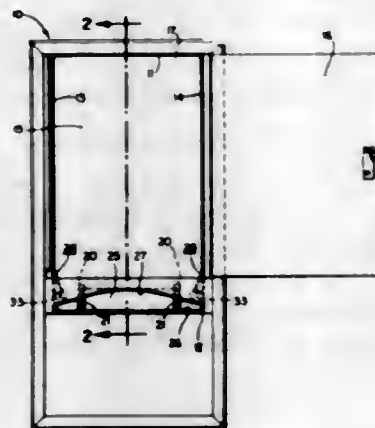


A cooking utensil adapted to support a disposable pan insert includes a metal frame comprising a plate adapted to be engaged by the bottom surface of the insert and a plurality of insert retaining members extending upwardly from the plate to restrain the insert against both lateral and vertical displacement. The retaining members are arranged to permit insertion and removal of the insert by resilient bending of the insert. Reference is made to the claims for a legal definition of the invention.

3,381,852

**PAPER TOWEL DISPENSING CABINET**

Lehman J. Bastian, Media, Pa., assignor to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania  
Filed Sept. 14, 1966, Ser. No. 579,350  
11 Claims. (Cl. 221-44)

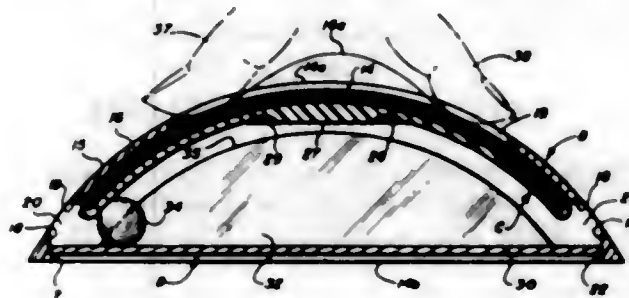


A paper towel dispensing cabinet is disclosed which incorporates in combination a number of structural features which selectively and co-operatively permit serial withdrawal of towels of any one of several types, for example, folded paper towels of the C-fold, single-fold, and multi-fold types. The dispensing cabinet has a bottom wall with a dispensing opening of the desired shape formed therein. The dispensing opening has a configuration which permits serial withdrawal of towels of a variety of types from the bottom of a stack of the towels in the cabinet when they are presented in the proper position for that type of towel. The cabinet also includes a movable back wall adapted for movement into one of a variety of fixed positions spaced relatively from the front wall which enables it to position the stack of towels in the cabinet relative to the dispensing opening in the desired manner. The dispensing cabinet also includes rear towel stack support means which are arranged to support the rear edge of the bottommost towel in the stack when the back wall is in one of its predetermined discrete positions. The cabinet also includes towel stack weight releasing means which may be selectively advanced into operative engagement with the stack of towels to reduce the weight on the bottommost towel of the stack.

3,381,853

**STRIP DISPENSER**

Edmund W. Ferris, Sinsbury, Conn., and Ronald A. Mabry, Athens, Ohio, assignors to Litton Business Systems, Inc., a corporation of New York  
Filed Nov. 22, 1966, Ser. No. 596,320  
3 Claims. (Cl. 221-63)

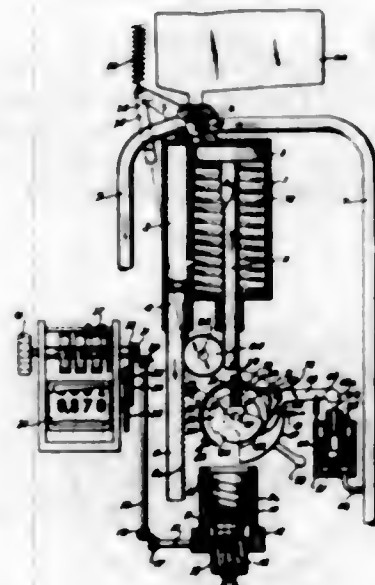


A small plastic container for holding and dispensing error correction strips or tape used by typists to obliterate typing errors, the container being so constructed and arranged that it also may be used as a toy decision maker when it is inverted and rocked upon its arcuate top surface through which the error correcting strips are dispensed.

3,381,854

**AUTOMATIC VARIABLE-VOLUME MIXING DISPENSER**

Andre Francois Blanchet, La Perreux, Seine, France, assignor to S.A.T.A.M.—Societe Anonyme pour tous Appareillages Mecaniques, La Courneuve, Seine, France, a French company  
Filed June 3, 1966, Ser. No. 555,145  
Claims priority, application France, June 9, 1965, 20,128  
7 Claims. (Cl. 222-2)



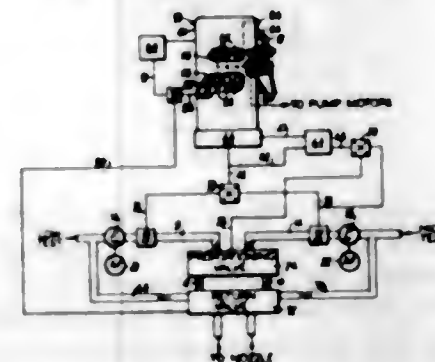
There is disclosed apparatus for dispensing, in exchange for a coin of fixed denomination, a volume of a liquid such as gasoline, the volume dispensed varying inversely with an adjustable price per unit volume. In this apparatus, acceptance of a coin permits a piston to be lowered in a cylinder until the piston or a member coupled thereto brings up against a stop which is coupled to a movable price per unit volume indicating mechanism. The higher the price per unit volume set on this mechanism, the shorter the stroke permitted by the stop to the piston and hence the less the cylinder is permitted to fill with liquid before, on rise of the piston, the contents of the cylinder are delivered to the purchaser. The coupling of the price indicating mechanism to the stop may be hyperbolic, permitting linear calibration of the price indicating means. Valve means connect the cylinder to a supply line during descent of the piston and to a delivery line on rise thereof. A second cylinder is provided having a piston therein

coupled through a variable ratio drive to the piston in the first cylinder, so as to rise when the first piston falls and vice versa, and further valve means connect the second cylinder to a second supply line and to the first cylinder while the second piston falls and rises respectively. In this way oil can be added in an adjustably fixable proportion to the gasoline dispensed, as for use in two stroke cycle gasoline engines.

3,381,855

**DISPENSING APPARATUS HAVING FLUID RETURN STAGE**

Arthur J. Wells, Bloomfield, Conn., assignor to Veeder Industries Inc., Hartford, Conn., a corporation of Connecticut  
Filed Dec. 22, 1966, Ser. No. 603,804  
8 Claims. (Cl. 222-33)

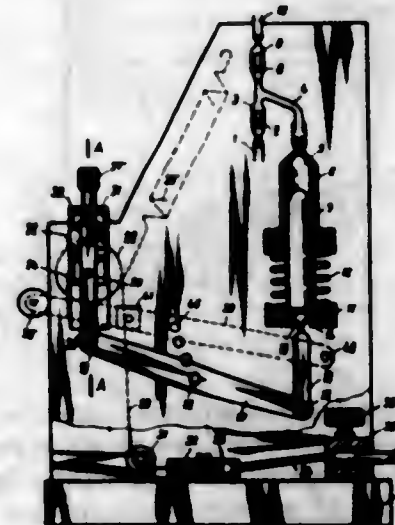


1. In an apparatus for dispensing preselected blends of two fluids having a separate flow line for each fluid and a common discharge nozzle in communication therewith, each flow line including a pump and a flow meter downstream of the pump, and an adjustable proportioning valve operated by the meters for controlling the delivery of each fluid to the nozzle in variable proportions in accordance with a predetermined flow rate ratio, the improvement comprising a fluid return stage in communication with each flow line and having flow control means for closing off fluid to the nozzle and returning the same upstream of the pumps to permit adjustment of the proportioning valve effecting said predetermined flow rate ratio before fluid is delivered to the nozzle in a dispensing operation.

3,381,856

**DEVICE FOR THE REPETITIVE METERING OF EXACT QUANTITIES OF LIQUIDS**

Jiri Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia  
Filed Mar. 29, 1967, Ser. No. 626,815  
6 Claims. (Cl. 222-48)

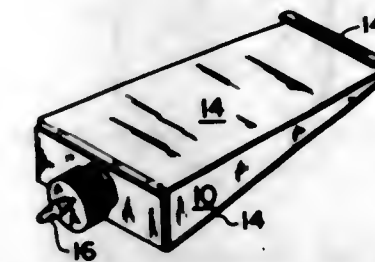


In a device for repetitively dispensing predetermined amounts of liquid which are first drawn from a source of

3,381,857

**SELF-DISPENSING CONTAINER**

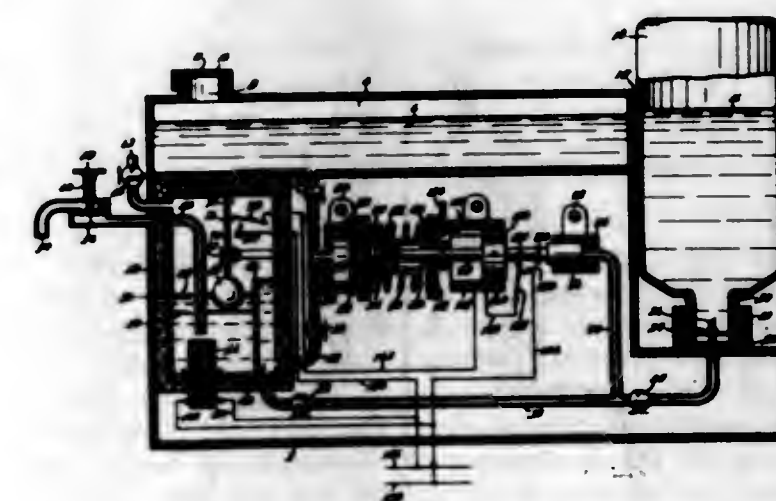
Seseen Francis, P.O. Box 92, Parkersburg, W. Va. 26101  
Filed May 8, 1967, Ser. No. 636,856  
7 Claims. (Cl. 222-100)



A self-dispensing container with sides that coil with sufficient force to discharge the contents therefrom, generally a fluid or paste material, and having a valve cap to control the discharge of the fluid or paste material.

3,381,858

**PLURAL SOURCE LATHER DISPENSER WITH SINGLE DISCHARGE ASSISTANT**  
Harold H. Snider and John H. Snider, Osceola, Mo., assignors to Lather-Rite, Inc., Osceola, Mo., a corporation of Missouri  
Filed May 1, 1967, Ser. No. 635,060  
10 Claims. (Cl. 222-136)



This application discloses a lather producing machine consisting of a mixing chamber which is normally sealed and into which a liquid soap and a liquified gas are introduced and wherein they are intermingled, the liquified gas maintaining in said chamber a pressure sufficient to maintain the mixture in liquid form. When the mixture is allowed to escape from said chamber through a suitable spout, the immediate transfer of said liquid gas to a vapor state instantly produces bubbles converting the soap to lather form. The liquid soap and liquid gas are replenished when required from suitable reservoirs by a pumping device. The pumping device is of a construction insuring delivery of the soap and liquid gas to the mixing chamber



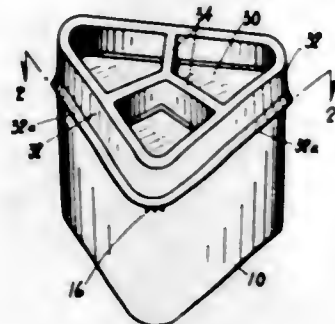
reliably in predetermined proportions, but includes means for adjusting these proportions to vary the "richness" of the lather as desired.

3,381,859

**TRIPLE CONDIMENT SHAKER**

Kou C. Yao and Anna Yao, both of 11841 Wagner St., Culver City, Calif. 90230  
Continuation-in-part of application Ser. No. 563,242, July 6, 1966. This application July 10, 1967, Ser. No. 652,282

4 Claims. (Cl. 222—142.4)



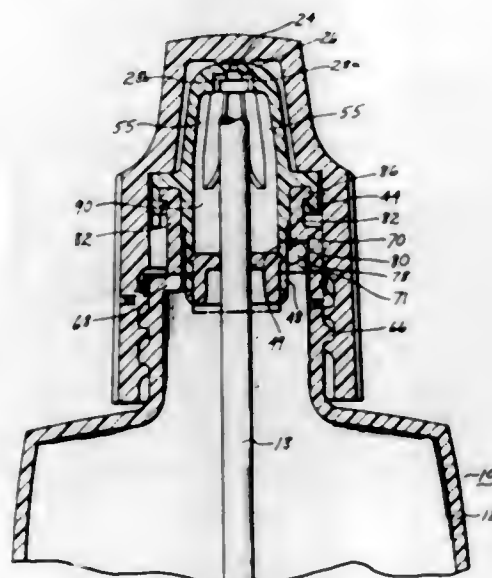
A triangular shaped shaker-type holder for granular condiments is described in the following specification, the holder being constructed so that several different condiments may be housed in a single holder and independently dispensed therefrom.

3,381,860

**VARIABLE INTENSITY SPRAY DISPENSER**

Donald F. Armour, Bloomfield, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
Continuation-in-part of application Ser. No. 491,547, Sept. 30, 1965. This application Dec. 30, 1966, Ser. No. 606,183

10 Claims. (Cl. 222—211)



A dispenser for a flexible walled container, having a discharge orifice capable of emitting variable intensity sprays, by means of the cooperation between air restricting means associated with the container neck, and an opening in the rotary neck plug. On squeezing the container, air passes through the opening into a mixing chamber in the plug where it is mixed with liquid entering the chamber through another inlet, and then emitted as a spray through the discharge orifice. Spray intensity is varied by moving the plug to change the size of the air opening, as defined by the extent of its obstruction by the restricting means.

**3,381,861  
GUN FOR APPLYING ADHESIVES TO SURFACES**

Roy H. Stein, 3920 Zephyr St., Wheat Ridge, Colo. 80033  
Filed July 6, 1966, Ser. No. 563,180  
4 Claims. (Cl. 222—256)



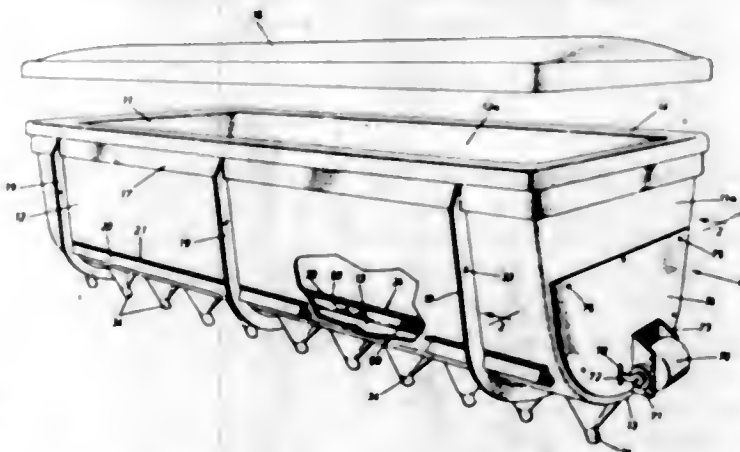
A gun for applying adhesives to surfaces either in spaced apart spots or in continuous strips on surfaces, provided with means for preventing oozing of the compound out of the applicator orifices between spot applications and at the end of the applying operation. The gun comprises a hollow tube or casing, a compound cartridge releasably positioned in the casing, a hollow elongated vertical handle communicating with the casing, a plunger tube slidable in the vertical handle and a plunger rod slidable in the plunger tube, the plunger tube being accessible through the vertical handle, the rod being provided with a horizontal handle on its upper end and a foot on its lower end extending into the compound cartridge. The gun includes means on the vertical handle and plunger tube for moving the tube downwardly so the foot bears on the compound, and manually operable means for releasing the plunger tube to prevent oozing of compound.

3,381,862

**FERTILIZER DISTRIBUTING DEVICE**

Edwin M. Selzler, 3410 31st St. SW., Calgary, Alberta, Canada  
Continuation-in-part of application Ser. No. 435,523, Feb. 26, 1965. This application Feb. 15, 1967, Ser. No. 628,196

14 Claims. (Cl. 222—276)

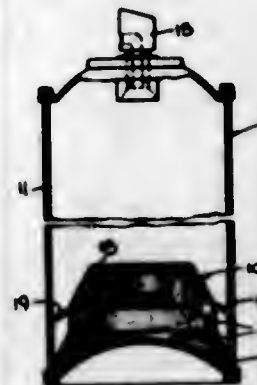


A granular fertilizer distributing apparatus having a storage hopper and metering mechanism powered independently of the implement to which the apparatus is attached. A plurality of metering units in the hopper base operate with a high speed, short stroked reciprocatory motion to displace fertilizer from the hopper into downwardly depending delivery spouts. Rate of delivery is controlled by control of stroke length.

**3,381,863  
SEPARATING MEDIUM FOR USE IN PRESSURIZED DISPENSING CONTAINERS**

Edward J. Towns, 53 Mountaven Drive, Livingston, N.J. 07039  
Continuation-in-part of application Ser. No. 456,034, May 4, 1965. This application May 23, 1966, Ser. No. 560,361

16 Claims. (Cl. 222—386.5)

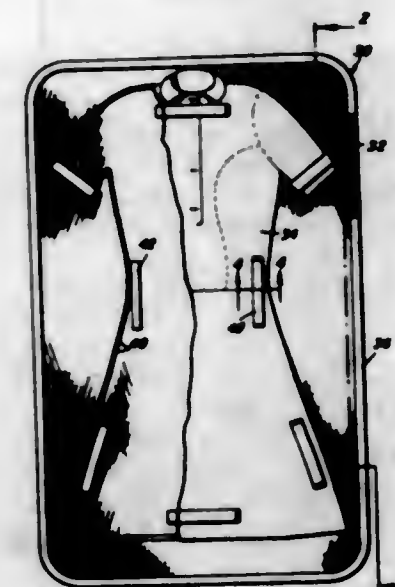


This invention relates to a new and improved separating medium for use in pressurized dispensing containers and more particularly to a new and improved separating medium for use in pressurized dispensing containers in which the propellant is separated from the goods to be dispensed.

3,381,864

**CLOTHES DRYING APPARATUS**

Rhea V. Shields, Macomb, Ill.  
(155 N. Gardner St., Scottsburg, Ind. 47170)  
Filed Mar. 22, 1965, Ser. No. 441,717  
11 Claims. (Cl. 223—69)



Apparatus for drying clothes in conjunction with a sizing and shaping of the garment or garments involved. The apparatus includes a foraminous drying rack upon which a garment is positioned, in conjunction with keepers for engaging and securing the garment to the rack, which keepers engage the garment about the periphery thereof in a manner so as to retain the shape and size of the garment during the drying process. The keepers can be in the nature of cooperating magnetic elements, individual clips, or spring-biased garment clamping arms. A drying cabinet is provided for the reception of one or more racks with the cabinet incorporating an internal arrangement whereby a free flow of air through the racks and the retained garments is achieved.

3,381,865

**COMBINED NECKTIE HANGERS AND HOLDERS**

Harold T. Pehr, 637 E. 72nd Terrace, Kansas City, Mo. 64131  
Filed Dec. 24, 1964, Ser. No. 421,066  
11 Claims. (Cl. 223—87)

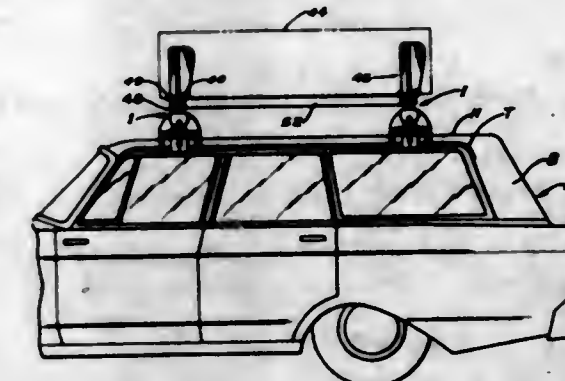


1. A necktie holder, formed of a single sheet of plastic or other sheet material, comprising a shirt button-engaging member consisting of a loop, an opening formed in said loop, an arm downward depending from said loop, a second loop at the lower end of said arm and an opening formed in said second loop; and a tie holder member extending downward from said second loop.

3,381,866

**DETACHABLE LUGGAGE RACK**

Charles E. Wickett, 1274 Twinsburg Road, Macedonia, Ohio 44506  
Filed Dec. 1, 1966, Ser. No. 598,274  
6 Claims. (Cl. 224—42.1)



The preferred embodiment of the luggage rack of the present invention comprises a forward unit and a rearward unit, each in the form of a cross bar rigidly supported at its opposite ends on supports which are clamped in weight transmitting relation to the drain troughs on an automobile top. The rack is characterized principally by the means for clamping the supports to the troughs so that the supports are drawn tightly in place in selected positions and reinforced against deflection or sway laterally of the top; by the provision of lateral baggage retainers which can be slid onto and off of the cross bars over the ends thereof while the cross bars remain installed on the top, and can be secured in adjusted position both axially and circumferentially of the cross bars for snugly and firmly securing the luggage against lateral displacement; a tie bar extending fore and aft of the automobile and having supporting collars which can be slid onto and off of the cross bars over the ends thereof while the cross bars remain installed on the automobile top, and can be secured firmly in place in any adjusted position axially of the cross bars, and which, when installed, prevent lifting of the tie bar off of the cross bars; and a post device connected to the tie bar and receivable through the cen-



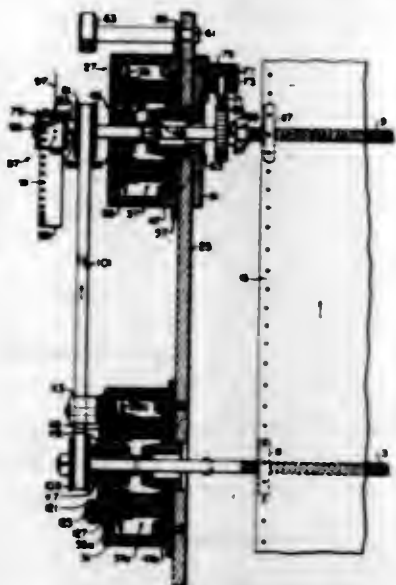
tral opening of a rim and connectable to cooperable clamping means for securing the rim and its attached tire onto the tie bar and at least one of the cross bars.

3,381,867

### PAPER FEED DRIVE SYSTEM FOR HIGH SPEED PRINTERS

Joseph Koukel, Lynnfield, Mass., assignor, by mesne assignments, to Mohawk Data Sciences Corporation, East Herkimer, N.J., a corporation of New York

Filed Oct. 14, 1965, Ser. No. 496,029  
11 Claims. (Cl. 226-9)



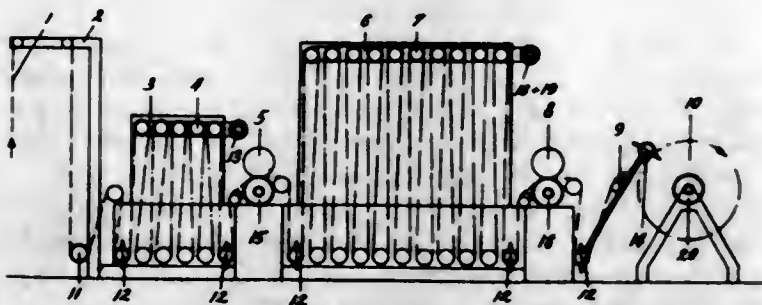
This invention relates to a paper feed drive indexing mechanism having individual drive motors coupled to opposite ends of a feed-sprocket shaft. The rotation of the motors is controlled by indicia carried by an auxiliary tape which is driven in synchronism with the feed sprocket shaft.

3,381,868

### DRIVE FOR DEVICES TREATING MOVABLE LENGTHS OF MATERIALS

Helmuth Vogeler, Harburg, Germany, assignor to Artos Dr. Ing. Meier-Windhorst K.G., Hamburg, Germany, a corporation of Germany

Filed May 6, 1966, Ser. No. 548,142  
Claims priority, application Germany, May 26, 1965,  
A 49,315  
9 Claims. (Cl. 226-25)



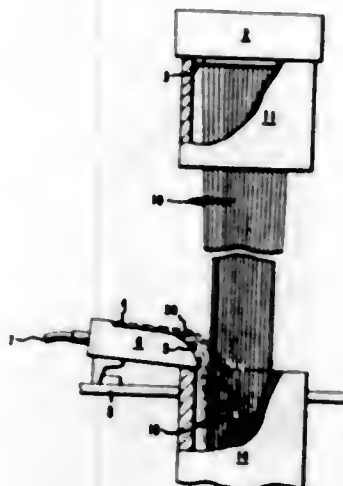
1. A drive for devices treating movable lengths of materials, comprising in combination with a plurality of different sections differently treating a length of material passing through said sections, a plurality of rollers guiding said length of material through said sections and movable depending upon contractions or extensions of said material caused by treatments in said sections, a plurality of hydraulic drives in said sections, each of said drives comprising an oil motor and a bypass connected with said motor and with one of said rollers, the effective cross-section of said bypass being varied by the movement of said one roller to vary the flow of oil and thereby regulate the speed of said oil motor.

3,381,869

### SUCTION THREADER

Drexel Kermit Smith, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 12, 1966, Ser. No. 572,060  
8 Claims. (Cl. 226-97)



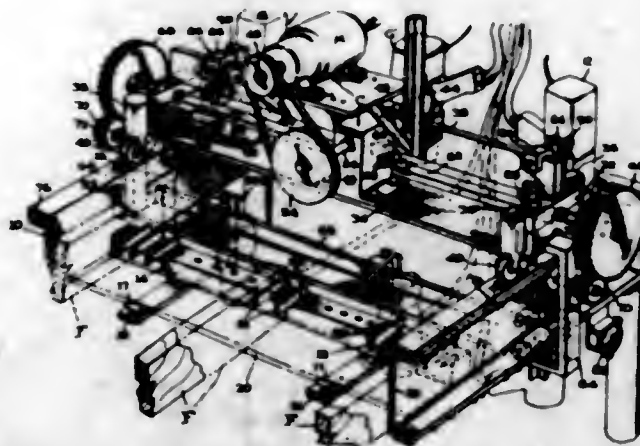
1. In a process for starting filaments through a conveying tube with a high-velocity stream of gaseous fluid from a jet device, the improvement of locating the jet device away from the central axis of the tube at a distance greater than that of the periphery of the tube, jetting the gaseous stream in a direction passing across and above the mouth of the tube, flowing the stream across an unenclosed, smoothly-contoured, solid surface curving gradually to the mouth of the tube from the jet device to cause the stream to follow the curved surface and pass through the tube, and positioning the filaments in the vicinity of the mouth of the tube to be pulled through the tube by the gaseous stream.

3,381,870

### AUTOMATIC NAILING AND STAPLING MACHINE

Leo M. Haskins, 1400 Washington St., Key West, Fla. 33040

Filed Apr. 28, 1967, Ser. No. 634,604  
5 Claims. (Cl. 227-3)



An automatic nailing or stapling machine comprising in combination an elongated table means for supporting a plurality of different work components to be fastened together; selective adapter jig means longitudinally attachable to said table means for removably retaining the work components in a predetermined intersecting assembly relationship; carriage means mounted on said table and including selective drive means associated therewith for effecting longitudinal two way travel of the carriage along

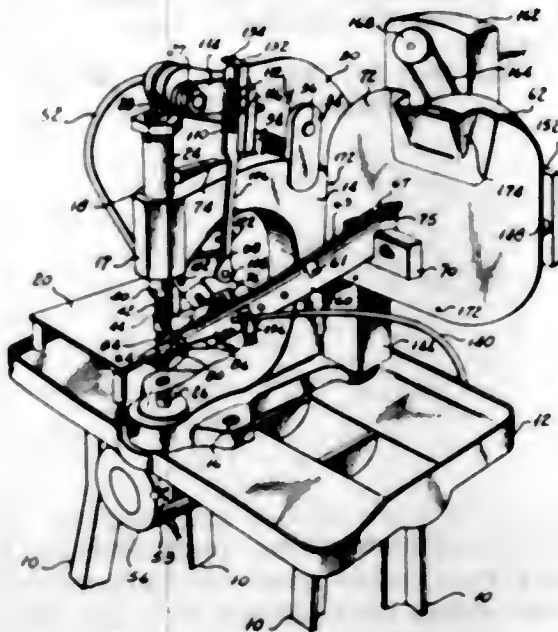


said table; automatic fastener means adjustably mountable in association with the carriage means both above and/or below said work components on the table means for effecting automatic fastening together of the pre-arranged work components responsive to predetermined travel of the carriage over said work components; and means for automatically discharging the completely fastened work components from said machine.

3,381,871

**TRIMMING MACHINE**

Bernard D. Chalfin, Tenafly, and Richard J. Peterson, Paramus, N.J., assignors to C. & C. Button & Trimming Co., Inc., New York, N.Y., a corporation of New York  
Filed Oct. 23, 1965, Ser. No. 503,663  
18 Claims. (Cl. 227-118)



Apparatus for automatically applying pronged decorative elements of material in which the elements are tumbled by vanes in a rotating hopper onto an inclined ramp along which they slide to an escapement lever which feeds them one by one to a pivoted holder, which supports an element in a position between a reciprocating ram and an upsetting die over which the work is placed. A vacuum pump connected to an axial bore in the ram produces a reduced pressure within a movable sleeve on the end of the ram to permit the ram to pick up an element from the holder and then drive the element prongs through the work and into the upsetting die. A parallel motion work-holding frame and template arrangement advantageously facilitates attaching the elements to the material in a predetermined pattern.

3,381,872

**SANITARY PACKAGES**

Lyman D. Holder, Bridgeview, Ill., and Thomas J. Mohs, Madison, Wis., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
Filed May 18, 1966, Ser. No. 550,990  
10 Claims. (Cl. 220-44)

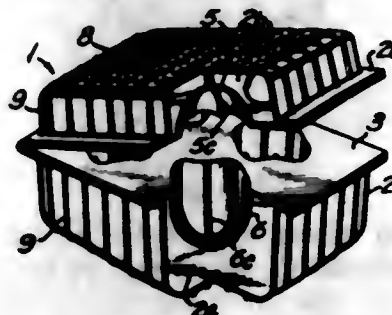


A container and sealably fitted lid having means for permitting escape of entrapped gas while the lid is fitted into the top of the container.

3,381,873

**PLASTIC EGG CONTAINER**

Kashichi Hirota, 691 Sanda-Higashi-cho, Hachioji-shi, Tokyo, Japan  
Filed Mar. 2, 1966, Ser. No. 531,165  
Claims priority, application Japan, Aug. 31, 1965, 40/71,405  
7 Claims. (Cl. 229-2.5)



This is a container having oppositely disposed airtight chambers with cavities for completely enclosing an egg. The cavities have protuberances for resiliently holding the egg off the walls thereof.

3,381,874

**SEAL-A-BAG**

Ann I. Russo, 50 Laurel St., Carbondale, Pa. 18407  
Filed June 16, 1966, Ser. No. 558,133  
1 Claim. (Cl. 229-7)



1. A bag for storing dry cereals and similar products, comprising, in combination, a flexible inner container, a flexible outer container, said outer container sealingly enclosing said inner container, said inner container being provided with an opening therein, said opening being adjacent one corner of said inner container, a flexible funnel formed around said opening of said inner container, said funnel extending outwardly of said inner container, said funnel being contained within said outer container, said outer container including an opening which is in concentric relationship to said funnel formed around said opening of said inner container, and a removable spout member adapted to be supported within said funnel for providing support to said funnel during the pouring out of a content of dry cereal or the like from said container, a cover member being secured at its one edge to said outer container and being provided to close said opening of said outer container, said funnel comprising a circular configured collar that is of substantially identical length with said spout member, said spout member comprising a circular configured member adapted to be snugly fitted within the inner walls of said funnel, said spout member being provided with a pair of oppositely positioned flaps along one edge, said flaps serving as handles for removal thereof from said funnel, each of said flaps being relatively smaller in length around said edge of said spout member than the length of said edge therebetween, and said spout member being made of a sufficiently flexible body for sealingly closing said opening of said inner container.







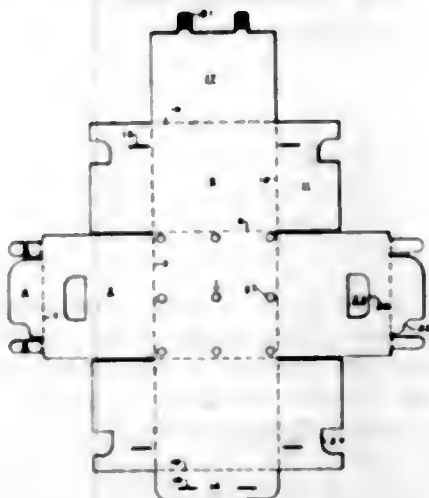
method of making the case, a blank is stamped out from sheet plastic material, and the details such as the flaps, the raised cushion portions, the drainage openings and the handle opening may be formed during this stamping step. The side walls are folded upwardly, the top flaps are folded about the reinforcing hoop, and the corner flaps are folded about the corners of the case. The flaps are secured to the side walls of the case to complete the case.

3,381,880

## CARTON BLANK

John V. Lewallen and Robert A. Carle, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 1, 1966, Ser. No. 569,166  
4 Claims. (Cl. 229-36)



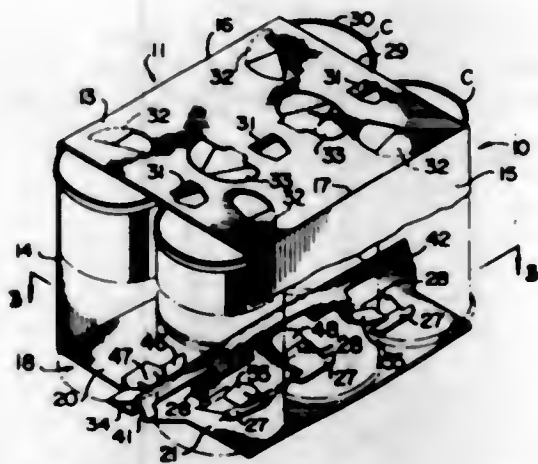
A blank formed from a single sheet of material foldable into a self-supporting box to receive a plurality of articles is assembled without the use of external fasteners. The box comprises a bottom panel, exterior end panels, side panels, interior end panels, and interior top panel and flaps cooperating to provide a single thickness of material overlying the articles in the box, and an exterior top panel.

3,381,881

## CARTON

Henry Ganz, Teaneck, and Harry J. Rossi, Parsippany, N.J., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Jan. 18, 1967, Ser. No. 610,145  
14 Claims. (Cl. 229-40)



This disclosure relates to a carton having a terminal panel which is interlocked with another terminal panel to form a wall of the carton which opposes ends of cans disposed in two rows. The one terminal panel is constructed to provide a rib which extends between the rows of cans and is configured to interlock with the cans. In addition, the one terminal panel is provided on opposite sides of the rib with reversely folded flaps receivable

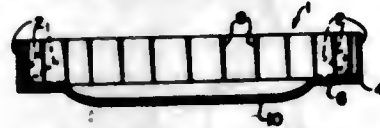
within the recessed ends of the cans and interlockable therewith to cooperate with the rib in locking the cans in fixed positions within the carton.

3,381,882

## PLATE WITH COLLAPSIBLE PERIPHERAL FLANGE

Barbara Van Nostrand, Levittown, N.Y., assignor of fifty percent to Helen Ahern, Levittown, N.Y.

Filed Aug. 30, 1966, Ser. No. 575,988  
3 Claims. (Cl. 229-41)



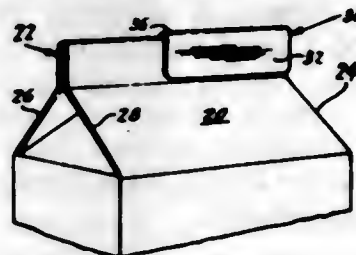
A plate for carrying food having a base and a collapsible flange portion, the latter being flexibly extended from the peripheral edge of the base, said flange portion being movable between a first position parallel with respect to said base and an at least 90° upright second position with respect thereto, said flange portion being of one-piece construction and being foldable to permit movement of said flange portion between said first and second positions.

3,381,883

## SANI-SEAL BOX CLOSURE CLIP

Claud H. Harris, 3440 Fulton Ave., Space 66, Sacramento, Calif. 95821

Filed Aug. 11, 1966, Ser. No. 571,799  
4 Claims. (Cl. 229-47)



A closure clip for milk cartons and the like which is in the form of a substantially rigid partially resilient U-shaped member having substantially parallel side walls connected by a bight portion and being in length approximately one-half the length of the milk carton with which it is designed to be used and including a pair of mating parallel ridges internally of the U-shaped member having rounded edges for sliding along and gripping the sealable edges of the milk carton and exerting pressure only along two linear points on the milk carton is disclosed.

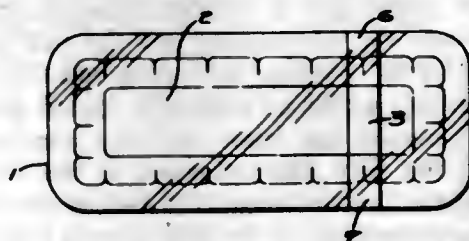
3,381,884

## PACKAGES

Michael John Herritty, Haywards Heath, near Lindfield, England, assignor to Monsanto Chemicals Limited, London, England, a British company

Filed Apr. 14, 1966, Ser. No. 542,556  
Claims priority, application Great Britain, June 16, 1965, 25,421/65

2 Claims. (Cl. 229-51)



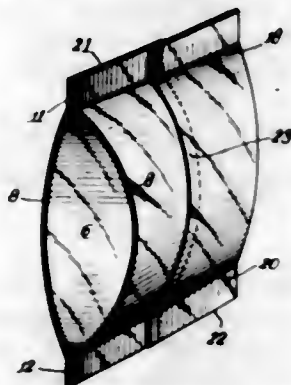
A package having a closure of sheet thermoplastic which is folded back on itself to form a line of weakness for easy opening.



**3,381,885**  
**SEMIRIGID BAG OR POUCH AND**  
**BLANK FOR SAME**

Oscar E. Seiferth and Glenn M. Austin, Madison, Wis.,  
 assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a  
 corporation of Illinois

Filed July 3, 1967, Ser. No. 650,994  
 8 Claims. (Cl. 229—53)



Generally flat and rectangular blanks of formable sheet material are scored inwardly from a pair of opposite sides or edges with outlines corresponding to end wall panel portions, the upper and lower extremities of which lies within the borders of the blank. In use each blank is folded so that the scored outline portions become the end wall panel portions of a semirigid self-sustaining container having upper and lower flap portions formed by overlapping the sheet material. In a preferred embodiment, the blanks are formed of relatively stiff heat sealable plastic sheet and aligned vertical fold score lines extend from the top and bottom extremities of each end wall panel-forming portions which are vertically elongated. The semirigid containers formed from the blanks are ideally suited for packaging fragile items such as potato-chips, corsages and the like.

**3,381,886**  
**HEAT SEALABLE BAGS**  
 Luigi Goglio, 10 Via Solari, Milan, Italy  
 Filed July 26, 1966, Ser. No. 567,912  
 7 Claims. (Cl. 229—57)



A thermoplastic bag made of a heat-sealable material such as polyethylene. The bag has front and rear substantially coextensive panels each provided with a pair of opposed side edges and a bottom edge extending transversely between the side edges, and the bag has between the front and rear panels, extending inwardly from the side edge thereof, a pair of inwardly folded gussets which are situated between the front and rear panels and which extend along the side edges thereof to the bottom edges thereof. At these bottom edges the bag is provided with a bottom seam extending all the way across the bottom end of the bag and having a substantially uniform thickness along its entire length. This uniform thickness is achieved by situating between the front and rear panels along the

bottom edges thereof and between the inwardly folded gussets directly next to the latter a shim of heat-sealable material which has a thickness equal to the thickness of the gussets so that in this way the bag is provided along its entire bottom end with a uniform thickness so that when the seam is formed it will have a uniform thickness.

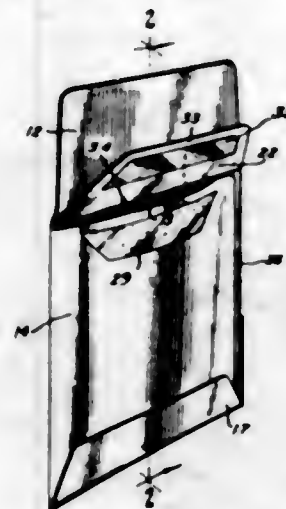
**3,381,887**  
**SEALING PATCH VALVE FOR PLASTIC BAGS**  
 John C. Lowry, Trumbull, Conn., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Apr. 14, 1967, Ser. No. 630,931  
 1 Claim. (Cl. 229—62.5)



A plastic bag has a slot in one panel which is covered on the exterior by a thin plastic patch which is sealed to the panel along the bottom of the patch and along one side parallel to the slot. An internal patch is placed over the slot and is sealed along its bottom and top to the panel and along the side of the slot opposite to the side sealed to the outer patch. A channel is then formed between the outer panel and the interior surface of the outer patch which leads to the slot with this channel continuing through the slot between the interior surface of the panel and the interior surface of the inner patch to the interior of the bag. When the bag is filled through this filling slot, the patches will crumble to close the slot and prevent sifting of the material from the bag.

**3,381,888**  
**ENVELOPELIKE CONTAINER FOR**  
**PAPER AND COINS**  
 Carl W. Schleutermann, Harwood Heights, Ill., and Herman L. Lewis, Jr., Detroit, Mich., assignors to Arvey Corporation, a corporation of Delaware  
 Filed Oct. 3, 1966, Ser. No. 583,765  
 5 Claims. (Cl. 229—72)



An envelope-like container made of a single blank comprising a pocket for coins that may be sealed after the coins are inserted, and an open top recess for papers such as a bank book, checks, currency, and a deposit slip. The open top recess is cut away along one edge to facilitate access to the recess. The container is particularly designed for use by depositors at drive-in banks, and makes it easy for the teller to handle deposits.



3,381,889

**GIFT WRAPPING**

Frederick H. Laskow, 801 Chambers St.,  
Ottawa, Ill. 61350  
Filed Feb. 4, 1966, Ser. No. 525,252  
1 Claim. (Cl. 229—87)

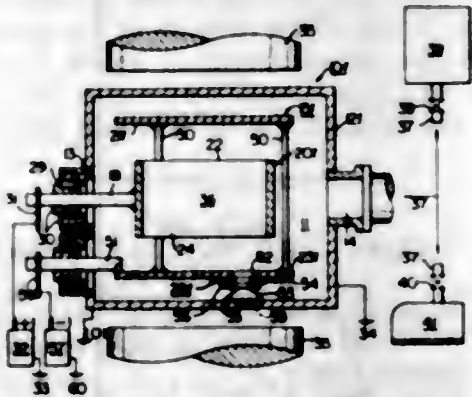


This disclosure relates to gift wrappings for boxes, which wrappings are flat prior to use and which are entirely complete in and of themselves, requiring no additional materials such as tying or separate adhesive means.

3,381,890

**VACUUM APPARATUS**

Chikara Hayashi, Yokohama-shi, Japan, assignor to Nihon Shinku Gijitsu Kabushiki Kaisha (Japan Vacuum Engineering Co., Ltd.), Yokohama, Japan  
Filed Dec. 29, 1965, Ser. No. 546,108  
Claims priority, application Japan, Dec. 30, 1964, 39/74,583; Jan. 8, 1965, 40/590  
4 Claims. (Cl. 230—69)

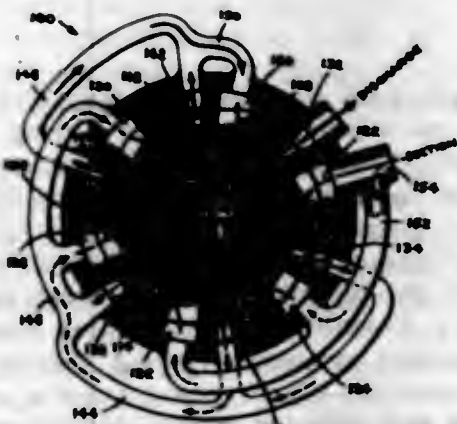


In a glow discharge vacuum apparatus characterized by electrodes disposed in a magnetic field for the ionization of traces of gas contained therein, the provision of a radioactive energy emitting body to accelerate ionization in said device, a target for said emissions, said target, when struck by said emissions, being adapted to emit into the system emissions of an energy lower than the energy of the emissions from the radioactive body.

3,381,891

**MULTI-CHAMBER ROTARY VANE COMPRESSOR**

Friedrich O. Bellmer, East Orange, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware  
Filed Mar. 2, 1966, Ser. No. 531,228  
14 Claims. (Cl. 230—152)



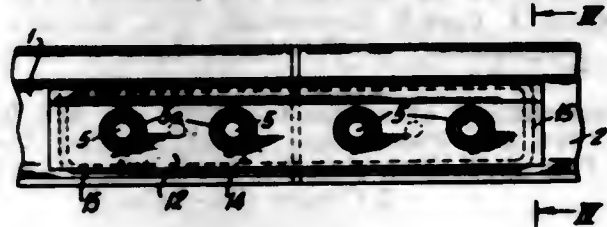
A rotary sliding vane compressor having multiple compression chambers circumferentially spaced within the

rotor housing with groups of chambers serially connected to provide pressure staging.

3,381,892

**RAIL JOINT CONSTRUCTION**

Jacob A. Eisses, Bilthoven, Netherlands, assignor to Elektro-Thermik G.m.b.H., Essen, Germany  
Filed Apr. 8, 1965, Ser. No. 446,557  
Claims priority, application Germany, Apr. 8, 1964, N 24,755  
1 Claim. (Cl. 238—159)

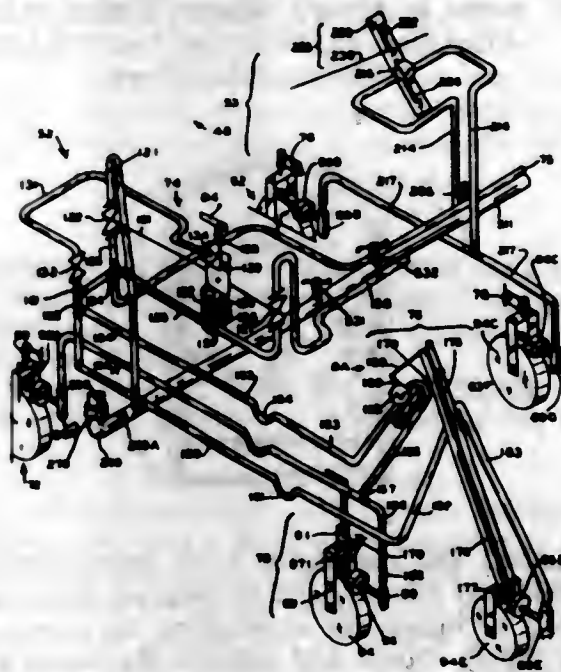


An insulating rail joint for two end-to-end abutting rails includes a metallic fishplate arranged on respective sides of the rails between the rail head and the rail foot and they are clamped to the rails by tension bolts which extend completely through the web of the rails and each fishplate. In accordance with the invention, the joint may be easily made by applying a cold-hardening paste of insulating material to the web of the rail and the underlying part of the rail head and the overlying part of the foot of the rails. A feature of the construction is that the fishplates include grooves which extend completely along the tops, sides and bottoms thereof in a continuous or endless path. A resilient rod of a material such as plastic is disposed in the groove of each fishplate at a location to bear upwardly against the rail head at the tops of the fishplates and outwardly against the rail foot at the bottoms of the fishplates, and a complete endless rod is pressed against the rail on both tops, bottoms and sides in order to form a seal to seal the paste within the fishplate area. An advantage of such construction is that immediately after the plates are applied to form the rail joint, the paste within the joint becomes sealed therein and the rails may be used without waiting for the hardening of the paste.

3,381,893

**IRRIGATION APPARATUSES AND PROCESSES**

Frank J. Smith, Jr., and Jarrell Lee Smith, both of San Jon, N. Mex. 88434  
Filed July 18, 1966, Ser. No. 565,931  
9 Claims. (Cl. 239—1)



3. A process of sprinkling the field by a traveling sprinkler pipe comprising the steps of passing irrigation



water through a first fixed pipe extending the length of the field to be irrigated, and, therefrom, into a second pipe pivoted to and hydraulically connected to a third movable pipe, applying pressure between said second and third movable pipe to rotate said second pipe relative to the third pipe and to move both ends of said third pipe and one end of said second pipe in the same direction of movement as said sprinkler pipe.

3,381,894

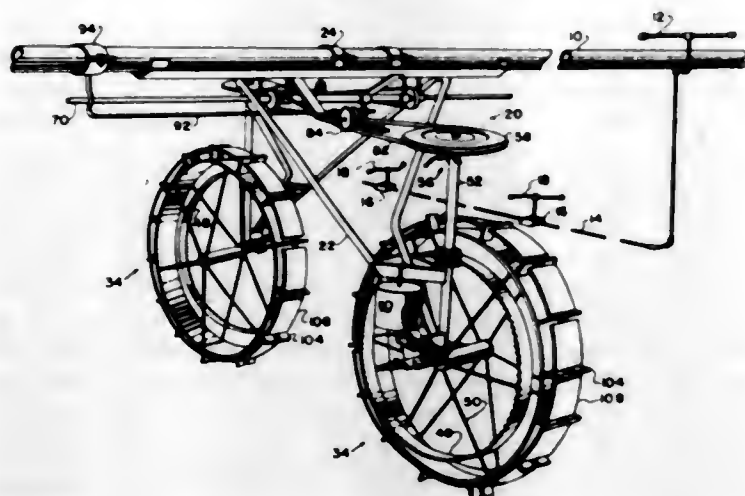
# METHOD OF ALIGNING IRRIGATION SYSTEM

Rufus J. Purtell, Brownfield, Tex., assignor, by mesne assignments, to Tri-Matic, Inc., a corporation of Texas

Continuation of application Ser. No. 338,768, Jan. 20, 1964, now Patent No. 3,245,595, dated Apr. 12, 1966.

This application Feb. 11, 1966, Ser. No. 526,867

2 Claims. (Cl. 239-1)



An agricultural system moves an overhead sprinkler pipe by a plurality of wheeled vehicles. Each vehicle is driven by a shaft extending the full length of the pipe from one vehicle to the other. Misalignment is detected by a stiff arm and if a vehicle is misaligned, a variable-diameter sheave upon the drive shaft is adjusted to have a greater or lesser diameter so that the particular vehicle will be driven at a higher or lower speed to enable the vehicle to return to alignment.

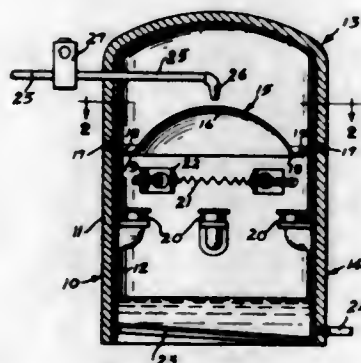
3,381,895

# METHOD AND MEANS FOR UTILIZING TRANSDUCERS TO BREAK UP LIQUIDS INTO MINUTE PARTICLES

Orrin H. Thomas, Tloga, Pa., assignor, by mesne assignments, to Alvin J. Nassar, Elmira, N.Y.

Filed Dec. 21, 1965, Ser. No. 515,431

4 Claims. (Cl. 239-4)



A method and means for using transducers to break up liquids into minute particles wherein there is provided a method or means for controlling the supply of liquid from a supply source and wherein the liquid supply and actuation of the transducers are timed to correspond or coact with each other.

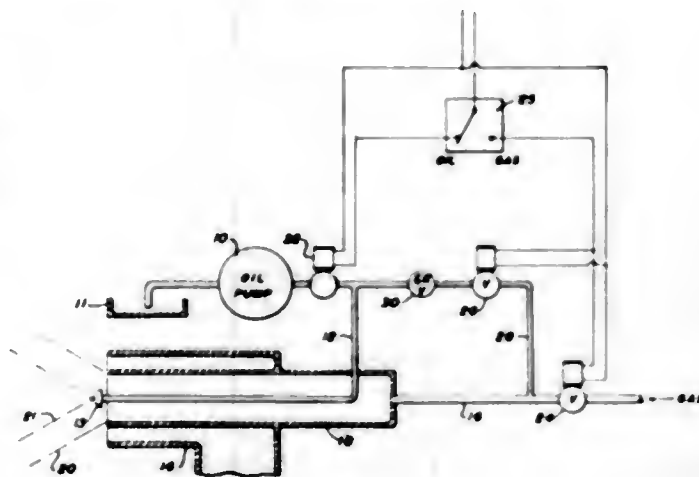
3,381,896

# SYSTEM FOR PURGING NOZZLES IN DUAL FUEL BURNERS

Harry K. Winters, San Rafael, Calif., assignor to Ray Oil Burner Co., San Francisco, Calif., a corporation of Nevada

Filed Sept. 24, 1965, Ser. No. 489,969

3 Claims. (Cl. 239-112)



A system for use with burners in furnaces or boilers which operate on either oil or gas to overcome the problem caused by oil which remains in the nozzle and the line leading thereto when operation on oil is terminated and operation on gas is commenced which includes means for directing gas through the oil line and the nozzle.

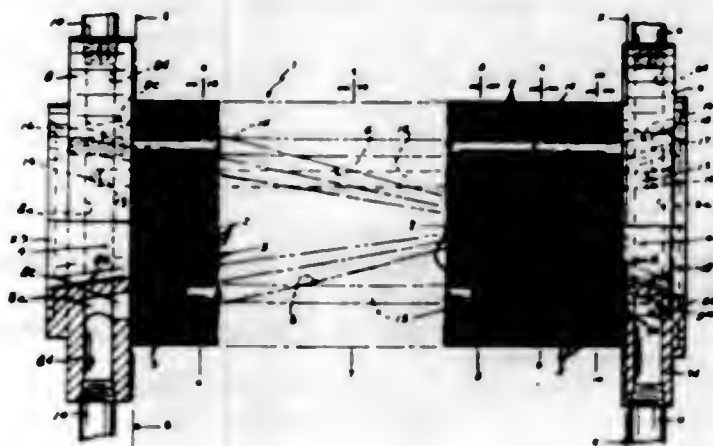
3,381,897

# LAMINATED NOZZLE THROAT CONSTRUCTION

Arthur J. Wennerstrom, Brookline, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 2, 1966, Ser. No. 591,573

10 Claims. (Cl. 239-127.1)



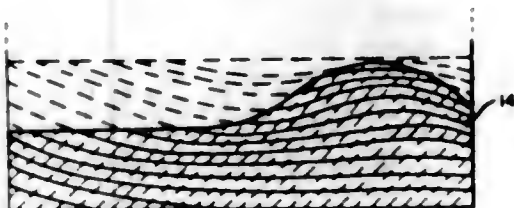
1. A high fluid pressure and high temperature laminated throat nozzle construction having a constricted axial throat passage and a plurality of annularly spaced surrounding coolant circulating passages disposed in predetermined spaced relation around said axial throat passage comprising, a multitude of individually formed discs of at least two different metallic sheet materials, each disc having a central throat opening and surrounding coolant passage openings formed therein, stacked together in alternate superimposed relation and brazed together as a unit with the central throat passage openings in aligned relation and the coolant openings therein in aligned relation.



3,381,898

**THERMAL SHOCK RESISTANT ROCKET  
NOZZLE INSERT**

Robert P. Felgar, Santa Monica, and Jack R. Bohn, Torrance, Calif., assignors to TRW Inc., a corporation of Ohio

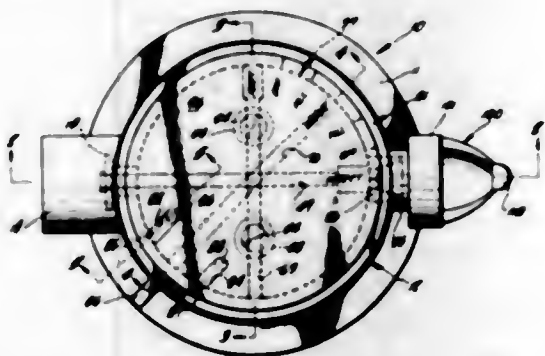
Filed Dec. 21, 1964, Ser. No. 420,038  
5 Claims. (Cl. 239—265.11)

1. A thermal shock resistant structure comprising: a body composed of a mixture or refractory ceramic materials, at least two of said materials having significantly different coefficients of thermal expansion, said body having a portion of substantial thickness subjected to extremely high operating temperatures on one surface thereof and substantially lower temperatures on the opposite surface thereof producing a steep temperature gradient through said portion, the percentage of each of said two materials in said mixture varying throughout said body in such a manner that the product of the coefficient of thermal expansion and the normal operating temperature is substantially equal at all points throughout said portion of said body.

3,381,899

**SPRAY GUN**

Fredolph M. Forsman, Altadena, Calif., assignor to Hayes Spray Gun Company, Pasadena, Calif., a corporation of California

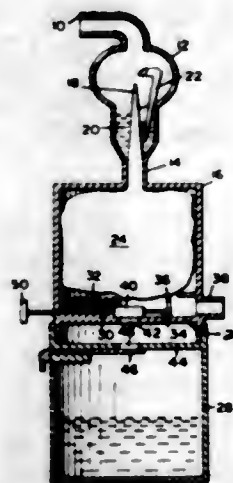
Filed Sept. 19, 1966, Ser. No. 580,224  
7 Claims. (Cl. 239—317)

1. In a spray gun having a container for a liquid chemical and a hollow housing secured to the container, the housing having an inlet port adapted for connection to a supply of a carrier fluid to be mixed with the chemical, and having an outlet port through which the mixed chemical and carrier fluid is sprayed, the improvement comprising:

a manifold mounted in the hollow housing to be movable from a first to a second position, the manifold having a first spray duct and a filling duct there-through, the first spray duct having an inlet aligned with the inlet port and an outlet aligned with the outlet port when the manifold is in the first position, the filling duct having an inlet aligned with the inlet port when the manifold is in the second position, the manifold having a suction passage and a filling port which open into the spray duct adjacent the spray duct outlet;

a metering jet mounted in the spray duct adjacent the spray duct outlet and having a first transverse passage in alignment with the manifold filling port and a second transverse passage in alignment with the suction passage;  
means defining a channel between an outlet of the second duct and the filling port; and  
means for sealing the filling port when the manifold is in the first position;  
whereby carrier fluid flows longitudinally through the jet to mix with and aspirate liquid chemical through the suction passage when the manifold is in the first position, and carrier fluid flows transversely through the jet into the suction passage when the manifold is in the second position.

3,381,900

**NEBULIZER**Joseph B. Miller, 1720 Spring Hill Ave.,  
Mobile, Ala. 36604Filed Sept. 14, 1966, Ser. No. 579,309  
10 Claims. (Cl. 239—323)

1. A nebulizing device comprising a container, a nebulizer thereon adapted to receive material to be nebulized, an atomizing tube in the nebulizer, an expansible and contractible device in the container in communication with a source of gas and in cooperative association with the atomizing tube to pass gas through the tube to nebulize material in the nebulizer by the sole use of gas in the expansible and contractible device when the latter is contracted, the expansible and contractible device being substantially closed relative to the interior of the container, a cartridge containing gas under pressure, the cartridge being separate from the container, and a valve between the cartridge and container to provide access of gas from the cartridge to the container in the area of the expansible and contractible device to contract the same, and means to actuate the valve.

3,381,901

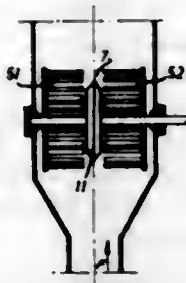
**GRINDING DEVICE IN A FLUIDIZED LAYER**  
Pierre Foch, Forbach, Moselle, France, assignor to Charbonnages de France, Paris, France, a public institution of FranceFiled May 23, 1966, Ser. No. 552,126  
Claims priority, application France, May 26, 1965,  
18,592

4 Claims. (Cl. 241—44)

1. In a grinding apparatus working in a fluidized layer, of the type comprising a fluidization chamber at the base of which opens vertically a closed conduit traversed from the bottom to the top by hot combustion gases conveying the material to be treated and percussion grinding means of the squirrel cage disintegrator type, arranged in the fluidization chamber, a moving grinding system constituted:

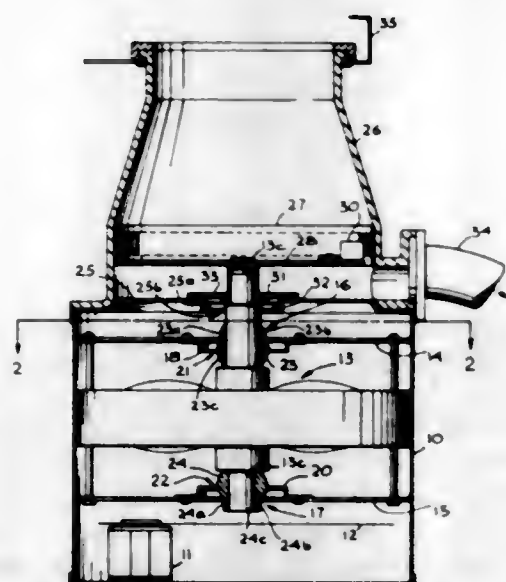


by a plurality of rotating cages with bars, mounted side by side on the same driving shaft; by free spaces separating said cages from each other; and by as many deflector systems as there are free spaces;



each of said reflector systems co-operating with a free space and being adapted to channel the products to be treated towards the interior of the cages adjacent to said space.

**3,381,902**  
**FOOD-WASTE DISPOSAL APPARATUS**  
Ray C. Wetzel, 15123 Boca Chica Drive,  
La Mirada, Calif. 90638  
Filed Jan. 17, 1966, Ser. No. 523,241  
6 Claims. (Cl. 241-46)

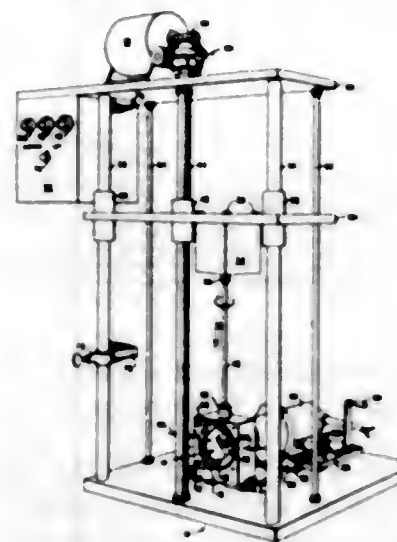


This invention concerns itself with an improved garbage disposal unit whose assembly is greatly simplified and whose life is considerably extended. The assembly simplification is provided by means of a bearing structure that eliminates alignment problems, and the life of the apparatus is extended by means of a new type of water seal for the bearings.

**3,381,903**  
**MATERIAL COMMINUTING APPARATUS**  
Dennis H. Howling and Joseph M. Hoskins, Wayland,  
Mass., assignors to Kennecott Copper Corporation,  
New York, N.Y., a corporation of New York  
Filed Mar. 1, 1966, Ser. No. 530,859  
6 Claims. (Cl. 241-63)

1. Apparatus for reducing rod stock material to finely comminuted particles of controllable yield and predetermined size in the range of from 10 to 1,000 microns, said apparatus comprising, in combination, rotary cutting means having a plurality of cutting edges arranged helically about the periphery thereof, means for rotating said cutter at speeds in excess of 5,000 r.p.m., a substantially fluid tight particle entrapment means disposed around said cutting means and having feed guide means extend-

ing therethrough and terminating immediately adjacent said cutting means, said guide means having a central passageway therethrough of slightly larger dimension than said rod stock material, means mounting said stock for



translating motion along an axis through said passageway and perpendicular to the rotational axis of said cutting means, and means for rotating said rod stock about its translational axis.

**3,381,904**  
**PROCESSING APPARATUS**  
Robert L. Gladden, Kewanee, Ill., assignor to Kewanee  
Machinery & Conveyor Company, Kewanee, Ill., a corporation of Illinois  
Filed Oct. 26, 1964, Ser. No. 406,431  
12 Claims. (Cl. 241-73)



1. Apparatus for chopping material such as ears of corn, comprising a rotatable impeller having a plurality of radial vanes, cutter bars detachably mounted at the outer ends of said vanes and each having at least two generally parallel cutting edges, said cutter bars being reversible relative to said vanes whereby to permit said cutting edges of each of said cutter bars to be alternately presented, perforated wall means extending about the circumference of said impeller, said perforated wall means comprising a plurality of independent perforated flat wall sections, shearing means circumferentially spaced about said perforated wall means and arranged for cooperation with said cutter bars at the outer ends of said vanes, and said impeller upon rotation serving to fracture material

fed thereto into pieces and to move the latter by centrifugal force toward said perforated wall means where said pieces are sheared into fragments as said cutter bars at the ends of said vanes pass said shearing means and then thrust by centrifugal force through said perforated wall means.

**3,381,905**  
**PROCESSING APPARATUS**  
Robert L. Gladden and John H. Fulper, Kewanee, Ill., and  
Richard E. Doerfer, Cedar Falls, Iowa, assignors to  
Kewanee Machinery & Conveyor Company, Kewanee,  
Ill., a corporation of Illinois  
Filed Oct. 26, 1964, Ser. No. 406,429  
11 Claims. (Cl. 241-152)



11. Apparatus for processing material such as ears of corn, comprising a pyramidal impeller having a plurality of radial vanes rotatable about a vertical axis, a horizontal perforated wall plate supported below said impeller, vertical cutter means at the outer ends of said vanes, stationary vertically disposed perforated wall means extending about the circumference of said impeller, a plurality of stationary vertical cutter means arranged about said perforated wall means for cooperation with said cutter means at the outer ends of said vanes, said impeller upon rotation serving to fracture material fed thereto into pieces and to move the latter by centrifugal force toward said perforated wall means where said pieces are sheared into fragments as said cutter means at the ends of said vanes pass said stationary cutter means, some of said fragments passing through said perforated plate and some being thrust by centrifugal force through substantially the full circumferential extent of said perforated wall means, and a roller mill arranged vertically below said impeller, said perforated plate and said perforated wall means for receiving said fragments and further processing the same.

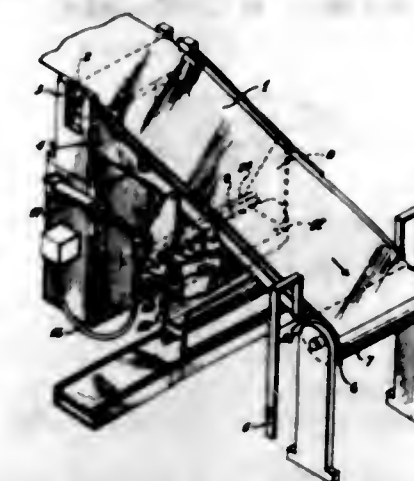
**3,381,906**  
**APPARATUS FOR FEEDING PAPER INTO SUCCESSIVE CONVOLUTIONS OF METAL COILS AND METHOD THEREFOR**  
Allan J. Whitehouse, Butler, Le Roy V. Rowland, Evans City, and Richard G. Palmer, Butler, Pa., assignors to  
Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio  
Filed Aug. 15, 1966, Ser. No. 572,390  
14 Claims. (Cl. 242-78.1)

An apparatus for feeding coil interleaving paper into successive convolutions of coils, which comprises a telescoping strip support having a frame and stiffener member

pivotaly connected thereto. A rotatable mandrel holding a paper roll is mounted upon the frame and stiffener along with an adjustable nozzle means which supplies air, and an air cylinder is provided to pivot the frame and stiffener about its connection to the telescoping strip support.

In another embodiment, mandrel arms are provided to hold the paper roll and an air cylinder motivator operatively connected to the mandrel arms controls their movement. Nozzles supply air to keep the unrolled paper contiguous with the under side of the metal strip.

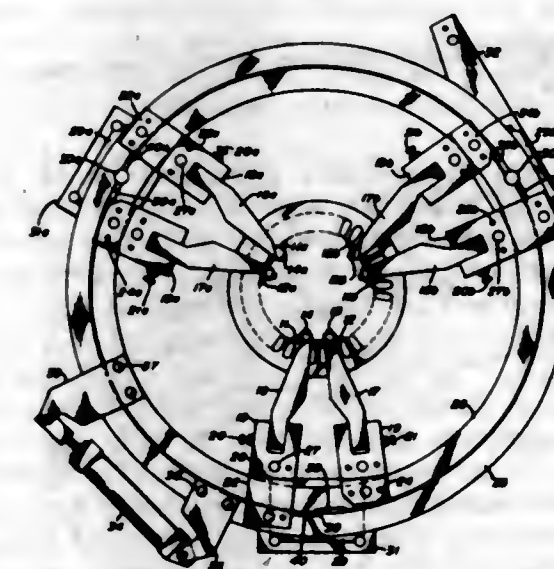
In a further embodiment, an apron, motivated by an air cylinder, is provided between the mandrel arms, which



are motivated by another air cylinder. The mandrel arms support a paper roll and nozzles supply air to keep the unrolled paper contiguous with the under side of the metal strip.

Finally, a method is provided which comprises the steps of urging the roll of paper against the metal strip whereby the paper roll is driven by the strip. The method may include the steps utilizing air to blow the handling end of the paper against the metal strip and into the bite of the coil being wound, and retraction of the roll of paper from the metal strip after the feeding is started and the inertia of starting the roll of paper rotating has been accomplished.

**3,381,907**  
**COIL LEG RETAINER**  
Milton D. Spanton, Jr., Minneapolis, and Melvin J. Straub, Hopkins, Minn., assignors to Ponsis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota  
Filed Apr. 14, 1966, Ser. No. 542,578  
13 Claims. (Cl. 242-1.1)



During the winding of a slotted stator core, a plurality of pairs of retaining members are disposed in the bore

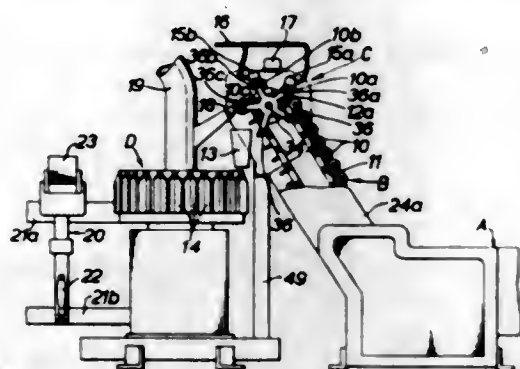


of the stator core to retain the coils already wound. Each of a pair of retaining members is mounted on a separate concentric ring and each cooperating pair have interleaved portions arranged so that relative rotation of the concentric rings will vary the spacing between the retaining members of each pair and thus the number of slots covered.

3,381,908

# AUTOMATIC COP FEEDER FOR A WINDING MACHINE

Rokuya Igushi, Koichiro Kubo, and Iwao Banba, all %  
Gojo Factory, Shimadzu Seisakusho Ltd., 11 Sain  
Umatsuka-cho, Ukyo-ku, Kyoto, Japan  
Filed Nov. 15, 1966, Ser. No. 594,595  
20 Claims. (Cl. 242—35.5)

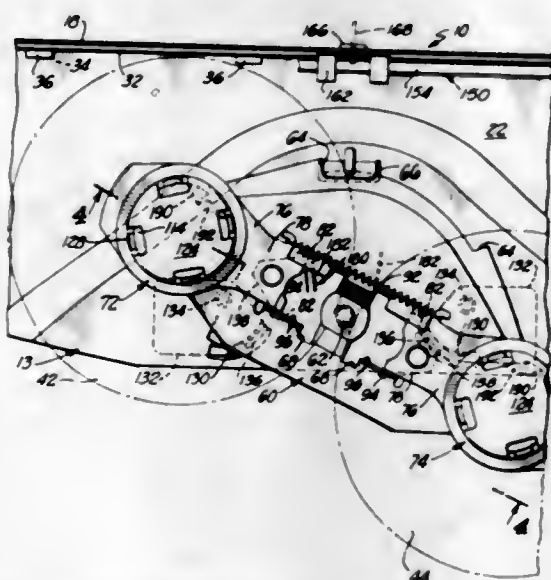


An automatic cop feeder for a winding machine having a cop magazine, a cop container and a cop conveyor means for conveying the cops from the container to the magazine. While the cop is associated with the cop conveyor means the yarn end is unwound from cop and a sufficient length thereof unwound from the cop for uniting with the yarn end of the bobbin of the winding machine. The yarn end of the cop is unwound in four stages. During the first, second and fourth stages the cop is rotated in the unwinding direction while suction is applied to the yarn end, and during the third stage of operation the cop is rotated in the direction of winding while suction is applied to the yarn end in the event the yarn is rewound in the reverse direction during the first two stages of yarn end unwinding.

3,381,909

# APPARATUS FOR SEQUENTIALLY DISPENSING ROLLS OF STRIP MATERIAL

Council A. Tucker, Glendale, and Jack L. Perrin, Los Angeles, Calif., assignors to Towlsaver, Inc., Los Angeles, Calif., a corporation of California  
Filed Jan. 3, 1966, Ser. No. 518,328  
8 Claims. (Cl. 242—55.3)



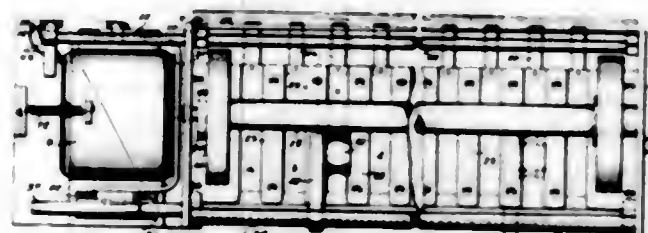
A housing has a movable roll holder supporting spaced, roll supporting mandrels. Releasable latch means main-

tains the roll holder with one roll in a dispensing position and the other roll in a reserve nondispensing position, with release thereof causing roll holder movement to present said reserve roll in a dispensing position. Each mandrel has separable, cylindrical sections supporting separable parts of a roll core, said mandrel sections and core parts being maintained in axial alignment by the roll strip material. Consumption of the dispensing roll releases one mandrel section to move from said axial alignment, releasing the latch means and causing said roll holder movement. Each mandrel may act alternately as a dispensing or nondispensing positioned mandrel.

3,381,910

# TAPE CARTRIDGE PLAYER

John O. Fundingsland, 1126 N. Sheridan Ave.,  
Colorado Springs, Colo. 80909  
Filed Aug. 3, 1965, Ser. No. 476,792  
6 Claims. (Cl. 242—55.13)

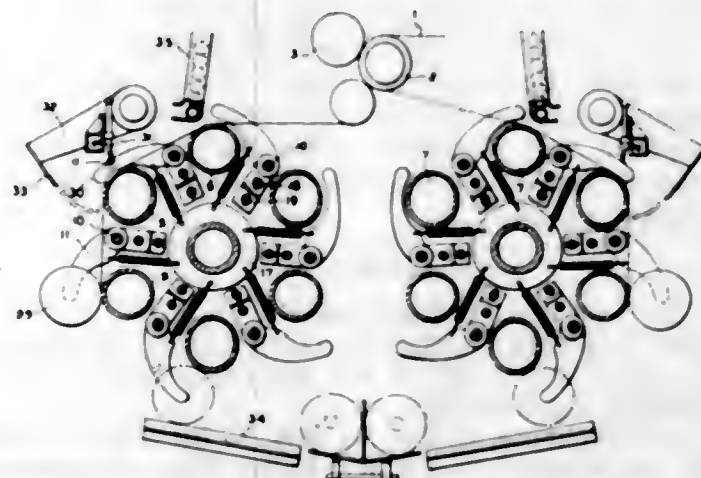


A tape cartridge player having seats for the cartridges and a two speed over-head tape drive capstan with a switch responsive to longitudinal position of the cartridge in the seat to actuate the capstan and an inclined plane in the seat to elevate the cartridge into playing engagement with the capstan.

3,381,911

# APPARATUS FOR THE AUTOMATIC WINDING OF REELS

Hermann Thomas and Philipp Weinmann, Darmstadt, and Franz Held, Gross Zimmern, Germany, assignors to Maschinenfabrik Goebel G.m.b.H., Darmstadt, Germany, a corporation of Germany  
Filed Aug. 13, 1965, Ser. No. 479,405  
Claims priority, application Germany, Aug. 14, 1964, M 62,108  
10 Claims. (Cl. 242—56)



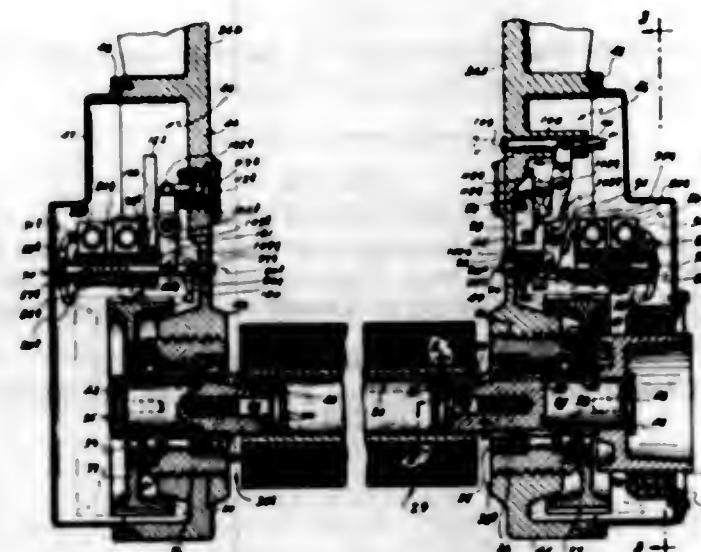
This invention relates to an apparatus for the automatic winding of reels including a rotatable reel star having a plurality of winding shafts positioned thereon and a plurality of supporting rollers mounted within the reel

star for engaging and driving the reels. At least one pair of arms adapted to receive a winding shaft is provided between adjacent rollers and adapted to receive the winding shaft at a supply position. A plurality of rocker shafts are mounted in the reel star each having one or more pairs of arms mounted thereon and means are provided for biasing the arms during the winding operation to press the reels carried thereby at an adjustable pressure against an adjacent supporting roller to be driven thereby.

3,381,912

# CORE LOCKUP AND SIDELAY CONTROL DEVICE FOR SPLICING ROLLSTANDS

William F. Huck, 81 Greenway Terrace,  
Forest Hills, N.Y. 11375  
Filed Nov. 26, 1965, Ser. No. 509,945  
31 Claims. (Cl. 242—58.1)

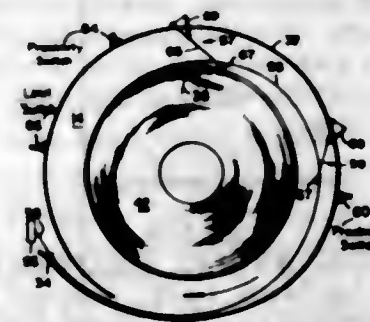


A rollstand has parallel arms carrying freely rotatable shafts which are displaceable axially to move end portions thereof having locking segments slidably mounted thereupon into the ends of a web roll core and force the segments radially into tight clamping and roll-supporting engagement with the core, whereupon further axial displacement of the shafts will adjust the sidelay of the roll. In a web-splicing rollstand utilizing this core lock-up structure, arms carrying both running and replacement rolls are also displaceable axially as a unit to adjust the sidelay of the running web.

3,381,913

# SYNCHRONIZED COIL UNWINDER AND REWINDER

William Bachman, 4824 Fulton St.,  
San Francisco, Calif. 94121  
Filed Dec. 12, 1966, Ser. No. 601,045  
7 Claims. (Cl. 242—78.6)



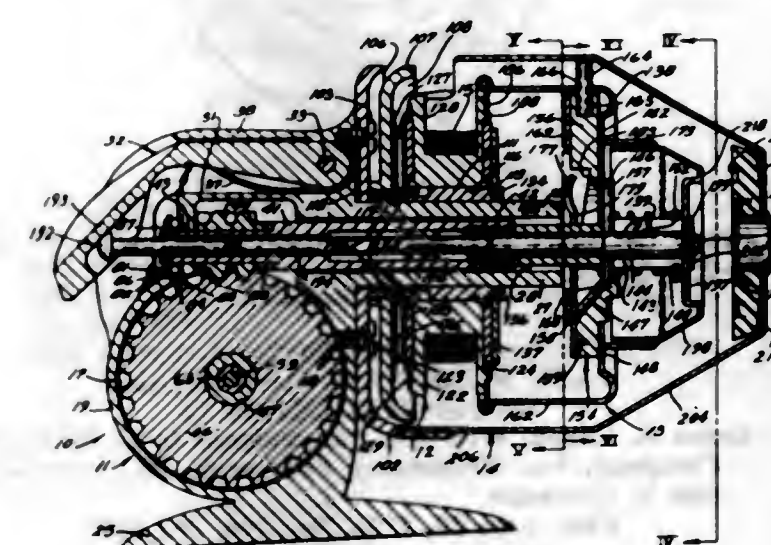
Coiled strip placed on a turntable with the axis vertical is payed out in synchronism with the acceptance rate of

a consuming machine by alternately driving the turntable slightly above and slightly below the acceptance speed. Tightening and loosening of the outer convolutions of the coil absorbs the speed differential and operates the speed control mechanism. Anti-hunting means are provided. Means for separating stuck adjacent convolutions prior to pay-out are also provided.

3,381,914

# SPINNING REEL WITH BRAKE

John K. Taggart, 6801 S. Meridian St.,  
Indianapolis, Ind. 46217  
Continuation of application Ser. No. 398,557, Sept. 23, 1964. This application Nov. 30, 1965, Ser. No. 510,524  
11 Claims. (Cl. 242—84.21)



1. In a fishing reel, housing means, shaft means rotatably supported within said housing means, means for selectively rotating said shaft means, flyer means secured to one end of said shaft means and rotatable therewith, spool means rotatable within said housing, rod means extending parallel to said shaft means, lever means engageable with one end of said rod means for moving the same axially of said shaft means, braking means movable toward and away from said spool means to selectively resist rotation of said spool means relative to said flyer means, and pin means mounted on said flyer means for movement relative thereto, and interengageable means on said housing and said pin means for releasably retaining said pin in a preselected position relative to said flyer means.
9. In a fishing reel having a hollow housing means, means defining an opening in one end of said housing, rod means extending within said housing means substantially axially aligned with said opening, spool means rotatably supported in said housing and adapted to contain fishing line which is fed through said opening, an annular resilient ring member fixedly mounted on the inner side of said housing circumjacent said opening, a snubber member mounted on the forward end of said rod means, and means defining an annular projection on one of said members and an annular recess on the other of said members adapted to receive said projection therewithin in response to axial movement of said rod means, whereby to limit movement of the fishing line through said opening.



3,381,915

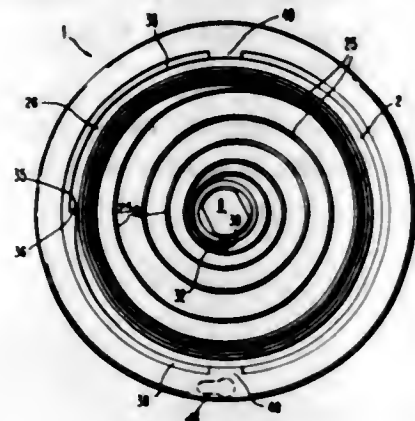
**CABLE REELS**

Lowell F. Nelson, Muskegon, Mich., assignor to John Wood Company, East Orange, N.J., a corporation of Delaware

Filed May 31, 1966, Ser. No. 553,934

1 Claim. (Cl. 242-107)

A reel for reeling and unreeling a flexible cable, such as nylon cable attached at its distal end to a gasoline dispensing hose, with the helical coiled spring member of the reel having three intermediate widely spaced coils be-



tween the inner and outer closely wound coils of said helical spring.

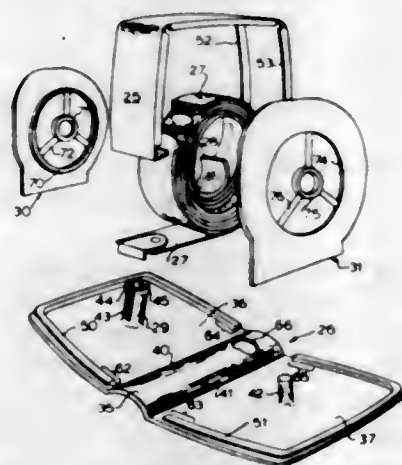
3,381,916

**TAPE RULE CASE AND BRAKE CONSTRUCTION**

James E. Edgell, Wexford, Pa., assignor to H. K. Porter Company, Inc. (Delaware), Pittsburgh, Pa., a corporation of Delaware

Filed June 29, 1966, Ser. No. 561,567

11 Claims. (Cl. 242-107.3)



A tape rule employs flexible side walls and complementary internal braking means such that normal positioning of the side walls tends to brake the tape and squeezing of the side walls tends to release the tape. Integral housing constructions which can be snap-fastened together are disclosed.

3,381,917

**PERSONNEL FLYING DEVICE**

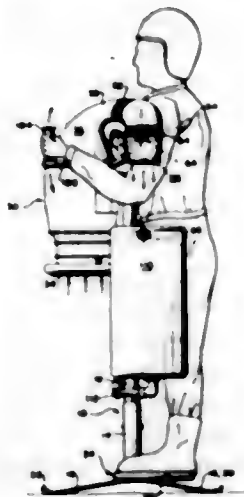
Wendell F. Moore, Youngstown, and Edward G. Ganczak, Snyder, N.Y., assignors to Bell Aerospace Corporation, Wheatfield, N.Y.

Continuation-in-part of application Ser. No. 530,047, Feb. 25, 1966. This application Nov. 8, 1966, Ser. No. 592,893

17 Claims. (Cl. 244-4)

A rigid frame carrying fluid pressure generating means is ridden by an operator and serves to locate and relatively immobilize his torso and legs relative thereto whereas

a yoke assembly is pivotally mounted to the frame and provides arm support and locating means for the occu-



pant's body and also is effective, in response to pivoting, to control the thrust direction of the device.

3,381,918

**VARIABLE-GEOMETRY AIRCRAFT**

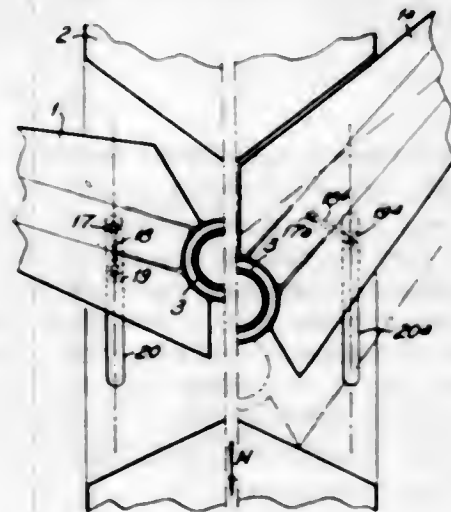
Raymond Jacquart, Boulogne-sur-Seine, and Richard Désiré Haze, Saint-Ouen, France, assignors to Sud-Aviation Société Nationale de Constructions Aéronautiques, Paris, France

Filed Sept. 15, 1966, Ser. No. 579,645

Claims priority, application France, Sept. 20, 1965,

31,906, Patent 1,457,577

9 Claims. (Cl. 244-46)



1. In a variable geometry monoplane aircraft having two wings pivotally connected to a longitudinally displaceable central hinge-point, in combination, a central hinge pivot common to said two wings, a central slide bearing said pivot, first longitudinal guide means of said central slide positioned substantially parallel to the aircraft fore-aft axis, two lateral link members hingedly connected to the two wings and to two lateral slides respectively, second guide means of said lateral slides positioned substantially parallel with said first guide means, and means for moving either all the slides at the same speed or said central slide at a different speed from said lateral slides.

3,381,919

**FLEXIBLE WING AERIAL DELIVERY SYSTEM**

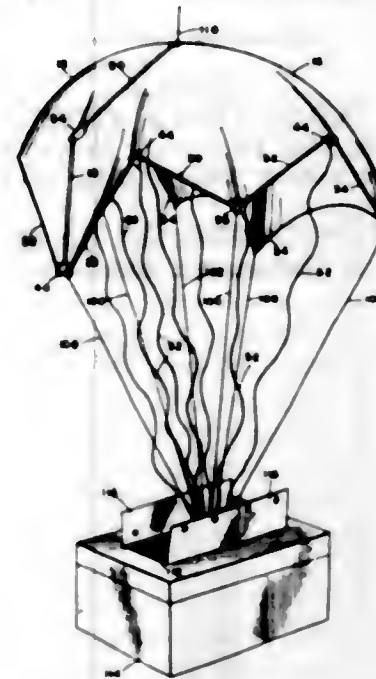
Peter F. Girard, La Mesa, Calif., assignor to The Ryan Aeronautical Co., San Diego, Calif.

Filed July 25, 1966, Ser. No. 567,525

4 Claims. (Cl. 244-49)

The flexible wing has a supporting frame of small cross section rigid members hinged together, so that the

frame is foldable into a small package. Certain of the hinges are spring biased, to initiate opening of the structure when released, deployment being completed by air



flow and the fully deployed configuration of the wing being maintained by the shroud lines connecting the wing to the payload.

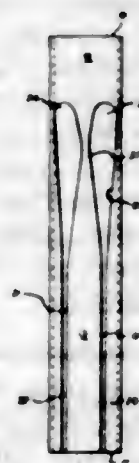
3,381,920

**HYDROFOILS**

Anton A. Beringer, W-190 S. 7238 Lochcrest Blvd., Muskegon, Wis. 53150

Filed July 20, 1966, Ser. No. 566,999

5 Claims. (Cl. 244-105)



A hydrofoil having downwardly open recesses between a central fin and spaced outer fins. The recesses have a tapering configuration with a maximum height at the front of the hydrofoil and a minimum height at the rear, all for the purpose of providing lift.

3,381,921

**QUICK CHANGE SYSTEM FOR PASSENGER AND CARGO CARRYING AIRCRAFT**

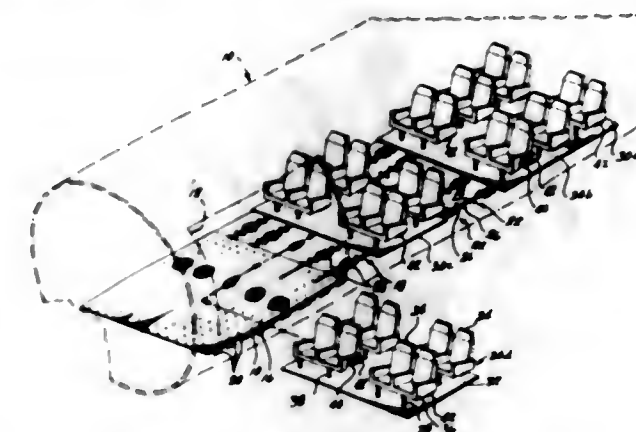
Frank M. McDonough, Bellevue, and Richard J. Hansen, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Jan. 3, 1967, Ser. No. 606,985

13 Claims. (Cl. 244-118)

A conveyor system comprising rail assemblies installed longitudinally in the floor of an aircraft and carrying con-

veying rollers for pallets; retractable cargo pallet locks in the floor of the aircraft; and seat pallets with latches



mounted therein for gripping the rails of the conveyor system to hold the seat pallets in place.

3,381,922

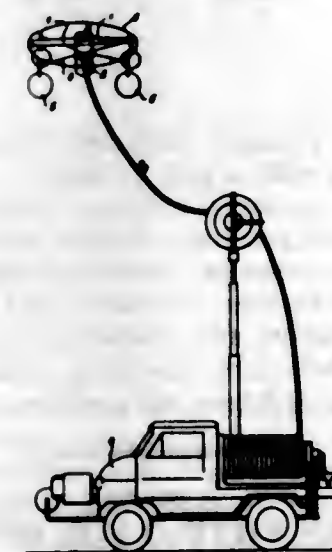
**CAPTIVE HELICOPTER**

Nikolaus Laing, 35-37 Hofener Weg., 7141 Albstadt, Germany

Continuation-in-part of application Ser. No. 166,530, Jan. 16, 1962. This application Oct. 23, 1965, Ser. No. 503,189

Claims priority, application Germany, Jan. 18, 1961, L 37,972

47 Claims. (Cl. 244-136)



An apparatus for the distribution of material in particulated, liquid or gaseous form from points above the ground in which a helicopter is connected by conduit means to a driven vehicle which carries energy producing means and material supplying means to supply the helicopter through the conduit means with energy for driving the helicopter and with material to be distributed from the helicopter.

3,381,923

**DEPLOYABLE STRUCTURE**

Thomas G. Berry, Silver Spring, Md., assignor to Fairchild Hiller Corporation, Hagerstown, Md., a corporation of Maryland

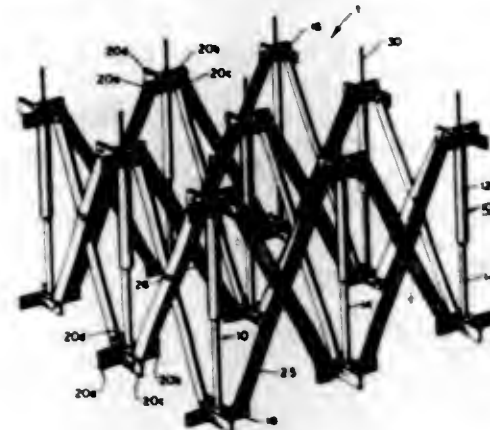
Filed Dec. 27, 1965, Ser. No. 516,635

8 Claims. (Cl. 248-166)

A deployable structure having a plurality of central members formed with telescoping pieces which are connected together by scissors links. The structure is used to erect a number of elements, which can be antenna ele-

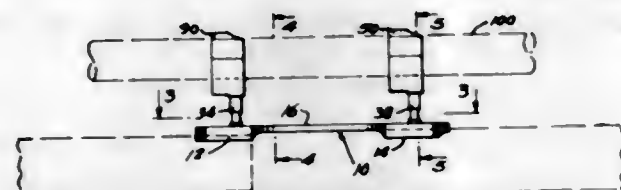


ments, one element being connected to one of the telescoping pieces of a central member. This structure also



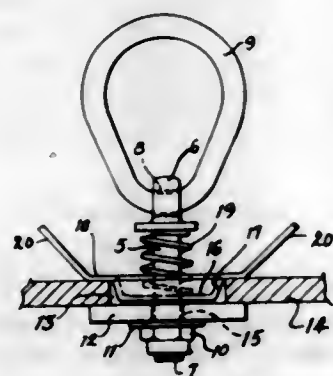
can be used to deploy a folded piece of material into a predetermined configuration.

**3,381,924**  
**TELESCOPIC GUNSIGHT MOUNT**  
Walter J. Gagner, Oroville, Calif.  
(1716 Arbutus Ave., Chico, Calif. 95926)  
Filed Dec. 30, 1966, Ser. No. 606,073  
4 Claims. (Cl. 248-205)



A mount for gunsight telescopes having front and rear mounting plates with a pair of upright posts each having upper and lower grooves mounted thereon, front and rear telescope mounting collars slidably received on the upright posts, the telescope mounting collars having bosses on the bottom thereon to reduce the effect of foreign matter accumulation, and resiliently biased balls received in bores in the telescope mounting collars for locking the collars in raised and lowered positions is disclosed.

**3,381,925**  
**TIEDOWN FITTING FOR SHIP DECKS**  
Nori Higuchi, Northport, N.Y., assignor to Davis Aircraft Products, Inc., Northport, N.Y., a corporation of New York  
Filed Sept. 2, 1966, Ser. No. 576,954  
1 Claim. (Cl. 248-361)



This invention relates to anchoring fittings for attaching a tiedown means to a floor or deck. The device includes a shank member with means attached to its lower end adapted to be inserted through an opening provided in the floor to engage the underside of the floor panel,

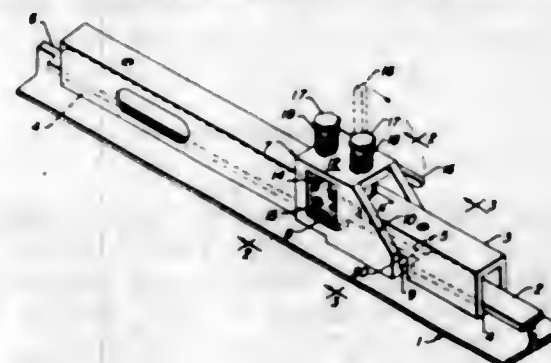
spring biased washer means slidably mounted on the shank member and adapted to engage the upper surface of the floor panel to hold the shank member in an upright position. A ring for connection to a tiedown means is attached to the upper end of the shank member.

**3,381,926**  
**ADJUSTABLE STOOL**  
Edward E. Fritz, 201 Fernwood Drive, and Thomas A. Fritz, 221 Fernwood Drive, both of Evansville, Ind. 47711  
Filed Oct. 20, 1966, Ser. No. 588,226  
5 Claims. (Cl. 248-404)



1. A height adjusting mechanism for a stool having a base framework and a seat comprising spaced-apart hollow inner and outer members disposed on said base framework, cap members at opposite ends of said hollow inner and outer members, an inner seat mounting piston slidable within said hollow inner member, an outer piston slidable in the space between said hollow inner member and said hollow outer member, compression means urging said outer piston in a downward direction, cavities containing a liquid in said hollow inner member below said inner piston and in the space between said hollow inner member and said hollow outer member below said outer piston, passageways through said cap member at the lower ends of said hollow inner and outer members communicating with said cavities, and control mechanism selectively permitting communication between said passageways for seat height adjustment.

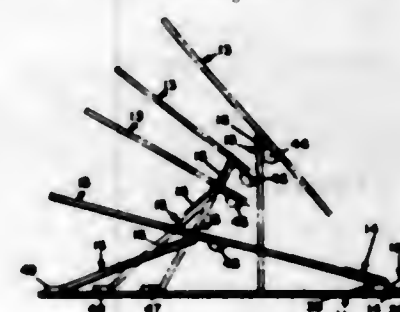
**3,381,927**  
**TRACK ATTACHMENT MEANS FOR SEATS AND THE LIKE**  
Stephen Stamates, Waterbury, Conn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
Filed Sept. 27, 1966, Ser. No. 582,382  
6 Claims. (Cl. 248-429)



1. Track attachment apparatus for effecting easy manual connection and removal with respect to fixed track

means, which comprises in combination; a track member having outwardly projecting upper flange portions and at least two spaced apart longitudinal cut-out sections in such flange portions, a channel attachment member having longitudinally spaced apart inwardly projecting flange portions adapted to encase the flange portions of said track member and provide therewith a longitudinally slidable member, with said spaced apart inwardly projecting flange lengths of said channel member being spaced longitudinally to be in alignment with said spaced out sections of said track member and, in addition, such inwardly projecting flange portions being of slightly less length than said cut-out sections in the flange portions of said track member whereby there can be engagement therewith, a safety latch unit movably connected with and encompassing said movable channel member at a zone between the flange portions thereof, with said latch unit having lower inwardly projecting flange portions in normal alignment with those of said channel member, whereby there will be engagement with said track section and, in addition, guide means with spring bias means between said channel member and said latch unit are attached in a manner holding the latter in a normal operating position with respect to said channel member and said track member, such spring bias means and said guide means of the latch unit permitting vertical movement of said latch unit with respect to said channel member whereby the flanged portion of said latch unit can be moved relative to the channel member and passed through the cut-out section of said track member.

**3,381,928**  
**BOOKREST OR THE LIKE**  
John C. White, % George R. White, 940 Maple Ave., Collingswood, N.J. 08108  
Filed Sept. 9, 1966, Ser. No. 578,292  
2 Claims. (Cl. 248-455)

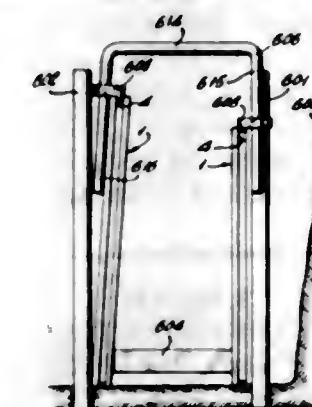


This invention is essentially concerned with a bookrest-type device wherein a generally horizontal base is provided along its forward edge with an upstanding retainer, and a support member overlies the base having one edge hinged to the latter adjacent the retainer, and a strut is interposed between the support member and base and swingable between a storage position underlying the support and an operative position upstanding between the support and base.

**3,381,929**  
**FORM ASSEMBLY WITH ADJUSTABLE RETAINING MEANS FOR VARIABLE SPACING**  
Evert G. Bancker, Glen Cove, N.Y., assignor to Elton Industries, Inc., Oyster Bay Cove, N.Y., a corporation of New York  
Original application July 24, 1963, Ser. No. 297,355.  
Divided and this application May 20, 1966, Ser. No. 565,368  
3 Claims. (Cl. 249-5)

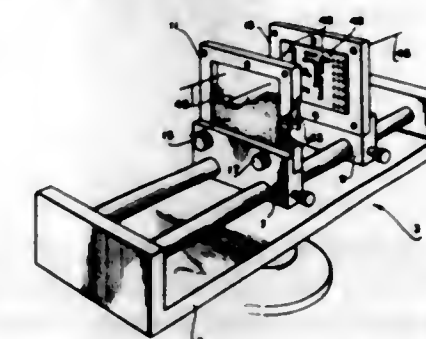
A concrete-construction form assembly wherein flat form elements are arranged between upright stakes with spreaders engaging the lower ends of the form elements to hold these lower ends against the stakes. The upper

ends of the form elements are situated between U-shaped clamps having diverging depending legs respectively carrying retainers which engage the form elements to retain them at predetermined positions relative to each other.



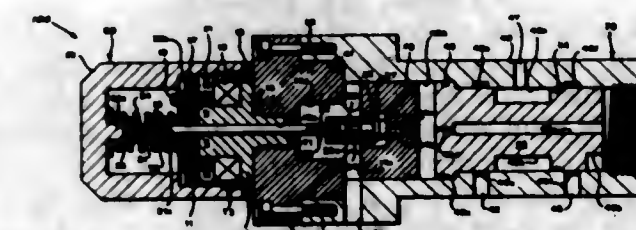
Because of the inclination of these legs it is possible to shift the retaining elements therealong to regulate the distance between the retaining elements and thus the distance between the top ends of the form elements.

**3,381,930**  
**MOLD FOR INVERTED CIRCUITRY**  
Rolf J. Gruenstein, Sunnyvale, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.  
Original application Apr. 10, 1964, Ser. No. 358,824.  
Divided and this application June 28, 1966, Ser. No. 574,480  
3 Claims. (Cl. 249-140)



1. A device for making electronic modules consisting of at least one circuit tool plate having a plane surface, at least one circuit trace extending upward from said plane surface, said at least one circuit trace interconnecting lead wire holes formed in the at least one circuit tool plate and at about the ends of said at least one circuit trace with the axis thereof about normal to said plane surface, an enclosure, at least one wall of said enclosure consisting of said at least one circuit plate.

**3,381,931**  
**FAST RELEASE VALVE**  
Julius C. Boonschaft, Huntingdon Valley, and Kenneth W. Zeuner, Newtown, Pa., assignors to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware  
Filed Sept. 30, 1966, Ser. No. 583,233  
9 Claims. (Cl. 251-30)



1. A fast release hydraulic valve comprising a wafer solenoid having a certain holding force when closed, a



valve stem connected to and movable by said wafer solenoid, a plunger head connected to said valve stem, a valve seat against which said plunger head selectively seats, a trigger bias spring between said plunger head and said valve stem, a channel from said valve seat communicating to a source of hydraulic fluid under pressure, said valve being closed when said wafer solenoid is energized and closed, said trigger-biased spring being at least partially compressed when said valve is closed, the sum of the force of said trigger bias spring being less than said holding force of said wafer solenoid when said wafer solenoid is closed.

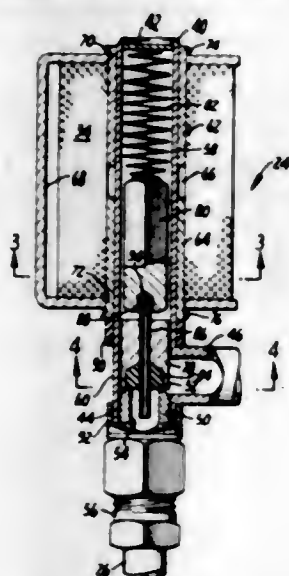
3,381,932

**PRESSURE DIFFERENTIAL VALVE**

Richard H. O'Kane, 16045 Highway 128,  
Calistoga, Calif. 94515

Continuation-in-part of application Ser. No. 414,272,  
Nov. 27, 1964. This application Feb. 16, 1967, Ser.  
No. 616,685

7 Claims. (Cl. 251-30)



A solenoid operable pressure differential valve having a tubular body with a solenoid winding extending around a portion of its length, a pair of conduit connectors communicating with its interior, and magnetic primary and pilot valve mandrels slidably disposed within its interior. When the valve is in closed condition, the pilot valve mandrel rests against the primary valve mandrel in a position within the field of magnetic flux of the winding and the primary valve mandrel is sealingly interposed between the connectors in a position isolated from the field of magnetic flux of the winding. In operation, upon activation of the winding, the pilot valve mandrel is moved under the influence of the winding to a position creating a pressure differential across the primary valve mandrel. This differential functions to move the primary valve mandrel into the field of magnetic flux of the winding and open the connectors to fluid communication.

3,381,933

**AUTOMATIC SAFETY CUT-OFF VALVE**

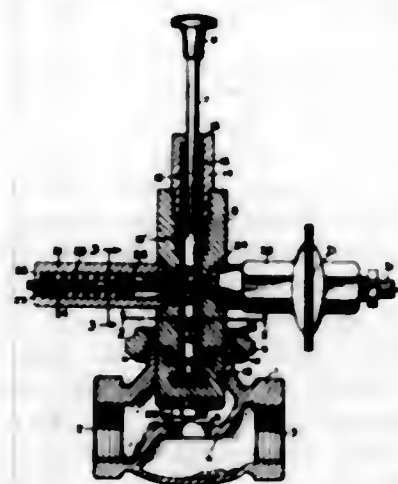
El Derhammer, 127 S. Market St.,  
Lodi, Ohio 44254

Filed Dec. 28, 1965, Ser. No. 516,847

5 Claims. (Cl. 251-73)

1. An automatic safety fuel shut-off attachment for replacing a conventional valve stem and valve head in a plug type fuel valve body having a seat for the valve head and a valve stem supporting closure nut, said attachment comprising a cylindrical member, a valve stem axially movable in the member, a valve head on said stem for seating on the valve seat, compression means in the member for normally urging the head to seating position, said stem having a circumferentially arranged groove formed

therein for receiving a latching plunger, a cylindrical housing carried by the said member, a latching plunger axially movable in the housing and having one end extending beyond the cylindrical housing, compression means in the cylindrical housing exerting its force of compression axially on the plunger to project an end of the plunger into the groove of the stem when the same are in alignment as when the valve is open, a fluid pressure responsive means for communication with a source of fluid pressure



and secured in said valve stem cylinder, a tripping pin actuated by said means and having one end projecting toward said plunger end whereby in response to a predetermined pressure value imposed on said pin sufficient to overcome the thrust on said plunger, said plunger will be disengaged from the stem groove to seat the valve head on the valve seat and shut off the flow of fuel through the valve, and a handle on the stem to manually return the valve to open position.

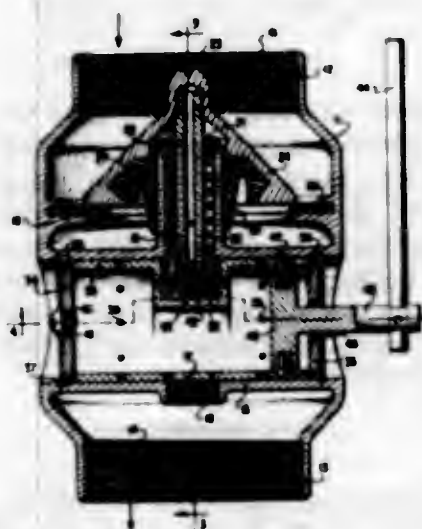
3,381,934

**CAM OPERATED VALVE**

Guilherme S. Marx, Rua Prudente de Moraes 564,  
Apt. 304, Rio De Janeiro, Brazil

Filed Sept. 14, 1965, Ser. No. 487,257

9 Claims. (Cl. 251-260)



A cam actuated valve including a rotary cam operable to reciprocate a valve stem within a tubular guide sleeve. The stem carries a valve head adapted to seat against a portion of the valve body, said valve head being normally urged into the seated position. The rotary cam member being in the form of a hollow cylinder and having at least one lubrication distribution hole in its wall and adapted to hold a lubricant.

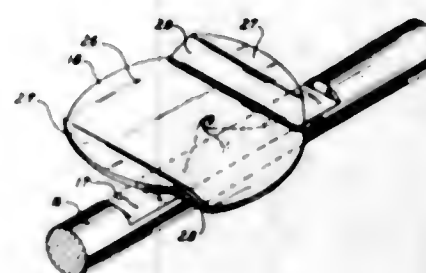
3,381,935

**BUTTERFLY VALVE**

Alexander G. Middel, Detroit, Mich., assignor to Ford  
Motor Company, Dearborn, Mich., a corporation of  
Delaware

Filed Sept. 10, 1962, Ser. No. 222,541

3 Claims. (Cl. 251-305)



2. A butterfly valve assembly comprising a cylindrical flow passage, a closure member, and pivot means supporting said closure member within said cylindrical passage for pivotal movement from an opened to a closed position, said closure member being on the upstream side of said pivot means when in its closed position, the pivotal axis of said closure member being offset from the longitudinal axis of said cylindrical passage and lying in a plane perpendicular to said longitudinal axis, the projected image of said closure member when in its closed position being a circle of substantially the same diameter as said cylindrical flow passage in a plane perpendicular to said longitudinal axis for substantially retarding fluid flow, the edge portions of the closure member generally transverse to the pivotal axis being deflected farther away from the pivot means than the remainder of the closure member, the deflection of said edge portions being toward the diameter of said passage parallel to the pivot axis of the closure member when the closure member is in an open position.

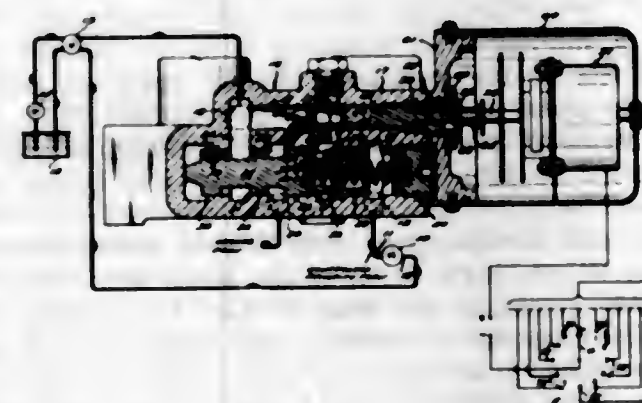
3,381,936

**HYDRAULIC SYSTEM AND REMOTELY OPERATED FLOW CONTROL ARRANGEMENT THEREIN**

John D. Allen, South Euclid, Ohio, assignor to Fawick  
Corporation, a corporation of Michigan

Filed Feb. 18, 1965, Ser. No. 433,636

9 Claims. (Cl. 253-1)



A flow control arrangement for selectively determining the speed of a hydraulic motor comprises a pressure-compensated flow regulator close to the motor, a rotary solenoid next to the flow regulator, and a multi-position selector switch remote from the flow regulator and connected electrically to the rotary solenoid so that the rotational position of the output shaft of the rotary solenoid will correspond to the setting of the selector switch. This

3,381,937

**WEDGE**

Marcus P. Zillman, 1109 Lake Ridge Road,  
Danville, Ill. 61832

Filed Apr. 26, 1966, Ser. No. 545,332

1 Claim. (Cl. 254-104)



A wedge adapted to be inserted between pieces of sheeting material in a stack of sheeting material for removing therefrom a predetermined quantity of material. The wedge comprises a body formed of lengths of wood of laminated form, the edges of the lengths of wood forming the top and bottom of the body, the wood being of a highly polishable type and the wedge having an inclined upper surface and a plane lower surface. A stainless steel, or the like, sheath covering the forward portion of the body and being sharpened at that portion thereof where it extends over the forward edge of the body.

3,381,938

**MECHANISM FOR CONTROLLING THE TENSION IN CONDUCTORS DURING STRINGING**

Walter Betta, Milan, Italy, assignor to C.R.F. Officine  
Meccaniche di Precisione S.p.A., Milan, Italy, a company of Italy

Filed Sept. 29, 1965, Ser. No. 491,358

Claims priority, application Italy, Sept. 29, 1964,

51,788, Patent 738,605

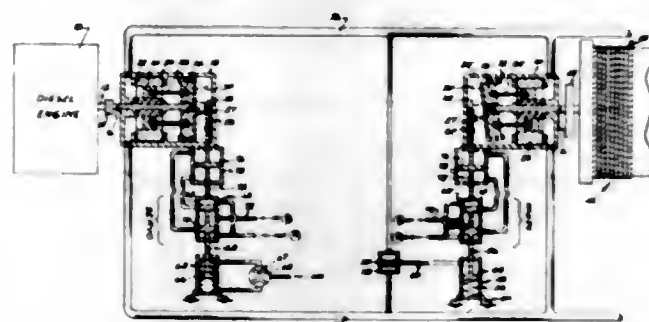
9 Claims. (Cl. 254-134.3)



A device for balancing the tension of two pairs of cables as they are fed out from a feed drum by means of a drawing rope, said device including a body member secured to the drawing rope and having a pair of pulleys mounted therein. Each pulley has a loop of rope extending thereover, the ends of each of the ropes being secured to two cables of the same pair, the pulleys thus enabling, through the action of their associated loop, an equal stretch of each cable when the drawing rope is pulled away from said feed drum. Also provided are two braking drums, each having a pair of cables passing thereover in frictional engagement therewith, along with means for equally braking the drums to maintain equal tension in the pairs of cables.

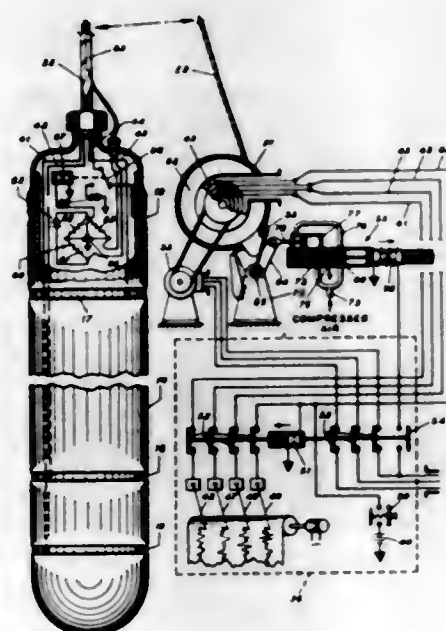


**3,381,939**  
**HYDRAULIC DRAW WORKS WITH AUTOMATIC POWER OUTPUT CONTROL**  
 Cicero C. Brown, % Brown Oil Tools, Inc., P.O. Box 19236, Houston, Tex. 77024, and Ernest L. Potts, Houston, Tex.; said Potts assignor to said Brown  
 Filed Jan. 24, 1966, Ser. No. 522,655  
 9 Claims. (Cl. 254-172)



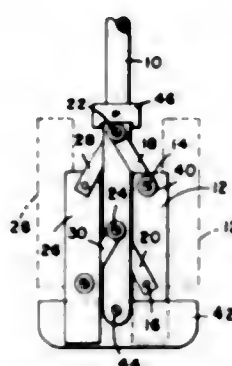
A hydraulic draw works employing hydraulic pump-motor combinations for driving a load-handling reel, and including transducer means responsive to the pressures in the hydraulic circuit and cooperating servo mechanisms for continuously and automatically varying the motor speed with changes in load to maintain a substantially constant power capability at the reel.

**3,381,940**  
**HIGH-SPEED WELL LOGGING SYSTEM**  
 John E. Walstrom, Orinda, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
 Filed Apr. 3, 1967, Ser. No. 627,878  
 10 Claims. (Cl. 254-173)



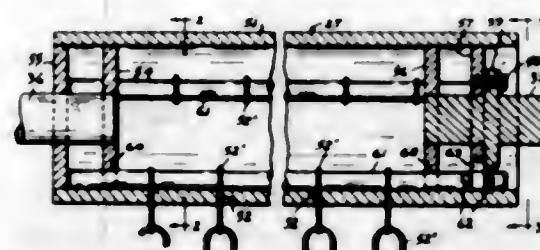
A control system for permitting an increase in speed of hoisting a well logging tool through a well bore. A sensing device is associated within the well bore with the logging sonde and is included in an electrical control circuit connected through the logging cable to the hoisting mechanism at the earth's surface. Strains detected within the well bore at the logging sonde are substantially instantaneously transmitted along the cable to control the hoisting mechanism. Higher speeds of hoisting may now be used because of the speed of control on the hoisting mechanism when a strain is detected at the tool or logging cable.

**3,381,941**  
**STIRRING APPARATUS**  
 Eugene C. Gibson, Havertown, and Otto K. Carlson, Marcus Hook, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware  
 Filed Aug. 17, 1966, Ser. No. 573,056  
 3 Claims. (Cl. 259-108)



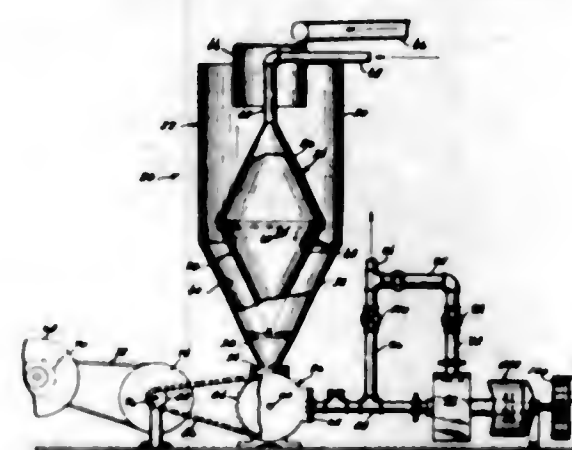
Stirring apparatus having parallel blades with each blade having end portions which are laterally offset with respect to each other. Linking means are connected to the offset end portions of the blades to enable the blades to gradually move from a position adjacent the shaft of the stirrer to a fully extended position.

**3,381,942**  
**BEATER UNIT**  
 George C. Wood, % Darl Corporation, Edenton, N.C. 27932  
 Original application Mar. 10, 1964, Ser. No. 350,884, Divided and this application Jan. 12, 1967, Ser. No. 608,917  
 7 Claims. (Cl. 259-133)



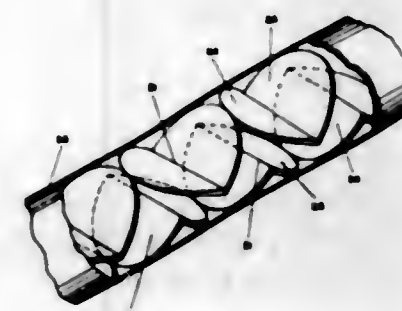
The present application discloses a beater unit for a material mill, mixer and spreader, said beater unit comprising a tubular shaft provided with circumferentially spaced sets of longitudinally aligned openings, sets of beater members extending radially from said shaft, said beater members having eye-like inner ends projecting into said shaft through said openings, removable keeper rods mounted longitudinally in said shaft and extending through said eye-like inner ends of said beater members whereby to attach the latter to the shaft, and means for removably retaining said keeper rods in said shaft, said means comprising at least one disc secured in one end portion of the shaft, said disc being provided in its marginal edge portion with notches slidably and rotatably receiving said keeper rods and also being provided with slots extending radially inwardly from said notches, together with laterally projecting pins provided on end portions of said keeper rods, said pins being adapted to pass through said slots when said rods are slid through said notches into said shaft, but being lockingly engageable with the inner surface of said disc to prevent outward sliding of the rods when the rods are rotated to place said pins out of alignment with the slots.

**3,381,943**  
**METHOD AND APPARATUS FOR MIXING LIQUID AND SOLID MATERIALS**  
 Adason M. Miller, La Grange, Ill. (% Trumbull Asphalt Company, 59th and Archer Road, Summit, Ill. 60501)  
 Filed Jan. 17, 1967, Ser. No. 609,812  
 11 Claims. (Cl. 259-148)



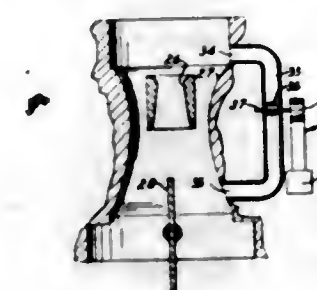
A method and apparatus for mixing liquid and solid materials, particularly liquid asphalt with one or more dry or solid materials, by first pre-soaking or wetting the dry material with asphalt supplied under pressure, and thereafter supplying the asphalt and other material wetted with asphalt to a positive displacement pump where the asphalt and other material are effectively mixed together.

**3,381,944**  
**APPARATUS FOR CONVEYING AND BLENDING SOLIDS**  
 Joe D. Clary, Lakeland, Fla., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut  
 Continuation-in-part of application Ser. No. 75,143, Dec. 12, 1960. This application Nov. 21, 1963, Ser. No. 325,283  
 3 Claims. (Cl. 259-3)



1. In a blender-conveyor combination, a mixer generally horizontally disposed, supported for rotating around its longitudinal axis, equipped with means for effecting said rotation, and provided with an entrance at one end for the admittance of material and an exit at the other end for the discharge of material, the improvement comprising a mixer consisting of a plurality of twin-shell blenders connected in series with one end of said series of blenders in communication with a first closed cylinder, and with the other end of said series of blenders in communication with a second closed cylinder in which the series of twin-shell blenders is constructed within a closed cylinder having an entrance at one end and an exit at the other by attaching two series of V-shaped wedge-like baffles to the opposite sides of the inside surface of said cylinder in alternate order, whereby the apices of one series of said baffles are positioned about opposite the depressions between the members of the opposing series of said baffles to define a tortuous passage through said blender-conveyor.

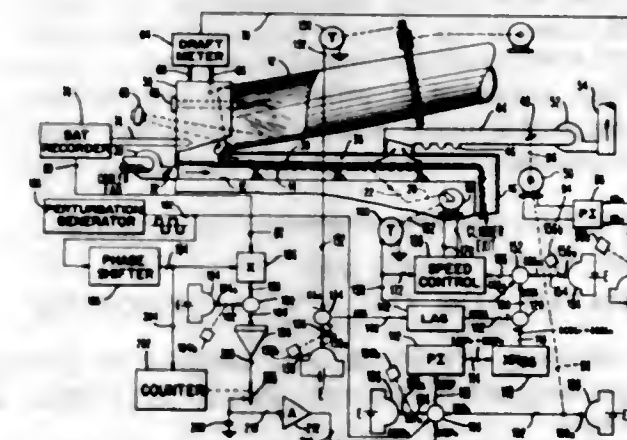
**3,381,945**  
**INERTIA SENSING CARBURETOR METERING CONTROL**  
 William W. Charron, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
 Filed June 22, 1966, Ser. No. 559,464  
 3 Claims. (Cl. 261-39)



A carburetor for an internal combustion engine having an inertia sensing carburetor metering control in which the fuel-air ratio supplied by a carburetor is continuously increased as a direct function of vehicle acceleration and is continuously decreased as a function of increasing vehicle deceleration and including means in which the fuel-air ratio may be increased by means included in the same control during decreasing ambient temperatures and may be decreased during increasing ambient temperatures, respectively.

This is accomplished by providing an air bypass passage positioned so that it has an entrance above the main and booster venturi and an exit just above the throttle plate. A movable butterfly valve attached to a rotatable shaft is positioned in the bypass passage and it is operated by a weighted pendulum suspended from the shaft external to the carburetor. Additionally, the pendulum arm, that is, the arm that connects the butterfly valve with the weighted pendulum is constructed of a bimetallic material which deflects as a function of changes in environmental temperatures.

**3,381,946**  
**METHOD AND APPARATUS FOR THE OPTIMIZATION OF KILN COOLER CONTROL**  
 Charles W. Ross, Hatherso, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania  
 Filed June 7, 1966, Ser. No. 555,871  
 20 Claims. (Cl. 263-32)



The control system disclosed maximizes the temperature of the secondary air fed to a cement kiln from its grate cooler while maintaining the desired hood draft. That portion of the cooling air exhausted to a stack is controlled to maintain the desired hood draft. The resulting position of the cooling air exhaust stack damper is compared with the position required to maintain the maximum secondary air temperature at a certain grate speed and a certain bed depth on the grate. The difference ob-



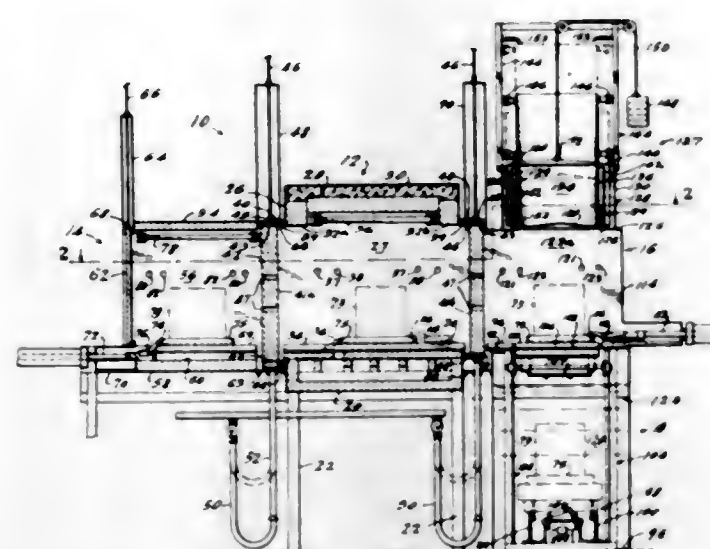
tained from this comparison produces a control signal operable to change the grate speed so as to maximize the secondary air temperature.

The secondary air temperature is optimized by effecting a perturbation of the grate speed and by utilizing a signal representing the resulting changes in secondary air temperature when multiplied by the perturbation signal, shifted in phase, as a signal which can then be averaged and periodically sampled for use in varying the grate speed control.

3,381,947

### FURNACE VESTIBULE HAVING A MOVABLE CEILING

Donald Beggs, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio  
Filed Sept. 20, 1965, Ser. No. 488,675  
10 Claims. (Cl. 266-4)



This disclosure relates to furnace vestibules, and more particularly to furnace vestibules having means for maintaining a predetermined gas pressure therewithin, whereby inert gases contained within the vestibules can be subjected to a wide range of temperatures without such gases being lost to the atmosphere. In an embodiment disclosed herein a furnace vestibule is provided with a ceiling having a movable portion that is responsive to pressure changes. As the gases within a vestibule tend to expand when heated, the movable portion will respond to the change in pressure and increase the volume of the vestibule, until such time as an equilibrium is achieved. Conversely, when the gases tend to contract due to cooling, the movable portion will move in the opposite direction to decrease the volume of the vestibule and maintain a constant pressure therein. Thus, a means is provided to prevent loss of furnace atmosphere when gases expand in the vestibule and to prevent the drawing in of air when gases contract therein.

3,381,948

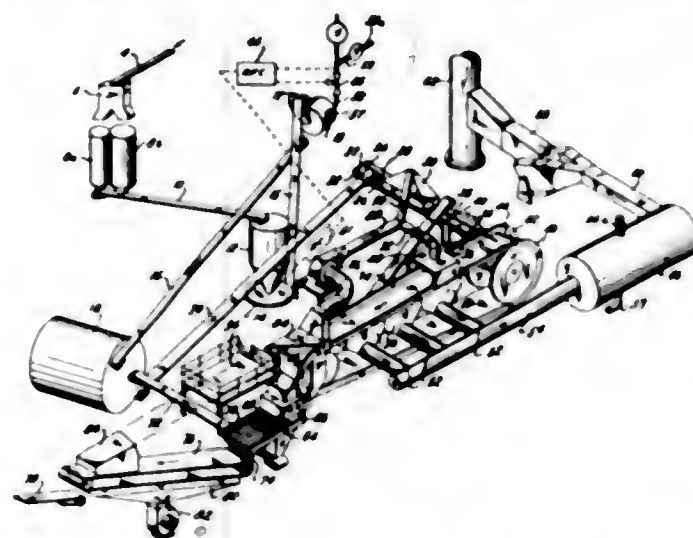
### APPARATUS FOR THE RECLAMATION OF FINE MATERIAL

Harold T. Stirling, Pittsburgh, Pa., assignor to Stirling Sintering Company, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Feb. 11, 1965, Ser. No. 431,847, now Patent No. 3,326,669, dated June 20, 1967. Divided and this application Oct. 18, 1965, Ser. No. 509,669  
8 Claims. (Cl. 266-21)

Apparatus for the reclamation of waste material by sintering or heat hardening pellets including a pelletizer for pelletizing fine particles, a sinter strand on which the pellets are heated, a single means for feeding hearth layer and a layer of pellets to the sinter strand, means for crushing the hot material formed on the sinter strand, and means for recycling hot fines from the crushing station

directly to the pelletizer. The apparatus further includes upgrading means such as a magnetic separator and hood

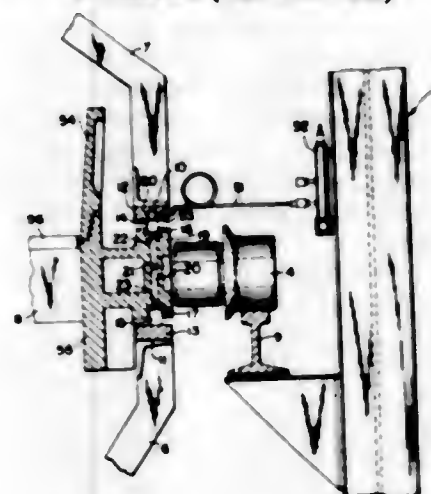


means over the discharge end of the sinter strand, and the means for crushing sinter.

3,381,949

### FLOATING SEAL FOR A TRAVELLING GRATE MACHINE

Harold E. Rowen, Lakewood, Ohio, assignor to McDowell-Wellman Engineering Company, a corporation of Ohio  
Filed Nov. 26, 1965, Ser. No. 509,971  
6 Claims. (Cl. 266-21)

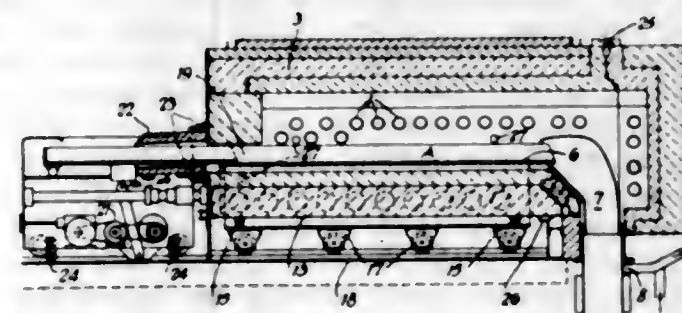


There is provided sealing means between a windbox and a hood and pallets moving between the hood and windbox, as in a traveling grate machine.

3,381,950

### SHAKER HEARTH FURNACES

Charles Claydon Ellis, Watford, England, assignor to Wild Barfield Limited, Watford, England  
Filed Oct. 7, 1965, Ser. No. 493,707  
Claims priority, application Great Britain, Oct. 12, 1964, 41,529/64  
7 Claims. (Cl. 266-24)



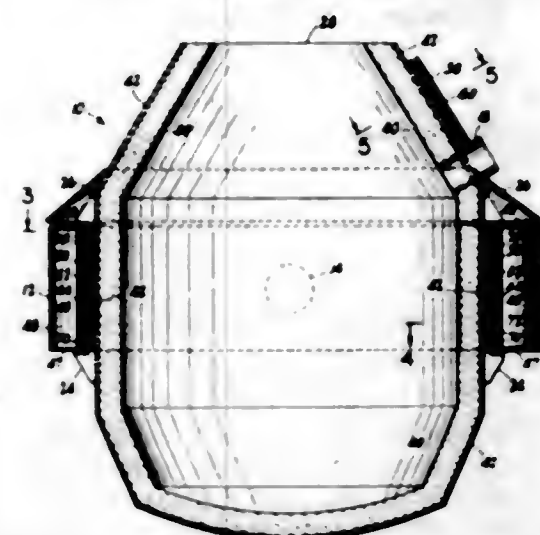
A shaker hearth furnace in which no wearing parts are located within the heating zone, achieved by supporting

the work-conveying tray upon rollers working beneath a floor of the heating zone through the medium of bearers passed through narrow slots extending along the whole length of the floor.

3,381,951

### INSULATING ARRANGEMENT TO PROTECT THE TRUNNION RING AND WALLS OF A BASIC OXYGEN VESSEL

Albert L. Gaines, Signal Mountain, and George A. Rutledge and Ronald B. Creek, Chattanooga, Tenn., assignors to Combustion Engineering Inc., Windsor, Conn., a corporation of Delaware  
Filed Oct. 12, 1965, Ser. No. 495,285  
5 Claims. (Cl. 266-36)



Insulating shields for protecting the trunnion ring of a tiltably mounted furnace vessel, and also for protecting the upper wall portion of the vessel itself, from thermal stress damage. Cylindrical shields positioned intermediate the vessel and trunnion ring prevent the buildup of undue thermal stresses caused by heat radiation from the vessel. Shields are also positioned adjacent the outer surface of the trunnion ring, and adjacent the upper wall portion of the vessel in the vicinity of the pouring opening, to prevent thermal stresses caused by heat radiation from the ladle car into which molten steel is being poured from the vessel.

3,381,952

### LOAD-LEVELING SHOCK ABSORBER

Robert A. Stubblefield, 219 F St., Salt Lake City, Utah 84103  
Filed Oct. 23, 1965, Ser. No. 503,036  
7 Claims. (Cl. 267-34)



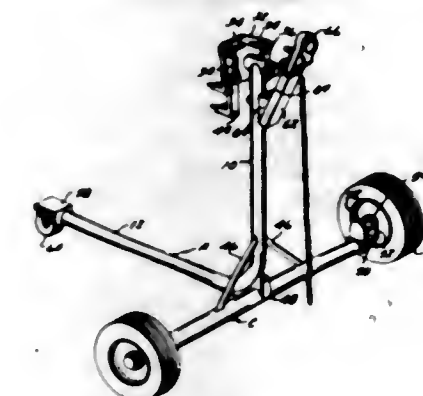
A load-leveling shock absorber unit including a first piston and cylinder, one of which is connected to a sprung mass and the other of which is connected to an unsprung mass, and a second piston and cylinder, the piston of which is connected to one of the masses through a spring and the cylinder of which is connected directly to the other of the masses. The cylinders are concentrically arranged and are of the hydraulic type. The first piston re-

ciprocates within the first cylinder in accordance with undulations in a road surface or the like. If the first piston is located within a mid-portion of the first cylinder such reciprocatory movement has no effect on the second piston. However if such reciprocation of the first piston occurs at either of the opposite end portions of the first cylinder it has the effect of pumping fluid into or out of the second cylinder below the second piston to raise or lower the second piston in the second cylinder and thus raise or lower the sprung mass relative to the unsprung mass.

3,381,953

### PORTABLE AUTOMOTIVE EQUIPMENT SUPPORT

William R. Miller, 11916 Susan Ave., Downey, Calif. 90242  
Filed Mar. 9, 1966, Ser. No. 533,053  
2 Claims. (Cl. 269-17)



1. A device adapted to be disposed in either a first position where it supports an automobile engine in which a plurality of spaced tapped bores are formed in either the front or rear portions thereof at a desired elevation above the ground, or in a second position where said device can be towed by a power vehicle equipped with a first portion of a trailer hitch on the rear thereof, which device includes:

- a heavy L-shaped member provided with first and second legs, each of which have free end portions;
- a short tube rigidly affixed to the first free end portion of said first leg, with said tube being substantially parallel to said second leg;
- a first end piece rigidly secured to the end of said tube forwardly of said first leg, in which first end piece a centrally disposed transverse first bore is formed;
- a second tube slidably and rotatably supported in said first tube;
- a second end piece that closes that end of said second tube most adjacent said first end piece, in which second end piece a tapped second bore is formed that is in longitudinal alignment with said first bore;
- a plate rigidly secured to a second end portion of said second tube and disposed above said second legs;
- first means adjustably supported from said plate for engaging said tapped bores in said engine to removably support said engine from said plate;
- a bolt extending through said first bore that threadedly engages said tapped second bore, which bolt when tightened moves said second tube and plate towards said first end piece until said plate is in frictional pressure contact with the rear end of said first tube with sufficient force to maintain said plate and engine in a desired non-rotatable position relative to said first leg;
- a transverse shaft secured to said L-shaped member at substantially the intersection of said first and second legs;

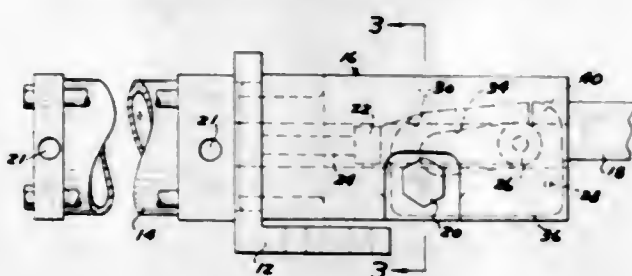


- (j) two pneumatic tired wheels rotatably supported from the end portions of said shaft;
- (k) a roller rotatably supported from the free end of said second leg;
- (l) a rigid member secured to said first leg adjacent said free end thereof, which member extends away from said second leg; and
- (m) a second trailer hitch portion supported from the forward end of said member, which hitch portion is adapted to removably engage said first portion of said trailer hitch, said first leg when said device is in said first position serving to support said engine at a desired elevation above the surface on which said wheels and roller rest, with said first leg when said device is in said second position cooperating with said member and said second hitch portion to permit said device to be drawn from one location to another by said power vehicle.

3,381,954

**CAM WEDGE POWER CLAMP**

Leland F. Blatt, Grosse Pointe, Mich.  
(24121 Mound Road, Warren, Mich. 48091)  
Filed Oct. 20, 1965, Ser. No. 498,478  
2 Claims. (Cl. 269-32)



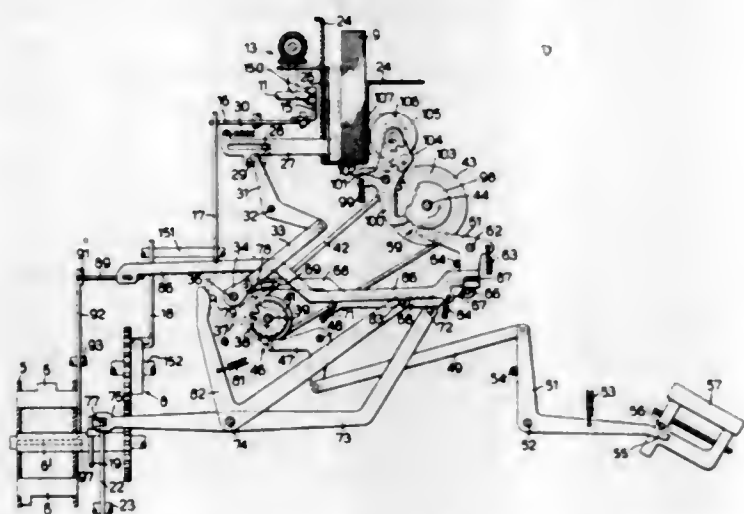
A pivotally mounted clamping arm is actuated by a cylinder operated clevis which is provided with a roller riding in an eccentrically oriented slot in the clamping arm. J-shaped cover plates coplanar with the legs of the clevis and pivotally mounted for pivotal movement with the clamping arm shield the clamping arm slot from debris which might otherwise jam the mechanism.

3,381,955

**AUTOMATIC DOCUMENT FEEDING DEVICE FOR A PRINTING MECHANISM OF AN ADDING OR ACCOUNTING MACHINE**

Giuseppe Riccardi and Sergio Garberi, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy

Filed Oct. 3, 1966, Ser. No. 583,709  
Claims priority, application Italy, Oct. 9, 1965, 22,711/65  
5 Claims. (Cl. 271-4)



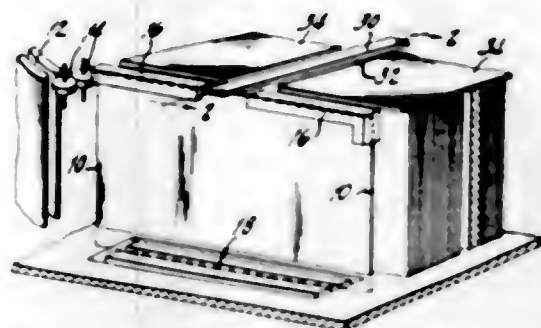
An automatic document feeding device for an accounting machine controlled by a program control device to

print each document in a sequence of printing operations, comprises a clutch for moving the program support through a set of stations. Each document is fed from a stack by the operation of a main operating mechanism and upon encountering a shiftable member causes said clutch to be engaged, said support being adapted to cause the operation of said mechanism to feed the next document. The first document is fed by said mechanism upon operating a starting key.

3,381,956

**CARD MOVING MECHANISM**

Lewis W. Bleiman, Northridge, Calif., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Sept. 2, 1966, Ser. No. 576,927  
7 Claims. (Cl. 271-68)

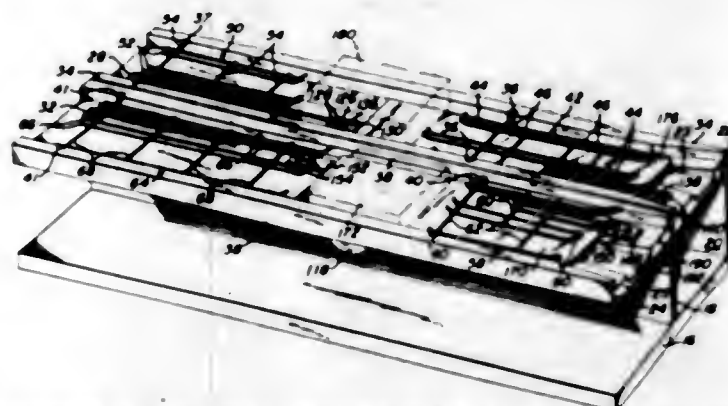


A flexible belt is employed to move a card a short distance, but not in the usual fashion. The belt, rather than lying in a plane parallel to the card for carrying the card on the belt surface, extends substantially perpendicularly to the card surface. To move the card, the end portions of the belt are driven toward the card so that the belt abuts an edge of the card. The direction of card movement is parallel to the card surface.

3,381,957

**BUSINESS MACHINE**

George R. Spaleny, Dayton, Ohio, assignor to The Standard Register Company, a corporation of Ohio  
Filed Apr. 11, 1966, Ser. No. 541,778  
12 Claims. (Cl. 271-84)



Apparatus for rapid simultaneous accurate movement of a plurality of business forms or the like for operation thereupon. The apparatus is particularly adapted for simultaneous movement of a plurality of business forms, one business form being a business form from which information is obtained and another business form being one to which information is applied.

3,381,958

**HAND AND FOOT EXERCISING DEVICE**

Arnold P. Gulland, Etobicoke, Ontario, Canada, assignor to Ray Welding Co. Limited, Toronto, Ontario, Canada  
Filed Oct. 8, 1965, Ser. No. 494,033  
14 Claims. (Cl. 272-79)

1. An exercising device comprising, a vertically extending frame member, at least two reciprocating support

members slidably carried by said frame member, connecting means adapted to extend between and connect said two reciprocating support members such that movement of one of said support members relative to said frame member causes movement of the other of said support members, a handle and a foot pedal carried by



each of said support members, the handle and foot pedal for each particular support member extending horizontally outwardly from opposite sides of said frame member such that one foot pedal and one handle slide in a direction opposite to the other when said support members slide relative to one another.

3,381,959

**BILLIARD CUE AND METHOD OF MANUFACTURING SAME**

Cecil K. Le Fliell, Whittier, Calif., assignor to Le Fliell Manufacturing Company, Santa Fe Springs, Calif., a corporation of California  
Filed Feb. 16, 1965, Ser. No. 433,020  
5 Claims. (Cl. 273-68)



A tubular metallic billiard cue tapering from a relatively thick butt section to a tip-mounting section of relatively small diameter, said cue incorporating in the surface character of the metal thereof a novel facility in the butt portion of the cue for enhancing a frictional relationship between the hand gripping the same and the butt of the cue and in the tip section of the cue a facility enhancing the smooth sliding of the cue through the fingers of the hand with which said tip portion is normally guided in the use of the cue.

3,381,960

**BILLIARD CUE AND TIP**

Howard A. Reinhart, 24011 Talbot, St. Clair Shores, Mich. 48082  
Continuation-in-part of application Ser. No. 424,603, Jan. 11, 1965. This application Sept. 22, 1965, Ser. No. 496,226  
7 Claims. (Cl. 273-70)



The subject matter of this invention is a billiard cue and cue tip wherein the cue tip is made of a mixture of polyurethane and finely divided leather in a ratio of about 2 to 6 grams leather for each 3 oz. polyurethane.

3,381,961

**BASEBALL GAME USING VARIOUS SHAPED DISCS TO REPRESENT VARIOUS TYPES OF PITCHES**

John R. Wright, Northfork, W. Va. 24868  
Filed Oct. 18, 1965, Ser. No. 497,145  
3 Claims. (Cl. 273-90)

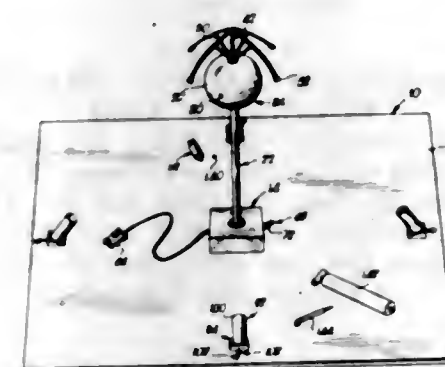


This is a simulated baseball game having a unique pitching system simulated by the rolling of various shaped preformed cylinders representing various types of pitches on an incline apparatus, said apparatus simulating a playing field and including a batting mechanism.

3,381,962

**TARGET GAME EMPLOYING SELF-PROPELLED PROJECTILES AND ROTATING TARGET MEANS**

Lawrence E. Leigh, 8020 Santa Fe Drive, Overland Park, Kans. 66612  
Filed Mar. 16, 1966, Ser. No. 534,886  
9 Claims. (Cl. 273-101)



1. In a game:
  - a support having a playing surface;
  - a standard secured to said surface;
  - a moon mounted on the uppermost end of said standard;
  - a space platform;
  - means mounting said platform on the support for rotation about the moon in spaced relationship thereto;
  - mechanism coupled with the platform for rotating the latter about the moon;
  - a capsule adapted for rendezvous with said platform;
  - means for releasably holding said capsule to said platform;
  - means on said moon for releasably holding said capsule;
  - a launcher mounted on said support;
  - a rocket carried by the launcher and adapted to hold said capsule, said rocket having propellant means for shooting said capsule into rendezvous with said platform; and
  - means for transferring said capsule from said platform to the moon, including means to move said platform into proximity with the holding means on said moon.

3,381,963

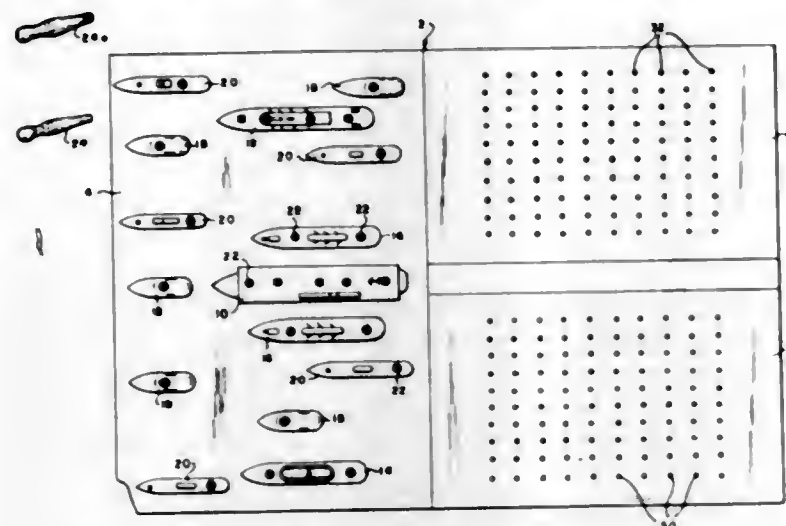
**NAVAL WARFARE GAME**

Raymond P. Dupuis, Fairfield, Calif., assignor to Novelty Associates, Fairfield, Calif., a partnership of California  
Filed July 12, 1965, Ser. No. 471,251  
7 Claims. (Cl. 273-135)

5. As the playing parts of a naval warfare game, for each player, a playing board having thereon a first area having thereon representations of a plurality of ships each



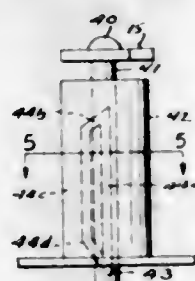
having one or more peg holes the number of which is proportional to the relative offensive power of the type of ship represented, the peg holes of different representations being differently colored, a second area having a plurality of peg holes therein, and a number of pegs equal



to the number of peg holes in the second area, some but not all of said pegs being colored at a part thereof which is not visible when the peg is in a peg hole of the second area, the colored pegs corresponding in number and color to the colored peg holes of the representations of ships in the first area.

### 3,381,964 PHONOGRAPH RECORD CHANGER STABILIZER ARM

Willard J. Faulkner, Glen Ellen, Ill., assignor to Karl W. Jensen, La Grange, Ill.  
Original application Feb. 24, 1964, Ser. No. 346,602, now Patent No. 3,304,092, dated Feb. 14, 1967. Divided and this application Dec. 20, 1966, Ser. No. 627,569  
4 Claims. (Cl. 274-1)



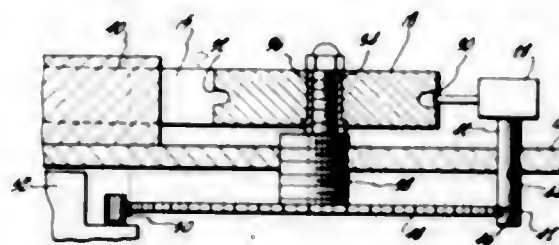
A stabilizer arm for stabilizing the records disposed on a spindle having a shoulder for supporting the records adjacent their center holes over a horizontal turntable is mounted on a shaft which is slidably disposed in a hollow post disposed to one side of the turntable. The hollow post is provided with vertically extending grooves into which a pin on the shaft extends for guiding the shaft in its upward and downward movement. At the bottom ends of the grooves they form a cam surface which engages with pin and causes the shaft to be rotated and the stabilizer arm to be swung outward to one side of the turntable after the last record is released from the spindle.

### 3,381,965 TRACK CHANGING MECHANISM FOR MAGNETIC TAPE RECORDERS

Lewis B. Browder, Arcadia, Calif., assignor, by mesne assignments, to Bell & Howell Company, Chicago, Ill., a corporation of Illinois  
Filed Oct. 23, 1965, Ser. No. 502,859  
8 Claims. (Cl. 274-4)

There is described a multiple track magnetic tape recorder in which a magnetic head is shifted laterally from one track to the next in relation to the magnetic tape. A

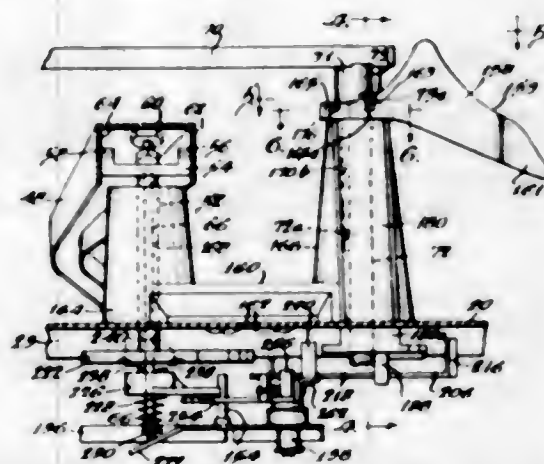
special mechanism is provided by which the pressure of the magnetic tape against the pole tips of the magnetic head is relieved while the magnetic head is being shifted from one track to the next. The head is limited to movement laterally of the tape. Opposite the head, on the other side of the tape, is a roller having a groove. The roller



normally presses the tape against the pole tips of the head, the groove being aligned with the pole tips. During track changing, the roller is backed off from the head and shifted laterally relative to the tape, together with the head, and then brought back into tape engaging position for the next track.

### 3,381,966 RECORD CHANGER

Norman L. Williams, Villa Park, Ill., assignor to Warwick Electronics, Inc., a corporation of Delaware  
Filed Mar. 17, 1966, Ser. No. 535,070  
6 Claims. (Cl. 274-10)



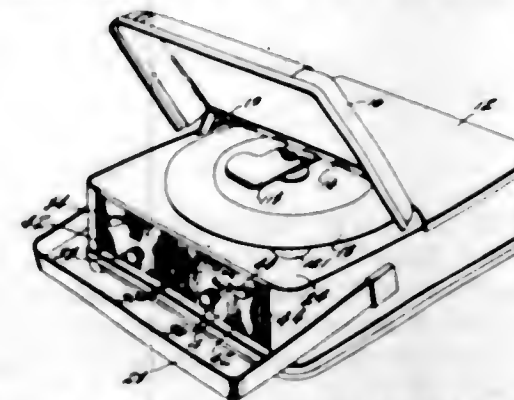
A record changer for automatically playing records of different size, and including a pressure arm that is mounted on a motor board for movement between a first position adjacent a central spindle for stabilizing a stack of records on the spindle, and a second position at the side of the turntable to facilitate the positioning of a record over the spindle. The record changer includes a shut off mechanism that is actuated in response to the pressure arm holding a size sensing member against movement, and the pressure arm includes means for holding the size sensing member against movement in both the first and second positions of the pressure arm, so that a shut off cycle will be initiated either when the last record in a record stack has been played, or when a single record has been played.

### 3,381,967 RECORD PLAYER

Warren M. Miner, Brooklyn, and Akira A. Yamasaki, Tappan, N.Y., assignors to The Solocast Company, a corporation of Connecticut  
Filed June 5, 1964, Ser. No. 372,815  
11 Claims. (Cl. 274-13)

1. A record player including a base, a turntable on the base for supporting a record, a stylus, a stylus carriage, guide means for guiding the carriage in a direction parallel to the plane of the record, and means for advancing the carriage including a lead screw parallel to the

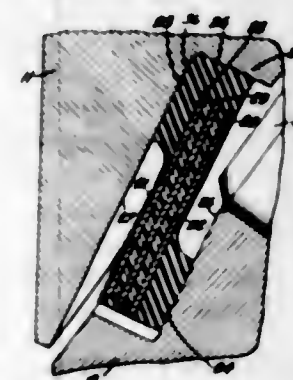
guide means, pivotally engaging means for driving the turntable, means for rotating said lead screw from said turntable, follower means on said carriage for engagement with the lead screw for moving said stylus in one direction relative to said record and second driving means for moving said stylus in an opposite direction



relative to said record, said second driving means being a motor pivotally movable between an inoperative position and an operative position, and said second driving means being in said inoperative position during movement of said stylus in said one direction and in said operative position during movement of said stylus in said opposite direction.

### 3,381,968 BEARING SEAL

William J. Neilson, Whittier, Calif., assignor to Smith Industries International, Inc., Compton, Calif., a corporation of California  
Filed Aug. 17, 1965, Ser. No. 480,439  
3 Claims. (Cl. 277-95)



A seal for use between relatively rotatable members such as generally on a rock bit body and a cutter mounted thereon for rotation relative thereto. It includes at least a pair of spring disks of the Belleville type embedded in a rubber-like material to which they are bonded and wherein the rubber-like material has sealing surfaces for engaging the bit body and cutter respectively, the spring disks being of a thin resilient material adapted to flex under pressure between the relatively rotatable parts to be sealed to maintain the rubber-like material in sealing engagement, the thinness of the disks substantially eliminating metal fatigue occurring where a single thicker disk is used, and the provision of two or more disks providing sufficiently strong spring action. The disks may be separated by the rubber-like material or by suitable plastic antifriction spacers.

3,381,969  
THERMAL PACKER CONSTRUCTION  
Morgan L. Crow, Marion D. Kilgore, and Harry E. Stimpson, Dallas, Tex., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware  
Filed Feb. 1, 1965, Ser. No. 429,456  
7 Claims. (Cl. 277-117)

1. In a well packer:  
a tubular support member;  
a generally cylindrical packing means disposed on said

tubular support member, said packing means comprising

- a packer member formed from asbestos braid encircling said tubular support member,
- a boot member formed from asbestos material encircling said packer member providing a protective cover thereover, and
- means retaining said boot member over said packer member;
- a back-up ring encircling said tubular support member adjacent each end of said packer member, each said back-up ring including
- a cup-like member of deformable material encompassing a portion of the exterior of said packing means, and
- a deformable support ring supportingly engaging each said cup-like member, each support ring including an annular flange disposed generally transversely relative to the axis of and encircling said tubular support member, a wall portion extending generally parallel to the axis of said tubular support member and relatively toward said packing means;



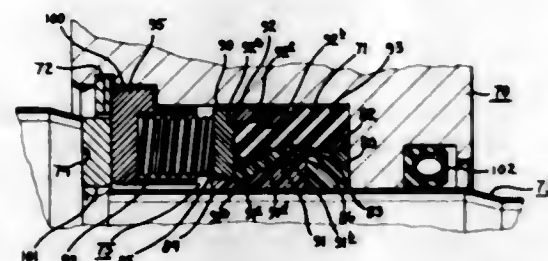
an annular support member encircling said tubular support member adjacent one end of said packing means and supportingly engaging the adjacent one of said back-up rings; and,  
an annular member encircling said tubular support member adjacent the other end of said packing means, said annular member being engageable with the other said back-up ring, said annular member and said annular support member being movable relatively toward each other to deform said packing means.

3,381,970  
LOW-FRICTION HIGH-PRESSURE SEAL ASSEMBLY  
Norman F. Brown, Dallas, Tex., assignor to Ods Engineering Corporation, Dallas, Tex., a corporation of Delaware  
Filed Oct. 16, 1964, Ser. No. 404,301  
24 Claims. (Cl. 277-119)

1. A pressure seal for effecting a sealed relationship between at least two surfaces comprising in combination: a seal housing a stuffing box formed therein; a cylindrical member extending through said stuffing box; at least one of said housing and said cylindrical member being movable with respect to the other; a back-up ring positioned in said stuffing box for contacting a first surface in said stuffing box and an adjacent surface of said cylindrical member; a primary seal ring supported for



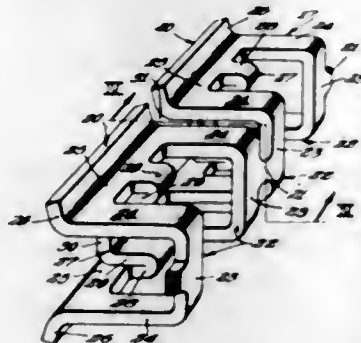
contact with said adjacent surface inwardly of said back-up ring toward a source of pressure between said housing and said cylindrical member; secondary seal ring means supported around and engageable with said primary seal ring and a second surface of said stuffing box; means biasing said secondary seal ring means for movement with respect to said primary seal ring and said stuffing box away from said pressure source; wedge means on said primary seal ring and said secondary seal ring means engageable upon such movement of said secondary seal ring means with respect to said primary seal



ring to urge said primary seal ring into sealing engagement with said cylindrical member and to urge said secondary seal ring means into sealing engagement with said second surface of said stuffing box and to urge said primary seal ring and said secondary seal ring means into sealing engagement with each other; and a body of material capable of plastic deformation confined by said housing, said back-up ring, said primary seal ring and said secondary seal ring means and acting on said primary seal ring and said secondary seal ring means to bias the same toward sealing position upon compression and deformation of said body of material.

3,381,971

**PISTON RING EXPANDER AND SPACER**  
Donald J. Mayhew, Manchester, Mo., assignor to Ramsey Corporation, St. Louis, Mo., a corporation of Ohio  
Filed Oct. 23, 1965, Ser. No. 503,897  
5 Claims. (Cl. 277-140)



A spacer-expander ring for thin rail rings of the inwardly opening channel type. The expander is composed of circumferentially spaced inwardly directed U-shape segments having outer peripheral upstanding legs at their ends connected at their outer peripheries into an integral ring, each segment having an upstanding leg at the inner periphery thereof supporting the inwardly opening U against collapse and each segment having axially outwardly directed lips at the inner periphery thereof to engage the inner peripheries of the rail rings.

3,381,972

**SKI PROVIDED WITH TRACKING MEANS**  
Earl Andrew Miller, Orem, Utah 84057  
Filed Feb. 9, 1965, Ser. No. 431,379  
8 Claims. (Cl. 280-11.13)

1. The combination with a ski having a tread surface, an upper surface, and inner and outer edge surfaces substantially perpendicular to the tread and upper surfaces of means operably related to the tread surface for guid-

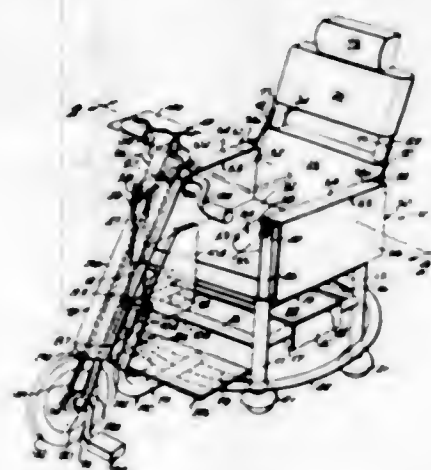
ing the ski, said guiding means including a metal strip positioned in a recess provided in the tread surface having a width terminating short of the longitudinal center line of the ski and inner edge surface and extending longitudinally of the tread surface and inner edge surface for



a substantial portion of the length of the ski, said metal strip having a lower face flush with the tread surface and a side face flush with the inner edge surface, and a guiding part which is semicircular in cross-section protruding downwardly from the lower face of the metal strip inwardly of said side face.

3,381,973

**COMBINATION INVALID'S CHAIR AND COT**  
Lottie M. Carr, 1280 NE. 159th St.,  
North Miami Beach, Fla. 33162  
Filed Aug. 25, 1966, Ser. No. 575,143  
9 Claims. (Cl. 280-30)



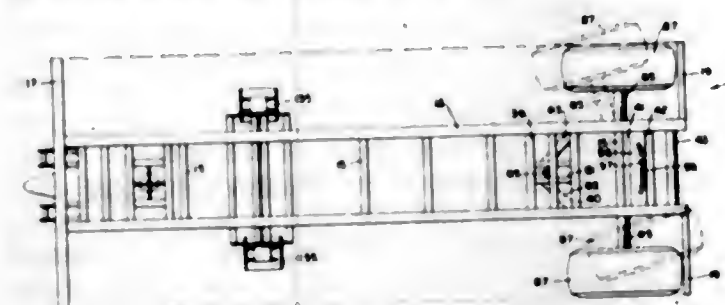
1. A combination invalid's chair and cot comprising a seat structure having a pair of front corner legs and a pair of rear corner legs, a back rest structure extending upwardly from and supported by said rear corner legs, a chair side arm member at each side of said seat structure and extending from front to back between a front corner leg and a rear corner leg, said chair side arm members each comprising a plurality of hinged panels, each of said hinged panels comprising an inside rectangular panel pivotally attached to said seat, a comparatively narrow panel, and an outside rectangular panel of substantially the same size as said inside rectangular panel, said panels being selectively movable between a first position wherein said inside and outside panels extend downwardly from said narrow panel forming an armrest and a second position wherein said hinged panels extend outwardly from and on the same horizontal plane as said seat, and means for supporting said hinged panels in each of said positions.

3,381,974

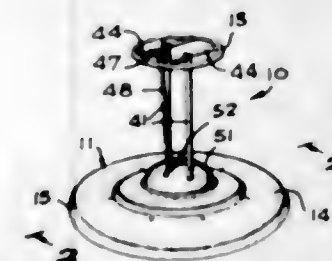
**CONTAINER CHASSIS AND CASTER AXLE ASSEMBLY**  
Nathan Alexander Carter, Jr., and Roy Sidney Johnson, Jr., Memphis, Tenn., assignors to Arrow Trailers, Inc., Memphis, Tenn., a corporation of Tennessee  
Filed June 2, 1966, Ser. No. 554,799  
4 Claims. (Cl. 280-81)

A trailer chassis for supporting demountable containers and being detachably mounted upon a slidably adjustable

axle for stability and load distribution adjustment. The axle has a pivotal wheel assembly selectively capable of casting while the chassis is in motion but may be secured out of casting condition when the chassis is attached rearwardly of a towing tractor and forwardly of a similar trailer chassis and container.



**CHILD'S HAND-PROPELLED VEHICLE**  
Richard G. Bowman, 7652 Bella Vista St.,  
Los Angeles, Calif. 90045  
Filed Feb. 18, 1966, Ser. No. 528,441  
1 Claim. (Cl. 280-240)



A toy vehicle having a platform on which a rider may stand, a pair of wheels at essentially the center of the platform, a steering unit above the platform for turning the mentioned wheels relative to the platform to steer the vehicle, mechanism for driving the wheels in response to up and down pumping motion of the steering unit, to thereby drive the vehicle, and additional wheels at the underside of the platform for engaging the ground at locations about the previously mentioned wheels.

3,381,976

**TUBING ADAPTER**  
James O. Goodson, Baytown, Tex. 77520, and  
Lloyd E. Retamer, Houston, Tex.  
Continuation of application Ser. No. 453,335, May 5,  
1965. This application Mar. 13, 1967, Ser. No. 622,652  
2 Claims. (Cl. 285-18)

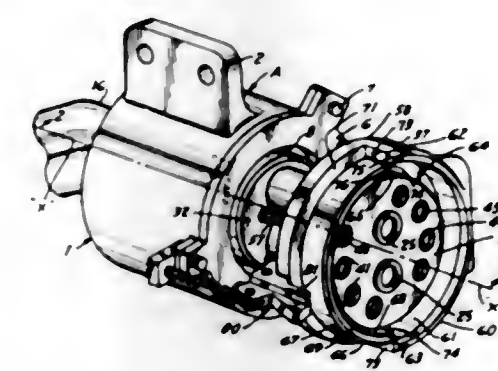


A tubing adapter for connecting to the end of the outer tube of a liquid level sight gage. The adapter has a body with an opening into which the inner tube of transparent material extends. The opening in the body and

the seals between the body and the inner tube are arranged to allow the inner tube to be moved longitudinally through the opening into and out of position in the outer tube without disrupting the connection between the end of the outer tube and the adapter.

3,381,977

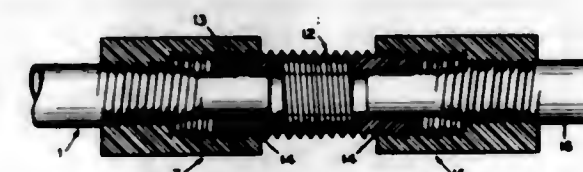
**TRAIN LINE SERVICE CONNECTION MEANS**  
William J. Metzger, East Cleveland, Ohio, assignor to  
Midland-Ross Corporation, Cleveland, Ohio  
Filed June 30, 1965, Ser. No. 468,316  
9 Claims. (Cl. 285-26)



A connector adapted to be mounted on a coupler of a railway vehicle and carrying train line terminal means to be connected to train line terminal means of a like confronting connector, which connector has a forwardly-biased movable member having on its front end a forwardly-projecting first rib having an inner generally cylindrical surface and a forwardly-projecting second rib having an outer generally cylindrical surface, the radius of the outer surface of the second rib, being slightly less than the radius of the inner surface of the first rib, the ribs together extending over an arc of essentially 360°, to aid in aligning confronting connecting members of coupling couplers and to protect the terminal means by a shroud formed by the interfitting ribs of the confronting connected connecting members.

3,381,978

**FLUID SEAL CONNECTION**  
Albert J. Faustini, Oakland, Calif., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.,  
a corporation of Delaware  
Filed June 14, 1966, Ser. No. 557,404  
1 Claim. (Cl. 285-40)



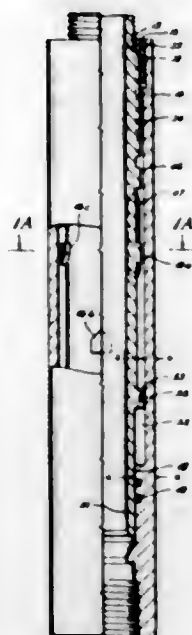
This invention relates to a novel fluid coupling apparatus which finds utility in connecting fluid carrying tubes or pipes composed of flexible plastic materials. Internally, the coupler is formed with two oppositely threaded sections, one being threaded in the same hand as the external threads of one pipe or tube and the other section being threaded in the opposite hand matching the threading of the second pipe or tube. Rotation of the coupler, after the insertion of the pipes or tubes therein, causes the tubes or pipes to be drawn together in a fluid-tight seal.



3,381,979

**SAFETY JOINT**

Roy L. Dudman, Sugar Land, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas  
 Filed Feb. 14, 1966, Ser. No. 527,193  
 6 Claims. (Cl. 285-81)

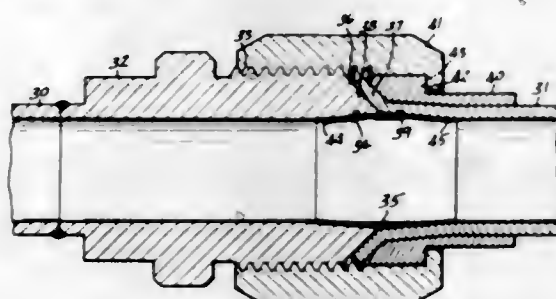


The particular embodiment described herein as illustrative of one form of the invention in safety joints used in well bores includes telescopically related inner and outer members having coengageable means for limiting telescoping movement. Selectively engageable means are provided between the members operable by longitudinal and rotational motion of one of the members relative to the other for rendering the coengageable means inactive so that the members can be withdrawn from telescoping relation to each other. In order to prevent premature inactivation of the coengageable means, a low pressure seal chamber is provided between the members which are formed in such a manner that fluid pressure in the well bore will exert force on the members in directions tending to maintain the telescoping relationship of the members.

3,381,980

**PIPE JOINT**

Lester E. Smith, Herrin, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia  
 Filed Sept. 8, 1964, Ser. No. 394,908  
 2 Claims. (Cl. 285-109)



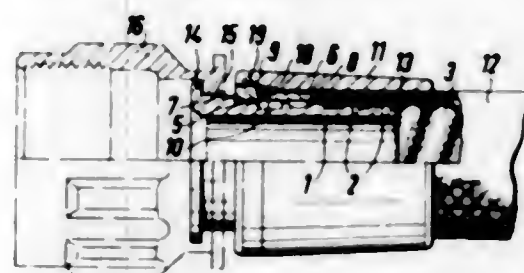
1. A coupling comprising a first length of tubing having screw threads and a tapered portion at one end, a second length of tubing having a flared end portion engageable with said tapered portion to provide a sloping joint between said lengths of tubing, means maintaining said flared end portion and said tapered portion in contacting relationship, said first and second lengths of tubing each having an outwardly flared inner surface extending away from said joint, said flared inner surfaces meeting at said joint to define an apex, a thin metallic expansible seal member positioned in said lengths of tubing spanning said joint

and having a wall thickness less than the wall thickness of said tubing, said seal member being cylindrical with a substantially constant internal and external diameter prior to said first and second tube members being in contacting relationship with the outer diameter of said seal member being greater than the unflared internal diameter of said tubing and less than the internal diameter of said tubing at said apex, the end portions of said seal member engaging the outwardly tapered surfaces of the internal surface along a portion of the length thereof due to the deformation thereof when said first and second lengths of tubing are drawn into contacting relationship, the outer surface of the intermediate portion of said seal member being spaced from the tapered surfaces adjacent said apex whereby said intermediate portion of said seal member can expand into contact with said tapered surfaces when subjected to increased temperatures and pressures.

3,381,981

**END FITTINGS FOR FLEXIBLE CONDUITS**

John William Wilson, Slough, England, assignor to Superflexit Limited, Slough, England, a British company  
 Filed Jan. 4, 1966, Ser. No. 518,709  
 Claims priority, application Great Britain, Jan. 6, 1965, 599/65  
 3 Claims. (Cl. 285-149)

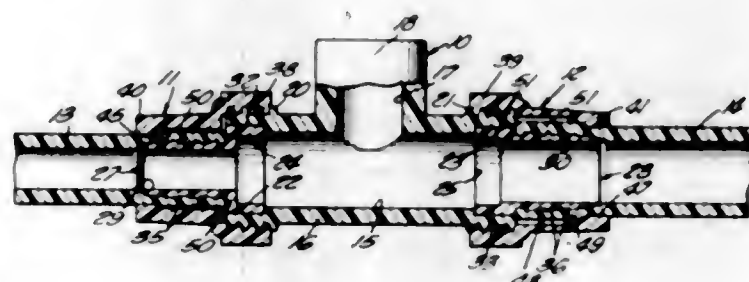


The invention relates to an end fitting which includes an externally threaded nipple adapted to screw into the end of a conduit having a tubular outer screen or sheath, a tubular collar surrounding the nipple and a ferrule enclosing that part of the conduit surrounding the nipple and fitting an enlarged diameter part of the collar, the end of the screen or sheath being gripped by the ferrule and the collar.

3,381,982

**PLASTIC FITTING ASSEMBLY**

John M. Elek, Los Angeles, Calif., assignor to Armstrong Plastic Specialties Co., Los Angeles, Calif., a corporation of California  
 Filed June 6, 1966, Ser. No. 555,394  
 2 Claims. (Cl. 285-156)



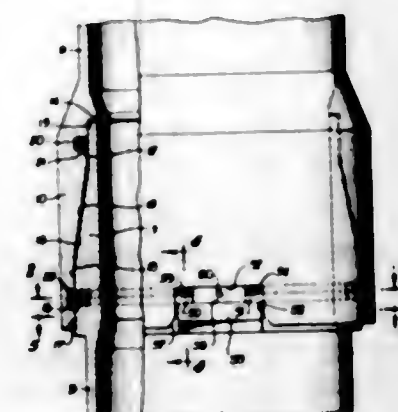
A plastic fitting assembly including a fitting for accommodating different size hoses. The assembly includes a fitting, a pair of inserts and a pair of nuts. The fitting includes recessed shoulders which are abutted by flanged

ends of the inserts, the other ends of the inserts being inserted into the ends of hoses. The nuts encircle the hose and each includes a collar portion for engaging the outer surface of the respective hoses to force the flanges of the inserts into a sealed relationship with the fitting and for sealing the hoses with the inserts.

3,381,983

**CONNECTIBLE AND DISCONNECTIBLE TOOL JOINTS**

James W. E. Hanes, Ventura, Calif., assignor to Ventura Tool Company, Ventura, Calif., a corporation of California  
 Filed Aug. 16, 1965, Ser. No. 479,791  
 8 Claims. (Cl. 285-321)

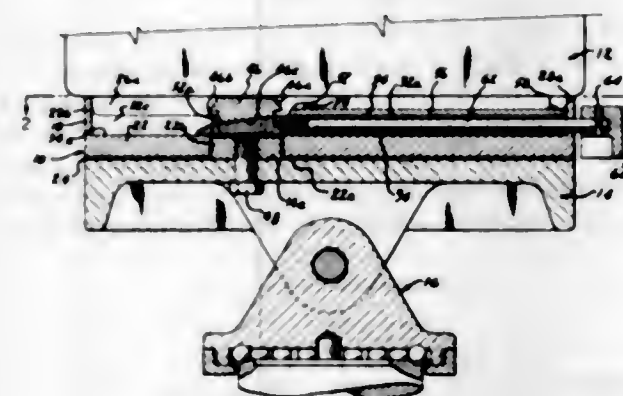


A tool joint including a pin member receivable in a box member with a split lock ring releasably coupling the members together, the box member having a window exposing the split ends of the ring for access by a releasing tool, the window also receiving a lug for transmitting torque between the members and for retaining the split ends of the ring exposed in the window.

3,381,984

**CONNECTOR**

Jack D. Sanders, Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana  
 Filed Mar. 10, 1966, Ser. No. 533,305  
 6 Claims. (Cl. 287-20)

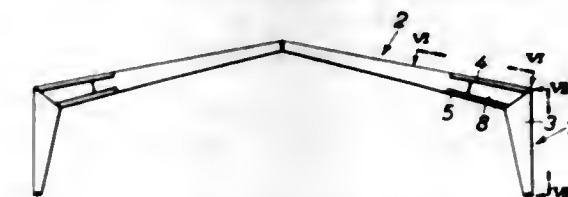


A connector for positively securing a TV camera upon a platform. An anchor pin that extends from the platform is passed through a hole in the TV camera base and is engaged by a tapered locking pin. This tapered locking pin is driven through a notch in the anchor pin by a locking pin spring. Means are provided for detaining the locking pin with the locking pin spring compressed until the TV camera is placed in position, and for again detaining the locking pin with the locking pin spring compressed while the TV camera is removed from the platform.

3,381,985

**CORNER JOINT BETWEEN TWO TIMBER BEAMS**

Erkki Anttila, Isokaari 32C, Helsinki 20, Finland  
 Filed Jan. 18, 1966, Ser. No. 521,367  
 4 Claims. (Cl. 287-20.92)

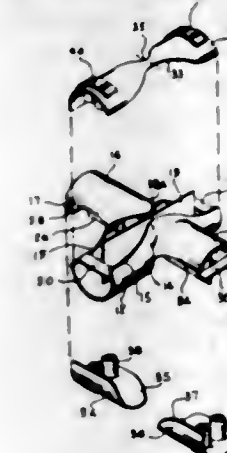


A corner joint between two timber beams formed by a plurality of adhesively secured layers, each of which includes a plywood panel extending longitudinally in one of the beams, and a plank extending in the lengthwise direction of the other beam and secured to the marginal edge of a panel of an adjacent layer along the outer edge of the corner joint.

3,381,986

**FRICTIONLESS COUPLING**

Frederick A. Seelig, New Hartford, N.Y., assignor to The Bendix Corporation, a corporation of Delaware  
 Filed Feb. 23, 1966, Ser. No. 529,509  
 11 Claims. (Cl. 287-86)

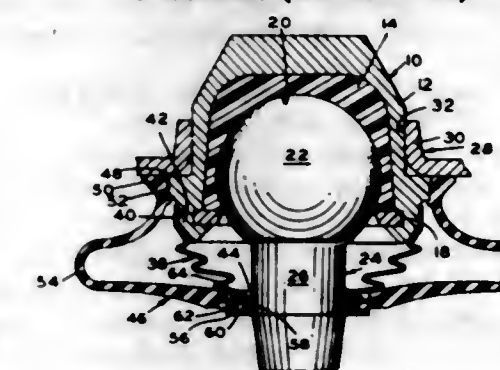


A frictionless coupling. By combining a plurality of crossed flexure elements with a tubular, generally X-shaped housing and by splitting the housing along the tubular arms so that each spring in an arm is connected on one edge or end to one portion of the arm and on the opposite edge or end to the remaining portion of the arm, the split portions of the housing are able to move on the springs a limited amount relative to each other. Since the pairs of arms are to be connected to separate sets of spring, the coupling is free to execute virtually loss-free limited rotation about two axes.

3,381,987

**DOUBLE WALL SEAL FOR ARTICULATED JOINTS**

Robert A. Huesen, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
 Filed June 4, 1965, Ser. No. 461,335  
 7 Claims. (Cl. 287-90)



A flexible seal assembly for an articulated joint of the



ball and socket type having inner and outer flexible seals engaging the two major parts of the joint.

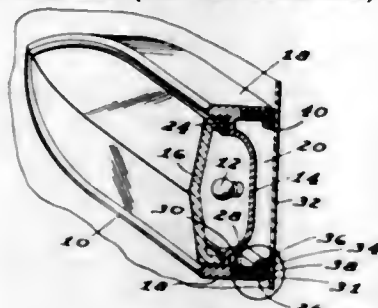
3,381,988

**SEALED CONSTRUCTION**

John H. Dewar, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Mar. 1, 1966, Ser. No. 530,823

7 Claims. (Cl. 287—189.36)



Lamp bezels, door handles, outside mirrors, and other members can be sealingly mounted on vehicle bodies using the sealed construction of this invention with the seal substantially hidden from view. The seal comprises a tail portion that is inserted into a channel formed in the outer wall of the mounted member and a head portion that is compressed between the inner leg defining the channel and the base member. By deforming the tail portion within the channel, the seal is retained in the mounted member prior to assembly of the mounted member onto the base member.

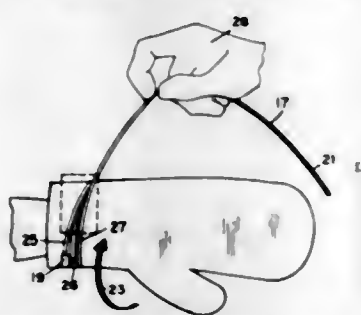
3,381,989

**BINDING MEANS AND METHOD**

John C. Thomas, 451 Queensboro Lane, Haddonfield, N.J. 08033

Filed Nov. 18, 1965, Ser. No. 508,483

9 Claims. (Cl. 289—1.2)



This invention is essentially concerned with binding means and method wherein an elongated flexible tie is wrapped about a resiliently constrictable member with overlapping tie portions relatively slidable for engagement of a later wound tie portion beneath an earlier wound tie portion upon application of tension to maintain the tie in position.

3,381,990

**CLOSURE NIGHT-LATCH**

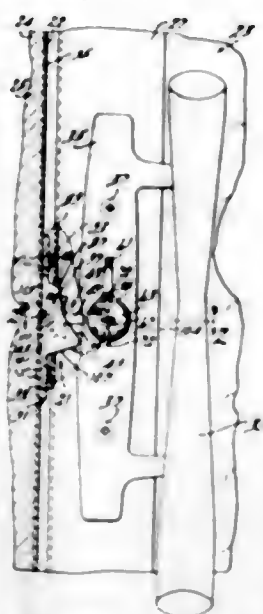
Fred W. Kreger, Grosse Pointe, Mich., assignor to Sash Controls, Inc., Detroit, Mich., a corporation of Michigan

Filed Aug. 30, 1966, Ser. No. 576,109

10 Claims. (Cl. 292—62)

1. In closure construction of the type having a closure panel slidably disposed in a jamb positioned in an enclosure opening for movement from an open to a closed position, the improvement which comprises latch means carried by said closure and pivoted about an axis, a keeper on said jamb and adapted to receive said latch means, cooperable shoulder means on said latch means and said keeper adapted to hold said closure in a closed position when said latch is pivotally moved to a first pivoted position,

said latch means being pivotally movable to a second pivoted position to move said shoulder means out of cooperative relation and permit said closure to be opened, cooperable detent means on said latch means and keeper for preventing pivotal movement of said latch means out



of said first pivoted position, and means on one side of said closure panel for moving said latch means in the direction of said axis from a first position where said detent means is out of cooperative relation to a second position where said detent means is in cooperative relation.

3,381,991

**DEVICES FOR COUPLING WINDOW SASHES TO EACH OTHER**

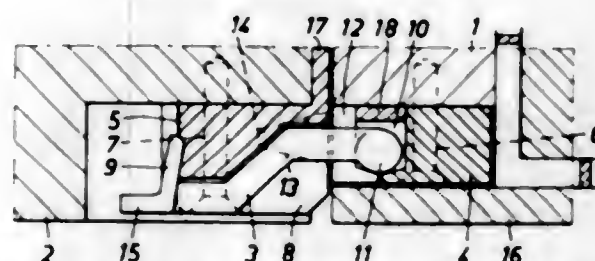
Gösta Holm, P.O. Box 41, Ransta Sweden

Filed Dec. 7, 1965, Ser. No. 512,071

Claims priority, application Sweden, Dec. 23, 1964,

15,638/64

7 Claims. (Cl. 292—87)



A device for coupling a pair of window sashes to each other comprising an anchoring member, a resilient latch arm movably connected to the anchoring member and a locking member engageable by a hook integrally affixed to the latch arm, wherein the latch arm is stepwise shaped with the ends thereof transversely displaced relative to each other so that the arm will flex longitudinally when the hook engages the locking member and will resiliently urge the sashes together when they are coupled to each other.

3,381,992

**FASTENING DEVICE**

Alfred J. Friesen, 1506 Gainey Ave.,

Flint, Mich. 48503

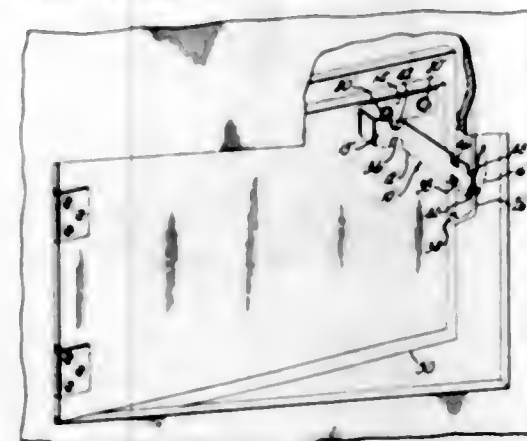
Filed May 31, 1966, Ser. No. 553,773

1 Claim. (Cl. 292—87)

1. A fastening device for compartment closure means, comprising:

- a pin adapted for mounting upon a wall of said compartment and to extend within said compartment;
- a resilient member having a hook thereon adapted for mounting upon said closure means and to extend within said compartment at substantially a right angle to said closure means when said closure means closes said compartment;

said resilient member being adapted to permit said hook to pass said pin during closure of said closure means, to yieldingly dispose said hook, during further closure of said closure means, in a path which will engage said pin upon subsequent reopening of said closure means, and said resilient member being further adapted to be manually sprung to bring said hook out of said path of engagement with said pin when said closure is partially reopened, said pin being substantially J-shaped and including a post spaced from and parallel to the main shaft thereof and disposed to contact the outer side of said resilient member during closure of said closure means and to contact the inner side of said resilient member during opening of said closure means, and said resilient member having a first notch arranged to permit said post to pass



from the outer side to the inner side of said member under urging by said resilient element during closure of said closure means, a second notch arranged to permit said post to pass from the inner side to the outer side of said resilient member and said hook positioned in a path which will engage the main body of said pin under urging by said resilient element when said closure means is thereafter partially reopened, and, further, permitting said post to pass from the outer side of said resilient member to the inner side thereof when said resilient member subsequently is manually sprung outwardly, and a third notch near the vertex of said hook arranged to permit said post to pass said hook when said resilient member is thus subsequently manually sprung outwardly and said closure means is thereafter opened still further.

3,381,993

**CLOSURE LATCH**

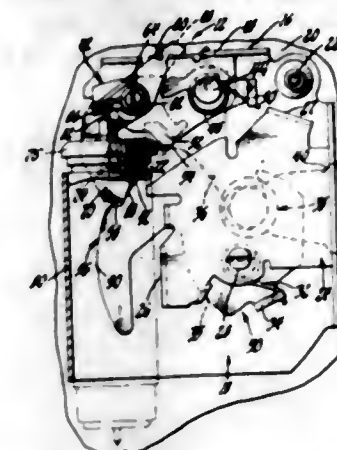
Alfonas Arlauskas, Livonia, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 24, 1967, Ser. No. 625,786

6 Claims. (Cl. 292—216)

A vehicle body door lock includes a frame on which is pivotally mounted a latch bolt having spaced shoulders on an edge thereof. A spring biased-detent pivotally mounted on the frame includes a foot engageable with each of the bolt shoulders to locate the bolt in latched and intermediate positions. A blocking lever is pivotally mounted on the detent and is spring-biased in the same direction as the detent to maintain a blocking foot of the blocking lever in engagement with the edge of the bolt. When the bolt is in latched position, the blocking foot is located adjacent a lateral tab of the latch frame to prevent movement of the detent out of engagement with the bolt shoulder. To release the detent, a solenoid first moves the blocking foot to unblocking position out of juxtaposition to the frame tab and then moves a lateral tab of the blocking lever into engagement with the detent to move the blocking lever and the detent as a unit about the detent pivot and move the detent foot out of engagement with the bolt shoulder and permit the bolt to move to unlatched

position. When the solenoid is deenergized, the blocking foot moves into engagement with the bolt edge to locate the blocking foot in unblocking position. The blocking



foot remains in engagement with the bolt edge when the bolt is in intermediate position to maintain the blocking foot in unblocking position.

3,381,994

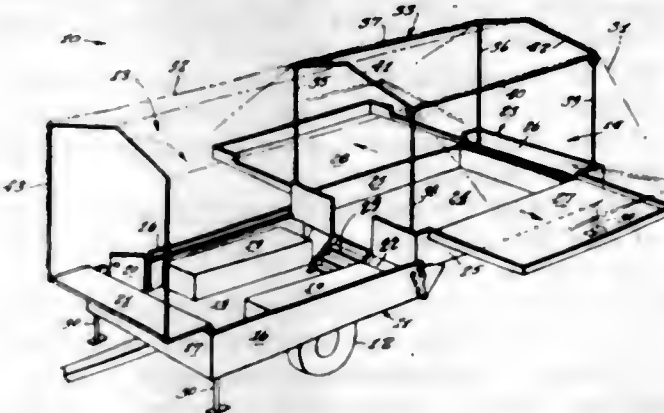
**SLIDE-A-ROOM TENT CAMPER**

George E. Link, Trenton, Ohio

(3714 N. Cypress Drive, Kansas City, Mo. 64117)

Filed May 9, 1966, Ser. No. 548,491

8 Claims. (Cl. 296—23)



A camper trailer adapted to occupy a minimum of space during travel or storage, but to present relatively spacious facilities during camping, including a living room area and an elevated bedroom area, is constructed with nestable structures slidably mounted upon one another to permit quick and easy conversion from a travelling to a camping condition.

3,381,995

**TRUCK BODY SECURING MEANS**

Franklin Thomas Carter, 35 University Ave.,

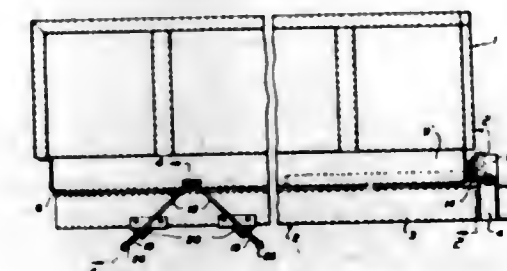
Waterloo, Ontario, Canada

Filed May 23, 1966, Ser. No. 552,207

Claims priority, application Canada, June 3, 1965,

932,412

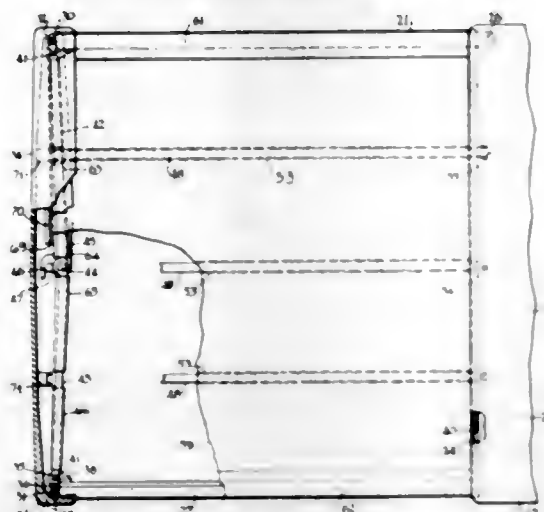
4 Claims. (Cl. 296—35)



A means for holding a truck body onto a chassis consisting of a torsion bar assembly between the front end of the body and the chassis and a coil or leaf spring assembly between the rear end of the body and the chassis.



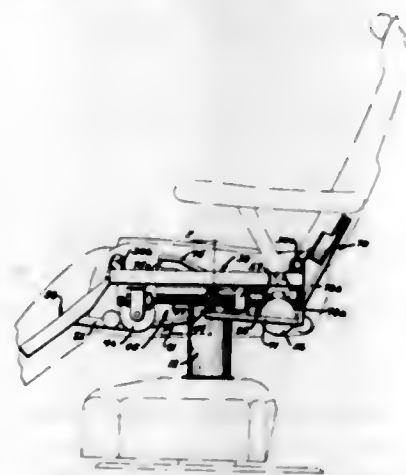
**3,381,996**  
**AUTOMOBILE ROOF CONSTRUCTION**  
 John J. Hiram, 420 Quigley Ave.,  
 Willow Grove, Pa. 19090  
 Filed Dec. 27, 1966, Ser. No. 604,887  
 19 Claims. (Cl. 296-107)



1. A roof structure for the passenger compartment of an automobile comprising:
  - a canopy, including relatively rigid first and second longitudinally arrayed side members disposed above the respective first and second sides of the compartment and a foldable sheet midportion joining said members and spanning the transverse distance between them over said compartment;
  - a pair of transverse frames projecting upwardly from respective mountings on the automobile at the ends of said compartment and forming opposite end supports for said canopy;
  - coupling means for detachably securing one end of each of said side members to the upper portion of one of said frames;
  - retaining means on the first side in the upper portion of the second frame for articulately supporting the other end of the first side member; and
  - coupling means for detachably securing the other end of the second side member to the second side in the upper portion of the second frame, whereby said canopy may be detached from said one frame, folded, and rotated in a generally horizontal plane to a transverse position for stowage on said second frame.

**3,381,997**  
**ADJUSTABLE CHAIR**  
 Edward E. Fritz, 201 Fernwood Drive, and Thomas A. Fritz, 221 Fernwood Drive, both of Evansville, Ind. 47711

Filed Sept. 6, 1966, Ser. No. 577,334  
 3 Claims. (Cl. 297-78)

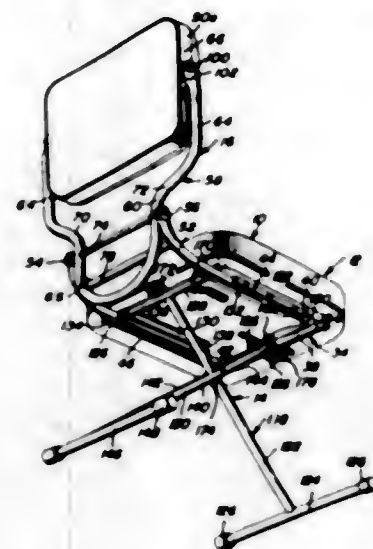


An adjustable chair characterized by seat and back structure synchronized in movement and an independent-

ly controlled movable foot section, where pivotal arm rests are provided which are maintained in a normal supporting position through the use of permanent magnets.

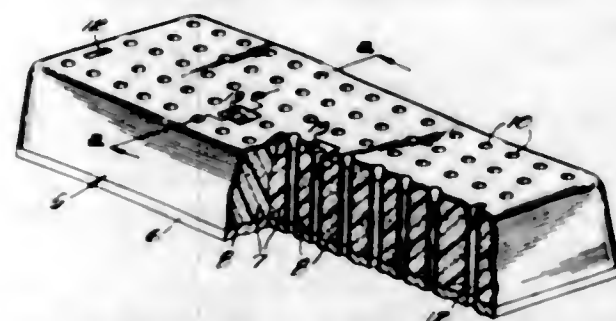
**3,381,998**  
**COMBINED FOLDING CHAIR AND DESK**  
 Hugh S. Cheshler and Pete A. Backman, Turlock, Calif.; said Cheshler assignor of one-fourth and said Backman assignor of one-half to Robert A. Kelso, San Francisco, Calif.

Filed Nov. 10, 1966, Ser. No. 593,347  
 13 Claims. (Cl. 297-124)



A seat frame with a seat member thereon supported by crossed folding supporting legs and a backrest supported pivotally from the seat frame by a backrest frame with lock means provided for locking the backrest in upstanding position from the rear of the seat frame. The backrest is pivotally supported from the backrest frame for rotatable movement about substantially a horizontal axis located centrally of the backrest for positioning in vertical and horizontal positions to enable the assembly to be used as a chair or as a desk. The supporting leg assembly is detachable and a hook is provided at the forward edge of the seat frame for connection with a bleacher plank or seat.

**3,381,999**  
**CUSHION AND SKIN COVERING THEREFOR**  
 Frank W. Steere, Jr., 810 Merriman Road, Akron, Ohio 44313  
 Filed Aug. 4, 1966, Ser. No. 570,349  
 19 Claims. (Cl. 297-453)

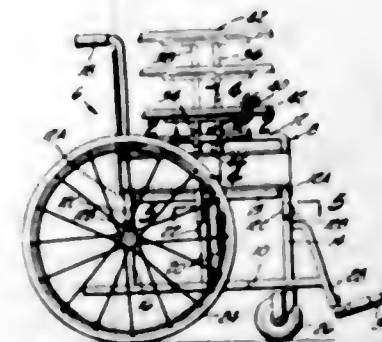


A cushion, with one or more openings for ventilation, etc. extending completely through it, is made of sponge or other resilient filler covered with a one-piece flexible plastic skin which may be produced by either dip molding, rotational casting or slush molding, etc. The openings may continue through the cushion support. The skin includes the top, usually the side wall or walls, and at least the top portion of the wall surrounding each of the one or more openings. The sponge is preferably foam which may be formed in the skin. The cushion for an automobile includes one or more openings for a seat belt, and the cushions for the seat and back of a chair include

one or more openings to accommodate the arms, etc. The invention includes the skin, the cushion and products utilizing such a cushion.

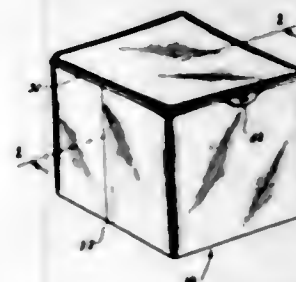
**3,382,000**  
**VERTICALLY ADJUSTABLE ARMRESTS FOR WHEELCHAIRS**  
 Fenton F. Sully, Encino, Calif., assignor to Everest & Jennings Inc., Los Angeles, Calif., a corporation of California

Filed Dec. 16, 1966, Ser. No. 602,191  
 4 Claims. (Cl. 297-422)



A collapsible wheelchair including a pair of side frames between which a seat is suspended wherein each side frame has an armrest carried by the upper portion thereof and adjustable vertically with respect thereto, the armrest having a pair of vertical armrest posts which slide through the tubes comprising portions of the side frame.

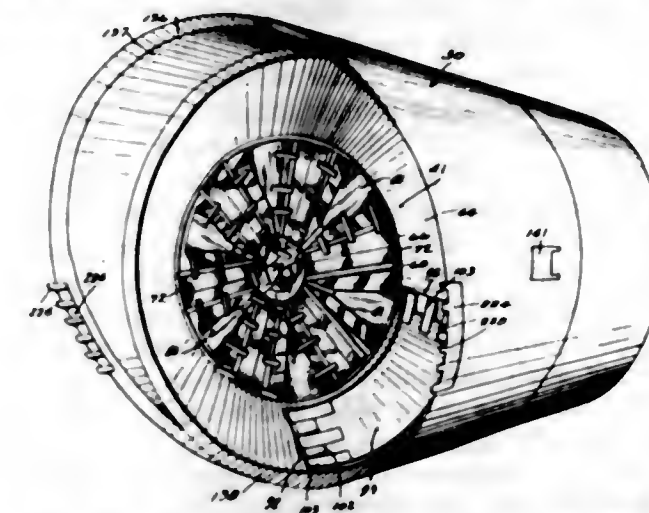
**3,382,001**  
**HASSOCK**  
 Herman E. Schafer, 285 Highfield Lane, Nutley, N.J. 07110, and Ford Stephens, 175 N. Maple Ave., Greenwich, Conn. 06830  
 Filed Oct. 10, 1966, Ser. No. 585,654  
 3 Claims. (Cl. 297-462)



This hassock is constituted by a hollow core having a top wall and a peripheral wall perpendicular to the top. The walls are formed of injection molded expanded polystyrene and are covered outside with decorative plastic sheet material that is heat sealed at the seams.

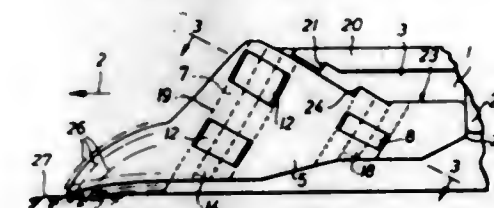
**3,382,002**  
**ROTARY CUTTER WHEEL TUNNELING MACHINE**  
 John R. Tabor, 3400 Spruce St., Racine, Wis. 53403  
 Filed July 23, 1965, Ser. No. 474,351  
 23 Claims. (Cl. 299-33)

This disclosure relates to a tunneling machine comprising a shield within which is mounted a rotary cutter wheel having a central, generally open zone with blades having cutting edges which face respectively in opposite directions of wheel rotation. Gates are provided to control the flow of spoil directly into the wheel through this central opening. The wheel is also provided with a marginal, generally closed annular rim portion which blocks flow of spoil directly into the wheel through the marginal zone but which has an opening in which an extendible claw is



put end of a spoil conveyor projects to receive spoil cut by the wheel.

**3,382,003**  
**MINING PLANER ARRANGEMENT HAVING A PARALLELOGRAM-DISPOSED ARTICULATEDLY MOUNTED CUTTING MEANS**  
 Alois Hauschopp, Werne an der Lippe, Germany, assignor to Gewerkschaft Eisenhütte Westfalen, Wethmar, near Lunen, Westphalia, Germany  
 Filed Apr. 13, 1966, Ser. No. 542,302  
 Claims priority, application Germany, May 10, 1965, G 43,548  
 15 Claims. (Cl. 299-34)



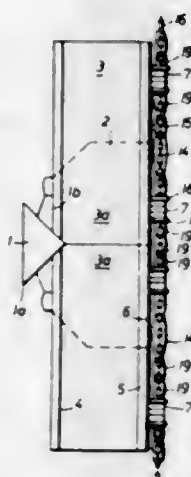
1. Mining planer arrangement which comprises a longitudinally extending base means adapted to be conducted longitudinally back and forth along a mine face adjacent the corresponding mine floor and having longitudinally spaced apart leading and trailing base pivot axes means thereon, a longitudinally extending cutting tool carrier means transversely spaced from said base means and correspondingly having longitudinally spaced apart leading and trailing carrier pivot axes means thereon, and a pair of spaced apart transversely extending leading and trailing link means, having a corresponding predetermined transverse effective linking length, and articulately interconnecting said carrier means and base means via said base pivot axes means and said carrier pivot axes means in the form of a parallelogram, said link means, said base axes means and said carrier axes means being correspondingly slanted upwardly in the direction from said leading to said trailing link means, whereby to permit said base means and carrier means to be displaced longitudinally relative to each other.

**3,382,004**  
**LONGWALL MINING MACHINE, CONVEYOR AND TRACTION CABLE ARRANGEMENT**  
 Alois Hauschopp, Werne an der Lippe, Germany, assignor to Gewerkschaft Eisenhütte Westfalen, Wethmar, near Lunen, Westphalia, Germany  
 Filed May 11, 1966, Ser. No. 549,337  
 Claims priority, application Germany, May 14, 1965, G 43,595  
 27 Claims. (Cl. 299-34)

1. Mining machine, adapted to be displaced along an elongated guide means back and forth in a longitudinal path adjacent to a mine face, having forward cutting



means thereon for operatively engaging such mine face for the extraction of mineral therefrom, slide surface means thereon for engaging slidably such elongated guide means to maintain the mining machine in normal relation to such longitudinal path, a pair of separate longitudinally aligned spaced apart lug runner means thereon positioned transversely rearwardly with respect to said cutting means, which lug runner means are adapted to be received in guide groove means of said elongated guide means for stabilized guidance of the mining machine in relation to such longitudinal path and each of which lug runner means is adapted to be connected to an appropriate end of a traction cable means used to displace the mining machine along such elongated guide means for extraction of mineral from the mine face, and elongated axial composite guiding element means capable of only limited deviation from the normal axis thereof interposed longitudinally between said lug runner means, whereby to assist in guiding the mining machine along such elongated guide means without deviation substantially from the normal longitudinal path thereof with suitable adjustment of said guiding element means by such limited deviation to accommodate unevenness in the normal longitudinal disposition of such elongated guide means and in turn such longitudinal path caused by the particular conditions of mining operation.



7. Mining conveyor, adapted to be disposed adjacent to a mine face, and having longitudinally spaced apart bracket means mounted along one side thereof, each of which contains a guide groove for longitudinally guidingly receiving therethrough appropriate longitudinally aligned spaced apart lug runner means of a mining machine, adapted to be slidably displaced back and forth along said conveyor for operative engagement with such mine face for the extraction of mineral therefrom, and for guidingly receiving traction cable means adapted to be correspondingly connected to such lug runner means for displacing such mining machine thereby, and wherein means defining corresponding longitudinal slots are provided on the side of the conveyor adjacent said bracket means and said bracket means are provided with bracket connecting means operatively engaging said slots whereby to mount said bracket means limitedly longitudinally displaceably on said adjacent side of the conveyor via said slots to permit the distance longitudinally between the adjacent bracket means to be adjusted.

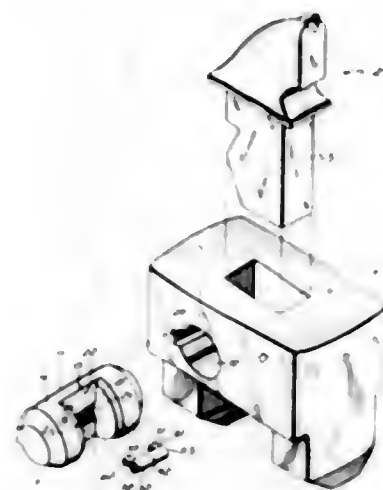
3,382,005

## RESILIENT RETAINING MEANS

Henry Kiefer, Painesville, Ohio, assignor to Eagle-Picher Industries, Inc., Cincinnati, Ohio, a corporation of Ohio  
Filed Sept. 15, 1966, Ser. No. 579,718  
8 Claims. (Cl. 299-92)

8. A resilient retaining means comprising a body of elastomeric material having a transverse slot

formed in a side of said body, said slot defining interior sides and an interior base and



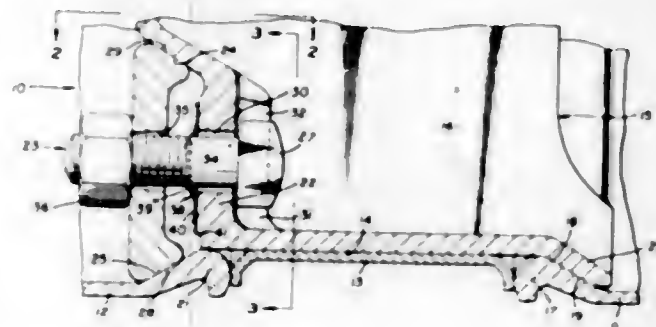
a rigid member having a central bearing portion with opposed ends and at least one leg portion integrally joined to said central portion between said opposed ends, said rigid member mounted in said slot with said leg portion gripped by said body within said interior base and said central portion seated on said interior base with said opposed ends lying within the sides of said transverse slot.

3,382,006

## ONE-PIECE RIM CLAMPING DEVICE AND MOUNTING MEANS THEREFOR

Robert A. De Regnaucourt, Centerville, and John M. Rachford, Dayton, Ohio, assignors to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio

Filed Aug. 16, 1966, Ser. No. 572,836  
1 Claim. (Cl. 361-13)



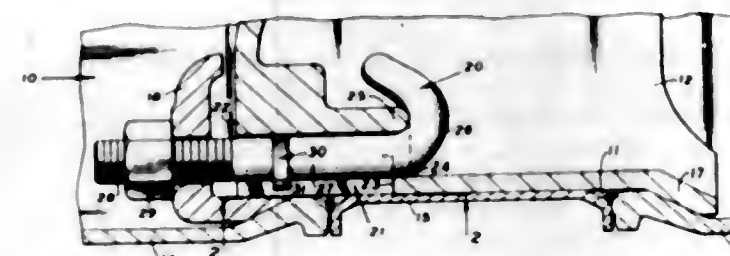
A clamping device and mounting bolt for securing one or more rims onto a wheel having a felly surface. For each of the plurality of clamping devices used the wheel has an axially conical fulcrum shoulder radially inwardly of the felly and an anchor means therebetween. An elongate aperture in the anchor means receives the enlarged head on the mounting bolt when oriented in one direction yet the enlarged head is lockingly anchored within a keyway in the anchor means when the head is oriented transversely the position in which it is received through the aperture. The shank of the mounting bolt is of such dimension that it is permitted to gyrate with respect to the wheel when the enlarged head is anchored therein. The shank of the mounting bolt is also received through an inwardly flared bore through the clamping device so as to permit independent gyration of the clamping device with respect to the shank. The radially inner side of the clamping device is concave to engage the axially conical fulcrum shoulder on the wheel, and the radially outer side of the clamping device is convex to engage an axially conical mounting surface on the rim.

3,382,007

## RIM MOUNTING

Robert A. De Regnaucourt, Centerville, and Walter E. Brownell, Xenia, Ohio, assignors to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio

Filed Aug. 16, 1966, Ser. No. 572,837  
1 Claim. (Cl. 361-13)



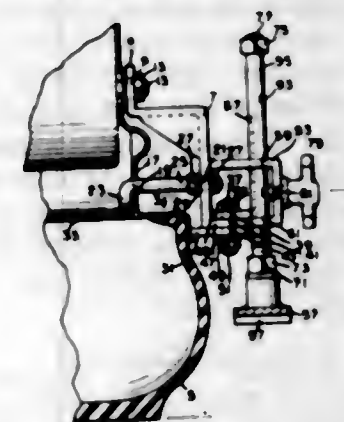
A clamping device in combination with a wheel on which one or more rims can be mounted. The rims are retained on the wheel by securing the clamping device to one end of a support bolt. An enlarged head on the other end of the support bolt is selectively interengageable with an anchor means in the wheel, and the shank of the support bolt is received within an axially oriented, radially recessed cove in the felly. A unique clip frictionally engages between the cove and the shank to hold the bolt in place while the rim is being mounted on the wheel.

3,382,008

## ADJUSTABLE TREAD TRACTION DEVICE

Edward J. Kindlon, 270 Orange St., Albany, N.Y. 12207

Filed July 19, 1966, Ser. No. 566,404  
6 Claims. (Cl. 301-47)



Adjustable tread traction device utilizable adjacent an automobile tire and wheel, and comprising a mounting bracket having its small leg secured to a wheel stud, its abutment plate abutting the wheel rim open face, its L-shaped hook engaging a wheel hole for adjustable attachment, its upper and lower bracket plates carrying a screw rod in keyed relationship and permitting gravity positioning and retraction of the screw rod radially, relative the wheel and road, its end plate carrying a detent handle rod engaging the screw rod for locked positioning, and the screw rod carrying the tread.

3,382,009

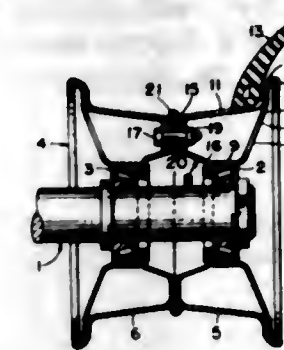
## LIGHTWEIGHT, HIGH STRENGTH, STAMPED WHEEL

Jesse G. Hawley, Penn Yan, N.Y., and Albert W. Cook, Tallmadge, and John W. Runner, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Oct. 23, 1965, Ser. No. 503,909  
2 Claims. (Cl. 301-63)

An aircraft wheel formed from substantially identical wheel halves secured together by circumferentially spaced

bolt means, each wheel half being formed from a pair of sheet metal stamping secured together, one stamping



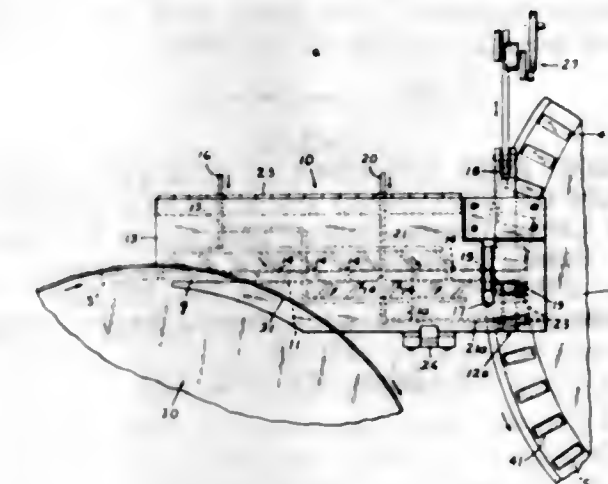
having an annular bearing receiving seat and the other stamping having an annular tire bead receiving seat.

3,382,010

## FEEDER APPARATUS

Robert J. Wilkinson, Medford Lakes, Burlington, N.J., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 16, 1966, Ser. No. 572,803  
16 Claims. (Cl. 302-2)



An apparatus and method are described for feeding elongated objects, such as suppositories, from an orienting and aligning apparatus onto apparatus for further processing, such as wrapping. The apparatus is made up of a frame having a main channel through which the suppositories pass, and a series of passageways in the frame for conducting compressed air into contact with the suppositories and so suspend them during their passage through the main channel. A reciprocating shuttle pushes the suppositories from the end of the main channel into a slot from which they are discharged by compressed air into apparatus for further processing.

3,382,011

## HYDRAULIC DISPOSAL PLANT FOR PULVERULENT PRODUCTS

Jean Mascarello, Versailles, and Yves Dumas and Francis Mary, Paris, France, assignors to Electricite de France Service National, Paris, France, a company of France

4 Claims. (Cl. 302-14)  
Filed Feb. 27, 1967, Ser. No. 618,858  
Claims priority, application France, Mar. 28, 1966, 55,262

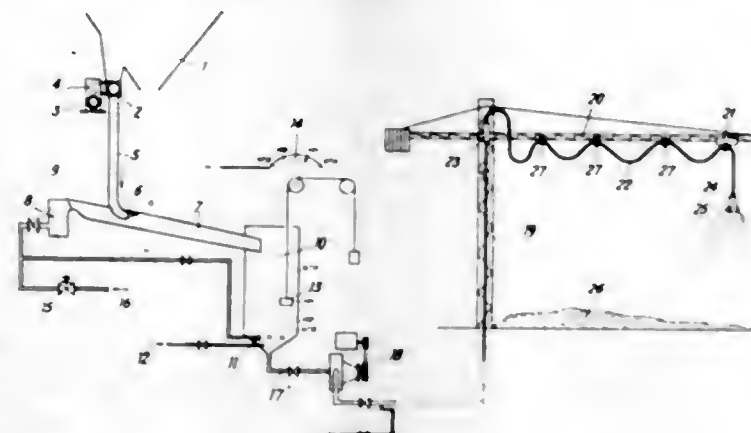
4 Claims. (Cl. 302-14)

This invention relates to an improved hydraulic disposal plant for products of very small grain size substantially insoluble in water.



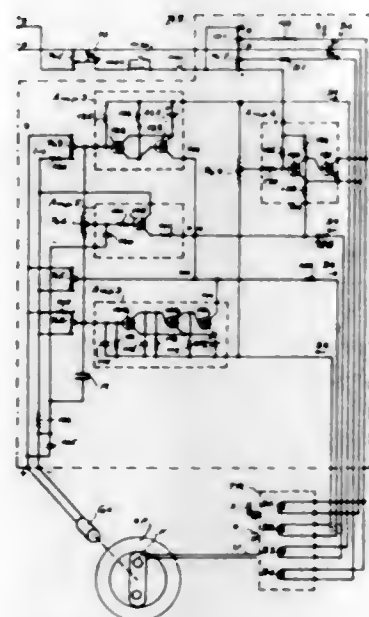
According to the invention, disposal of the pulverulent products, suspended beforehand in water so that they can be transported or conveyed, is effected by means of a flexible hose supported by a swivelling-jib tower crane anchored at the centre of a disposal area, means being provided for imparting to the discharge end of the flexible

operator of the vehicle; forming a fourth electric signal by adding a fraction of the first signal with the second signal; subtracting the fourth signal from the third signal; adding the first signal to the difference between the fourth and third signals; establishing a hydraulic pressure proportional to the latter sum, and applying this pressure to the braking members.



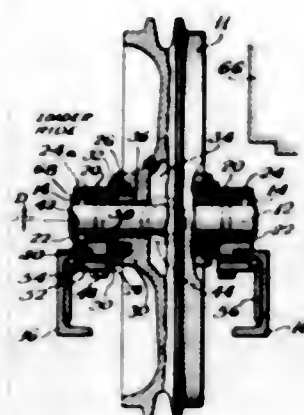
hose a series of spirals staggered from the centre towards the periphery of the disposal area and vice-versa, which enables the pulverulent products to be distributed over a limited area in a layer of considerable thickness in naturally compacted form and without any need for separate decantation apparatus, the water used for delivery or transport being eliminated by filtration.

**3,382,012**  
**METHOD AND APPARATUS FOR THE PREVENTION OF SKIDDING IN A BRAKE SYSTEM**  
Rene Lucien, Paris, France, assignor to Recherches Etudes Production R.E.P., Paris, France  
Filed May 18, 1966, Ser. No. 551,508  
Claims priority, application France, May 21, 1965, 17,968  
18 Claims. (Cl. 303-21)



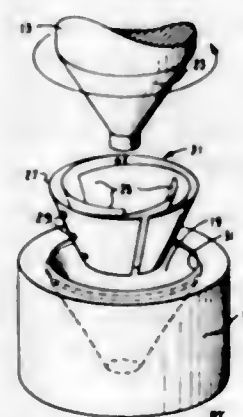
1. A method for controlling hydraulically the braking members of a vehicle with pneumatic-tired wheels, said method comprising applying a braking pressure on a brake control member of a moving vehicle, producing a first electric signal related to the speed of rotation of a braked wheel, retaining this first signal in a memory, reconstituting the signal into a second electric signal; producing a third electrical signal related to the degree of braking pressure effected on the control member by the

**3,382,013**  
**IDLER HEIGHT ADJUSTER FOR TRACTORS**  
Louis C. Toth, Mount Prospect, and Robert W. Johnson, Winfield, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware  
Filed July 14, 1966, Ser. No. 565,233  
13 Claims. (Cl. 305-30)



Front idler wheel structure for track type tractors having a vertical adjuster. The structure includes a front idler wheel over which an endless track chain is trained, a fixed axle on which the wheel is journaled, two eccentrics carried one at each end of the axle, two fixed bearings disposed one at each end of the axle and each engaging the eccentric at that end, a tool-engaging hole by which the axle is rotated into a selected angular setting, a pin connecting the axle and each eccentric to rotate the eccentrics correspondingly and set the selected wheel height, and set screws to interengage the bearings and eccentrics for locking the axle after the wheel height setting is selected.

**3,382,014**  
**SELF-ACTING FOIL BEARINGS**  
David John Marley, Buena Park, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California  
Filed Feb. 18, 1966, Ser. No. 528,507  
16 Claims. (Cl. 308-9)

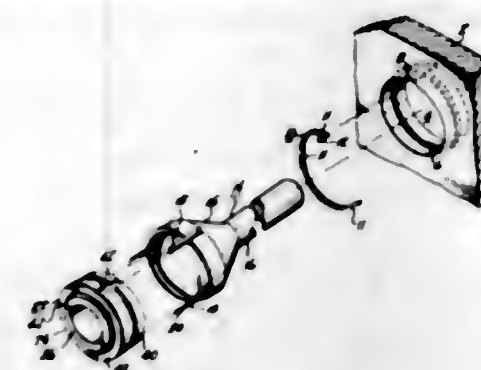


A bearing is provided in which a plurality of foils in a unitary assembly resiliently mounted within a housing recess are in surface engaging relation with a rotatable

shaft or an element such as a thrust disk affixed thereto. In the thrust bearing added axial resiliency may be provided by seating a resilient element such as a convoluted washer between the foil assembly and its support.

**3,382,015**  
**BEARING RETENTION SYSTEM**  
Robert H. Steidl, 17030 15th St. NW., Seattle, Wash. 98177  
Filed Mar. 4, 1965, Ser. No. 437,115  
11 Claims. (Cl. 308-22)

1. A composite self-aligning bearing and mounting installation comprising:
  - (a) a bearing assembly having an outer race provided with an annular external groove and a plurality of slots substantially perpendicular with said external groove;
  - (b) a mounting structure with a bore having an internal annular groove and an aperture perpendicular to said internal annular groove;



- (c) said bore being of a slightly larger inside diameter than said outer race outer diameter;
- (d) spring means adapted for insertion into said external annular groove and said internal annular groove so that both said grooves are in alignment and said bearing assembly means is retained thereby in said mounting structure; and
- (e) said spring means having a bent-up portion fitting both said slot and said aperture for preventing rotation of said spring means.

**3,382,016**  
**ARRANGEMENT OF TANDEM ROLLERS IN A ROLLER BEARING AND METHOD OF ASSEMBLING SAME**  
Heinrich Schmidt, Levittown, Pa., assignor to Roller Bearing Company of America, Trenton, N.J., a corporation of New Jersey  
Filed Nov. 1, 1965, Ser. No. 505,810  
12 Claims. (Cl. 308-207)

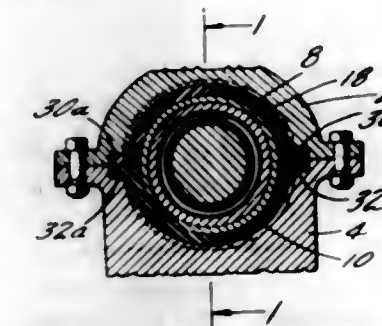


The present invention relates to a tandem roller bearing of cage type in which the cage has windows for retention of a group of rollers, preferably two, there being crossbars separating the windows and rims connecting the crossbars at the ends, the crossbars having interference to retain the rollers in the windows, and the last roller as it is

inserted into the window exerting a force on a roller already in the window to urge its adjoining crossbar and both rims away from the raceway and flanges at the end thereof so as to provide space to permit the last roller to snap into and be retained in the window.

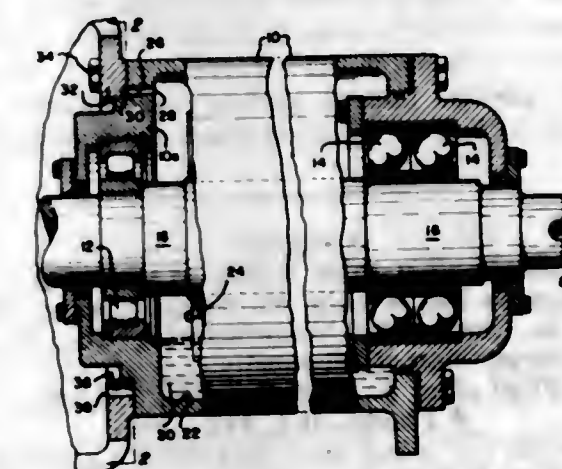
**3,382,017**  
**RESILIENTLY MOUNTED AXLE BEARING ASSEMBLY**  
Alan R. Cripe, Richmond, Va., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed Dec. 28, 1965, Ser. No. 516,898  
4 Claims. (Cl. 308-238)

3. A resiliently mounted axle bearing assembly comprising:
  - a split bearing housing, including upper and lower housing sections defining an opening parallel to the axis of the assembly;
  - a captive annular resilient bushing positioned within the opening and circumferentially and axially supported by the housing, the bushing being formed of a plurality of arcuate segments of materials having a different modulus of resilience at diametrically-opposed areas of the bushing to provide inherent oscillation damping;



a rigid bearing-retention member disposed radially within the bushing and circumferentially and axially supported thereby, the outer diameter of the member exceeding that of the opening in the housing whereby the member is held immovable in an axial direction within the housing within the limits established by the resilience of the bushing, and a bearing fixedly positioned within the rigid member.

**3,382,018**  
**LIQUID RESISTANT HOUSING VENT**  
Alexander Brklich, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey  
Filed Aug. 10, 1965, Ser. No. 478,683  
5 Claims. (Cl. 308-245)

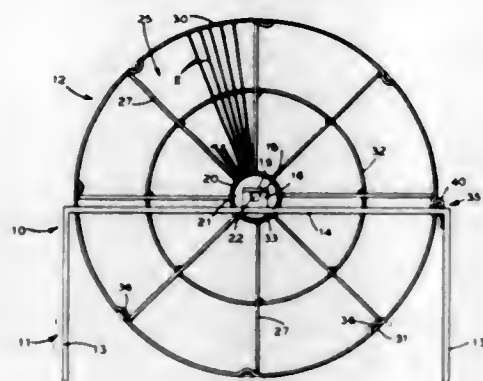


A liquid resistant vent for a bearing housing, comprising first port means communicating with the interior of the bearing housing, second port means vertically below



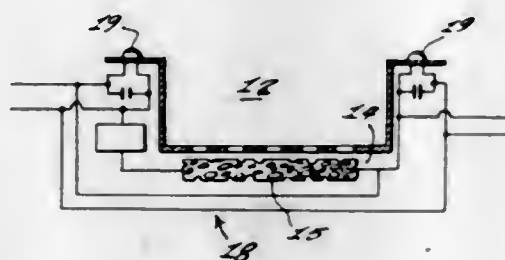
the first port means and communicating with the atmosphere, and passage means connecting the port means, wherein the first and second port means constitute the only communication of the passage means with the interior of the bearing housing and with the atmosphere, respectively.

**3,382,019**  
**PHONOGRAPH RECORD HOLDER**  
Michael F. Maule, 139 E. 63rd St.,  
New York, N.Y. 10021  
Filed Jan. 31, 1967, Ser. No. 612,976  
8 Claims. (Cl. 312-11)



A phonograph record holder of the compartment type arranged for rotation and of a frame structure which facilitates access to the compartments and viewing the contents thereof.

**3,382,020**  
**HUMID TOBACCO BOX**  
Ilmar Meri, 63 Brainard Ave.,  
Port Monmouth, N.J. 07758  
Filed May 16, 1967, Ser. No. 638,962  
4 Claims. (Cl. 312-31.01)

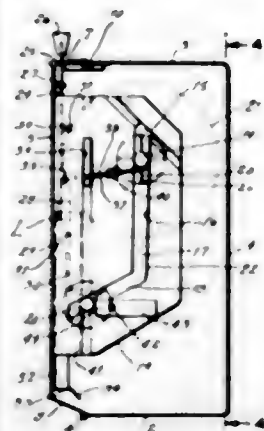


A humidor for cigars and cigarettes as well as pipe tobacco, the humidor comprising a box within which water from a soaked sponge evaporates within a lower compartment, through openings in the bottom of an upper compartment containing the tobacco products, the sponge being incorporated into an electric circuit having indication means to inform a person when the sponge has run dry.

**3,382,021**  
**DISPENSER FOR ROLL MATERIAL**  
David Norman De Woskin, St. Louis County, Mo., assignor to Continental Manufacturing Co., St. Louis, Mo., a corporation of Missouri  
Filed Aug. 8, 1966, Ser. No. 570,946  
8 Claims. (Cl. 312-39)

A dispenser for rolled material having a housing incorporating spaced-apart mounting plates with spool-guideways therein, said guideways having an upper vertical portion for receiving a first or reserve spool and a lower inclined portion for receiving a second or dispensing spool,

which latter projects through an opening in said housing, a locking and releasing mechanism for operating pivotally mounted arms extending across the vertical portions of the guideways between spool-supporting position and spool-releasing position and a pair of guide plates adapted for



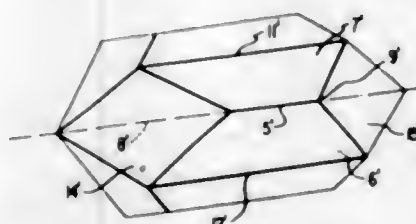
vertical movement between spool-supporting and spool-releasing position with respect to said second spool, a latch arm eccentrically and swingably mounted on at least one of the mounting plates for preventing unauthorized return travel of the second or dispensing spool.

**3,382,022**  
**LENS GUIDED OPTICAL TRANSMISSION PATH WITH DIFFRACTION CORRECTION**  
Arthur G. Fox, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Filed Oct. 12, 1964, Ser. No. 403,201  
5 Claims. (Cl. 350-54)



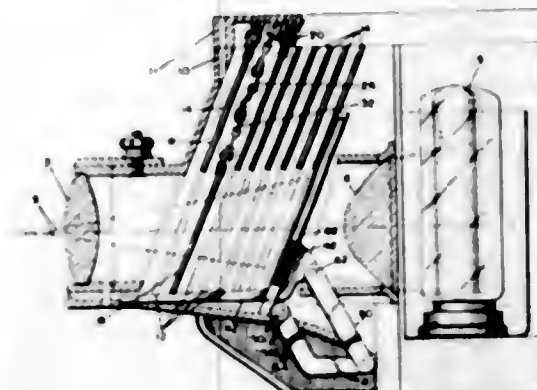
A transmission path for optical frequency wave energy comprising a series of convergent lens members spaced apart a distance equal to four times their focal length. Transmission losses are reduced by introducing divergent lens members at specified periodic locations.

**3,382,023**  
**MULTIPLE APERTURE ROOF PRISM**  
Milton A. Van Horn, Jr., Clarks Summit, Pa., assignor to General Electric Company, a corporation of New York  
Filed Sept. 21, 1964, Ser. No. 397,856  
2 Claims. (Cl. 350-286)



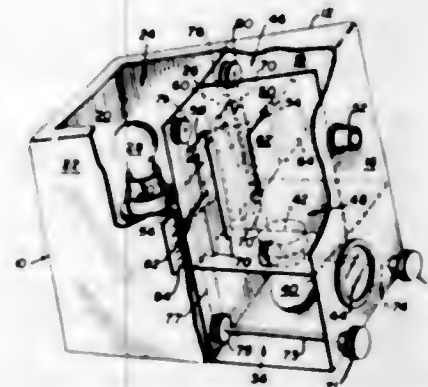
Four identical roof-prism elements are assembled in abutting relationship with the same roof edge in each element extending along a common line which forms the central viewing axis of the composite member. The individual prism elements have sloping end faces intersecting with the central viewing axis at a common acute angle and four side faces extending between said end faces which intersect to provide two oppositely disposed roof edges. The side faces are made optically reflective to produce a secondary aperture effect in the prism.

**3,382,024**  
**OPTICAL FILTER CHANGING MECHANISM**  
Richard R. Councilman, Garland, and Roland A. Freeman, Arlington, Tex., assignors to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware  
Filed Aug. 6, 1964, Ser. No. 387,896  
2 Claims. (Cl. 350-315)



Mechanism for selectively interposing any of a plurality of filters between the illuminator and the optical system of a slide projector or the like. A plurality of filters are resiliently biased toward an operative position but are held in a storage position by selectively operable latch means and means are provided for returning filters from the operative position to the storage position.

**3,382,025**  
**ANOMALOSCOPE FOR TESTING COLOR VISION**  
Henry A. Knoll, Penfield, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 312,624, Sept. 30, 1963. This application Mar. 10, 1967, Ser. No. 622,176  
2 Claims. (Cl. 351-17)

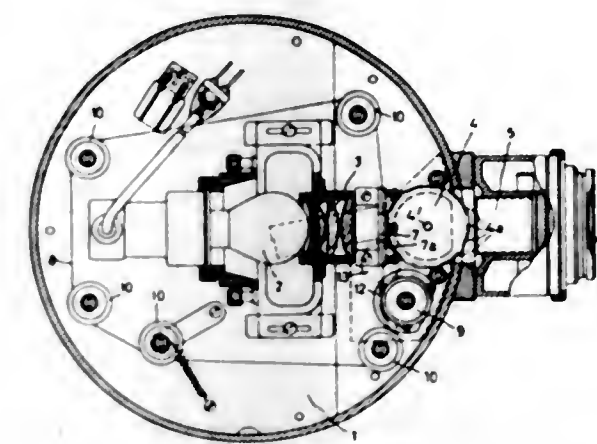


An anomaloscope for testing color vision defects of the human eye by the use of a sequence of color filters which provide a quantitative evaluation of protanomaly and deuteranomaly. The neutral point determinations may also be made to establish a differential diagnosis of protanopia and deuteranopia.

**3,382,026**  
**PROJECTOR FOR SLOWLY CHANGING PICTURES, PARTICULARLY FOR USE IN A PROJECTION-PLANETARIUM**  
Gerhard Schwesinger, Heidenheim (Brenz), and Kurt Schrampf, Obertkochen, Germany, assignors to Carl Zeiss-Stiftung, doing business as Carl Zeiss, Wurttemberg (Brenz), Germany, a corporation of Germany  
Filed June 25, 1965, Ser. No. 466,939  
Claims priority, application Germany, June 27, 1964 Z 10,941  
5 Claims. (Cl. 352-84)

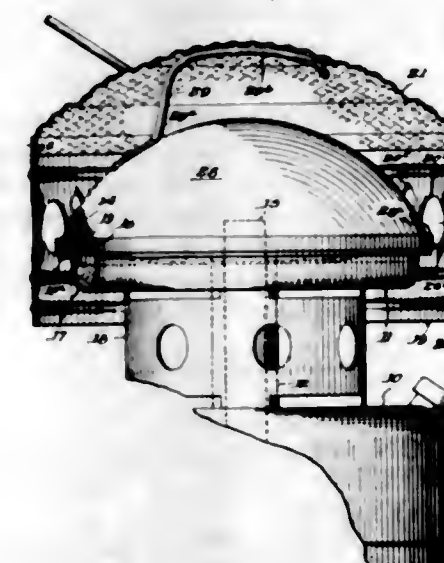
A projector for exhibiting slowly changing pictures as used in a projection planetarium. A continuously operat-

ing drive mechanism moves a film representing a diffusely limited object which changes its size and/or brightness with an extremely low picture frequency through a film gate which is arranged between a condenser and a rotating polygon prism which latter is rotated in synchronism with the film. The polygon prism is arranged between the film



gate and the projection objective. The picture window in the film gate is of double normal length in the direction of movement of the film, and a rectangular vignetting diaphragm is arranged in front of the projection objective, but the rotating shutter used in conventional projectors is omitted.

**3,382,027**  
**SNUFFER AND HANDLE ASSEMBLY FOR A CATALYTIC HEATER**  
William J. Marsh, Wichita, Kans., assignor to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas  
Filed Apr. 4, 1966, Ser. No. 539,812  
9 Claims. (Cl. 431-147)



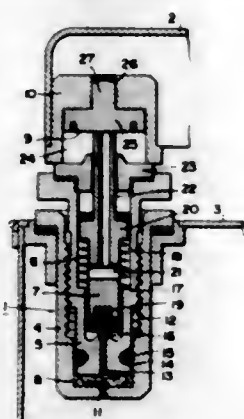
1. In a catalytic heater, a substantially hemispherical combustion head, a protective canopy enclosing said combustion head and hingedly mounted thereon, said canopy having a cylindrical side wall and a top, and a removable cover fitting over said combustion head, said cover having a handle which bears against the top of said canopy when said canopy is in a closed position.



3,382,028

## GAS LIGHTER

Sadao Yoshinaga, Tokyo, Japan, assignor to Yoshinaga Prince Kabushiki Kaisha, Taito-ku, Tokyo, Japan  
Filed Mar. 14, 1966, Ser. No. 536,567  
Claims priority, application Japan, Dec. 16, 1965, 40/102,207  
3 Claims. (Cl. 431—150)



1. A gas fueled cigarette lighter, comprising:
  - (A) a casing having a reservoir contained therein;
  - (B) a burner cover mounted upon said casing together with means permitting said cover to be pivoted, said cover including within the bottom thereof an internally threaded portion;
  - (C) a burner valve assembly mounted upon said casing together with passageway means connecting said valve assembly and said reservoir, said valve assembly including a stationary outer valve member in communication with said reservoir, a first inner valve

member adjustably mounted within said outer valve member and containing a passageway therein, a porous elastic member positioned between said stationary outer valve member and said inner valve member such that fuel is transported through said porous member into said passageway of said first inner valve member, together with means for regulating the pressure exerted on said porous member by said first inner valve member to control the flow of fuel therethrough, a second inner valve member having a passageway therein and mounted for reciprocating movement within said first inner valve member to open and close said passageway of said first inner valve member together with means normally resiliently biasing said second inner valve member upwardly to open said passageway of said first inner valve member, said second inner valve member further including an upwardly extending nozzle portion extending beyond said stationary outer valve member and said first inner valve member, together with means for transporting fuel from said passageway of said first inner valve member to said passageway of second inner valve member; and

- (D) a depressing member having an externally threaded portion screwed within said internally threaded portion of said burner cover and including a lower surface engaging said nozzle portion of said second inner valve member such that the position of said lower surface in relation to the top of said nozzle portion can be adjusted to thus vary the force applied to said nozzle portion by said depressing member as said depressing member contacts same, said depressing member being made of a metal softer than that otherwise employed in said lighter.

## CHEMICAL

3,382,029

## ALKALINE CATALYZED CELLULOSE - EPICHLOROHYDRIN REACTIONS WHEREIN CELLULOSE IS PRETREATED WITH AQUEOUS SALT SOLUTIONS

John B. McKelvey, Ralph J. Berni, and Ruth R. Benerito, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Filed July 2, 1963, Ser. No. 292,788  
4 Claims. (Cl. 8—120)

1. In the process for crosslinking cellulosic textile fibers by reaction with an aqueous solution of epichlorohydrin and a hydroxyl ion-supplying catalyst therefor to increase the resiliency of said fibers, the improvement which comprises wetting the cellulosic textile fibers, prior to their reaction with epichlorohydrin, with an aqueous solution of a water soluble salt selected from the group consisting of sodium azide, sodium sulfite, and calcium chloride, the concentration of salt in said aqueous solution being from at least 15% by weight to saturation.

3,382,030

## MODIFICATION OF CELLULOSE WITH BUTADIENE DIEPOXIDE USING A DIOXANE-WATER SOLVENT SYSTEM

John B. McKelvey, Ralph J. Berni, and Ruth R. Benerito, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Filed Nov. 8, 1963, Ser. No. 322,556  
7 Claims. (Cl. 8—120)

1. A process of imparting resiliency to a cellulosic textile material comprising:
  - (a) wetting a cellulosic textile material selected from the group consisting of cotton, viscose rayon, ramie, dialdehyde cotton, partially acetylated cotton, and carboxymethylated cotton with a solution contain-

ing about from 10 to 20 parts butadienediepoxyde, 1.5 parts zinc fluoborate catalyst, and about from 78.5 to 88.5 parts of a solvent consisting of 50 parts by weight of dioxane and 50 parts by weight of water, and

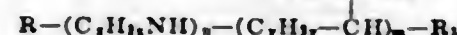
- (b) curing the wet cellulosic textile material at a temperature of about from 85° to 125° C.

3,382,031

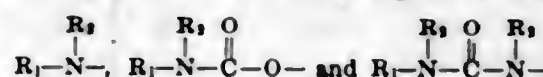
## INHIBITION OF VOLATILIZATION OF VOLATILE ORGANIC COMPOUNDS

Robert P. Cox, Madison, Wis., assignor to Omega Chemicals Corporation, a corporation of Maryland  
No Drawing. Filed Dec. 12, 1961, Ser. No. 158,863  
58 Claims. (Cl. 21—60.5)

1. A process for inhibiting the volatilization of a normally volatile organic substance essentially free of water which comprises adding thereto from about 0.005% to about 10% by weight of a volatilization inhibitor having the general formula



wherein R is selected from the group consisting of



- R<sub>1</sub> is a radical having from about 8 to about 32 carbon atoms and is selected from the group consisting of alkyl and alkacyl radicals,
- R<sub>2</sub> is selected from the group consisting of hydrogen and lower alkyl radicals,
- two of R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are selected from the group consisting of hydrogen, lower alkyl and hydroxy (lower alkyl),

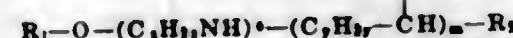
the other of R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> is selected from the group consisting of hydrogen, lower alkyl, hydroxy (lower alkyl) and hydrophilic groups,  
n is an integer of from 0 to about 5,  
m is an integer of from about 0 to about 6,  
x is an integer of from about 1 to about 6, and  
y is an integer of from 0 to about 5.

3,382,032

## INHIBITION OF VOLATILIZATION OF VOLATILE ORGANIC COMPOUNDS

Robert P. Cox, Madison, Wis., assignor to Omega Chemicals Corporation, a corporation of Maryland  
No Drawing. Filed Dec. 12, 1961, Ser. No. 158,861  
18 Claims. (Cl. 21—60.5)

1. A method of inhibiting the volatilization of normally volatile organic substances which comprises adding thereto from about 0.005% to about 10% by weight of a volatilization inhibitor having the general formula



in which R<sub>1</sub> is selected from the group consisting of alkyl and alkacyl radicals having from about 8 to about 32 carbon atoms,

two of R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are selected from the group consisting of hydrogen, lower alkyl and hydroxy (lower alkyl),

the other of R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> is selected from the group consisting of hydrogen, lower alkyl, and hydrophilic groups,  
n is an integer of from 1 to 5,

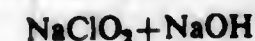
m is an integer of from 0 to 1,  
x is an integer of from 1 to 6, and  
y is an integer of from 0 to 5.

3,382,033

## METHOD OF REMOVING NITRIC OXIDE FROM GASES

Tetsuzo Kikagawa, Tokyo, Japan, assignor to Kobe Steel Works, Ltd., Fukuoka-ku, Kobe, Japan  
No Drawing. Filed Feb. 17, 1964, Ser. No. 345,101  
Claims priority, application Japan, Feb. 20, 1963, 38/8,948  
4 Claims. (Cl. 23—2)

Process of removing nitric oxide from gases comprising contacting said gas with a porous carrier impregnated with a member selected from the group consisting of FeSO<sub>4</sub>, FeSO<sub>4</sub>·H<sub>2</sub>SO<sub>4</sub>, FeSO<sub>4</sub>·(NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, PdSO<sub>4</sub>, KMnO<sub>4</sub>, KMnO<sub>4</sub>·H<sub>2</sub>SO<sub>4</sub>, KClO<sub>3</sub>, NaClO+NaOH,



Na<sub>2</sub>MoO<sub>4</sub>, K<sub>2</sub>S<sub>2</sub>O<sub>8</sub>, Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub>+NaOH, NaHPO<sub>4</sub>, Na<sub>2</sub>O<sub>2</sub>, As<sub>2</sub>O<sub>3</sub>+NaOH, CuCl<sub>2</sub> and ICl<sub>3</sub>+NaOH.

3,382,034

## PROCESS FOR SEPARATING INORGANIC CATIONS FROM SOLUTION WITH HYDROUS OXIDE CATION EXCHANGERS

Kurt A. Kraus, 110 Ogontz Lane, Oak Ridge, Tenn. 37830  
No Drawing. Application Sept. 28, 1961, Ser. No. 141,291, which is a continuation of application Ser. No. 631,065, Dec. 28, 1956. Divided and this application Jan. 28, 1965, Ser. No. 428,850  
26 Claims. (Cl. 23—50)

1. A process for separating inorganic cations from an aqueous solution containing such cations comprising contacting said solution with a non-siliceous hydrous oxide cation exchanger; said cation exchanger consisting essentially of the hydrous oxide of at least one element selected from the group consisting of Ti(IV), Zr(IV), Th(IV), Nb(V), Ta(V), Mo(VI), W(VI) and Sn(IV); the pH of said solution being sufficiently high to permit said cation exchanger to exhibit such cation exchange

characteristics in the presence of said solution; said cation exchanger being substantially insoluble in said solution; said cation exchanger, prior to its being placed in contact with said solution, being dried insufficiently to destroy its hydrous character insufficiently to destroy its cation exchange characteristics; said cation exchanger being placed in contact with a sufficient quantity of said solution for a sufficient period of time to remove the desired quantity of said inorganic cations from said solution, whereby said cation exchanger will become enriched with said inorganic cations; separating the enriched cation exchanger from said aqueous solution; contacting said enriched cation exchanger with an aqueous solution containing a material capable of supplying ions to displace said inorganic cations on said cation exchanger; and separating the denuded cation exchanger and said last mentioned aqueous solution.

22. A process for separating inorganic cations from an aqueous solution containing such cations other than the processing of Pu(IV)-fission product solutions comprising contacting said solution with a non-siliceous mixed hydrous oxide cation exchanger containing an acidic hydrous oxide of P(V) in combination with a basic hydrous oxide of Zr(IV); a sufficient excess of the oxide of P(V) being present to impart effective cation exchange properties to said cation exchanger in said solution; said cation exchanger being substantially insoluble in said solution; said cation exchanger, prior to its being placed in contact with said solution, having been dried at a temperature not in excess of about 300° C.; said cation exchanger being placed in contact with a sufficient quantity of said solution for a sufficient period of time to remove the desired quantity of said inorganic cations from said solution, whereby said cation exchanger will become enriched with said inorganic cations; separating the enriched cation exchanger from said aqueous solution; contacting said enriched cation exchanger with an aqueous solution containing a material capable of supplying ions to displace said inorganic cations on said cation exchanger; and separating the denuded cation exchanger and said last-mentioned aqueous solution.

3,382,035

## PROCESS FOR PRODUCTION OF PHOSPHORIC ACID

Jack D. Slater, Savannah, Ga., assignor, by mesne assignments, to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware  
Filed July 1, 1966, Ser. No. 562,148  
19 Claims. (Cl. 23—66)

Phosphate rock is digested with HNO<sub>3</sub> to produce CaNO<sub>3</sub> and free H<sub>3</sub>PO<sub>4</sub>. The resulting solution is neutralized with NH<sub>3</sub> to produce NH<sub>4</sub>NO<sub>3</sub> and a di-calcium phosphate precipitate. The precipitate is treated with H<sub>3</sub>PO<sub>4</sub> to produce monocalcium phosphate in solution which in turn is passed over a cation exchanger to produce product H<sub>3</sub>PO<sub>4</sub>.

The cation exchange resin is regenerated with HNO<sub>3</sub> to produce CaNO<sub>3</sub> which is mixed with NH<sub>4</sub>NO<sub>3</sub> produced in an earlier stage and reacted with NH<sub>3</sub> and CO<sub>2</sub> to recover by-product CaCO<sub>3</sub> and NH<sub>4</sub>NO<sub>3</sub>.

3,382,036

## PROCESS FOR PRODUCING LOW-DENSITY SODIUM POLYPHOSPHATE

Leo B. Post, Chicago, Ill., George I. Klein, Larchmont, N.Y., and James N. Dyer, Hammond, Ind., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware  
Filed Aug. 23, 1963, Ser. No. 304,152  
9 Claims. (Cl. 23—106)

1. A process for producing low density sodium phosphates which comprises molecularly dehydrating a conditioned feed prepared by heating at least one crystalline compound selected from the group consisting of monoso-



dium phosphate, monohydrate and disodium phosphate, duohydrate having an  $\text{Na}_2\text{O}:\text{P}_2\text{O}_5$  ratio of from 1 to 2 inclusive at a temperature between  $50^\circ\text{C}$ . and  $190^\circ\text{C}$ . until a substantial proportion of the hydrate water is expelled, milling the dehydrated feed until at least 70% thereof has an average particle diameter of not greater than 80 microns, rehydrating the resulting dehydrated phosphate with water.

3,382,037

# PROCESS FOR THE PRODUCTION OF SODIUM TRIMETAPHOSPHATE

Raymond Joseph Shaffery, Middletown, Jerome Strumpf, Colonia, and Bernard Peter Leber, New Monmouth, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 29, 1964, Ser. No. 421,908

2 Claims. (Cl. 23—106)

Sodium trimetaphosphate containing less than 0.5% by weight of water insolubles is produced by: (a) continuously feeding an aqueous solution of sodium phosphate having a molar  $\text{Na}_2\text{O}:\text{P}_2\text{O}_5$  ratio of from 0.99 to 1.00 through an elongated reaction zone at a rate sufficient to give a total residence time of about three hours; (b) continuously introducing combustion gases at a temperature of from about  $800$  to  $850^\circ\text{C}$ . countercurrent to and in intimate contact with the sodium phosphate solution; and (c) continuously removing a sodium trimetaphosphate product having no more than 0.5% water insolubles at a temperature of from  $520$  to  $580^\circ\text{C}$ . from said elongated reaction zone.

3,382,038

# RECOVERY OF POTASSIUM FROM SEA WATER

Maria G. Dunseth, Phoenix, and Murrell L. Salutsky, Silver Spring, Md., assignors, by direct and mesne assignments, of one-half to W. R. Grace & Co., New York, N.Y., and one-half to the United States of America as represented by the Secretary of the Interior, jointly

No Drawing. Filed Feb. 18, 1965, Ser. No. 433,822

3 Claims. (Cl. 23—107)

Potassium is separated from magnesium potassium phosphate by slurrying the phosphate and increasing the pH of the slurry to from about 10.5 to about 12.0 whereby the potassium goes into solution.

3,382,039

# PREPARATION AND USE OF SILVER ZEOLITES OF IMPROVED EXCHANGE CAPACITY

Calvin Calmon, Birmingham, and Warren T. Grundner, Vincentown, N.J., assignors to Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York

No Drawing. Filed Nov. 17, 1965, Ser. No. 508,359

7 Claims. (Cl. 23—112)

A crystalline silver aluminosilicate zeolite having a low  $\text{SiO}_2/\text{Al}_2\text{O}_3$  mole ratio is produced by contacting a crystalline metallo aluminosilicate zeolite first with an excess aqueous solution of sodium hydroxide, then with an excess aqueous solution of silver nitrate and then rinsing the zeolite of excess silver until the pH of the rinse water is not less than 9.5 nor greater than 11.0, all the treating and rinsing solutions being free of dissolved carbon dioxide.

3,382,040

# PREPARATION OF ALUMINA WITH PRETREATMENT OF SODIUM ALUMINATE LIQUOR WITH ALCOHOL VAPORS

Andrija Fuderer, G. Prekrizje 32, Zagreb I, Yugoslavia

Filed Aug. 18, 1965, Ser. No. 480,562

Claims priority, application Germany, Sept. 7, 1964, F 43,925

8 Claims. (Cl. 23—143)

In the production of alumina, aluminum hydrate is

separated from aluminate liquor by contacting the aluminate liquor with a mixture of water vapors and vapors of methanol and/or ethanol so as to achieve simultaneously dissolution of the alcohol in the aluminate liquor and evaporation of a portion of the water content thereof, seeding the thus-formed alcohol-containing aluminate liquor with aluminum hydrate crystals thereby causing precipitation of aluminum hydrate from the aluminate liquor, and separating solid aluminum hydrate from the thus-obtained reaction mixture.

3,382,041

# PROCESS FOR THE MANUFACTURE OF AZINES FROM WHICH HYDRAZINE AND ITS SALTS MAY BE PREPARED

Brian John Needham and Michael Arthur Smith, Loughborough, England, assignors to Whiffen & Sons Limited, Leicestershire, England

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,047

Claims priority, application Great Britain, Apr. 23, 1965, 17,161/65

19 Claims. (Cl. 23—50)

Azines, particularly hydrazines, are prepared in a two step process by first reacting aqueous hypochlorite and aqueous ammonia to form chloramine and then reacting the thus formed chloramine with a carbonyl compound and aqueous ammonia to form the azine. The azine is then hydrolyzed to form a hydrazine.

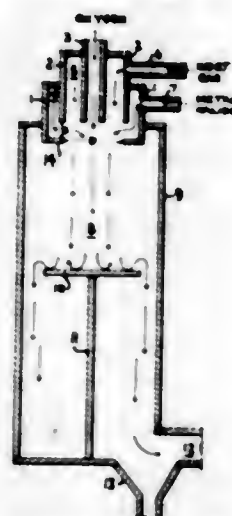
3,382,042

# PROCESS FOR PREPARING METAL OXIDES

Kenneth W. Richardson, Franklin Strain, and William L. Wilson, Barberton, Ohio, assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 22, 1964, Ser. No. 376,980

15 Claims. (Cl. 23—202)



Pigmentary metal oxide, e.g., titanium dioxide, is produced by introducing metal halide, e.g., titanium tetrahalide, and oxygenating gas into a reactor maintained at reaction temperatures and withdrawing a gaseous effluent suspension of metal oxide from the reactor. The concentration of unreacted metal halide and oxygen in the effluent is reduced by interrupting the normal flow of the gaseous reactant stream.

3,382,043

# PROCESS FOR PURIFYING HYDROGEN AND PREPARING CARBONYL SULFIDE

Edward A. Swakon, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed June 12, 1963, Ser. No. 287,182

5 Claims. (Cl. 23—210)

Carbon monoxide is separated from mixtures of hydrogen and carbon monoxide gases and hydrogen gas of at least 90% purity can be recovered. The separation is accomplished by reacting the gas mixture with sulfur and a secondary amine or a mixture of secondary and

tertiary amines in a reaction zone under conditions generating carbonyl sulfide in situ and retaining all the carbonyl sulfide in a secondary amine or tertiary amine salt of the monothiolcarbamic acid of the secondary amine by maintaining the salt under pressure and withdrawing from the reaction zone a gas of at least 90% hydrogen content.

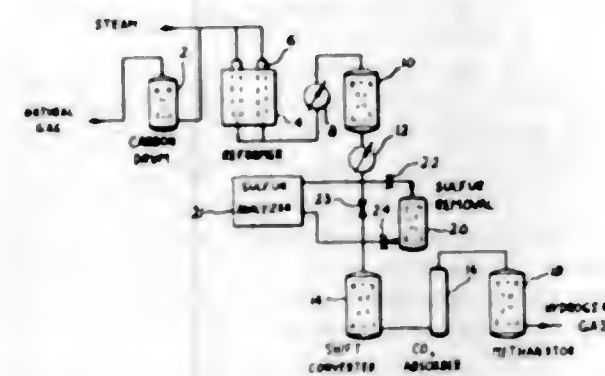
3,382,044

# REMOVAL OF SULFUR COMPOUNDS IN STEAM-GAS REFORMING AND SHIFT CONVERSION PROCESSES

John S. Cromeans, Louisville, Ky., assignor to Catalysts & Chemicals Inc., Louisville, Ky., a corporation of Delaware

Filed Feb. 3, 1965, Ser. No. 430,021

4 Claims. (Cl. 23—212)



Elimination of sulfur following steam-gas reforming is provided for even though sulfur removal means precedes the reforming operation. Sulfur is removed from any reformer effluent containing more than one part per million sulfur compounds. In addition a desulfurizing means effective at high temperatures and with steam present is provided.

3,382,045

# PRODUCTION OF HYDROGEN

Robert H. Habermehl, Louisville, Ky., and Kenton A. Atwood, New Albany, Ind., assignors to Catalysts & Chemicals Inc., Louisville, Ky., a corporation of Delaware

Filed May 10, 1965, Ser. No. 454,392

3 Claims. (Cl. 23—213)

In steam gas reforming to produce hydrogen, means for converting carbon monoxide to carbon dioxide which require no steam addition other than that added to the reformer. Steam is minimized by multi-stage conversion; it is not necessary to remove carbon dioxide between stages; and the steam requirement can be balanced with the carbon dioxide absorbent regeneration steam requirement.

3,382,046

# APPARATUS FOR DECANNING FUEL ELEMENTS

Pierre Faugeras, Montrouge, and Jean Stratakis, Cherbourg, France, assignors to Commissariat à l'Energie Atomique, Paris, France

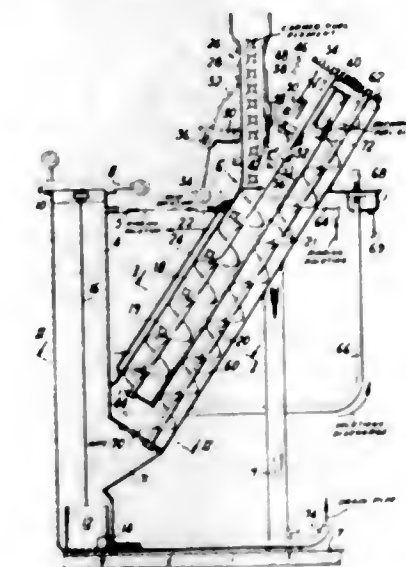
Filed Jan. 17, 1966, Ser. No. 521,174

Claims priority, application France, Jan. 20, 1965, 2,628

11 Claims. (Cl. 23—267)

1. Decanning apparatus comprising an inclined vessel of elongated shape, two adjacent parallel chambers set one above the other in said vessel communicating with each other at the lower end of said vessel, a feed-in pipe in the upper end of the upper chamber for an acid etching solution admitted into the upper of said chambers and a feed-in the pipe in the upper end of the lower chamber for admitting a neutral rinsing solution into the lower of said chambers, a pipe for discharging solutions opening into the lower end of said vessel at which said

two chambers communicate, means for introducing canned fuel elements into the upper end of said upper chamber, screw conveyor means within and extending the length of the upper chamber for conveying said canned fuel elements downwardly within said upper chamber in concurrent flow with said acid etching solution for decanning said fuel elements, screw conveyor means within and extending the length of the lower chamber for conveying the decanned fuel elements upwardly within the lower chamber in counter-current flow to said neutral rinsing



solution and outlet means in the upper part of the lower chamber for removing the decanned fuel elements, said means for introducing said canned fuel elements into the upper end of said upper chamber comprising a removable charging unit, a passageway in said unit for downward admission of said fuel elements opened at the lower end thereof into said chamber, a latch near the lower end of said passageway removably retaining said fuel elements, a lever closing off the lower end of said passageway and a cam member actuating said lever attached to the shaft of the screw conveyor in the upper chamber to introduce into said upper chamber a canned fuel element for each full revolution of said screw.

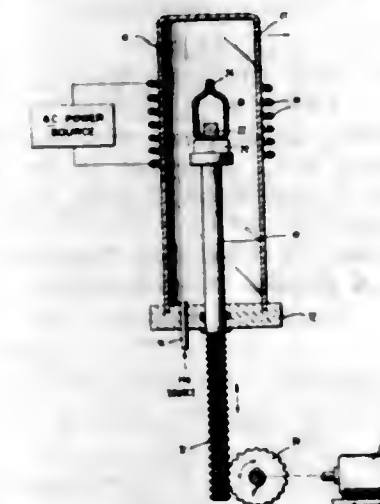
3,382,047

# PREPARING LARGE SINGLE CRYSTALLINE BODIES OF RARE EARTH CHALCOGENIDES

Frederic Holtzberg, Pound Ridge, and Siegfried I. Methfessel, Montrose, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 14, 1964, Ser. No. 418,099

13 Claims. (Cl. 23—295)



A process for forming large single crystals of certain magneto-optically active divalent and trivalent rare earth chalcogenides which comprises forming a dense pellet of powdered chalcogenide material, placing same in a refractory metal crucible; sealing the crucible, heating said

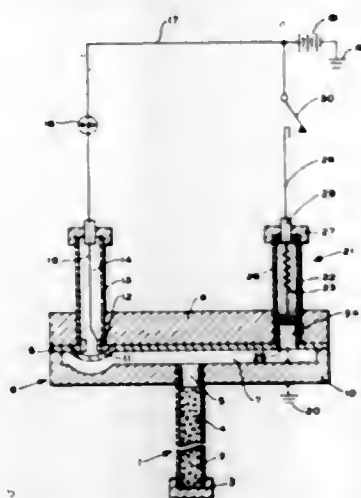


pellet and crucible in an inert atmosphere to a temperature of between about 100° C. and 300° C. below the melting point of the powdered material for an extended period and subsequently cooling the crucible to room temperature.

### 3,382,048 METHOD OF PRETREATING METALLIC HYDRIDES

John E. Lindberg, Jr., 1211 Upper Happy Valley Road, Lafayette, Calif. 94549

Continuation-in-part of application Ser. No. 176,095, Feb. 27, 1962, which is a continuation-in-part of application Ser. No. 65,891, Oct. 31, 1960, which is a division of application Ser. No. 815,406, May 25, 1959, now Patent No. 3,122,728. This application Mar. 18, 1965, Ser. No. 440,857  
7 Claims. (Cl. 23—316)

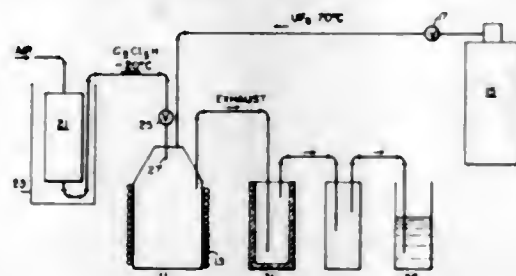


A method of pretreating a metallic hydride, usually a powder, of the type that contains some oxide impurities and that emits hydrogen when heated hot enough and takes it back in when cooled, the purpose of the pretreatment being to assure consistent ingassing and outgassing in a closed system. The hydride is heated in said system, preferably electrically, to a temperature well above its threshold temperature, so that it outgasses hydrogen and becomes stabilized with respect to the oxides; the hydride is then cooled to well below the threshold temperature to reingass some of the hydrogen; then the hydrogen that did not reingass is withdrawn from said system until a desired pressure level is reached; then the closed system is sealed. The system may be substantially evacuated while and after withdrawing the hydrogen that did not reingass and filled before sealing with an inert atmosphere, comprising helium, neon, argon, krypton or xenon gas.

### 3,382,049 METHOD FOR PRODUCING URANIUM TETRAFLUORIDE

Benedict L. Vondra, Greensburg, Pa., and John A. Ward, Jr., Wilmington, N.C., assignors to Nuclear Materials and Equipment Corporation, Apollo, Pa., a corporation of Pennsylvania

Filed Jan. 27, 1965, Ser. No. 428,379  
4 Claims. (Cl. 23—353)



Highly dense UF<sub>4</sub> substantially free of carbon is produced by reacting UF<sub>6</sub> from tank 15 and C<sub>2</sub>Cl<sub>3</sub>H from

chamber 21 in reactor vessel 11 at a low temperature. At this low temperature the C<sub>2</sub>Cl<sub>3</sub>H is cracked instead of being decomposed with release of carbon.

**3,382,050  
STABILIZED HYDRAZINE BIS-BORANE**  
James E. Coleman, Metuchen, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Feb. 1, 1961, Ser. No. 86,547  
3 Claims. (Cl. 23—358)

1. Method of stabilizing hydrazine bis-borane that contains a small amount of impurities which promote decomposition of the hydrazine bis-borane, which comprises heat treating the hydrazine bis-borane containing said small amount of impurities under anhydrous conditions to evolve gas at a low rate of about 0.6 to 17.9 standard cc. of gas per hour per gram of the hydrazine bis-borane heated to a temperature in the range of about 80° to 120° C. until approximately 0.1 to 5 wt. percent of the hydrazine bis-borane is converted to hydrazino bis-borane, removing resulting decomposition gas at a measured rate of its evolution and recovering the resulting stabilized hydrazine bis-borane containing about 0.1 to 5 wt. percent hydrazino bis-borane with slight traces of contaminants that cause decomposition at a rate of less than 0.6 cc. of standard gas per hour per gram of the thus stabilized hydrazine bis-borane at 95° C.

### 3,382,051 DISPERSION-STRENGTHENED IRON-GROUP METAL ALLOYED WITH A SMALL AMOUNT OF ZIRCONIUM, HAFNIUM OR MAGNESIUM AND PROCESS OF MAKING

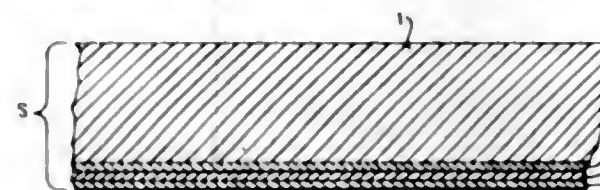
William J. Barnett, Wilmington, Del., assignor, by mesne assignments, to Fansteel Metallurgical Corporation, a corporation of New York  
No Drawing. Filed Sept. 25, 1964, Ser. No. 399,363  
7 Claims. (Cl. 29—182.5)

Dispersion-strengthened metals, having a matrix of iron, cobalt or nickel or their alloys with each other or with up to 30% of chromium, molybdenum or tungsten, and having uniform grain size and improved resistance to cracking under extreme stress, are produced by incorporation therein of 0.005 to 0.3 atomic percent of zirconium, hafnium, or magnesium, or a mixture of these metals. The dispersion-strengthening agent is 0.01 to 5.0 volume percent of a particulate, uniformly dispersed metal oxide having a free energy of formation (negative), measured at 1000° C., of greater than 98 kilocalories per gram atom of oxygen and an average particle size of 2 to 250 millimicrons. The zirconium, hafnium or magnesium addition metal is incorporated by blending (a) a powder of the addition metal, its hydride, its alloys with the matrix metal, or hydrides of such alloys with (b) a powder of the dispersion-modified matrix metal, and heating and consolidating the powder blend.

**3,382,052  
CERAMIC BRAZING MEANS**  
John F. Clarke, Plainville, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware  
Filed Feb. 26, 1964, Ser. No. 347,610  
8 Claims. (Cl. 29—194)

1. The product for brazing ceramic to metal, comprising a first layer of said metal to which is solid-phase bonded a trilaminate assembly which is on the order of a few thousandths of an inch thick, the laminations of which trilaminate assembly are solid-phase bonded to one another and which upon heating will form an alloy in a liquid phase, the intermediate laminate of said trilaminate assembly being composed of an active metal selected from

the group consisting of titanium and the alloy columbium containing 10% titanium and 5% zirconium, a laminate between the intermediate laminate and the first metal layer



composed of silver, and a laminate on the other side of the intermediate laminate consisting of an alloy of approximately 72% silver and 28% copper.

**3,382,053  
TANTALUM FILMS OF UNIQUE STRUCTURE**  
Carl Altman, Kendall Park, and Mildred Hoogstraal Read, Summit, N.J.; said Altman assignor to Western Electric Company, Incorporated, and said Read assignor to Bell Telephone Laboratories, Incorporated, both of New York, N.Y., both corporations of New York  
No Drawing. Filed Apr. 5, 1965, Ser. No. 448,553  
12 Claims. (Cl. 29—194)

Beta tantalum is a heretofore unknown tantalum material which has a different crystalline structure than the body-centered cubic crystalline structure of normal tantalum. The crystalline structure of beta tantalum is defined by the following *d*-spacings in angstrom units: 5.38, 4.75, 2.67, 2.49, 2.36, 2.32, 2.15, 2.06, 1.77, 1.442, 1.405, 1.332, 1.240, 1.210, and 1.172. Beta tantalum also has different properties than normal tantalum such as a specific resistivity in excess of 160 micro-ohm-cm. and a temperature coefficient of resistance of from +100 p.p.m./° C. to -100 p.p.m./° C.

**3,382,054  
LOW MELTING POINT COMPOSITE MATERIALS USEFUL FOR BRAZING, SOLDERING OR THE LIKE**  
Brian C. Coad, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware  
Continuation of application Ser. No. 15,937, Mar. 18, 1960. This application Jan. 25, 1965, Ser. No. 432,056  
8 Claims. (Cl. 29—195)



This invention provides as a brazing or soldering product an adhered or physically bonded non-alloyed substantially malleable assembly of brittle alloy forming components, one of which comprises a malleable metal and the other of which comprises a frangible brittle metalloid or non-metallic material in a proportion adapted upon firing in situ for brazing or soldering to form a low temperature alloy as the firing proceeds whereby the product before firing does not have the brittle characteristics of the resulting alloy. The term low-melting point alloy means one having its components in such proportions by weight that the melting point is lower than that having the higher melting point and may or may not be less than that of the component having the lower melting point. Examples of component combinations are gold-silicon, gold-germanium, and nickel-boron.

### 3,382,055 POLYALKYLETHYLENEOXIDE POUR POINT DEPRESSANT ADDITIVE

Norman Jacobson and Herbert G. Burkard, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Feb. 24, 1965, Ser. No. 435,031  
2 Claims. (Cl. 44—62)

Polymers of 1,2-epoxy alkanes having 10 to 18 carbon atoms, wherein the molecular weight is in the range of 1,000 to 1,000,000 are pour depressants for middle distillates and light lube oil stocks.

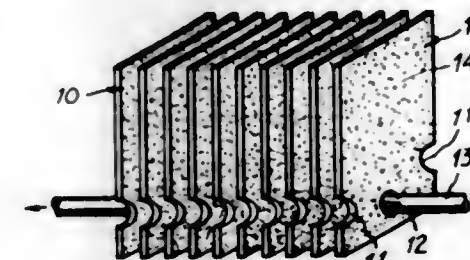
### 3,382,056 MALEIC ANHYDRIDE COPOLYMERS AS RUST INHIBITORS

Enver Mehmedbasich, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
Filed June 3, 1966, Ser. No. 555,198  
5 Claims. (Cl. 44—62)

Rust inhibitors for hydrofined fuels which are relatively low molecular weight maleic anhydride aliphatic hydrocarbon 1-olefin copolymers and their hydrolyzed product.

### 3,382,057 METHOD OF FORMING A COATED ABRASIVE WHEEL

John H. Hohenberger, Williamstown, Mass., assignor to Norton Company, Troy, N.Y., a corporation of Massachusetts  
Filed May 27, 1965, Ser. No. 459,413  
4 Claims. (Cl. 51—293)



A plurality of coated abrasive flaps having at least one hole in the base of each is strung on an elastic member while the elastic member is under tension. The ends of the elastic member are joined to form an annulus and the tension is then released causing the elastic member to contract in length and expand in diameter to give a closer compaction of the flaps than can be accomplished with a non-stretchable stringer.

### 3,382,058 DISPOSABLE SCOURING PAD

Louis Maxwell Wise, Union, N.J., and Joseph Richard Anghinetti, Kennebunkport, Maine, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed July 24, 1964, Ser. No. 385,079  
1 Claim. (Cl. 51—295)

Disposable scouring pad having an adhesive abrasive composition adhered to a flexible, porous base such as paper, the abrasive being a particulate synthetic resin of a Barcol hardness of at least 33 and a particle size from about 20 to 200 mesh, where the paper substrate may be impregnated with a detergent, and a porous pad may be adhesively secured to the substrate on the side opposite the abrasive composition.



3,382,059

**PRODUCTION OF AMMONIUM POLYPHOSPHATES FROM WET PROCESS PHOSPHORIC ACID**

John G. Getsinger, Florence, Ala., assignor to Tennessee Valley Authority, a corporation of the United States  
Filed July 2, 1964, Ser. No. 380,743  
8 Claims. (Cl. 71—34)

A process for the production of ammonium polyphosphate consists of simultaneously introducing ammonia and partially ammoniated wet-process phosphoric acid into a reactor, thereby forming a melt of ammonium polyphosphates. The melt is withdrawn from the reactor as product. The reactor offgas, containing unreacted ammonia, is passed through a scrubber countercurrent to a stream of wet-process phosphoric acid, thereby recovering ammonia from the offgas. The scrubber liquor, comprised of partially ammoniated acid, is fed to the reactor.

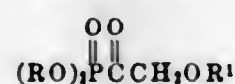
3,382,060

**DIALKYL AND DIPHENYL ESTERS OF ARYLOXYACETYL-PHOSPHONIC ACID AS HERBICIDES**

Delta W. Gler, Parkville, Mo., assignor to Chemagro Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 18, 1964, Ser. No. 412,263  
10 Claims. (Cl. 71—86)

Compounds having the formula



where R is selected from the group consisting of alkyl, phenyl and alkyl phenyl and R' is selected from the group consisting of mono, di and trihalophenyl and monohalo monomethyl phenyl have been found useful as pre-emergent and post-emergent herbicides. The compounds are prepared by reacting the appropriate phenoxyacetyl chloride with either a trialkyl phosphite or by reacting with a dialkyl hydrogen phosphite or a diaryl hydrogen phosphite.

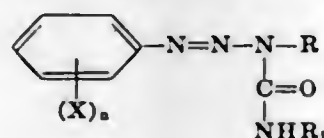
3,382,061

**TRIAZENECARBOXAMIDES AND TRIAZENECARBOXANILIDES AS HERBICIDES**

Donald David Bondarenko, Trenton, and Bryant Leonidas Walworth, Pennington, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

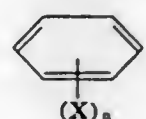
No Drawing. Filed Apr. 22, 1965, Ser. No. 450,187  
9 Claims. (Cl. 71—120)

Herbicidal compositions containing as the active ingredient thereof 3-triazenecarboxamides of the formula:



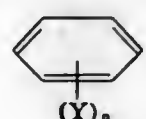
wherein:

R is lower alkyl or



X is hydrogen, halogen, lower alkyl, lower alkoxy or nitro;

R<sub>1</sub> is lower alkyl, alkenyl, benzyl or



Y is hydrogen, halogen or lower alkyl; and n is an integer from 1 to 2, are provided.

3,382,062

**PROCESS FOR DISPERSING REFRACTORY METAL OXIDES IN OTHER METALS**

Dale M. Hiller, Wilmington, Del., assignor, by mesne assignments, to Fansteel Metallurgical Corporation, a corporation of New York  
No Drawing. Filed Oct. 15, 1964, Ser. No. 404,154  
4 Claims. (Cl. 75—5)

Power alloys of molybdenum with iron, cobalt, or chromium with or without copper, containing dispersed refractory oxides such as thoria, are made by precipitating a particulate solid containing the alloy constituents other than molybdenum, dispersing said solid in aqueous ammonium molybdate solution at pH 5.5 to 8.5 to deposit molybdenum-containing compound on it, calcining said product at 100 to 550° C., and reducing the calcined material at 450 to 1200° C.

3,382,063

**ORE AGGLOMERATES AND METHODS OF MAKING THE SAME**

Louis George Imperato, Jr., Tenafly, N.J., assignor to Blocked Iron Corporation, a corporation of New York  
No Drawing. Filed June 10, 1964, Ser. No. 374,191  
1 Claim. (Cl. 75—3)

1. The method of producing a high strength, self reducing lump ore from finely divided iron containing materials comprising the steps of admixing the finely divided iron containing material with at least one of the group consisting of the oxides and hydroxides of alkaline earth metals and with coal having a fineness of 4 mesh and under, forming the mixture into lumps and reacting the lumps with carbon dioxide in the presence of moisture to form alkaline earth carbonates in situ in the lumps.

3,382,064

**HIGH TEMPERATURE BEARING STEELS**

Chester F. Jatczak, Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,313  
7 Claims. (Cl. 75—123)

1. As a new article of manufacture, a case carburized steel bearing member formed from steel consisting essentially of about 0.1 to 0.3% of carbon, 0 to 1.0% of chromium, 0.2 to 1% of manganese, 3 to 7% of molybdenum, 0.2 to 0.6% of silicone, 0.25 to 0.85% of vanadium, and the remainder iron together with impurities and residual elements in amounts not adversely affecting the properties of steels of the said composition, the bearing member being characterized when carburized and hardened from 2100° F. by a case hardness of at least about 52.5 Rockwell "C" at 1000° F., and a recovered case hardness after 1000° F. for 1000 hours of about 62 Rockwell "C".

3,382,065

**STAINLESS STEEL METAL-TO-METAL HIGH SPEED SEALS**

Theodore L. Oberle, Washington, and Glenn R. Gobble, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

No Drawing. Continuation-in-part of application Ser. No. 555,248, June 6, 1966. This application Oct. 6, 1967, Ser. No. 673,519  
2 Claims. (Cl. 75—126)

A stainless steel metal-to-metal high speed seal is disclosed wherein the stainless steel consists of iron, chromium, carbon and boron. All costly "exotic" alloying elements such as columbium cobalt, molybdenum and vanadium are omitted. The stainless steel is extremely useful under severe service conditions as exemplified by the presence of highly corrosive and abrasive materials, such as mud and dirt. The stainless steel consists essen-

tially of up to 3% carbon, .5-4% boron, from 15-35% chromium and the balance iron.

3,382,066

**METHOD OF MAKING TUNGSTEN-COPPER COMPOSITES**

James C. Kenney, and J. Richard Lawrence, Indianapolis, Ind., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

No Drawing. Filed July 23, 1965, Ser. No. 474,448  
2 Claims. (Cl. 75—208)

A process for fabricating tungsten-copper composites consisting of 40-80 weight percent tungsten and 60-20 weight percent copper. A mixture of about 75-99 weight percent of tungsten oxide (W<sub>2</sub>O<sub>11</sub>) and 1-25 weight percent of cuprous oxide is blended for about 2-6 hours to insure complete uniformity. The blended oxides are co-reduced in a hydrogen atmosphere for 1-2 hours at a temperature of between 750° C. and 1025° C. thereby obtaining a preselected average particle size. The particle size of the co-reduced powders are affected by the temperature, flow-rate and time. The co-reduced and blended tungsten and copper mix is compacted, sintered and infiltrated with elemental copper to obtain the tungsten-copper composite. The composite is substantially free of copper-lakes and is substantially homogeneous.

3,382,067

**PREPARATION OF DOUBLE-LAYER ELECTRODES**

Gerd Sandstede and Horst Binder, Frankfurt am Main, and Alfons Köhling, Niederhochstadt, Tannus, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed July 19, 1966, Ser. No. 566,416  
Claims priority, application Germany, July 20, 1965, B 82,912

4 Claims. (Cl. 75—208)

A bi-porous nickel electrode which contains silver as catalyst, is prepared by compacting two layers each of which contains nickel powder and silver carbonate, and only one of which contains in addition a pore forming agent. Conversion of the silver carbonate to metallic silver produces simultaneously the silver catalyst and a fine porous structure because the metallic silver takes up only about half the space of the silver carbonate. The pore-forming agent in the other layer is at least partly removed to produce coarse pores. After conversion of the silver carbonate to silver, the two-layered structure is sintered.

3,382,068

**PHOTOCOPYING METHOD**

Robert M. Gold, Brooklyn, N.Y., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware  
No Drawing. Continuation-in-part of abandoned application Ser. No. 137,476, Sept. 7, 1961. This application June 22, 1966, Ser. No. 559,386

11 Claims. (Cl. 96—27)

A method of recording an image pattern of activating radiation comprising exposing imagewise a copy medium comprising at least one photosensitive semiconductor pigment which becomes activated upon exposure to activating radiation and the first of two components of a color-forming oxidation-reduction reaction composition, and then applying to at least exposed portions of the copy medium the second component of the oxidation-reduction reaction composition, whereby the reaction products of the first and second components of the oxidation-reduction reaction composition form a permanent, irreversible image.

850 O.G.—7

3,382,069

**PLANOGRAPHIC PRINTING PLATE**

Henning H. Borchers, Mountainside, and Thomas N. Gillich, North Plainfield, N.J., assignors to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey

No Drawing. Filed June 18, 1964, Ser. No. 376,270  
9 Claims. (Cl. 96—33)

This invention relates to a novel planographic printing plate, and process for developing such a plate, the plate comprising an aluminum base material pretreated with an alkali-metal silicate and having a light-sensitive coating thereon, the latter comprising a mixture of a water-insoluble organophilic resin and a water-soluble diazonium salt of a para-aminodiphenylamine.

3,382,070

**BLACK-LINE MOIST DIAZOTYPE PROCESS**

Walter J. Welch, Port Dickinson, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 2, 1964, Ser. No. 335,366  
5 Claims. (Cl. 96—49)

Process of moist developing a light-sensitive diazotype material to form a black azo dye image wherein the said material contains as the light-sensitive diazonium composition a mixture of a 2,5-dialkoxy-4-morpholino-1-benzene diazonium compound and a 3-alkoxy-4-(N-alkyl-N-benzylamino) benzene diazonium compound.

3,382,071

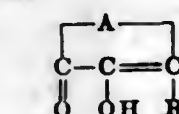
**SILVER HALIDE PHOTOGRAPHIC ELEMENT CONTAINING SPOT OR STREAK PREVENTION COMPOUNDS**

Carl August Bodenstern, Rudolf Schneider, and Hans Vielhaber, Neu-Isenburg, Germany, assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

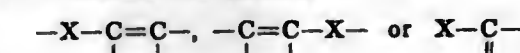
No Drawing. Filed Feb. 3, 1965, Ser. No. 430,208  
Claims priority, application Germany, June 24, 1964, A 46,406

11 Claims. (Cl. 96—67)

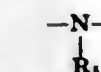
Photographic elements having a water-permeable colloidal silver halide emulsion layer and containing in a water-permeable layer thereof one or more compounds containing the nucleus



wherein A contains the nucleus



wherein X=—O— or



and wherein R is H, halogen or alkyl of 1-4 carbon atoms and R<sub>1</sub>=H, alkyl of 1-4 carbons, aralkyl or aryl, and more particularly kojic acid and maltol.

3,382,072

**NONWOVEN PATTERN MARKING CLOTH AND A METHOD FOR MAKING SAME**

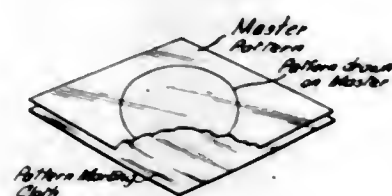
Philip Surowitz, Middlesex, N.J., assignor to Johnson & Johnson, a corporation of New Jersey  
Filed Jan. 22, 1963, Ser. No. 253,145

2 Claims. (Cl. 96—75)

1. A nonwoven pattern marking cloth comprising a first layer of overlapping, intersecting fibers bonded substantially uniformly throughout to provide a self-sustaining fabric and a second layer of overlapping, intersecting fibers intermittently bonded to provide a pliable fabric having a fibrous surface, said second layer being substan-



tially thicker than said first layer, said layers being bonded together in facewise engagement to provide a laminate, the exposed surface of said first layer being impregnated substantially uniformly with a mixture of a light-sensi-



tive, stabilized diazo compound and an azo-coupling agent, said impregnated surface being adapted to receive a pattern outline relatively permanentized by an alkaline medium, and said marking cloth being characterized by softness, pliability and clingability.

3,382,073

### PHOTOGRAPHIC PRODUCT CONTAINING DYE DEVELOPERS

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Continuation-in-part of application Ser. No. 249,922, Jan. 7, 1963, which is a continuation-in-part of application Ser. No. 705,845, Dec. 30, 1957. This application Dec. 30, 1966, Ser. No. 606,234

2 Claims. (Cl. 96-77)

A method of forming dye dispersions is disclosed wherein the dye is vacuum deposited upon an organic polymeric material, following which the vacuum deposited dye and the polymeric material are mixed with a liquid which is a solvent for the polymeric material but a nonsolvent for the dye. The resulting fine dispersion of the dye within the polymeric material is particularly useful in forming dye-containing layers of photosensitive elements.

3,382,074

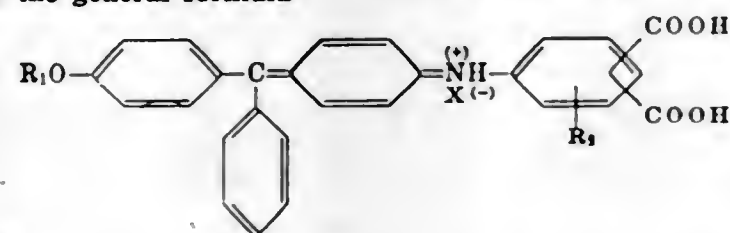
### ANTIHALATION LAYER

Shiro Kimura, Odawara-shi, Tsukasa Awa and Teruhiko Yonezawa, Kanagawa-ken, and Teruo Kobayashi, Odawara-shi, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan

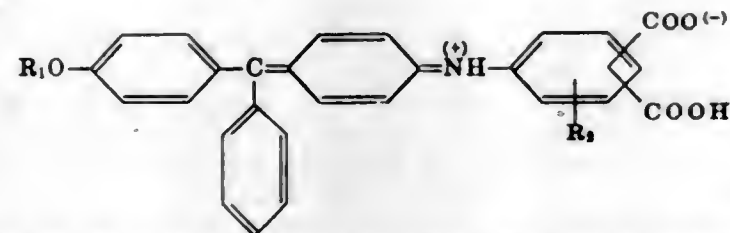
No Drawing. Filed Feb. 25, 1965, Ser. No. 435,328  
Claims priority, application Japan, Mar. 24, 1964, 39/15,861

8 Claims. (Cl. 96-84)

1. A photo-sensitive material having an antihalation layer comprising a synthetic resin binder and a dye of the 4-alkoxy-N-dicarboxyphenyl)fuchsonimine series shown by the general formula



or



wherein  $\text{R}_1$  is a member selected from the class consisting of a lower alkyl group and an aralkyl group,  $\text{R}_2$  is a member selected from the class consisting of hydrogen, a hydroxyl group and a halogen, and X is an acid residual group.

3,382,075

### SUPERSENSITIZATION OF BENZYLIDENE DYES IN SILVER HALIDE EMULSIONS

Norman W. Kalenda, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 8, 1964, Ser. No. 416,753

14 Claims. (Cl. 96-104)

Photographic silver halide emulsions sensitized by benzylidene dyes are advantageously supersensitized by adding at least one sulfonic acid derivative of a bis(triazinylamino)stilbene, a dibenzothiophene dioxide, a biphenyl, a terphenyl, a quaterphenyl, a phenanthrene, a pyrene, or a chrysene.

3,382,076

### SUPERSENSITIZATION OF STYRYL DYES IN SILVER HALIDE EMULSIONS

Norman W. Kalenda, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 8, 1964, Ser. No. 416,754

14 Claims. (Cl. 96-104)

Photographic silver halide emulsions sensitized by styryl dyes are advantageously supersensitized by adding at least one sulfonic acid derivative of a bis(triazinylamino)stilbene, a dibenzothiophene dioxide, a biphenyl, a terphenyl, a quaterphenyl, a phenanthrene, a pyrene, or a chrysene.

3,382,077

### BINDING AGENTS FOR PHOTOGRAPHIC HYDROPHILIC COLLOID LAYERS WHICH ARE CROSS-LINKED BY TREATMENT WITH ALKALIS

Wolfgang Himmelmann, Cologne-Stammheim, and Alexander Riebel, Leverkusen, Germany, assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 6, 1965, Ser. No. 423,835

6 Claims. (Cl. 96-114)

1. A binder for photographic hydrophilic colloid layers which are susceptible to cross-linking upon alkaline treatment, comprising a film-forming protein and an addition product of acrolein with a high molecular weight hydroxyl group-containing polymeric organic compound which is soluble in at least one of the solvents selected from the class consisting of ethyl alcohol and water.

5. Light-sensitive photographic material having a transparent film base, a silver halide emulsion layer containing a binder as defined in claim 1.

3,382,078

### FOOD PACKAGE

Frank A. De Mello, Bound Brook, and George W. Burgess, New Market, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 9, 1963, Ser. No. 307,291

3 Claims. (Cl. 99-171)

1. Foodstuff packaged in a polystyrene film containing from about 0.4 to 3.5 percent by weight based on the weight of the polystyrene of a monoglyceride of a fat forming fatty acid, at least the foodstuff facing surface of said polystyrene film having been subjected to an electrostatic discharge containing corona aura, said electrostatic discharge being of sufficient intensity to impart non-fogging properties to said foodstuff facing surface.

3,382,079

### ELECTROLESS Ni-Fe DEPOSITION PROCESS

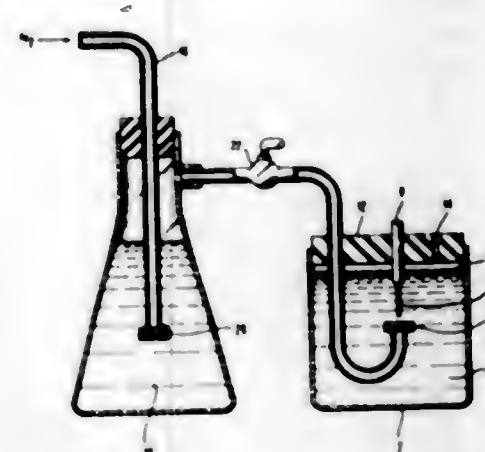
Judith D. Olsen, Ossining, and Labomyr T. Romankiw, Lake Mohegan, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 16, 1964, Ser. No. 418,706

5 Claims. (Cl. 106-1)

An iron or iron-nickel electroless deposition bath's useful life is prolonged by preventing the oxidation there-

of. The bath is purged by a finely dispersed stream of nitrogen gas bubbles, prior and subsequent to the addition of ferrous ions to the bath. The nitrogen gas, prior to entering the electroless bath, is passed through a solution whose pH and temperature are the same as that of the



bath. Both the solution and bath contain a common volatile base, so that the volatilized base of the bath is continuously replenished therein. The purging nitrogen gas also agitates the bath and results in a film free of oxide occlusions.

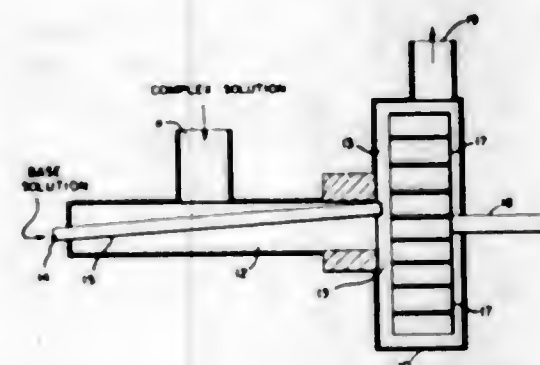
3,382,080

### PROCESS FOR NEUTRALIZATION OF WERNER-TYPE CHROMIUM COMPLEXES

Phillip L. Pennartz, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 24, 1965, Ser. No. 458,264

2 Claims. (Cl. 106-2)



Neutralization of Werner-type chromium complexes by high speed mixing of the Werner complex with an aqueous solution of a basic hydroxide to achieve a stable Werner complex having a level of neutralization of from 0.2 to 0.8 equivalent of hydroxyl iron per equivalent of chromium by maintaining a ratio of at least 40 parts of Werner complex to 1 part base solution at the point of mixing.

3,382,081

### CHEMICAL COMPOSITION AND METHOD

Paul R. Cutter and Donald N. Hamilton, Painesville, Ohio, assignors to Diamond Shamrock Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 397,604, Sept. 18, 1964. This application Sept. 2, 1965, Ser. No. 484,747

26 Claims. (Cl. 106-14)

1. A corrosion-inhibiting bonding coating composition for metal surfaces which consists essentially of a volatile solvent having dissolved therein:

(A) chromic acid in a concentration between about 1 and 400 grams per liter; and

(B) an organic component which is composed of at least one aliphatic dicarboxylic acid selected from a first group consisting of (1) succinic acid in the amount of 60% to 90% by weight of said component, and (2) dicarboxylic acids of the structure:



wherein  $n$  is a whole number from 3 to 12, inclusive, in the amount of 60% to 100% by weight of said component, with the remainder of said organic component being a polyfunctional aliphatic compound selected from a second group consisting of:

- (1) aliphatic keto-carboxylic acids having from 4 to 14 carbon atoms in the molecules thereof,
- (2) unsaturated aliphatic carboxylic acids having from 3 to 18 carbon atoms in the molecules thereof,
- (3) glyceryl esters of  $\text{C}_{16}$ - $\text{C}_{18}$  unsaturated aliphatic carboxylic acids having 1 to 3 double bonds,
- (4) succinimide,
- (5) acrylamide and
- (6) aspartic acid,

and the total concentration of aliphatic compounds from both said groups is from 1 to 100 grams per liter with the mole ratio of  $\text{CrO}_3$  to the total of aliphatic compounds of both said groups within the range of 5:1 to 0.8:1.

3,382,082

### FOAMED-IN-PLACE CERAMIC REFRACTORY INSULATING MATERIAL

Alfred G. Eubanks, Kensington, and Ronald E. Hankeler, Lanham, Md., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

No Drawing. Filed Aug. 28, 1964, Ser. No. 392,965

22 Claims. (Cl. 106-40)

Foamed-in-place ceramic refractory composition and method for making same. The composition comprises the following ingredients: powdered aluminum hydroxide, phosphoric acid, bentonite, powdered aluminum phosphate, and a metal powder above hydrogen in the electrochemical series. It also can include powdered silicon dioxide. In the process all specified quantities of the above named ingredients, except for the phosphoric acid, are thoroughly mixed. Then the phosphoric acid is added and the total mixture stirred until a slurry is formed. The slurry is poured into a container which houses an object to be potted or not as the case may be and thereafter the slurry is allowed to stand until it has foamed sufficiently to fill the container. Finally, the container is placed in an oven and the foamed slurry is cured at the relatively low temperatures of from 65 to 100 degrees centigrade.

3,382,083

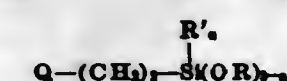
### FILLED INORGANIC STRUCTURAL COMPOSITIONS HAVING IMPROVED STRENGTH

James G. Marston, Tonawanda, and Samuel Sterman, Williamsville, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 5, 1964, Ser. No. 349,766

10 Claims. (Cl. 106-98)

1. In a manufactured, reinforced argillaceous and cement-like inorganic structural mass article, wherein the reinforcement is an internally distributed siliceous filler, the improvement which comprises said filler being bonded to the said mass by a silicon-containing coupling agent selected from the class consisting of (A) silanes having the general formula





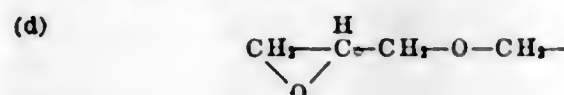
wherein R' is a monovalent hydrocarbon radical, R is an alkyl radical containing from 1 to about 8 carbon atoms, a is an integer having a value of from zero to 2 inclusive, and Q is a member selected from the group consisting of (a)  $(CH_2)_n-NQ'$ , wherein n is an integer having a value of from 1 to 2 inclusive and Q' is a member selected from the class consisting of hydrogen and  $(CH_2)_2NH_2$ ;



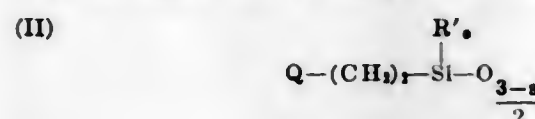
wherein E is a member selected from the class consisting of hydrogen and alkyl groups containing from 1 to 3 carbon atoms, and Z is an alkylene radical containing from zero to 2 carbon atoms inclusive;



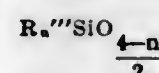
wherein R'' is a monovalent hydrocarbon radical, and Z is an alkylene radical containing from zero to 2 carbon atoms inclusive; and



(B) Siloxanes having the general formula



wherein R', Q, and a have the same values and represent the same groups as in Formula I above; (C) copolymers containing from 0.1 to 99.9 mole percent of the units of Formula II and from 99.9 to 0.1 mole percent of units represented by the general formula:



wherein R'''' is a monovalent hydrocarbon as defined with respect to R' in Formula I above, and n is an integer having a value of from 1 to 3 inclusive; and (D) the composition resulting from admixing gamma-aminopropyltrialkoxysilane in which the alkoxy group contains from 1 to about 8 carbon atoms with a phosphorus compound containing at least one oxygen atom directly bonded to phosphorus in the molecule.

3,382,084

## ASPHALT BINDER PITCH

Hillis O. Folkins, John W. Walsh, and Theodore R. Embach, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California  
No Drawing. Filed Dec. 11, 1964, Ser. No. 417,769  
14 Claims. (Cl. 106-284)

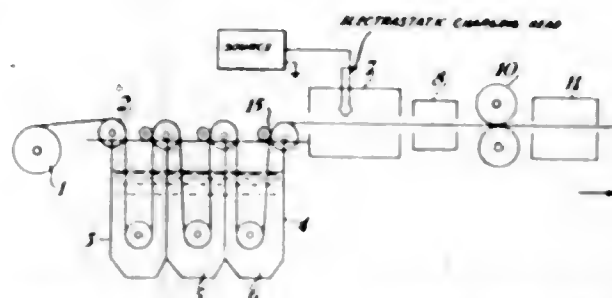
The invention comprises the use of an extract from green petroleum coke as an improved binder for carbon in the preparation of graphite electrodes and molded carbonaceous solids. The extract is used by incorporating the extract, preferably in an amount from about 2 to 20 percent by weight, in a petroleum pitch, and adding the resultant blend to carbonaceous solids which are then molded and, when necessary, graphitized. Use of a petroleum pitch containing the extract from green petroleum coke results in production of graphite electrodes having a higher density, lower resistivity and lower coefficient of thermal expansion than achieved in the absence of the extract. The extract is obtained by treatment of the green petroleum coke with a solvent or aromatic compounds, preferably with a basic nitrogen-containing solvent.

3,382,085

## CLADDING OF STRIP MATERIAL

Brian Vickerson Wren, Middlesbrough, Clifford Barratt, Stockton-on-Tees, Peter David Swales, Gulsborough, and Kenneth Thomas Lawson, Middlesbrough, England, assignors to Head, Wrightson and Company, Limited, Thornaby-on-Tees, England, a corporation of the United Kingdom  
Filed Jan. 15, 1964, Ser. No. 337,895  
Claims priority, application Great Britain, Jan. 17, 1963, 2,184/63

11 Claims. (Cl. 117-17)



A method of coating a strip formed from any one or combination of a large number of metals with a protective surface of a differing metal which also may be any one of or combination of a large number of metals. The strip is wetted by immersion in a bath containing any of a number of liquids, preferably of relatively low surface tension. A powder containing electrostatically charged particles of metal differing from the metal of the strip is applied to the wetted strip. The metal strip and metallic powder are dried and the powder is compacted against the surface of the strip to provide the aforesaid coating. Subsequent heating of the metal strip and coating combination provides bonding of the coating to the strip.

3,382,086

## FINISHING TEXTILE FABRIC

Chesley W. Singleton, Altavista, Va., assignor to Klopman Mills, Inc., Asheboro, N.C., a corporation of Delaware  
Filed Sept. 3, 1964, Ser. No. 394,234  
4 Claims. (Cl. 117-33.5)



There is provided a process for producing a permanent white finish on bleached cotton and polyester containing fabrics which finish is not removed by repeated launderings. The fabric is treated with a composition containing at least one resinous thermosetting amino-formaldehyde condensate binder, optical brightening agent and pigment. The fabric is then predried at about 240° F. to 280° F. and thereafter the drying is completed at about 280° F. to 310° F. on an enclosed tenter frame, after which the fabric is cured at about 300° F. to 320° F. by passing over a plurality of heated rolls with the minimum tension necessary to pass the fabric over the rolls.

3,382,087

## SILVER AND COPPER COATED ARTICLES PROTECTED BY TREATMENT WITH AMINO-AZOLE COMPOUNDS

John S. Ostrowski, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania  
No Drawing. Filed Aug. 20, 1964, Ser. No. 391,023  
22 Claims. (Cl. 117-35)

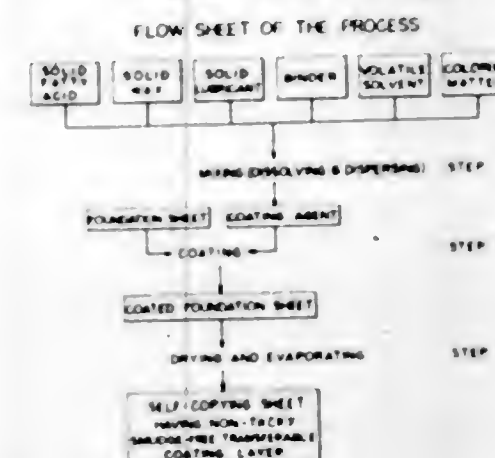
Articles, such as mirrors and windows, having thereon a thin silver and/or copper film are protected from discoloration and deterioration due to corrosion by treat-

ment of the film with an aminotriazole, an aminotetrazole, an aminoindazole, or an indazole. The treatment can be carried out by contacting the metallic film or an organic coating superimposed on the metallic film with the substituted azole, preferably in solution. Alternatively, the substituted azole can be included in the superimposed organic coating, if any. Such treatment retards and prevents for long periods of time the deterioration and attack of the metallic film which is ordinarily evidenced by discoloration and/or removal of the metallic film.

3,382,088

## METHOD OF MANUFACTURING SELF-COPYING SHEET

Ryuzo Noda, 37 2-chome, Higashino-cho, Noe, Johto-ku, Osaka, Japan  
Continuation-in-part of application Ser. No. 257,836, Feb. 12, 1963. This application Apr. 28, 1965, Ser. No. 451,439  
7 Claims. (Cl. 117-36.1)



1. A method of preparing a self-copying sheet having a non-tacky, clean-to-touch, and non-smudging transferable layer coated on one side thereof, which comprises mixing a solid fatty acid selected from the group consisting of stearic acid, palmitic acid, myristic acid and behenic acid, a solid wax, a solid lubricant selected from the group consisting of refined talc and prepared calcium carbonate, a coloring matter selected from the group consisting of pigment and dyestuff, a binder of low viscosity of the group consisting of ethylcellulose, nitrocellulose and chlorinated rubber and a volatile solvent of the group consisting of toluol and methanol to form a dispersion solution, coating the resulting solution on one side of the foundation sheet at normal temperature to crystallize the solid fatty acid and evaporate the solvent.

3,382,089

## METHOD FOR PRODUCING DECORATIVE RETICULATED COATINGS ON IMPERMEABLE SURFACES

Gustave J. Klein, Great Neck, and William P. O'Rourke, Babylon, N.Y., assignors to Knomark, Inc., Brooklyn, N.Y., a corporation of New York  
Filed Sept. 3, 1964, Ser. No. 394,273  
10 Claims. (Cl. 117-41)



The method of producing a decorative reticulated coating on an impermeable surface by applying thereto a volatile organic solvent in which a particulate inorganic

solid having an average particle size below about 0.025 micron is dispersed by admixture, and then evaporating the solvent to leave visible discrete aggregates of the solid on the surface. An adhesive resin binder may be present in the solvent during formation of the coating or applied to the formed coating as a protective overcoat.

3,382,090

## PROCESS OF MAKING HYDROPHILIC POLYURETHANE FOAM BODY

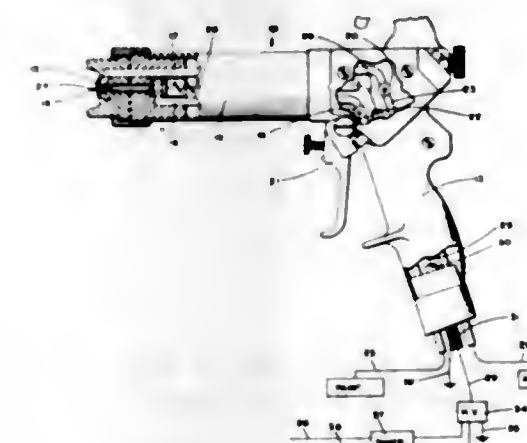
Fred W. Meisel, Jr., Media, and Edgar Allan Blair, Swarthmore, Pa., assignors to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania  
No Drawing. Filed May 19, 1965, Ser. No. 457,170  
6 Claims. (Cl. 117-47)

This invention relates to a process for the production of hydrophilic polyurethane foam products wherein a monomer of the group consisting of acrylic acid, hydroxyethylacrylate, acrylamide, dimethylaminoethyl methacrylate and mixtures thereof is attached to a foam substrate by a graft polymerization process in which polymerization is initiated by the presence of benzoyl peroxide and dimethylamine. This reaction may advantageously take place in the presence of an oxygen scavenger such as sodium bisulfite and a wetting agent such as a polyoxyethylated polypropylene oxide.

3,382,091

## ELECTROSTATIC COATING METHODS AND APPARATUS FOR CONDUCTIVE COATING MATERIALS

Edward W. Drum, Indianapolis, Ind., assignor to Ransburg Electro-Coating Corp., a corporation of Indiana  
Continuation-in-part of application Ser. No. 448,556, Apr. 5, 1965. This application Jan. 7, 1966, Ser. No. 530,753  
15 Claims. (Cl. 117-93.4)



1. In a method of electrostatically coating an article with a coating composition having conductive particles suspended within a liquid continuum of relatively low conductivity, the steps of flowing said coating composition in the form of a column between first and second points, maintaining said points at different electrical potentials, and promoting electrical impedance between said two points in the paint column by cyclically varying the potential maintained between said two points while continuing the flow of coating composition between said points.

7. An electrostatic coating apparatus for coating an article with a coating composition having conductive particles suspended within a liquid continuum of relatively low conductivity comprising, an atomizer having an atomizing zone, means for feeding said coating composition to said atomizing zone in the form of a column, means for maintaining a high voltage on said coating composition at a first point adjacent said atomizing zone,



means for maintaining a second point of said column, spaced from said first point, at a potential different from said first point, and means for cyclically varying the potential between said first and second points.

3,382,092

**PROTECTIVE COATING FOR VEHICLE BOTTOM**  
Stephan Illyckj and George A. Holder, Sarnia, Ontario, Canada, assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 20, 1964, Ser. No. 346,085

2 Claims. (Cl. 117-97)

Metal is coated with a solution of ethylene-vinyl acetate copolymer dissolved in solvent to prevent corrosion.

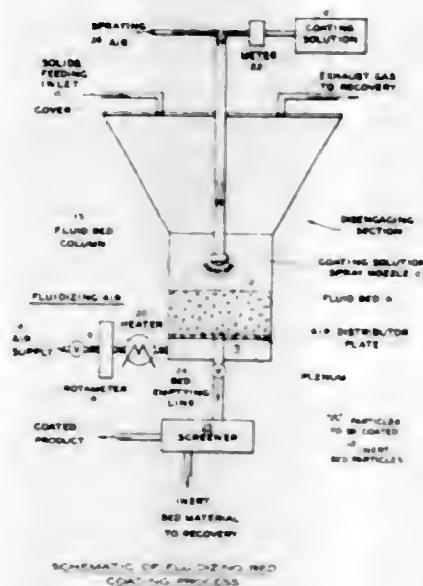
3,382,093

### FLUIDIZED BED COATING OF FRAGILE BODIES

Herman Nack, Columbus, Ohio, assignor to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

Continuation-in-part of application Ser. No. 275,502, Apr. 25, 1963. This application Nov. 22, 1965, Ser. No. 516,199

10 Claims. (Cl. 117-100)



1. A process for coating fragile bodies that are subjected to breakage and attrition when fluidized comprising:

- forming a fluidized bed of particulate solids having an average bed density that is greater than said fragile bodies and an average particle size that is smaller than said fragile bodies;
- introducing said fragile bodies into said fluidized bed so as to form a composite fluidized bed; and
- introducing a spray of said coating material into said composite fluidized bed so as to coat said fragile bodies with said coating material.

3,382,094

### FLUID AND MOLD RESISTANT CELLULOSIC MATERIALS AND PROCESS THEREFOR

George F. Bulbenko, Levittown, and Stephen W. Osborn, Yardley, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed May 19, 1964, Ser. No. 368,684

10 Claims. (Cl. 117-138.5)

Cellulosic material is made fluid and mold resistant by treating a cellulosic substrate with a fluid episulfide mono-

mer and thereafter converting the fluid episulfide monomer to a solid polymer to form a barrier therein.

3,382,095

### PROCESS OF TREATING FABRIC WITH SULFO-PROPYLATED, ORGANOFUNCTIONAL SILANES AND SILOXANES

Loren A. Haluska, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

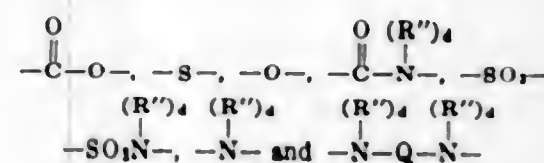
No Drawing. Original application Dec. 5, 1963, Ser. No. 328,164, now Patent No. 3,328,449, dated June 27, 1967. Divided and this application Dec. 5, 1966, Ser. No. 611,196

4 Claims. (Cl. 117-139.5)

1. The process of reducing the tendency of fabric to acquire a static electrical charge by

(1) immersing said fabric in a solution of

(A) 0.25 to 30% by weight of a composition of the formula  $Z_nSi(R(Y[R'SO_3H]_e)_b)_a$ , where R is selected from the group consisting of di-valent and trivalent hydrocarbons, halo-hydrocarbon, and hydrocarbon ether radicals, Y is selected from the group consisting of



where each

R'' is independently selected from the group consisting of hydrogen and aliphatic hydrocarbon radicals of 1 through 6 carbon atoms,

Q is an alkylene radical, of 2 through 4 carbon atoms that separates the two N groups by at least two carbon atoms, and

d is an integer of 0 through 1,

R' is an alkylene radical that separates Y and SO<sub>3</sub> by three carbon atoms,

c is an integer of 1 through 3,

b is an integer of 1 through 2,

a is an integer of 1 through 2,

Z is selected from the group consisting of hydrogen atoms and monovalent hydrocarbon, halo-hydrocarbon, alkoxy, beta-alkoxy-alkoxy, phenoxy, acyloxy, and hydrocarbyl-substituted isocyanoxy radicals, and

e is an integer of 2 through 3, the sum of e+a being 4, and

(B) 99.75 to 70% by weight of a volatile solvent that is not reactive with the fabric or ingredient (A); and

(2) drying the fabric.

3,382,096

### ANTISTATIC COMPOSITION, TREATMENT OF A HYDROPHOBIC MATERIAL THEREWITH, AND THE RESULTING MATERIAL

Harold Boardman, Chadds Ford, Pa., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 309,402, Sept. 17, 1963. This application Apr. 28, 1967, Ser. No. 634,501

30 Claims. (Cl. 117-139.5)

A composition of matter comprised of a water-soluble cationic thermosetting polyamide-epichlorohydrin resin and an antistatic agent is used to provide durable antistatic finishes on hydrophobic articles.

3,382,097

### PROCESS OF TREATING TEXTILES AND OTHER MATERIALS WITH FLUORINATED ORGANIC AMIDO ACID COMPOUNDS TO IMPART REPELLENCY

William A. Erby, Alburta, Pa., Basil Farah, West Seneca, N.Y., and Richard A. Flinn and Robert A. Walde, Emmaus, Pa., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 386,376, July 30, 1964. This application Oct. 6, 1965, Ser. No. 493,559

18 Claims. (Cl. 117-141)

Treatment of solid materials, particularly paper, and

textiles of natural or artificial origin, to impart oil and soil repellency, by contact with a fluorinated organic acid compound of the formula



wherein R is H or an alkyl radical of 1 to 8 carbon atoms and n is an integer of 3 to 20. Representative treating compounds include: perfluoro-octanoyl glycine, perfluorobutanoyl amino acetic acid, perfluorobutanoyl - 2 - amino propionic acid, perfluoroundecanoyl - 2 - amino caprylic acid. The fluorinated organic acid compound is applied in aqueous or organic solution and may include colloidal silica or an air-curing organo poly siloxane.

3,382,098

### WAX-POLYBUTADIENE COMPOSITION AND PAPERBOARD IMPREGNATED THEREWITH

Eugene M. Fauber, Hammond, Ind., and Hallard C. Moyer, Homewood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 15, 1964, Ser. No. 375,331

8 Claims. (Cl. 117-158)

Paperboard is impregnated with a novel composition consisting essentially of petroleum wax having a melting point in the range of about 115° to 200° F. and a minor amount of a wax-compatible polybutadiene oil having a molecular weight of from about 200 to 25,000. The resulting article of manufacture has been discovered to have significantly improved strength, rigidity and water resistance when thermally cured.

3,382,099

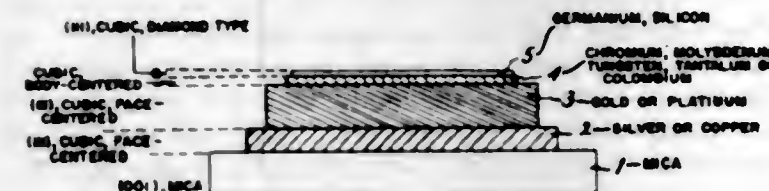
### PROCESS FOR THE EPITAXIAL GROWTH OF SEMICONDUCTOR LAYERS ON METAL SUPPORTS

Robert Montmory, Grenoble, France, assignor to Centre National de la Recherche Scientifique, Paris, France, a French body corporate

Filed Apr. 20, 1964, Ser. No. 360,925

Claims priority, application France, Apr. 23, 1963, 932,543

3 Claims. (Cl. 117-215)



A process for epitaxial growth of semiconductor layers on a mica split support cleaved along the (001) plane by first epitaxially depositing cubic face-centered silver or copper (111), thereafter epitaxially depositing cubic face-centered gold or platinum (111), thereafter epitaxially depositing body-centered metals such as chromium, molybdenum, tungsten, tantalum or columbium, selectively dissolving away the first layer (111) while separating the mica split and thereafter epitaxially depositing diamond-type cubic semiconductor such as germanium or silicon on the remaining cubic body-centered layer.

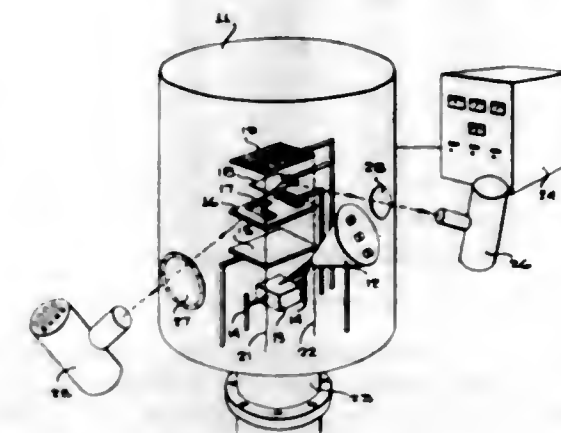
3,382,100

### RHENIUM THIN FILM RESISTORS

Charles Feldman, Alexandria, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Continuation-in-part of application Ser. No. 173,261, Feb. 14, 1962. This application Sept. 14, 1965, Ser. No. 490,156

13 Claims. (Cl. 117-217)



1. The process of making highly stable thin film resistors which comprises, in a vacuum environment, the steps of depositing vaporized rhenium in a thin film on an electrically insulating substrate heated to a temperature within the range from 400° C. to 700° C., and thereafter annealing said film at a temperature within said range for a period of time sufficient to stabilize the electrical and physical characteristics of the thin film resistor.

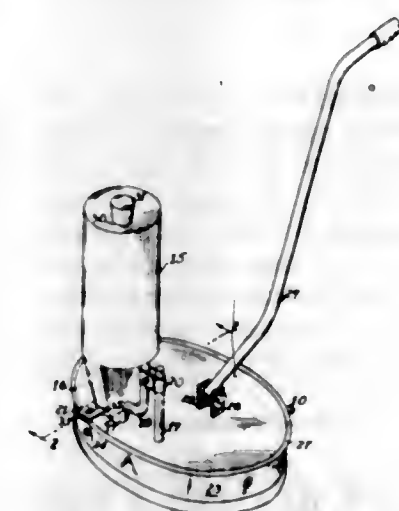
3,382,101

### METHOD FOR ERADICATING HYDROCARBON STAINS FROM CONCRETE SURFACES

John L. Bishop, Sr., Atlanta, Ga., assignor to Atlantic Management Company, Atlanta, Ga., a corporation of Georgia

Filed Apr. 17, 1964, Ser. No. 360,605

3 Claims. (Cl. 134-7)



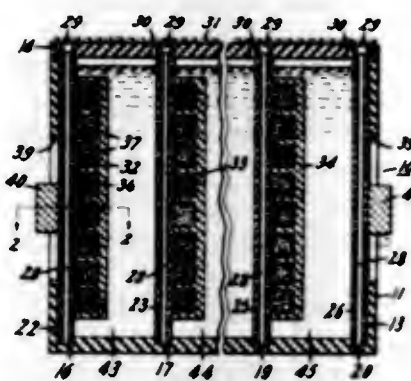
A method for eradicating oil and grease stains from concrete surfaces comprising the use of a concrete weight including a flat bottom surface and defining a bore extending vertically therethrough, a container mounted on the weight and communicating with the bore, and a valve member for controlling the flow of the eradicating substance from the container through the bore to the bottom surface of the weight, whereupon movement of the weight over the stain works and grinds the eradicating substance into the stain.



3,382,102

**ZINC-BROMINE SECONDARY CELL**

Ralph Zito, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
Filed Sept. 2, 1965, Ser. No. 484,556  
5 Claims. (Cl. 136—30)



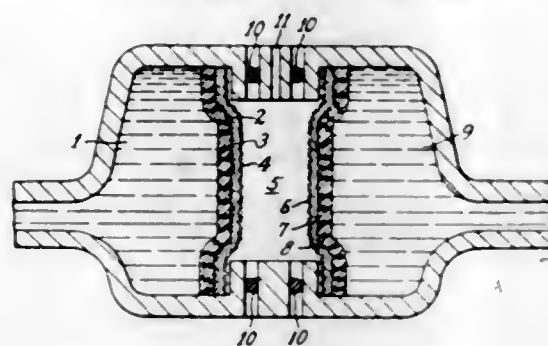
A secondary cell has a zinc electrode, a bromine electrode with a carbon matrix having pockets containing activated carbon, a zinc bromine electrolyte, and a gelling agent incorporated in the electrolyte. A series-type battery has a plurality of these cells.

3,382,103

**METHOD OF SUPPLYING AQUEOUS HYDRAZINE TO A VAPOR DIFFUSION FUEL CELL ELECTRODE**

John O. Smith, Swampscott, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

Filed May 19, 1964, Ser. No. 368,579  
6 Claims. (Cl. 136—86)



An improved method for operating a fuel cell wherein an aqueous solution of hydrazine is employed as a fuel in conjunction with an oxidant feedstock. Improvement operation and efficiency of such fuel cells is realized by supplying the aqueous solution of hydrazine to the anode through a barrier consisting of three layers; the first layer is a porous, non-wetting vapor transmitting layer, the second layer contains a metallic catalyst for hydrazine decomposition while the third layer is a current collector for the anode.

3,382,104

**METHOD OF HEATING A FUEL CELL**

Charles H. Worsham, Fanwood, and James A. Wilson, Stanhope, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed June 5, 1964, Ser. No. 372,757  
2 Claims. (Cl. 136—86)

The start-up of a fuel cell which uses methanol as fuel is effectively accomplished by introducing methanol in excess of that required for power output, allowing a controlled amount of the methanol to contact the cathode where air, the oxidant, is contacted with the cathode at a rate between 1200 cc.'s and 1700 cc.'s per minute per square foot of the cathode for chemical oxidation which effects heating of the cell to an efficient operating tem-

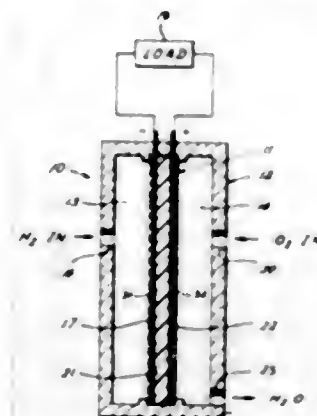
perature above about 140° F. before the cell is under a load for power output.

3,382,105

**ION-EXCHANGE MEMBRANE WITH PLATINUM ELECTRODE ASSEMBLY**

Hoyt McBryar, Dickinson, and Herschel H. Jamison, Pasadena, Tex., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Dec. 29, 1964, Ser. No. 422,096  
1 Claim. (Cl. 136—86)



An ion-exchange membrane and electrode assembly comprising an ion-exchange membrane between a pair of porous catalytic electrodes. A pair of thin plastic membranous sheets with finely divided platinum dispersed therein are superposed on to the catalytic electrodes. The thin plastic sheets are porous to hydrogen and oxygen, but are nonporous to complex ion-exchange groups of the ion-exchange membrane. The plastic sheets act as physical barriers to prevent escape of complex ion-exchange groups from the fuel cell and to prevent the flaking off of catalyst from the electrodes. The provision of platinum particles within the plastic sheets also increases the number of electrode reaction sites.

3,382,106

**METHOD OF PRODUCING CATALYST BODY INCLUDING SORBING HYDROGEN INTO BODY**

Margarete Jung, Nieder-Eschbach, Germany, and Hanns H. Kroeger, Gainesville, Fla., assignors to Varta Aktiengesellschaft, Hagen, Westphalia, Germany, a corporation of Germany

Continuation-in-part of application Ser. No. 475,459, July 28, 1965. This application Sept. 7, 1965, Ser. No. 485,573

Claims priority, application Germany, Dec. 17, 1960, A 36,312; Jan. 28, 1961, A 36,601; Feb. 7, 1961, A 36,666

14 Claims. (Cl. 136—120)

14. A process of producing a catalytic body which comprises sorbing nascent hydrogen into the body of an alkali-resistant crystalline metal lattice which is hydrogen sorbing by contacting the body with an alkaline solution comprising a hydrogen-generating strong reducing agent and discontinuing the sorption of hydrogen after the body is substantially impregnated with hydrogen.

3,382,107

**SEALING DEVICE FOR AN ELECTRO-CHEMICAL CELL**

Thomas J. Hennigan, West Hyattsville, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Oct. 8, 1965, Ser. No. 494,287  
7 Claims. (Cl. 136—132)

A sealing device for a standard electrochemical cell which enables use of the cell in low pressure environ-

ments. The cell, except for its top, is enclosed by a housing with one terminal and an end wall of the cell transixed



in a layer of hardened epoxy resin. Means is provided for permitting external electrical contact with said terminal.

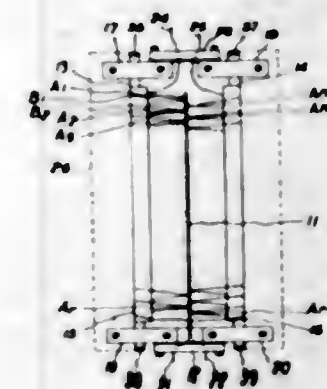
3,382,108

**THERMOELECTRIC DEVICES**

Frederick John Wilkins, Surrey, England, assignor to National Research Development Corporation, London, England, a British body corporate

Continuation-in-part of application Ser. No. 366,284, May 11, 1964. This application Feb. 23, 1966, Ser. No. 529,522

Claims priority, application Great Britain, May 10, 1963, 18,699/63  
10 Claims. (Cl. 136—226)



A multijunction thermoelectric converter has the junctions produced by coatings of discrete lengths of one electrically conductive material on a continuous length of very fine wire of another electrically conductive material, the wire being wound into a helix with two rows of junctions formed by the ends of the coatings, the cross section of the helix being triangular with one row of junctions at an acute angled apex of the helix and the other row remote therefrom. An electrically heated rod-like support is secured to the helix along the row of junctions at the apex and serves both to support the helix and to heat the row of junctions at the apex, while at least one other rod-like support is secured to and extends along the helix at a position remote from the first support. The first support may be a hairpin looped electric heater, and two such helices may be intermeshed with the heater common to both. The converter structure may be housed in a surrounding shielding enclosure, preferably evacuated, of high thermal and electrical conductivity which minimises heat loss and serves as a sink for the cold junctions.

3,382,109

**BRAZING LEAD TELLURIDE THERMOELECTRIC GENERATOR ELEMENTS**

Louis F. Kendall, Jr., Scotia, and James H. Bredt, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Oct. 9, 1964, Ser. No. 402,950  
10 Claims. (Cl. 136—237)

In the manufacture of lead telluride thermoelectric generators, it is customary to join the lead telluride elements to ferrous metal bridging members by brazing techniques. It would be advantageous to use tin telluride as the brazing material except that a brittle layer is formed at the tin telluride-ferrous metal interface which cause mechanical failure of the joint when thermally cycled. It has been found that the presence of a small but effective amount of antimony at the interface eliminates the brittle layer and produces a satisfactory joint which is thermally stable and which has a low junction electrical resistance.

3,382,110

**TREATMENT OF FERROUS METAL**

Robert Lozano, Hammond, Coy S. Ham, Munster, Charles C. Marshall, Gary, and Jack E. Joyce, Chesterton, Ind., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 287,138, June 11, 1963. This application Oct. 27, 1966, Ser. No. 589,854

3 Claims. (Cl. 148—6.15)

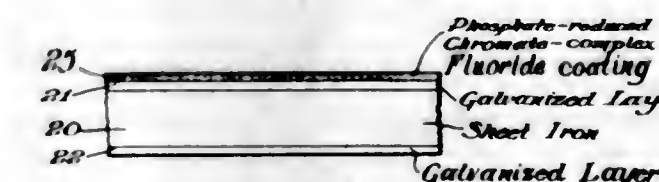
A process for controlling the rate of pickling of the surface of a strip of low carbon ferrous metal, such as enameling iron, by contacting the surface of the metal with a phosphorus-containing solution having a pH below 7 to form thereon a surface film containing phosphorus, and heating the surface film to an elevated temperature in a reducing atmosphere to form a diffused surface layer containing phosphorus.

3,382,111

**COATING METAL**

Singkata Tongyal, Warrington, Ludwig K. Schuster, Dresher, and William A. Blum, Fort Washington, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 26, 1965, Ser. No. 450,859  
7 Claims. (Cl. 148—6.16)



1. An aqueous coating solution containing chromic acid, phosphoric acid, a complex fluorine-containing acid selected from the class consisting of fluosilicic, fluotitanic, fluoboric and fluozirconic acids, a reducing agent for the hexavalent chromium when the solution is dried and then heated to at least about 250° F., said reducing agent being compatible with the hexavalent chromium while dissolved, the weight ratio of chromic acid to phosphoric acid being from about 3:1 to 1:2, the complex fluoride acid being in a concentration of from about 1/10 to about the same weight as the total of the chromic and phosphoric acids, said acids being not more than partially neutralized with a base selected from the class consisting of zinc, calcium and ammonium hydroxides and mixtures thereto, and the reducing agent being in a concentration that causes about 40 to about 95% of the hexavalent chromium to be reduced to trivalent condition when the dried solution is heated to at least 200° F.



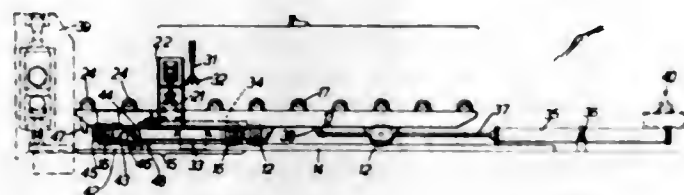
3,382,112

**INGOT CARRIAGE**

Thomas Graeme Oxley, Sheffield, and Derek Alan Smithson, Staveley, near Chesterfield, England, assignors to Davy and United Engineering Company Limited, Sheffield, England

Filed May 6, 1964, Ser. No. 365,314  
Claims priority, application Great Britain, May 10, 1963, 18,533/63

12 Claims. (Cl. 148—9)



This invention relates to an apparatus and method for cutting horizontal movable material by supporting the material on a movable carriage and moving the material, the cutting means and the carriage at the same velocity, and additionally having the cutting means transversely to the movement of the material to be cut, and after the cut reversing the carriage; according to the invention the carriage is provided with means for supporting the material to be cut at intervals along its length and means for driving the cut-off portion over the carriage after the cut.

3,382,113

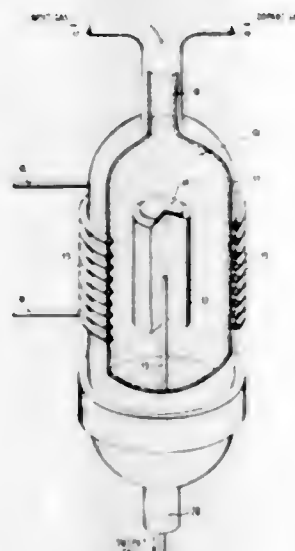
**METHOD OF EPITAXIALLY GROWING SILICON CARBIDE BY PYROLYTICALLY DECOMPOSING  $\text{SiH}_4$  AND  $\text{CH}_4$** 

Ekkehard Ebert, Boblingen, Martin Immendorfer, Sindelfingen, and Werner Spielmann, Dachtel, Germany, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 16, 1965, Ser. No. 472,615

Claims priority, application Germany, July 25, 1964, J 26,271

6 Claims. (Cl. 148—175)



1. Method of epitaxially growing a layer of silicon carbide on a seed in a reaction chamber comprising the steps of:

- applying an input gas stream comprising  $\text{SiH}_4$  and  $\text{CH}_4$  to said chamber; and
- decomposing pyrolytically said  $\text{SiH}_4$  and  $\text{CH}_4$  in said chamber to effect said epitaxial growth of said layer by precipitation of said silicon carbide on said seed.

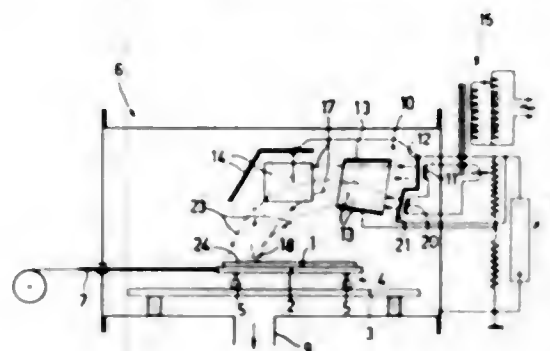
3,382,114

**METHOD OF MANUFACTURING SEMICONDUCTOR PLATE USING MOLTEN ZONE ON POWDER SUPPORT**

Claude Beauzée, Evreux, and François Desvignes, Bour-la-Reine, France, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 7, 1964, Ser. No. 336,297

5 Claims. (Cl. 148—186)



A method of manufacturing thin semiconductor plates using a zone melting treatment, in which the semiconductor is provided at a powder layer on a support, and the upper surface is zone melted while separated from the support by part of the powder layer to reduce contamination.

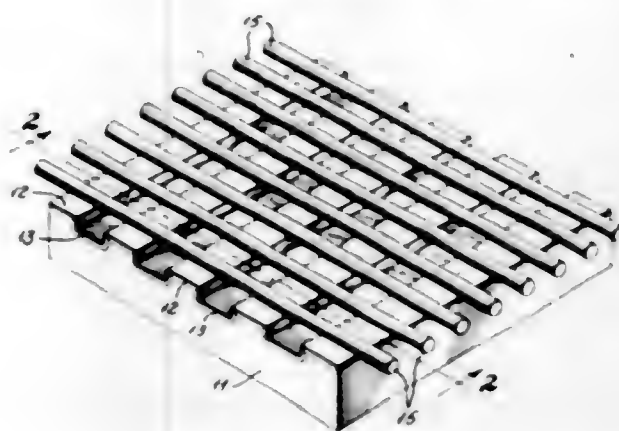
3,382,115

**DIODE ARRAY AND PROCESS FOR MAKING SAME**

Clarence J. Carter, Rolling Hills Estate, and Richard F. Stewart, Los Angeles, Calif., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation of application Ser. No. 141,854, Sept. 29, 1961. This application June 30, 1965, Ser. No. 468,276

7 Claims. (Cl. 148—187)



1. A method for making semiconductor devices comprising the steps of:

- (a) providing a monocrystalline semiconductor body having a plurality of grooves at selected first locations of a surface of said body and a plurality of lands of said grooves at selected second locations of said surface,
- (b) diffusing into said surface from an oxygen atmosphere containing phosphorus to change said surface to N-type conductivity and form a diffusion masking coating of oxide upon said surface,
- (c) selectively removing said diffusion masking coating of oxide and said changed N-type conductivity surface from the said lands of said grooves, thereby to leave a plurality of first diffused regions of N-type conductivity at said selected first locations of said surface, each of said plurality of first diffused regions extending to said surface beneath unremoved oxide,

- (a) diffusing boron impurities into said lands to form a plurality of second diffused regions of P-type conductivity adjoining the said plurality of first diffused regions of N-type conductivity at said surface, and
- (e) forming another plurality of grooves at said surface perpendicular to the original grooves to form a series of separated surface adjacent junction devices having their P-type conductivity region in juxtaposition with said N-type conductivity region at said surface.

3,382,116

**POLYISOCYANURATE SOLID SOLUTIONS WITH OXIDANT OF LITHIUM PERCHLORATE**

Lucius G. Gilman, Wakefield, and Robert I. Lalt, Swampscott, Mass., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 2, 1962, Ser. No. 207,467

10 Claims. (Cl. 149—19)

7. A polymeric solid solution of an oxidant amount of lithium perchlorate and a polyisocyanurate in the same homogeneous phase.

10. A propellant composition comprising the product described in claim 7, said composition including at least sufficient oxidant to make combustion of said system self-supporting.

3,382,117

**THICKENED AQUEOUS EXPLOSIVE COMPOSITION CONTAINING ENTRAPPED GAS**

Melvin A. Cook, Salt Lake City, Utah, assignor to Inter-mountain Research and Engineering Company, Inc., a corporation of Utah

No Drawing. Continuation of application Ser. No. 422,034, Dec. 29, 1964, which is a continuation-in-part of application Ser. No. 324,193, Nov. 18, 1963. This application Jan. 6, 1967, Ser. No. 609,270

14 Claims. (Cl. 149—39)

This invention relates to blasting agents and more particularly to slurry blasting agents containing strong oxidizer salt, sensitizer, water, etc. which have air or other gas introduced to reduce density. Organic liquid, e.g., ethylene glycol, formamide, may replace part of the water to lower its freezing point.

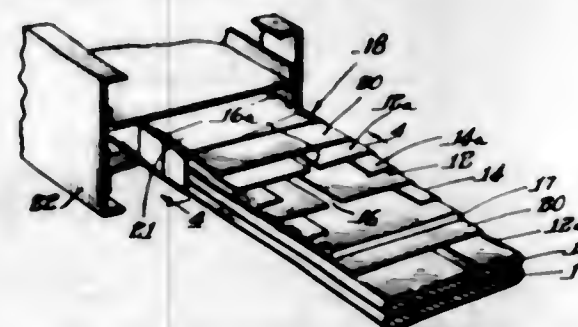
3,382,118

**METHOD OF CONSTRUCTING AN ASSEMBLY OF BUS BARS**

Harris I. Stanback, Lexington, Ky., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Original application Apr. 2, 1963, Ser. No. 269,970, now Patent No. 3,202,756, dated Aug. 24, 1965. Divided and this application Dec. 1, 1964, Ser. No. 415,094

3 Claims. (Cl. 156—54)



1. A method of constructing an assembly of bus bars, said method comprising

- (a) providing at least three flat elongated bus bars of substantially identical cross sections,
- (b) forming a plurality of elongated insulating sheets each having a width substantially equal to the greater cross sectional dimension of one of said bus bars.

- (c) forming a plurality of elongated strips of adhesive insulating material each having a width approximately equal to the periphery of one of said bus bars,
- (d) forming a plurality of elongated non-self-conforming strips of insulating film each having a width sufficient to cover a longitudinal edge face of one of said bus bars and portions of the bus bar on opposite sides thereof adjacent the longitudinal edge face,
- (e) placing a pair of said insulating film strips on each of said strips of adhesive insulating material in spaced parallel relationship with respect to each other and with respect to the opposite edges defining the width of the strip of adhesive insulating material,
- (f) individually wrapping each of said bus bars with at least one of said strips of adhesive insulating material and the pair of insulating film strips thereon in a manner respectively conforming said insulating film strips to the bus bar substantially symmetrically over opposite longitudinal edge faces of the bus bar and the portions on opposite sides thereof adjacent said longitudinal edge faces, and
- (g) securing said wrapped bus bars in flatwise stacked relationship with said insulating sheets respectively between adjacent bus bars and on the outer sides of the outer two bus bars in overlapping relationship with the formed insulating film strips.

3,382,119

**METHOD OF PLASTERING WALL SURFACES AND JOINT SEALING COMPOUND USED THEREIN**

William W. Henkel, Wheaton, Ill., assignor to The Val-spar Corporation, Rockford, Ill., a corporation of Delaware

No Drawing. Filed Apr. 2, 1965, Ser. No. 445,272

2 Claims. (Cl. 156—71)

2. A method of plastering wall surfaces comprising installing gypsum panels in edge abutting relation to provide a wall surface, sealing the joints defined by abutting edges with a compound consisting essentially of about 96% filler, about 3% binder, and about 1% adjuvant, said filler being about 84% calcium carbonate, about 7% mica, about 4% asbestos, and about 1% talc, said mica having a particle size of the order of 325 mesh, said asbestos having a fiber length such as that slightly under 50% is retained on 35 mesh, and a relatively high oil absorbability, said binder being about 2 1/4% polyvinyl acetate and about 3/4% polyvinyl alcohol, said adjuvant being about 0.6% of a methyl cellulose thickener, about 0.3% of a polyphosphate dispersing agent, and about 0.1% of an acetate plasticizer, and spraying plaster over said panels and joints to a plaster thickness of the order of about 1/16".

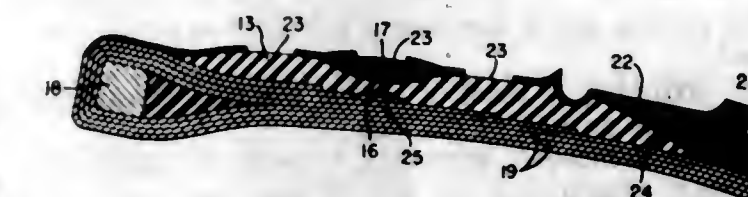
3,382,120

**VARICOLORED SIDEWALL TIRE**

Walter H. Rudder, Akron, Ohio, assignor to The Good-year Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 18, 1964, Ser. No. 419,340

3 Claims. (Cl. 156—116)



A plurality of contrasting decorative bands are provided on the sidewall of a tire by placing on the sidewall of a tire carcass, while the latter is in its cylindrical



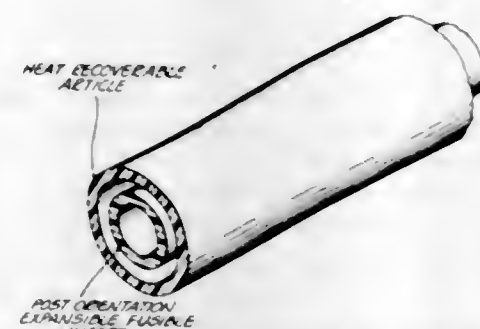
uncured state, a pair of layers contrasting in color with each other and with the black portions of the tire, curing the tire to bond together the several layers, and after the cure, exposing a portion of each of the contrastingly colored layers.

3,382,121

# PROCESS FOR PROVIDING HEAT RECOVERABLE SLEEVE WITH FUSIBLE INSERT IN TIGHTLY HELD CONTACT

Hugh Paul Sherlock, Menlo Park, Calif., assignor to Raychem Corporation, Redwood City, Calif., a corporation of California

Filed Mar. 12, 1965, Ser. No. 439,455  
6 Claims. (Cl. 156—165)

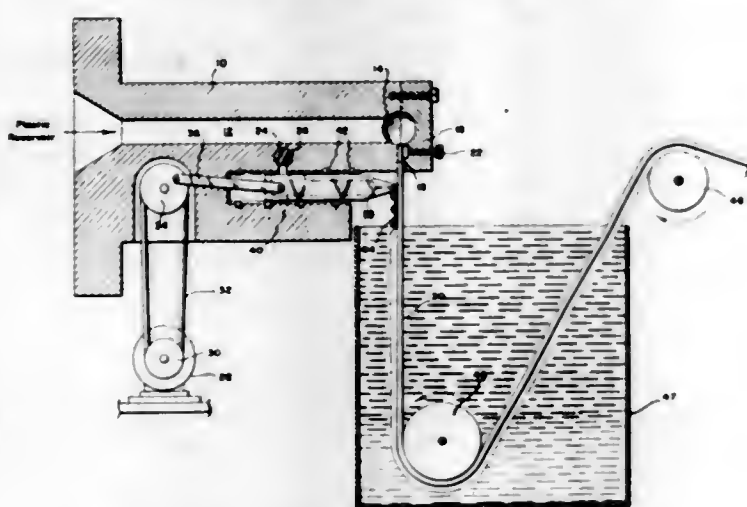


The present invention relates to the preparation of tubular articles comprising a heat recoverable sleeve and a fusible insert according to which a post-orientation expandible insert having a peripheral dimension smaller than the internal dimension of the heat recoverable sleeve is placed within the sleeve and then subjected to heat sufficient to cause the insert to expand into tightly held contact with the sleeve, but insufficient to affect the heat recoverable sleeve.

3,382,122

# METHOD OF MAKING PLASTIC RUGS OF PLASTIC THREAD LOOPS BONDED TO A PLASTIC BASE

George S. Nalle, Jr., 108 W. 2nd St.,  
Austin, Tex. 78701  
Filed Feb. 25, 1964, Ser. No. 347,316  
13 Claims. (Cl. 156—167)

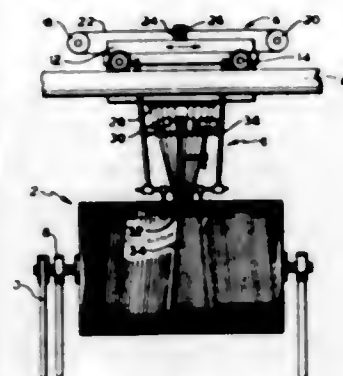


1. A method for extrusion of a plastic rug having a base portion and a superposed pile portion which comprises:

- (A) extruding a sheet of plastic material constituting the base portion of the rug;
- (B) simultaneously extruding a group of plastic filaments constituting the pile of said rug; and
- (C) moving said extruding filaments relative to the plane of said sheet to bring said filaments into contact with said sheet and intermittently bond said filaments to said sheet.

## 3,382,123 METHOD AND APPARATUS FOR MAKING FILAMENTOUS MATS

Gilbert D. Alexander, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware  
Continuation of application Ser. No. 181,942, Mar. 23, 1962. This application July 11, 1966, Ser. No. 564,440  
4 Claims. (Cl. 156—167)



A method for making a filamentous mat by drawing filaments from a feeder, axially reciprocating the feeder back and forth along the down-turning edge of a rotating drum so the filaments are drawn from the feeder to the drum, cyclically shifting a portion of the filaments back and forth out of a direct path from the feeder to the drum at an intermediate location between the drum and the feeder, and splitting the mat axially of the drum and removing it as a flat mat.

3,382,124

# CONTINUOUS METHOD FOR APPLYING PLASTIC MATERIAL TO A PREFORMED CORE

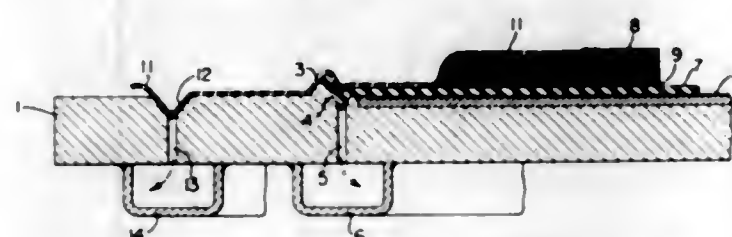
Clarence Briskey, 701 10th Ave.,  
Coralville, Iowa 52240  
Filed June 18, 1965, Ser. No. 465,037  
9 Claims. (Cl. 156—202)



A method for applying a plastic surfacing material to a preformed countertop base by forming said material to said base continuously from end to end of said base.

3,382,125

**METHOD OF MAKING MATS**  
Alfred J. Lowdermilk, Jr., Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio  
Filed May 20, 1964, Ser. No. 368,940  
4 Claims. (Cl. 156—214)



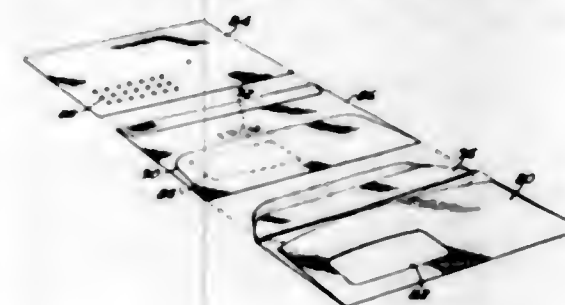
1. A process of vulcanizing floor mats having a predetermined surface configuration on one surface and a layer of cushioning material adhered to the opposite surface thereof, comprising the steps of placing one surface of a sheet of substantially air impervious vulcanizable mat stock on a mold having a surface of the predetermined

configuration and contour, applying a vacuum between the sheet of stock and mold surface to cause intimate contact of the mold surface by the matstock, positioning a layer of cushioning material on the exposed surface of the mat stock, said layer of cushioning material having a film of plastic material affixed to one side thereof and substantially coextensive therewith, with the film being placed against the exposed surface of the mat stock, the layer of cushioning material extending no further than the peripheral margin of the mat stock, covering the mat stock and cushioning material with a sheet of flexible air impervious material with a portion thereof extending beyond the peripheral margin of said mat stock and layer of cushioning material, applying from a second source, a vacuum between said covering sheet and cushioning material to urge the cushioning material into intimate contact with the sheet of mat stock, maintaining each vacuum while subjecting the sheet of mat stock to an elevated temperature to vulcanize said mat stock and simultaneously soften said thermoplastic film whereby the cushioning material is firmly fixed to the mat stock by the film of plastic material as it softens to firmly adhere to both the mat stock and cushioning material.

3,382,126

# METHOD AND APPARATUS FOR TRANSFERRING DATA WITHIN AN ENCLOSURE

David B. Hackmann, 13708 Susan Lane,  
Burnsville, Minn. 55378  
Filed Feb. 24, 1965, Ser. No. 434,803  
12 Claims. (Cl. 156—240)



This disclosure relates to a method and apparatus for transferring data within an enclosure. The method includes stacking a plurality of sheets in an envelope enclosure which has a window opening therein and with printed data on at least one of the sheets which is to be transferred to at least another of the sheets in the enclosure, the printed data being exposed through the aperture in the envelope in the stacked relationship. The method includes applying heat and pressure by a roller to the enclosure at the aperture to transfer data within the enclosure. The apparatus includes structure for stacking the plurality of sheets in a predetermined relationship, inserting them into an envelope enclosure with the sheet having the data to be transferred positioned adjacent an aperture in the enclosure and moving the enclosure along a track and into engagement with a heated roller which applies the pressure thereto to effect the transfer of data within the enclosure.

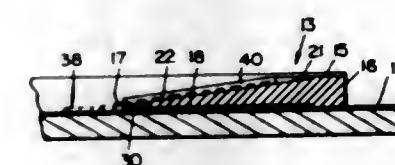
3,382,127

**METHOD FOR MOUNTING DATA SHEETS**  
David Littmann, Belmont, and Louis Gilman, Newton, Mass.; said Littmann assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware  
Original application June 27, 1963, Ser. No. 291,033, now Patent No. 3,243,886, dated Apr. 5, 1966. Divided and this application Feb. 25, 1966, Ser. No. 544,328  
2 Claims. (Cl. 156—299)

1. A method of securing a plurality of data-bearing electrograph charts to a mounting sheet having defined

portions covered with adhesive for securing said charts comprising,

positioning a plurality of charts in selected and fixed relationship to one another with said relationship corresponding to the arrangement of said defined portions on the mounting sheet to which said charts are to be secured, and



moving said charts downwardly into facing relation with said sheet and partially engaging each of said charts with said defined portions on said sheet, and engaging parts of said charts with a separating non-adhering means covering parts of said portions and separating said parts of said charts from said mounting sheet, and thereafter removing said last-mentioned means and engaging the remaining parts of said charts with said defined portions.

3,382,128

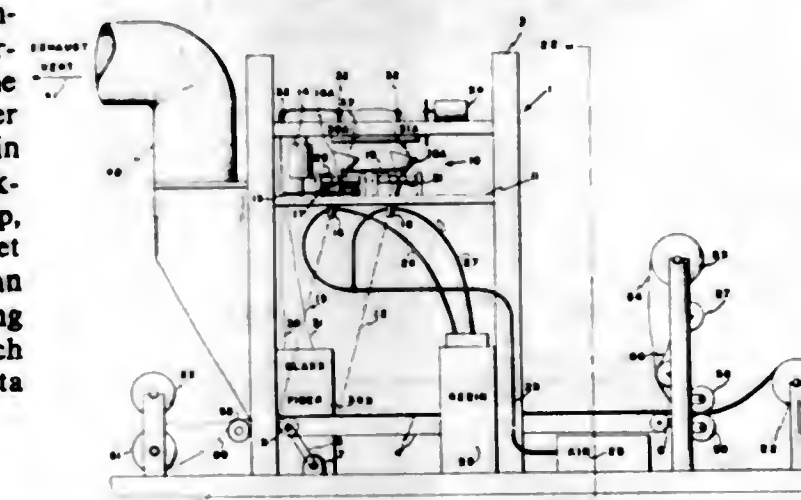
**HEAT SEALABLE POLYSTYRENE PELLICLES**  
Lewis F. Bogle, Enfield, and Thomas F. Sincok, Simsbury, Conn., assignors to Monsanto Company, a corporation of Delaware  
No Drawing. Filed June 5, 1963, Ser. No. 285,575  
14 Claims. (Cl. 156—306)

A block-resistant, heat sealing composition for polystyrene comprising a normally solid, organic compound which melts between about 120° F. and 240° F., and has adequate solubility for heat sealing the polystyrene within this range. A modifying agent may be optionally included to enhance anti-block properties.

3,382,129

# APPARATUS FOR FORMING FIBER REINFORCED RESINOUS MATERIAL

William J. Hampshire, Cuyahoga Falls, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware  
Filed Apr. 13, 1965, Ser. No. 447,793  
9 Claims. (Cl. 156—372)



A multiple nozzle apparatus for forming a fiber reinforced resinous material utilizing nozzles to spray a mixture of resin and glass fibers in criss-crossing, uniformly oriented patterns to thereby create a fabric-like consistency of the fibers within the resinous mixture. The nozzles are mounted in longitudinally aligned relationship with a moving conveyor in a gimbaled mount with a cam relationship of the gimbaled mount to provide the desired tilting and closed geometric path movement of the

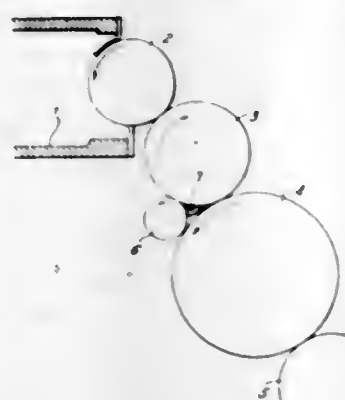


tips of the nozzles upon rotation of the cam because of the gimbaled mounting of the nozzles. This feature provides closed geometric patterns of a mixture of resin and glass fibers to provide an interwoven-type relationship of the patterns as they are laid down onto a moving surface.

### 3,382,130 DEVICE FOR PREVENTING THE FOULING OF LABELLING MACHINES BY THE LABEL GLUE

Romuald René Della Vite, Nogent-sur-Marne, France, assignor to Société anonyme dite: Société Française d'Étiquetage Virey & Garnier, Nogent-sur-Marne, France, a corporation of France

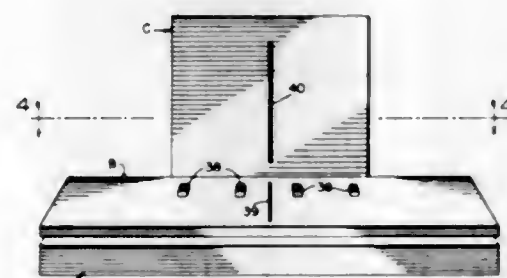
Filed June 19, 1964, Ser. No. 376,536  
Claims priority, application France, May 15, 1964,  
974,744, Patent 1,403,873  
1 Claim. (Cl. 156—389)



In a gluing machine, a recovery roller is rotated in contact with the adhesive transferring roll in the same direction and in closely spaced relationship to the applying roll but in opposite direction to said transferring roll so as to serve as doctor roll for the applying roll returning excess adhesive to the adhesive transferring roll for which it acts as spreader roll.

### 3,382,131 MOTION PICTURE FILM SPLICER

Harry L. Morganroth, 804 E. 28th St.,  
Hialeah, Fla. 33013  
Filed Oct. 21, 1965, Ser. No. 500,392  
11 Claims. (Cl. 156—505)

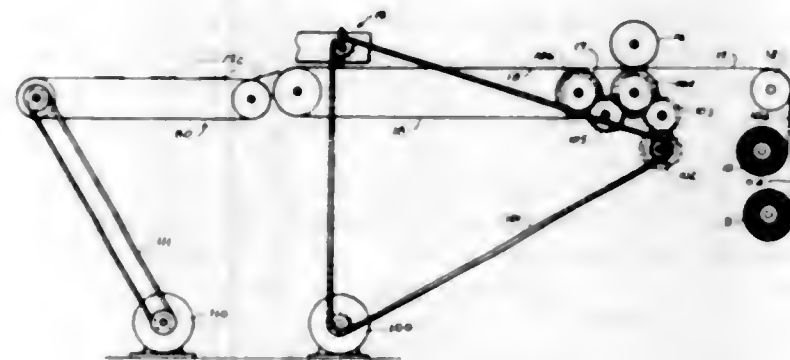


1. A film splicing device comprising a base including a flat table portion for supporting a pair of film strips in end-to-end relation, at least one base sprocket pin adjacent opposite edges of said table portion for engagement with a sprocket hole in each film strip for positioning the ends of the pair of film strips in abutting relation, a pair of parallel guiding and shearing blades fixed on said base, said blades having a distance therebetween equal to the width of the film strips, said blades extending above the plane of said table portion a distance ap-

proximately equal to the combined thickness of the film strip and an adhesive material used to bind the pair of film strips together, and a plurality of sprocket holes between the base sprocket pins, said sprocket holes being spaced apart a distance equal to the distance between the sprocket holes in the film strips; an intermediate means pivotally connected to said base for movement from an open position to a cutting and punching position in a plane parallel to said flat table portion, said intermediate means including a pair of parallel shearing and moving means fixed on the lower side of said intermediate means confronting said base, said shearing and moving means being positioned to mate with said guiding and shearing blades for shearing and moving the edges of the adhesive material, said shearing and moving means extending below said intermediate means a distance less than the height of said guiding and shearing blades for moving the edges of said adhesive material into engagement with the edges of the film strips, a plurality of sprocket hole shearing means fixed in said intermediate means and positioned to mate with said sprocket holes in said base for shearing the adhesive material overlaying the sprocket holes of the film, at least one pair of sprocket pins adjacent opposite edges of said intermediate means on the upper side of said intermediate means, said sprocket means being extensions of said sprocket hole shearing means for engagement with the film sprocket holes to align the film on said intermediate means for transverse shearing, and a slot in said intermediate means between said pair of sprocket pins; and cutting element pivotally connected to said base including a fixed cutting means for movement to and from said slot for transversely severing the film strips on said intermediate means.

### 3,382,132 APPARATUS FOR MAKING A TAPERED BAG

Emanuel Kugler, 124 Richmond Place,  
Lawrence, N.Y. 11559  
Filed June 14, 1966, Ser. No. 477,465  
1 Claim. (Cl. 156—515)



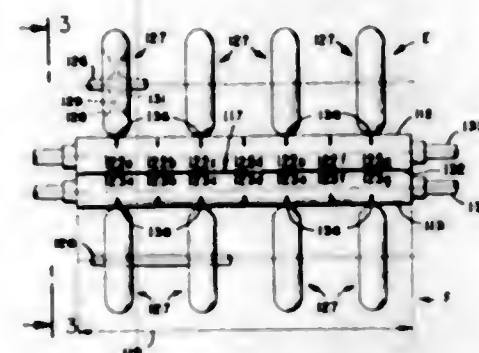
Apparatus for producing triangular shaped bags from two superposed, unattached plastic sheets wherein appropriately oriented heat seals form the two closed sides of each triangular bag and the portion of the unattached marginal edges of the sheets between these heat seals bound the opening into the interior of each bag.

### 3,382,133 MEANS FOR CORRUGATING WEBS TRANSVERSELY

James W. Healy, Wakefield, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts  
Filed Feb. 26, 1965, Ser. No. 435,481  
6 Claims. (Cl. 156—596)

Apparatus for minimizing the deflection of a pair of corrugating rolls during their use in the application of trans-

verse corrugations to a formable sheet material passing between the rolls, including a pneumatic restraining member mounted for rotatable movement adjacent each of



the corrugating rolls to cause the corrugating rolls to remain in relatively constant alignment during application of the corrugations.

### 3,382,134 SIMULATED VENETIAN GLASS AND METHOD OF MAKING THE SAME

Charles W. Powell, 232 E. 50th St.,  
New York, N.Y. 10022  
Filed July 20, 1964, Ser. No. 383,827  
7 Claims. (Cl. 161—5)



A simulated Venetian glass product. A sheet of transparent material is embossed onto a lead-simulating frame, with the sheet extending forwardly into the openings from the rear of the frame. Coloring material is deposited on the rear face of the sheet at each of the glass-simulating areas. A highly authentic Venetian glass product is achieved by fabricating the transparent sheet with an irregular surface, and by attaching a translucent paper backing sheet to the assembly.

### 3,382,135 ION EXCHANGE OF GLASS FIBERS

Richard G. Adams, Upper Montclair, N.J., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 284,220, May 29, 1963. This application Aug. 11, 1966,  
Ser. No. 571,732  
8 Claims. (Cl. 161—93)

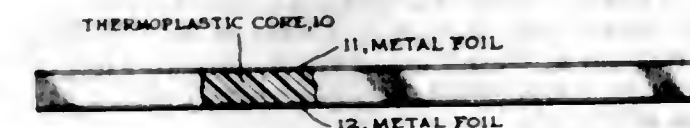
This invention concerns a process for treating a sized fibrous siliceous substrate such as glass fabric with polyvalent metal cations, or a mixture of polyvalent metal cations with alkali metal cations, prior to thermal desizing so that the resultant desized fabric has good whiteness and retains a substantial portion of its original greige strength.

### 3,382,136 MOLDABLE LAMINATES OF METAL AND PLASTICS

Thomas E. Bagel, Roselle, and William H. Joyce, Somerset, N.J., assignors to Union Carbide Corporation, a corporation of New York  
Filed Jan. 8, 1962, Ser. No. 164,740  
5 Claims. (Cl. 161—165)

1. A self-supporting, cold-formable inelastic composite laminate capable of being cold-formed at ambient temperatures into permanently shaped structures comprising

a thermoplastic polymeric sheet-like core of from about 0.005 inch to about 1.4 inches thick, said core having uniformly bonded to both surfaces thereof a metal foil of from about 0.00025 inch to about 0.01 inch thick, wherein said thermoplastic core has a thickness greater than the combined thickness of the metal foil laminae, and wherein the sum of the yield strength in tension and



the yield strength in compression of the said metal foil laminae is greater than the sum of the yield strength in tension and the yield strength in compression of said thermoplastic core, but less than the shear strength of the metal-thermoplastic interfaces of said composite laminate, and less than the shear strength of said thermoplastic core.

### 3,382,137 LAMINATED STRUCTURES AND METHOD FOR PREPARING SUCH STRUCTURES

Charles L. Schreiber and Kenneth E. Kolb, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York  
Filed Sept. 18, 1964, Ser. No. 397,374  
10 Claims. (Cl. 161—185)



A laminated glass structure of high strength comprising a plurality of thin glass sheets having a thickness from 0.0001 inch to 0.030 inch bonded together with a cured synthetic resin layer, said resin being one which shrinks upon curing, adheres to glass and upon curing exists in a rigid state. The high strength of the laminate is produced by the compressive forces exerted on the glass layer by the shrunken, cured, synthetic layer, the laminates are prepared by incorporating a synthetic resin between a plurality of thin sheets of glass and heating to cure and shrink the resin, thereby creating a compressive force on the thin sheets of glass.

### 3,382,138 PROCESS AND ARTICLES INVOLVING CO- DEPOSITION OF LATEX AND POLY- URETHANE

Harry J. Barth, Spartanburg, S.C., assignor, by means of assignments, to International Latex & Chemical Corporation, Dover, Del., a corporation of Delaware  
No Drawing. Filed Nov. 4, 1964, Ser. No. 408,767  
24 Claims. (Cl. 161—190)

Composite structure of a layer of uncoagulated latex over which is superposed a polyurethane in a solvent, the solvent being the coagulant of the latex.

### 3,382,139 CEMENTITIOUS COMPOSITIONS FOR BITUMINOUS SUBSTRATES

Alexander H. Popkin, Maplewood, George M. Kagan, Fords, and Roman Slysh, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Dec. 24, 1964, Ser. No. 421,119  
4 Claims. (Cl. 161—236)

1. An article of manufacture comprising a bituminous binder containing structural unit; a second bituminous binder containing structural unit; and a cementitious mortar composition comprising a major amount of aggregate and cement and a minor amount of terpolymer composition consisting essentially of 0.5 to 6 wt. percent acrylic



acid monomer, 25 to 60 wt. percent styrene monomer and 40 to 75 wt. percent of a  $C_1$  to  $C_{18}$  alkyl acrylate monomer between and in contact with the adjacent surfaces of said structural units.

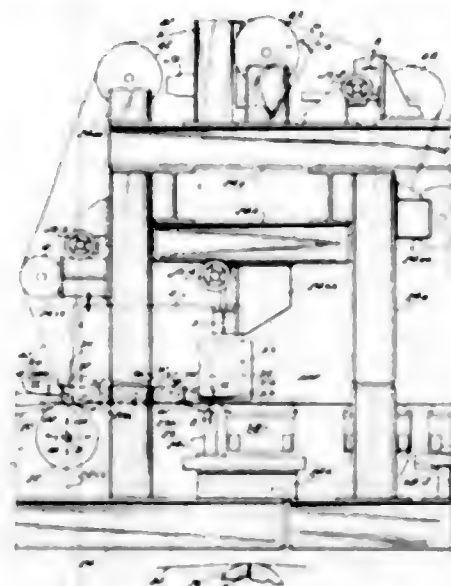
3,382,140

# PROCESS FOR FIBRILLATING CELLULOSIC FIBERS AND PRODUCTS THEREOF

John T. Henderson, Robert E. Linde, Walter G. Meyer, and William B. West, Camas, Wash., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Continuation of application Ser. No. 347,231, Feb. 25, 1964. This application Dec. 30, 1966, Ser. No. 606,446 11 Claims. (Cl. 162-28)

Cellulosic high consistency papermaking pulp in the form of a semi-solid, non-flowable and non-pumpable lumpy mass composed of previously defibered fibers is continuously refined by continuous passage through a refining space comprising opposed disc-like working surfaces relatively rotatable about a common axis wherein the pulp is continuously maintained packed under high compression to cause fibrillation by inter-fiber friction along the surfaces of the individual separated fibers without substantially fracturing the same.



and into convergence with the opposite wire under tension.

3,382,144

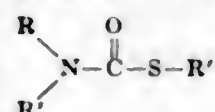
# ALLYL DIALKYLTHIOLCARBAMATE NEMATOCIDES

Marion Wesley Harman and John Joseph D'Amico, Dunbar, W. Va., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 433,802, Feb. 18, 1965, which is a division of application Ser. No. 642,924, Feb. 28, 1957, and a continuation of application Ser. No. 319,629, Oct. 7, 1963. This application Oct. 12, 1966, Ser. No. 586,048

6 Claims. (Cl. 167-22)

1. The method of destroying parasitic worm life which comprises contacting the said organism with a toxic concentration of a thiolcarbamate of the formula



where R and R' are alkyl of less than three carbon atoms and R'' is selected from a group consisting of allyl, bromoallyl, and chloroallyl.

3,382,145

# GASTROPODICALLY EFFECTIVE SUBSTITUTED 5-HALO-3-PHENYLSALICYLANILIDES

John P. Chupp, Kirkwood, Mo., and Jack D. Early, Bethesda, Md., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,678 11 Claims. (Cl. 167-30)

Compounds characterized by a 5-halo-3-phenylsalicylanilido nucleus, the anilido group of which having substituents of the group nitro, cyano and trifluoromethyl, which substituted anilido group can be further substituted with chloro, bromo or fluoro substituents. These compounds are useful as gastropodocides.

3,382,146

# METHOD OF PROTECTING PLANTS WITH 2,1,3-BENZODITHIAZOLE COMPOUNDS

Harmannus Koopman and Albert Tempel, Weesp, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 11, 1963, Ser. No. 308,088 Claims priority, application Netherlands, Sept. 13, 1962, 283,211

7 Claims. (Cl. 167-33)

Nitrobenzothiadiazoles 2,1,3 and halonitrobenzothiadiazoles 2,1,3 such as 5-nitro-4,6,7-trichlorobenzothiadiazole

MAY 7, 1968

2,1,3 and 4,6-dinitrobenzthiadiazole-2,1,3. These compounds are useful as plant fungicides. This abstract is not intended to be a description of the invention defined by the claims.

3,382,147

# COMPOSITIONS AND METHODS FOR MODIFYING AND MODULATING THE ACTIVITY OF CENTRAL NERVOUS SYSTEM DEPRESSANTS

Charles D. Proctor, Chicago, Ill. (% Meharry Medical College, Nashville, Tenn. 37208)

Filed Mar. 12, 1962, Ser. No. 179,157

9 Claims. (Cl. 167-52)

1. A composition for modifying the central nervous system activity of an animal consisting essentially of an effective amount of an anticholinesterase selected from the group consisting of tetraethyl pyrophosphate, O,O-diethyl-O-p-nitrophenyl thiophosphate, and diisopropyl fluorophosphate, a central nervous system depressant selected from the group consisting of phenothiazine tranquilizers and a hypnotic derivative of barbituric acid, and a pharmaceutically acceptable carrier.

3,382,148

# COMPOSITIONS AND METHODS FOR MODIFYING LING COCCIDIOSIS IN POULTRY

Hans Thommen, Therwil, Switzerland, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 473,485, July 20, 1965. This application Apr. 18, 1967, Ser. No. 631,621

Claims priority, application Switzerland, Aug. 21, 1964, 11,001/64

8 Claims. (Cl. 167-53.1)

Anticoccidial and growth-promoting compositions comprising 4-sulfanilamido-2,6-dimethoxypyrimidine and 2,4-diamino-5-(3,4-dimethoxybenzyl)pyrimidine.

3,382,149

# BLEACHING OF HARDWOOD SULFITE PULP WITH HYDROGEN PEROXIDE, INCLUDING PRETREATMENT WITH ALKALI

George L. K. Hoh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 29, 1964, Ser. No. 407,558

6 Claims. (Cl. 162-78)

1. The method of bleaching a high-yield hardwood sulfite pulp comprising treating said pulp at a pulp consistency of 5 to 40% with 0.3 to 3% of an alkali, calculated as caustic soda and based upon the dry weight of the pulp, at a temperature not exceeding 70° C. for a time not exceeding 3 hours, washing the pulp, and then bleaching the pulp with an aqueous alkaline hydrogen peroxide bleach solution.

3,382,150

# SPRAY-DRIED COATED ORGANOPOLYSILOXANE ORAL PHARMACEUTICAL OR VETERINARY COMPOSITION

George M. Grass, Jr., Phoenixville, and Donald R. MacDonnell, Radnor, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 191,435, May 1, 1962. This application Sept. 23, 1965, Ser. No. 489,753

10 Claims. (Cl. 167-82)

Spray-dried coated organopolysiloxane compositions for pharmaceutical or veterinary use and dosage forms such as compressed tablets employing the coated silicones. These compositions are prepared by spray-drying an aqueous homogenous emulsion of an organopolysiloxane admixed with a nontoxic emulsifiable coating material.

3,382,151

# COMPOSITION FOR STRENGTHENING NAILS

Madeleine Vanlandeghem Knudsen, Geneva, Switzerland, assignor to Mavala S.A., Geneva, Switzerland, a corporation of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 64,311, Oct. 24, 1960. This application Jan. 13, 1964, Ser. No. 337,163

15 Claims. (Cl. 167-85)

1. A process for increasing the resistance and hardness of human nails and for preventing splitting thereof, comprising the step of applying to the outer portion of the nail a composition comprising an aqueous solution of formaldehyde, said formaldehyde comprising 1-20% by weight of the composition, and 0.5-3% by weight tincture of garlic.

3,382,152

# PRODUCTION OF HIGH PURITY RADIOACTIVE ISOTOPES

Ephraim Lieberman, Suffern, N.Y., and Wayne J. Gemmill, Milford, Pa., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,842

18 Claims. (Cl. 176-16)

1. A process for producing radioactive technetium-99m which comprises the steps of:

- (1) irradiating a base-soluble molybdenum containing material in a neutron flux until the desired amount of  $Mo^{99}$  activity is formed,
- (2) dissolving the irradiated molybdenum containing material, containing the radioactive  $Mo^{99}$ , in a base,
- (3) adjusting the pH of the solution prepared in step (2) to be acidic and above pH 2.5,
- (4) contacting an inorganic anion exchange material with the pH adjusted solution of step (3) thereby loading the molybdenum on the exchange material, and
- (5) extracting technetium-99m, formed by the radioactive decay of  $Mo^{99}$ , from the loaded anion exchange material with an acid.

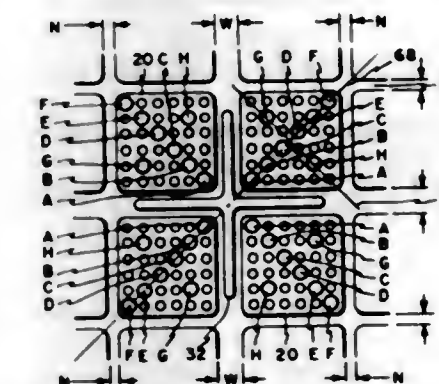
3,382,153

# NUCLEAR REACTOR FUEL BUNDLE

William B. Bigge and George A. Roupe, San Jose, Calif., assignors to General Electric Company, a corporation of New York

Filed Jan. 17, 1966, Ser. No. 520,981

8 Claims. (Cl. 176-40)



This describes a fuel bundle for a nuclear reactor, the fuel bundle having one or more individually removable rods which may readily be removed and replaced without removal of the entire bundle and without disturbing the other rods of the bundle whereby changes in the reactivity characteristics of the bundle can readily be effected. The removable rod positions are arranged symmetrically with respect to the control rod adjacent the fuel bundle. Depending upon the effect desired, the removable rods may contain fuel of various enrichments, inert material and/or neutron absorbing material. A removable rod containing neutron absorber may be placed near the control rod to decrease its worth or such a rod may be placed remote



from the control rod to alter the neutron flux pattern such that the worth of the rod is increased.

3,382,154

## THERMIONIC ENERGY CONVERTER

Kurt Stahl, Hohensachsen an der Bergstrasse, Herbert Winkenbach, Leimen, near Heidelberg, Alfred Jester, Speyer (Rhine), and Reinhard Langpape, Mannheim, Germany, assignors to Brown, Boveri & Cie Aktiengesellschaft, Mannheim-Kaferthal, Germany, a corporation of Germany

Filed July 6, 1965, Ser. No. 469,759

Claims priority, application Germany, July 3, 1964, B 77,515

11 Claims. (Cl. 176—73)

An emitter for thermionic energy conversion which includes an emitter body of electrically conducting material, nuclear fuel material in thermal contact with the emitter body, the ratio of the emitter surface (S) in cm.<sup>2</sup> to the fuel quantity (Q) in cm.<sup>3</sup> being not larger than  $S/Q=0.8E$ , wherein E denotes the enrichment of the fuel material in percent.

3,382,155

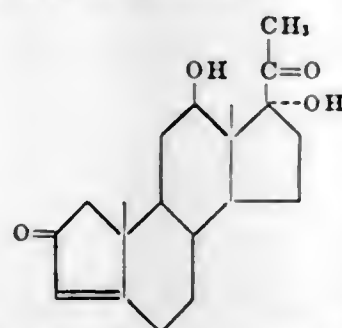
## FERMENTATION PREPARATION OF 12 BETA, 17 ALPHA-DIHYDROXY-A-NORPROGESTERONE

Seymour D. Levine, Princeton, and Pacifico A. Principe, South River, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application June 25, 1965, Ser. No. 467,103. Divided and this application Oct. 19, 1966, Ser. No. 600,306

1 Claim. (Cl. 195—51)

This invention relates to a process for the preparation of the steroid having the formula



which comprises subjecting a 17α-hydroxy-A-norprogesterone to a microorganism, *Corticium microsclerotia*.

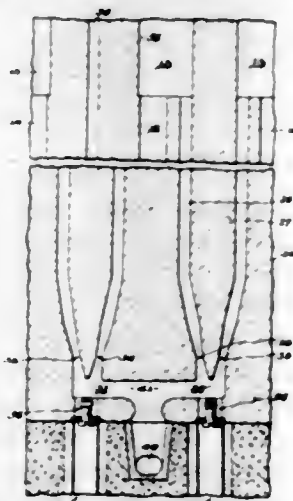
3,382,156

## RECIRCULATION UNDERJET COKING RETORT OVEN

Joseph Van Ackeren, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Jan. 9, 1963, Ser. No. 250,337

1 Claim. (Cl. 202—141)



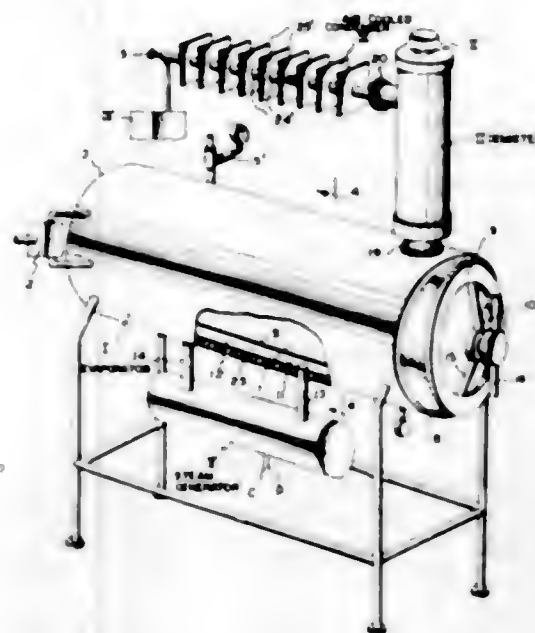
A high chambered regenerative coke oven with low and high level burners supplied by split-flow nozzles.

3,382,157  
STEAM JACKETED CYLINDRICAL WATER STILL WITH DEMISTER AND ACCESS DOOR

William A. Barnstead, 311 Appleton St., Arlington, Mass. 02174

Filed May 18, 1964, Ser. No. 367,945

3 Claims. (Cl. 202—197)



1. A water still having, in combination, an evaporator comprising a chamber to receive feedwater containing impurities to be removed therefrom, the chamber being defined by an inner wall, an outer wall disposed outward from the inner wall to define a space therebetween, an inlet to the space to enable the injection of a hot fluid thereinto, heat from the fluid passing through the inner wall to change the water to a water vapor containing water droplets and entrained particles, solid impurities remaining as deposits on the chamber surface, an elongate baffle section to receive the vapor to separate the water droplets and particles therefrom, a condenser to receive the water vapor from the baffle section to change it to a distillate, and access means to the chamber, the said access means being easily removable to enable facile removal of the deposits in the chamber, the baffle section having a removable baffle assembly comprising a rod disposed along the long dimension of the elongate baffle section and a plurality of baffles parallelly disposed along the rod, the baffles each having a cutaway portion and the cutaway portion of adjacently located baffles being disposed at opposite sides of the said rod to provide a serpentine path for the vapor.

3,382,158

## WIPED FILM MOLECULAR STILL

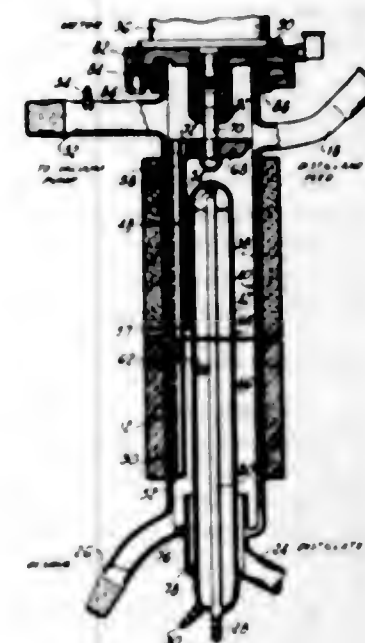
George P. Smith, Rochester, N.Y., assignor, by mesne assignments, to The Bendix Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 1 1966, Ser. No. 539,523

6 Claims. (Cl. 202—236)

A still which can separate heat sensitive materials and which includes novel film wiping means for reducing residence time and providing thin film distribution of the distilland over an evaporative surface which is concentric about a condensing surface. The wiping means make use of a leaf spring so that they apply a minimum pressure without necessary reliance on centrifugal force and have freedom of radial movement to the extent that placement of the axis of rotation is less critical, and the wip-

ing means are also capable of limited axial pivoting about one point to compensate for inclination of the evaporat-



ing surface with respect to the axis of rotation of the wiping means.

3,382,159

## METHOD OF PROVIDING DECORATIVE METAL FINISHES

Wallace L. Reed, Grand Rapids, Mich., assignor to Lustre Finish, Inc., Grand Rapids, Mich., a corporation of Michigan

Filed Nov. 9, 1964, Ser. No. 409,805

9 Claims. (Cl. 204—29)

A method of decoratively finishing the surfaces of metals such as zinc alloys, hot and cold-rolled steels, and the like, wherein the metal articles are first abrasively blasted while in their raw and unfinished state, under relatively extreme pressure and at close range, to produce a highly roughened and deeply etched or cratered surface, after which a finish coating such as electroplated metals is applied to brighten the surface while at the same time retaining its roughly textured nature.

3,382,160

## PROCESS FOR INORGANICALLY COLORING ALUMINUM

Tabei Asada, 14-5 Shoya, Okamoto, Motoyama-cho, Higashinada-ku, Kobe-shi, Japan

No Drawing. Continuation-in-part of application Ser. No. 468,141, June 29, 1965. This application Nov. 15, 1966, Ser. No. 594,389

Claims priority, application Japan, Mar. 31, 1960, 35/10,308

28 Claims. (Cl. 204—35)

Inorganically colored coatings are produced by first anodizing an aluminum article, as in sulfuric acid solution, to form an anodic coating, and then subjecting the anodized article to electrolytic treatment with alternating current in an acidic bath containing metal ions selected from the group consisting of the following cations and anions: Ni<sup>++</sup>, Co<sup>++</sup>, Fe<sup>++</sup>, Cu<sup>++</sup>, Ag<sup>+</sup>, Cd<sup>++</sup>, Zn<sup>++</sup>, Pb<sup>++</sup>, and anions consisting of oxygen combined with one of the metals Se, Te and Mn. By the described process there is deposited in the anodic coating the oxide or hydroxide of metal of the selected ions, resulting in a colored coating which can be sealed and which has good permanence.

3,382,161

## ELECTROLYTIC SEPARATION OF TRANSITION METAL OXIDE CRYSTALS

Walter Kunmann, Port Jefferson Station, N.Y., and August Ferretti, Cambridge, Ronald J. Arnott, Waltham, and Donald B. Rogers, Forge Village, Mass., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 3, 1965, Ser. No. 452,948

6 Claims. (Cl. 204—61)

1. A process for growing crystals of transition metal oxides comprising:

- heating a transition metal oxide containing flux mixture to the molten state, said mixture containing at least 10 mol percent of transition metal oxides based on the total number of mols present in the mixture, the balance of said flux mixture being made up of flux containing sodium pyrotungstate and sodium tungstate wherein the mol ratio of sodium pyrotungstate to sodium tungstate is less than 0.11;
- precipitating the tungsten metal oxide out of the molten mixture as a crystal.

3. The process of claim 1, wherein said precipitation of the crystals is effectuated by electrolytic separation.

3,382,162

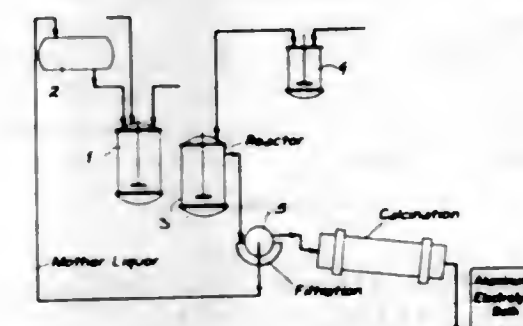
## METHOD OF OPERATING AN ALUMINA REDUCTION CELL

Roberto Trupiano and Gianpaolo Gambaretto, Mestre, Venezia, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

Continuation-in-part of application Ser. No. 253,915, Jan. 25, 1963. This application June 18, 1965, Ser. No. 465,113

Claims priority, application Italy, Jan. 30, 1962, 1,737/62, Patent 665,295; Feb. 1, 1962, 1,836/62, Patent 683,596

5 Claims. (Cl. 204—67)



In the electrolytic production of aluminum wherein aluminum oxide is dissolved in a lithium-containing electrolysis bath subject to losses of lithium, the steps of coprecipitating a polycationic sodium, lithium, fluoaluminate composition of chemically bound sodium, lithium, aluminum and fluorine with a sodium content ranging between 16.4% and 32.4% by weight, a lithium content ranging between 0.26% and 5.14% by weight, an aluminum content ranging between 13% and 16.2% by weight, and a fluorine content ranging between 54.5% and 62.3% by weight of the coprecipitate from an aqueous medium containing at least one sodium salt, at least one lithium salt, at least one aluminum salt and at least one fluoride salt selected from the group which consists of lithium carbonate, lithium fluoride and lithium hydroxide, sodium carbonate, sodium hydroxide and sodium fluoride, aluminum oxide and aluminum fluoride, sodium aluminate, lithium aluminate, sodium fluoaluminate, lithium fluoaluminate, hydrofluoric acid and fluoaluminic acid; drying and calcining the coprecipitate thus obtained at a temperature between substantially 400° and 550° C.; and adding the calcined coprecipitate to the electrolysis bath in an amount at least sufficient to replace the lithium lost.



### 3,382,163 METHOD OF ELECTROLYTIC EXTRACTION OF METALS

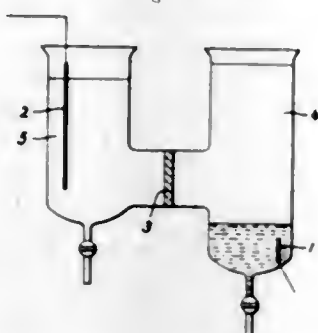
Anton Czaloun, Bruckl, Carinthia, Austria, assignor to Donau Chemie Aktiengesellschaft, Vienna, Austria, a corporation of Austria

Filed July 28, 1964, Ser. No. 385,749

Claims priority, application Austria, Aug. 2, 1963,

A 6,246/63

15 Claims. (Cl. 204—105)



1. In a method of electrolytic extraction of sulfo-salt forming metals in an electrolytic cell, the steps comprising electrolyzing a solution of the sulfo-salt of said metal and utilizing an anode comprising a member of the group consisting of an alkali metal amalgam and an alkali-earth metal amalgam.

### 3,382,164 SEPARATION OF CESIUM AND STRONTIUM BY ELECTRODIALYSIS

William H. Webb, Harry C. Hershey, and Ronald D. Mitchell, Rolla, Mo., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Jan. 26, 1965, Ser. No. 428,260

2 Claims. (Cl. 204—180)

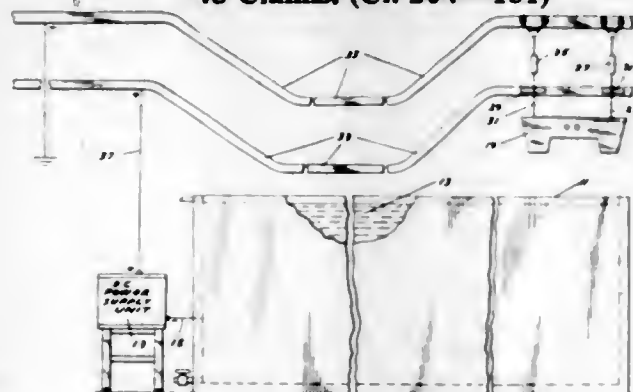
1. A method for separating cesium values from strontium values in a conductive aqueous solution comprising adding a chelating compound capable of complexing one of these elements in an ion of opposite sign from that in which it was originally present, and subjecting the solution to electrodialysis.

### 3,382,165 ELECTRODEPOSITION WITH ORGANIC ACID RESINS HAVING MINERAL ACID GROUPS ATTACHED THERETO

Allan E. Gilchrist, Fairview Park, Ohio, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 258,913, Feb. 15, 1963. This application June 28, 1965, Ser. No. 467,390

48 Claims. (Cl. 204—181)



1. In a process for anodically depositing coating material from a liquid bath which comprises immersing an electrically conductive object to be coated within said bath, providing electrical connection exterior to said bath between said object and a cathode that is spaced apart

from said object and in electrical communication with said bath, dispersing a coating material within said bath, providing a difference of electrical potential between said object and said cathode and transmitting a direct current of electrical energy through said bath between said object and said cathode and electrodepositing said coating material upon said object, the improvement wherein said bath comprises an aqueous dispersion of an acidic organic resin that deposits upon said object substantially directly proportional to said direct current and has in its molecular structure ionizable mineral acid groups selected from the group consisting of sulfonic, phosphonic, sulfate and phosphate groups and mixtures of the same.

### 3,382,166 METHOD AND APPARATUS FOR STARTING UP MULTICELL ELECTROLYTIC FURNACES FOR ALUMINUM PRODUCTION

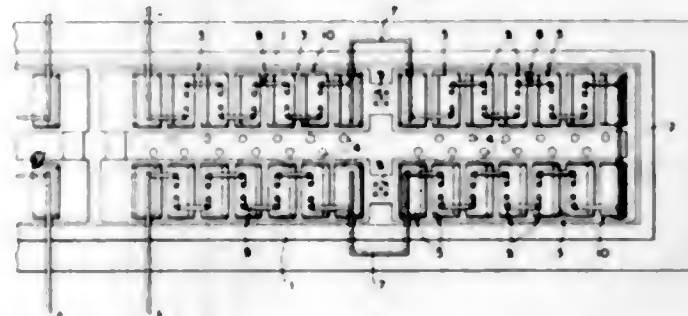
Giuseppe de Varda, Milan, Italy, assignor to Montecatini Edison S.p.A., Milan, Italy

Filed May 27, 1964, Ser. No. 370,644

Claims priority, application Italy, May 29, 1963,

11,200/63

9 Claims. (Cl. 204—244)



A multicell furnace apparatus for production of aluminum by electrolysis includes a refractory furnace wall and bottom structure for containing a fused bath of alumina, a plurality of transverse electrodes suspended within and spaced from the structure and including one or more groups in series, each comprising a terminal cathode, a terminal anode and at least one bipolar electrode having cathode and anode faces, the bipolar electrode or electrodes of each group in series being disposed between the terminal cathode and anode, means for impressing an electric current across the anode and cathode, means for supporting the electrodes including: (a) suspension beam means insulated from and mounted above the furnace structure, (b) at least two current-conducting rigid suspension means joined at one location thereof to the beam means and fixed along a predetermined contact area thereof within respective ones of the bipolar electrodes; the rigid suspension means having an insulator electrically insulating the electrodes from the beam means, the supporting means further including current-supply means insulated from the beam means and supporting the terminal anode and terminal cathode from the beam means and electrically connected to the terminal anode and cathode ones of the electrodes, and short-circuiting means for temporarily electrically connecting the suspension means of adjacent ones of the bipolar electrodes so that the bipolar electrodes are in series circuit between the anode and cathode.

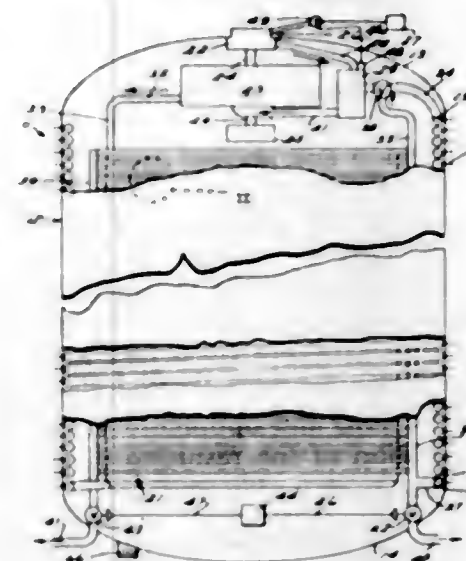
The invention also includes method for starting up multicell aluminum electrolytic furnaces equipped with bipolar electrodes and terminal electrodes suspended from above within a furnace vat, comprising the steps of pre-heating the furnace vat, and subsequently electrically short-circuiting the suspended electrodes while protecting the furnace vat and electrodes against excessive air infiltration whereby the electrodes are heated due to the direct passage of electric current through the bipolar electrodes themselves.

### 3,382,167 HIGH PRESSURE ELECTROLYTIC CELL MODULE

Albert M. Lord, Lakewood, and Thomas H. Hacha, Willoughby, Ohio, assignors to TRW Inc., a corporation of Ohio

Filed Apr. 1, 1964, Ser. No. 356,469

12 Claims. (Cl. 204—270)



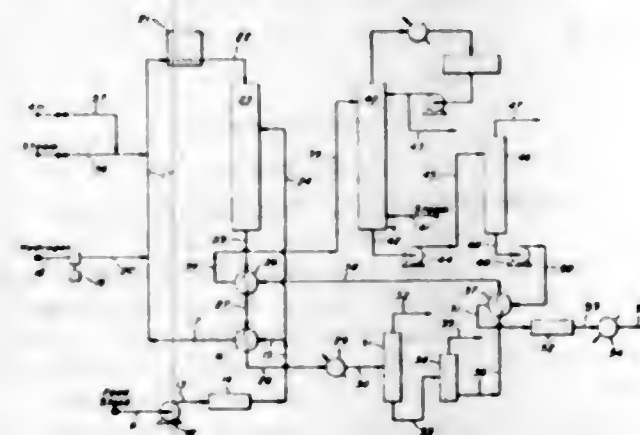
This invention provides in a single housing a complete electrolytic unit provided with means whereby the emitted gas is cooled and recirculated to replenish the electrolyte.

### 3,382,168 PROCESS FOR PURIFYING LUBRICATING OILS BY HYDROGENATION

Frederick S. Wood, Valparaiso, Roland L. Menzl, Hammond, and Madison E. Marks, Chesterton, Ind., and Roger G. Garst, South Holland, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Mar. 1, 1965, Ser. No. 435,941

10 Claims. (Cl. 208—264)



1. Process for the improvement of the quality of a petroleum lubricating oil, which process comprises: hydrotreating said lubricating oil, said hydrotreating consisting of heating a mixture of said lubricating oil and a hydrogen-containing gas, and treating said mixture in a hydrogenation zone under hydrogenation conditions and in the presence of a hydrogenation catalyst, said hydrogenation conditions including a temperature within the range from about 500° F. to about 695° F., a hydrogen partial pressure within the range from about 500 to about 1200 p.s.i.a., a liquid hourly space velocity within the range from about 0.25 to about 5.0 volumes of hydrocarbon per hour per volume of catalyst, a hydrogen consumption within the range from about 10 to about 300 standard cubic feet of hydrogen per barrel of hydrocarbon, and a hydrogen flow into said hydrogenation zone within the range from about 50 to about 1000 standard cubic feet of hydrogen per barrel of hydrocarbon, and said catalyst

comprising hydrogenation components selected from the group which consists of metals of the Sixth and Eighth Groups of the Periodic Table and the oxides, sulfides, and mixtures thereof on a suitable catalyst support; separating gaseous materials from the effluent from said hydrogenation zone with the proviso that the period of time during which liquid effluent is maintained at a temperature above 450° F. during said separating and prior to stripping is not more than 4 minutes; and thereafter stripping the resulting liquid effluent.

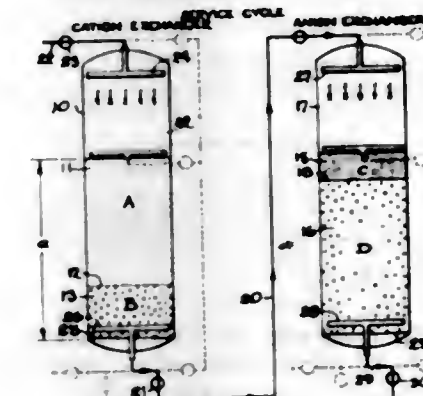
### 3,382,169 PROCESS FOR DEIONIZING AQUEOUS SOLUTIONS

Joseph Thompson, East Amwell Township, Hunterdon County, N.J., assignor to Illinois Water Treatment Co., Rockford, Ill., a corporation of Illinois

Continuation of application Ser. No. 257,537, Feb. 11,

1963. This application Apr. 4, 1966, Ser. No. 544,657

7 Claims. (Cl. 210—32)



1. The process of deionizing an aqueous solution containing calcium and magnesium salts of weak acids including carbonates, bicarbonates and silicates and of strong acids including chlorides and sulphates, said process including the steps of

- (1) confining in a first tank a lower bed of strong acid type (B) of particulate cation exchange resin and an upper bed of weak acid type (A) of a particulate cation exchange resin, the volumes of said A and B resins being proportioned in accordance with the respective amounts of the cations of said weak acids and of said strong acids in said solution, said B resin, both when regenerated and when exhausted, having greater actual density and larger average particle size than said A resin so as to possess an effective density sufficiently greater than the effective density of said A resin to maintain the two resins stratified during the flow of said water or a regenerating solution vertically through said tank for deionizing, backwashing or regenerating,
- (2) similarly confining in a second tank an upper bed of a weak base type of particulate anion exchange resin (C) and a lower bed of a strong base type of particulate anion exchange resin (D), said D resin, both when regenerated and exhausted, having a greater actual density and larger size particles than said C resin so as to possess an effective density sufficiently greater than that of said C resin to maintain the two resins stratified during deionizing, backwashing and regenerating cycles, the volumes of said C and D resins being proportioned in accordance with the respective amounts of the weak and strong acid anions in said aqueous solution,
- (3) flowing said aqueous solution first downwardly through said first tank and successively through said A and B resins and then downwardly through said second tank and successively through said C and D resins whereby to deionize the aqueous solution,



- (4) backwashing the A and B resins in said first tank and the C and D resins in the second tank after substantial exhaustion of the exchange capacities of the different beds, and
- (5) thereafter regenerating all of the resins by passing a solution of a strong alkali vertically through said second tank and successively through the beds therein and a solution of a strong acid vertically through said first tank and successively through the beds therein.

3,382,170

# METHOD OF REMOVING AN OIL FILM FROM WATER WITH SILICONE-COATED EXPANDED PERLITE

Hans Pape, Dortmund-Hochsten, Germany, assignor to Deutsche Perlite Gesellschaft m.b.H., Dortmund, Ostentellweg, Germany, a corporation of Germany  
No Drawing. Filed Sept. 23, 1965, Ser. No. 489,764  
Claims priority, application Germany, Nov. 13, 1964, D 45,841

4 Claims. (Cl. 210—36)

A method of removing an oil film from a body of water wherein mineral perlite, in an expanded state and coated with a silicone for an oleospecific adsorbent preferentially taking up oil from the water, is cast on the film.

3,382,171

# METHOD FOR CONTROLLING SLIME IN AN AQUEOUS SYSTEM WITH A SILVER FLUOROMETALATE

Dorsey R. Mussell, Clare, and Theodore W. Holmsen, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed Oct. 1, 1965, Ser. No. 492,329

7 Claims. (Cl. 210—62)

A method for the control of slime in aqueous systems involving contacting slime-forming organisms and their habitats in the aqueous systems with a silver fluorometalate compound.

3,382,172

# ALKENYL SUCCINIC ACIDS AS ANTIWEAR AGENTS

Warren Lowe, Berkeley, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
No Drawing. Filed May 18, 1966, Ser. No. 550,947

1 Claim. (Cl. 252—42.7)

Lubricating compositions having alkenyl succinic acids, wherein the alkenyl is straight chain having secondary attachment to the succinic acid moiety, of improved antiwear properties.

3,382,173

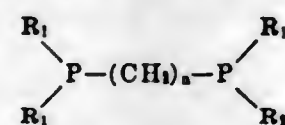
# HIGH-PRESSURE LUBRICANT

Hermann Zorn and Erwin Steininger, both % Technochemie G.m.b.H., Heiligenbergstr., 1b, Heidelberg, Germany  
No Drawing. Continuation-in-part of application Ser. No. 148,014, Oct. 23, 1961. This application June 15, 1964, Ser. No. 375,977

Claims priority, application Germany, Dec. 23, 1960, T 19,459

5 Claims. (Cl. 252—49.8)

4. A lubricant composition mainly consisting of a major amount of petroleum hydrocarbons, and a minor amount of a liquid organic biphosphine of the formula



wherein  $R_1$  and  $R_2$  are members of the group consisting of alkyl, and aryl radicals, and wherein  $n$  is an integer and at least six.

3,382,174

# PROCESS FOR THE PREPARATION OF $\gamma$ -FeOOH

Franz Hund, Drefeld-Bockum, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation  
No Drawing. Filed June 25, 1964, Ser. No. 378,070  
Claims priority, application Germany, June 26, 1963, F 40,076; Dec. 4, 1963, F 41,468; Jan. 9, 1964, F 41,695

12 Claims. (Cl. 252—62.57)

Preparation of temperature resistant  $\gamma$ -FeOOH nuclei by carrying out the nuclear formation and precipitation of iron (II)-salt solution with solution or suspension of alkali metal or alkaline earth metal base, and/or the subsequent oxidation and nuclear growth of the resultant precipitate, in the presence of about 0.1–25 parts by weight of a water-soluble phosphorus and/or arsenic compound per 100 parts by weight of Fe present in the  $\gamma$ -FeOOH nuclei, optionally in the further presence of a water soluble trivalent B, Al, Ga, Cr, Mn, and/or Fe salt in an amount of about 0.25–1.75 equivalents based on the content present of the corresponding  $PO_4^{3-}$  and/or  $AsO_4^{3-}$  stabilizer ion, and optionally with elevated temperature dehydration of the resulting  $\gamma$ -FeOOH particles into brown  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub> or red  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>.

3,382,175

# ANTI-FREEZING ADDITIVES

Charles H. Jacoby, Grosse Ile, and Frank V. Whelply, Dearborn, Mich., assignors to International Salt Company, Clarks Summit, Pa.

No Drawing. Continuation-in-part of application Ser. No. 345,859, Feb. 19, 1964. This application June 22, 1965, Ser. No. 466,060

6 Claims. (Cl. 252—70)

1. An additive for inhibiting freezing and caking of particulate sodium chloride, consisting of:  
one part by weight of a cationic synthetic surface active agent,  
and a water soluble complex iron cyanide selected from the group consisting of alkali metal ferrocyanide salts and alkali earth metal ferrocyanide salts providing ferrocyanide ion in amount of about .5 to about 9 parts by weight.

3,382,176

# LOW-FOAMING WASHING AND CLEANSING AGENTS

Günter Jakobi, Hilden, Rheinland, Ernst Gotte, Ratingen-Tiefenbroich, Werner Stein, Erkrath-Unterbach, and Horst Rutzen, Düsseldorf-Holthausen, Germany, assignors to Henkel & Cie G.m.b.H., Düsseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 423,585, Jan. 5, 1965. This application June 1, 1966, Ser. No. 554,324

Claims priority, application Germany, Nov. 26, 1965, H 57,780

10 Claims. (Cl. 252—89)

Low foaming, washing and cleansing compositions particularly for use in mechanical dish washers consisting essentially of a mixture of three types of polyoxyalkylene compounds which are: (A) ethylene oxide adducts of high molecular weight lipophilic radicals which adducts may additionally contain oxypropylene and oxybutylene radicals (B) compounds of the formula  $A'-X-A'$  wherein  $A'$  represents high molecular weight lipophilic compounds adducted with ethylene oxide and which may also contain oxypropylene and oxybutylene units and  $X$  is a bivalent linkage selected from acetals and ketals and (C) high molecular weight lipophilic radicals containing oxypropylene and/or oxybutylene radicals which may contain oxyethylene units.

3,382,177

# STABILIZED OPAQUE DETERGENT COMPOSITION

Douglas Woodruff, Marengo, Ill., assignor to Morton International, Inc., a corporation of Delaware

No Drawing. Original application Dec. 11, 1963, Ser. No. 329,873. Divided and this application Mar. 9, 1967, Ser. No. 635,280

3 Claims. (Cl. 252—89)

1. A stabilized aqueous liquid opacified detergent composition consisting essentially of a surface active agent selected from the group consisting of anionic detergents, nonionic detergents and blends thereof and a cross-linked interpolymer latex, said latex being present in an amount of from 0.2 to 14 parts of polymer solids per 100 parts by weight of surface active agent, said latex comprising an interpolymer in cross-linked polymerized form containing from 78 to 96 parts by weight of a monomer selected from the group consisting of styrene and methylated styrene, from 1 to 20 parts by weight of an unsaturated acid selected from the group consisting of methacrylic acid, acrylic acid and itaconic acid, from 1 to 20 parts by weight of a monomer selected from the group consisting of glycidyl methacrylate and glycidyl acrylate and divinylbenzene in an amount of up to about 2 parts per 100 of total monomer, the proportions of said monomers being such as to total 100 parts in the aggregate.

3,382,178

# STABLE ALKALINE DETERGENTS

Kenneth J. Lissant and Frederick J. Ludwig, Sr., St. Louis, Mo., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 1, 1965, Ser. No. 429,630

1 Claim. (Cl. 252—135)

Stable alkaline detergent compositions for use in machine dishwashing, machine bottle washing and in general purpose heavy duty cleaners including inorganic alkali metal detergent salts selected from the group consisting of alkali metal carbonates, alkali metal borates, alkali metal polyphosphates, alkali metal hydroxides, alkali metal silicates, and mixtures thereof, in combination with (1) defoaming nonionic surfactants such as oxyalkylated compounds of the general formula  $Z[(OA)_nOH]_z$  wherein  $Z$  is the oxyalkylatable material,  $A$  is the radical derived from the alkylene oxide, which can be, for example, ethylene, propylene, butylene oxide, etc., and the like,  $n$  is a number determined by the moles of alkylene oxide reacted, for example 10 to 2000 or more and  $z$  is a whole number determined by the number of reactive oxyalkylatable groups, and (2) a small but effective amount of antioxidant effective to reduce, inhibit and/or prevent the degradation of the nonionic surfactant thereby rendering the nonionic surfactant stable in the stable alkaline detergents.

3,382,179

# CORROSION INHIBITOR COMPOSITION

Bill R. Keeney and John A. Knox, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

No Drawing. Filed Sept. 7, 1965, Ser. No. 485,525

6 Claims. (Cl. 252—148)

A metal corrosion inhibitor for use with aqueous acids, comprising specified amounts of an acetylenic alcohol or sulfide, an amine or nitrogen base compound, and an oxyalkylated naphthenic acid and optionally a solubilizer or diluent.

3,382,180

# DETERGENT COMPOSITIONS CONTAINING SULFOXIDE AS A SUDS-STABILIZING AGENT

Hill M. Priestley, North Bergen, and James H. Wilson, Demarest, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine  
No Drawing. Continuation-in-part of application Ser. No. 725,505, Apr. 1, 1958. This application May 1, 1967, Ser. No. 634,897

41 Claims. (Cl. 252—152)

Detergent compositions comprising suds-producing organic non-soap detergent compounds of the anionic, ampholytic and nonionic type and, as suds-stabilizing materials, at least 0.1% of an alkyl monosulfoxide of the class described. The sulfoxide is present in minor amounts, and within the certain critical ranges of proportions set forth. A method of stabilizing foam is also described.

3,382,181

# COMPOSITION FOR ENGINE DEPOSIT REMOVAL

Paul E. Oberdorfer, Jr., Devon, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 476,172, July 30, 1965. This application Dec. 2, 1966, Ser. No. 598,595

9 Claims. (Cl. 252—170)

The present disclosure relates to a carburetor cleaner which cleans the internal and external deposits therefrom. The cleaning composition contains a cyclic carbonate inner ester as the major active component with certain solvents, namely a  $C_4$  to  $C_{12}$  olefin, a mononuclear aromatic hydrocarbon and a polar solvent of an ester, glycol ether or mixtures thereof.

3,382,182

# PROCESS OF CLEANING PORCELAIN SURFACES

John R. Moyer, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 4, 1965, Ser. No. 492,934

3 Claims. (Cl. 252—186)

The present invention comprises a method of removing aluminum stains and marks from porcelain surfaces consisting of: applying to said stained and marked surface a cleaning composition in moist contact therewith, said composition comprising as the active ingredient an alkaline earth metal peroxide or an alkali metal peroxide; continuing moist contact of the cleaning composition with said porcelain surface for a time sufficient to eliminate said stains and marks; and removing said cleaning composition from said porcelain surface, thereby removing aluminum stains and marks therefrom.

3,382,183

# PLASTIC OPTICAL FILTER

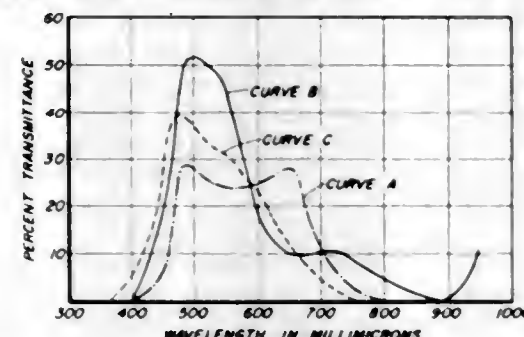
Haig C. Donohue, Chelmsford, Mass., and Peter V. Suss, Middlesex, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
Continuation-in-part of application Ser. No. 235,494, Nov. 5, 1962. This application Sept. 2, 1965, Ser. No. 484,562

5 Claims. (Cl. 252—300)

An optical filter comprising an organic plastic substrate having dispersed therein (a) an organic infrared absorbing compound, such as a vinylcarbonium compound, a manganese complex of a nitrosophenol, a fluorene salt, a bis(xanthene) heptamethine salt or a tris(p-dialkylaminophenyl) aminium salt and (b) an ultraviolet light absorbing compound, such as an o-hydroxybenzophenone, an o-hydroxyphenylbenzotriazole, a salicylic acid ester, a substituted acrylonitrile, a substituted arylaminoethyl-



ene, an o-hydroxyphenyltriazine or a nitrilohydrazone; a typical specific combination of compounds being tris(p-



diethylaminophenyl) aminium fluoroborate and 2,2'-di-hydroxy-4-methoxybenzophenone.

### 3,382,184 PRODUCTION OF TRITIATED INORGANIC PHOSPHOR

Jerome Goodman, New York, N.Y., assignor to NRA, Inc., Long Island City, N.Y., a corporation of New York

Filed June 10, 1964, Ser. No. 373,986

4 Claims. (Cl. 252-301.1)

#### 1. A process comprising

- (1) heating, under substantially anhydrous conditions, and inorganic phosphor material above its sublimation temperature,
- (2) intimately mixing the resulting phosphor vapor with a material consisting essentially of tritium gas at a temperature above said sublimation temperature, and
- (3) condensing the resulting mixture.

### 3,382,185 NYLON SOLVENT AND METHOD OF MAKING SAME

Edward S. Wheeler, Ambler, and Charles A. Signorino, Bridgeport, Pa., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania  
No Drawing. Original application Jan. 2, 1962, Ser. No. 163,848, now Patent No. 3,216,963, dated Nov. 9, 1965. Divided and this application Mar. 3, 1965, Ser. No. 438,178

15 Claims. (Cl. 252-364)

1. A method for preparing a nylon solvent which comprises reacting dimethyl-meta-dioxane with a material selected from the group consisting of formaldehyde and substances yielding formaldehyde under the reaction conditions; said reaction being carried out in the presence of water at a temperature of from 190° C. to 215° C. and an autogenous pressure of from 250 p.s.i.g. to 450 p.s.i.g. for a period of time ranging between 10 minutes and one hour, distilling the reaction mixture and recovering the fraction boiling between 80° C. and 150° C. at 10 millimeters of mercury pressure.

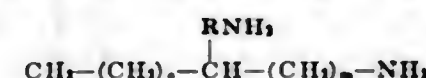
6. A method for preparing a nylon solvent which comprises reacting 4,4-dimethyl-meta-dioxane with formaldehyde in the presence of water at a temperature of from 190° C. to 215° C. and an autogenous pressure of from 250 p.s.i.g. to 450 p.s.i.g. for a period of time ranging between 10 minutes and one hour, and distilling the reaction mixture and recovering the fraction boiling between 80° C. and 150° C. at 10 millimeters of mercury pressure.

**3,382,186  
ALIPHATIC HYDROCARBON AMINE CORROSION INHIBITORS**  
Ronald M. Silverstein, Philadelphia, Pa., assignor to Betz Laboratories, Inc., Philadelphia, Pa., a corporation of Pennsylvania  
No Drawing. Filed Sept. 22, 1965, Ser. No. 489,408

8 Claims. (Cl. 252-390)

The present invention concerns methods and materials for inhibiting the corrosion of metal components which

are contacted by corrosive substances such as the steam and steam condensate in a boiler system, in which an aliphatic amine is dispersed within the system to be treated and upon the metal surfaces to be protected. The amines employed are those having the general formula



in which R is a divalent hydrocarbon radical containing from 1 to 4 carbon atoms, n is an integer having a value of from 1 to 18, m is an integer having a value of from 4 to 21, and the sum total of n plus m has a value from 10 to 22. A compound preferred in the practice of the invention is 9-aminomethylstearylamine.

### 3,382,187 WET ATTRITION-RESISTANT MOLECULAR SIEVE BODIES AND THEIR MANUFACTURE

Wilfred Drost, Williamsville, and Francis M. O'Connor, Kenmore, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 29, 1963, Ser. No. 319,678

15 Claims. (Cl. 252-455)

A method for preparing wet attrition-resistant molecular sieve bodies by contacting same with an alkali metal silicate solution for sufficient time to impart an alkali metal silicate layer thereon. The coated body is separated from the solution and contacted with at least a stoichiometric amount of an acid fluid to gel the silicate layer. The body is then fired at a temperature of at least 350° C. but below the molecular sieve crystal destruction temperature.

**3,382,188  
CRACKING CATALYST PREPARATION**  
Edward B. Cornelius, Swarthmore, James E. McEvoy, Morton, and George Alexander Mills, Swarthmore, Pa., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware  
No Drawing. Filed Feb. 20, 1964, Ser. No. 346,073

2 Claims. (Cl. 252-455)

Sodium zeolite is crystallized from system in which NaOH concentration is 90-110% of colloidal SiO<sub>2</sub>, and Al<sub>2</sub>O<sub>3</sub> is 4-8% of colloidal SiO<sub>2</sub>, which is 1 to 2.13 molar, aging at 95-300° C. for 6-24 hours. After washing and ammonium exchange, the ammonium zeolite is mixed with 4 to 19 times as much clay and shaped into particles which are steamed at 700-750° C. for 2-6 hours to prepare acidic cracking catalyst particles.

**3,382,189  
HEAT TREATING OF POWDERED PARTICLE MATERIAL**  
John G. Mitchell, Larchmont, N.Y., and William A. Stover, Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York

Filed Aug. 10, 1964, Ser. No. 388,597

6 Claims. (Cl. 252-455)

Catalyst particles of fluidizable particle size are tempered when in shallow dense fluid bed conditions and heated indirectly in moisture-free atmosphere and then in oxygen-free steam to 1200-1400° F. for 1-4 hours, and then heat soaked at 1200-1500° F. for 1-24 hours.

This invention relates to the method and means for tempering catalyst particles. In a more particular aspect, the present invention relates to the method and means for improving the stability of silica-alumina containing catalyst particles against thermal and non-hydrocarbon chemical deactivation.

**3,382,190  
CATALYTIC METHOD FOR CONDUCTING CHEMICAL REACTIONS**  
William F. Wolff, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana  
No Drawing. Filed Jan. 7, 1965, Ser. No. 424,118

3 Claims. (Cl. 252-477)

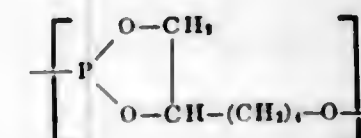
Substances susceptible to catalytic conversion are introduced into a reaction zone in which the catalyst has been prepared therein by passing an electric current through a conductive, wirelike material. The sudden application of current causes disintegration of said material and produces an active catalyst of small particle size and high surface area. Metal catalysts, such as platinum, nickel or nickel-chromium alloy, may be prepared in this manner and used in the isomerization of a hydrocarbon.

**3,382,191  
FIRE-RETARDANT PHOSPHOROUS-CONTAINING ADDITIVES**  
Lester Friedman, Beachwood, Ohio, assignor to Weston Chemical Corporation, Newark, N.J., a corporation of New Jersey

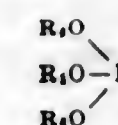
No Drawing. Filed Dec. 7, 1965, Ser. No. 512,237

24 Claims. (Cl. 260-2)

Macromolecular weight phosphorous polymers having the repeating unit



can be prepared by reacting equimolar amounts of 1,2,6-hexanetriol and a tertiary phosphite of the formula



wherein R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> are hydrocarbyl. The resulting polymer can be hydrolyzed or reacted with selected Arbuzov reagents to yield halogenated or unsaturated phosphorous polymers.

**3,382,192  
METHOD FOR THE PREPARATION OF POLYMERS OF ALKYLENE OXIDE UTILIZING A COMPLEX CATALYST**

Shun Kawamura, Minoo, Hideo Matsumaru, Nishinomiya, Junji Ogura, Minoo, Yutaka Matsui, Ashiya, and Junji Furukawa and Takeo Saegusa, Kyoto, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Continuation-in-part of application Ser. No. 177,203, Mar. 5, 1962. This application Apr. 15, 1966, Ser. No. 542,766

Claims priority, application Japan, Mar. 14, 1961,

36/8,829, 36/8,830

13 Claims. (Cl. 260-2)

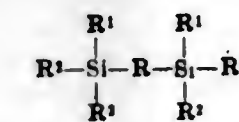
There is provided an improvement in the process of polymerizing alkylene oxides in the presence of a catalyst. The improvement resides in the employment of a co-catalyst composed of (1) a member selected from the group consisting of alumina and silica, and (2) a member selected from the group consisting of M(OC<sub>2</sub>H<sub>5</sub>)<sub>n</sub> and a product of the reaction between M(C<sub>2</sub>H<sub>5</sub>)<sub>n</sub> and R-OH. M represents a metal of the group of zinc and aluminum, n represents a positive whole number corresponding to the valence of M, and R is a member selected from the group consisting of hydrogen, methyl and ethyl.

**3,382,193  
RESINOUS COMPOSITIONS**  
James Calkhoun Cuthill, Ardrossan, Scotland, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Filed Aug. 22, 1966, Ser. No. 573,848

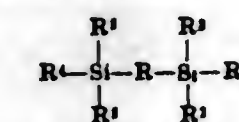
Claims priority, application Great Britain, Sept. 9, 1965, 38,529/65

7 Claims. (Cl. 260-2)

A resinous product is produced by reacting a compound of the formula



with a compound of the formula



where R is phenylene, diphenylene or diphenylene oxide, R<sup>1</sup> and R<sup>2</sup> are monovalent unsubstituted or halogen substituted hydrocarbon groups, R<sup>3</sup> is alkoxy, hydroxy or mixtures thereof, and R<sup>4</sup> is acyloxy, alkoxy or hydroxy, R<sup>5</sup> being acyloxy or hydroxy when R<sup>3</sup> is alkoxy. The reaction may use a tin or zinc carboxylic acid salt as catalyst and may be in the presence of solvent. The resinous products may be converted to shaped objects and cured.

**3,382,194  
EXPANDED PLASTIC MATERIALS**  
Gordon Birkett, Costock, England, assignor to Whiffen & Sons Limited, Loughborough, Leicestershire, England  
No Drawing. Filed Nov. 9, 1965, Ser. No. 507,065

Claims priority, application Great Britain, Nov. 21, 1964, 47,485/64

9 Claims. (Cl. 260-2.5)

Embossed patterns on gas-expandable organic polymeric materials are formed by contacting the polymeric material which includes azodicarbonamide as a blowing agent and sufficient heavy metal compound to lower the decomposition temperature of azodicarbonamide, in selected areas, with a hydrazide of an organic dicarboxylic acid.

**3,382,195  
PROCESS OF MAKING POLYAMIDE FOAMS**  
Heinrich Gilch, Krefeld, and Hermann Schnell, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed Feb. 24, 1966, Ser. No. 529,651

Claims priority, application Germany, Mar. 26, 1965, F 45,649

7 Claims. (Cl. 260-2.5)

A process of preparing polyamide foams by heating at a temperature of 150 to 270° C. a lactam in the presence of 0.05-10% of an isocyanate or a carbamidolactam and 0.05 to 10% of an alkali metal formate or alkaline earth metal formate based on the amount of starting lactam.

**3,382,196  
ORGANIC RUBBERS WITH MERCAPTOORGANOSILOXANES HAVING IMPROVED ELONGATION**  
William G. Gowdy and Joseph W. Kell, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan  
No Drawing. Filed June 3, 1965, Ser. No. 461,157

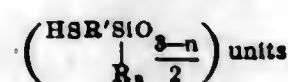
6 Claims. (Cl. 260-3)

1. An intimately mixed composition consisting essentially of

- (1) 100 parts by weight of a nonsiliceous organic elastomer stock which is heat-vulcanizable through aliphatically unsaturated groups, and



- (2) from 1 to 5 parts by weight of an organosilicon compound consisting essentially of  
 (a)  $(R_3SiO)_{\frac{3-n}{2}}$  units, and at least two  
 (b)

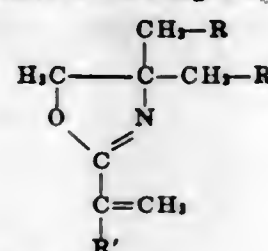


said (b) units being separated from each other by an average of at least 10 (a) units, where R is a monovalent hydrocarbon or halo-hydrocarbon radical, free of aliphatic unsaturation, R' is a divalent hydrocarbon radical, free of aliphatic unsaturation, and n has a value of 0 to 2.

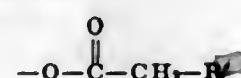
### 3,382,197 FIBREBOARD CONTAINING A COPOLYMER BINDER OF OXAZOLINE OIL AND A VINYL MONOMER

Robert F. Purcell, Terre Haute, Ind., assignor to Commercial Solvents Corporation, a corporation of Maryland  
 No Drawing. Filed July 16, 1964, Ser. No. 383,236  
 13 Claims. (Cl. 260-17.4)

Artificial boards and a process for making them which comprises heating and pressing a mixture of a polymerizable binder composition and a cellulosic filler material at a temperature sufficient to copolymerize the polymerizable binder composition, wherein the polymerizable binder composition is a mixture of from about 30 to 90%, based on the weight of oxazoline oil and vinyl monomer, of an oxazoline oil having the general formula:



in which R is the radical:



or lower alkyl, hydroxy, rosin acid radical or hydrogen; and R' is hydrogen or alkyl or alkenyl radicals having from 1 to about 25 carbon atoms; about 70 to 10% of a vinyl monomer copolymerizable with the oxazoline oil; about 0.1 to 10%, based on the weight of the vinyl monomer, of a free-radical polymerization catalyst; and about 0.01 to 2%, based on the weight of the oxazoline oil, of metal from a metal drier.

### 3,382,198 COMPOSITION FOR EXTRUDABLE DECORATIVE SURFACE COVERING

Cleon M. Elsager, Mountville, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania  
 No Drawing. Filed June 11, 1964, Ser. No. 374,267  
 10 Claims. (Cl. 260-23)

1. A plasticized and stabilized vinyl resin composition comprising a homogeneous mixture of, in relative proportions:  
 (a) 100 parts by weight of a vinyl resin selected from the group consisting of vinyl chloride homopolymer, copolymers of vinyl chloride and vinyl acetate, and mixtures thereof;  
 (b) 10 to 30 parts by weight of a monomeric vinyl resin plasticizer;  
 (c) 2 to 6 parts by weight stearic acid;  
 (d) 4 to 10 parts by weight of a member selected from the group consisting of an ethylene-alkyl acrylate copolymer containing from about 2% to about 65%

by weight of the alkyl acrylate component, said alkyl acrylate being of the formula  $\text{CH}_2\text{CHOOR}$  where R is an alkyl radical selected from the group consisting of linear and branch chain alkyl radicals of from 1 to 20 carbon atoms, an ethylene-vinyl acetate copolymer containing about 18% vinyl acetate and mixtures thereof;

- (e) 4 to 8 parts by weight vinyl resin stabilizer;  
 (f) 5 to 20 parts by weight of a polymeric plasticizer having a molecular weight greater than about 1500; and  
 (g) 0 to 600 parts by weight pigment and filler, said resin components being present in said composition in a fused state.

### 3,382,199 VINYL HALIDE RESIN STABILIZERS COMPRISING AN ORGANIC PHOSPHITE SORBED ONTO A FINELY-DIVIDED POROUS CARRIER

James P. Scullin, Pompton Lakes, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware  
 No Drawing. Filed Feb. 15, 1965, Ser. No. 432,884  
 22 Claims. (Cl. 260-23)

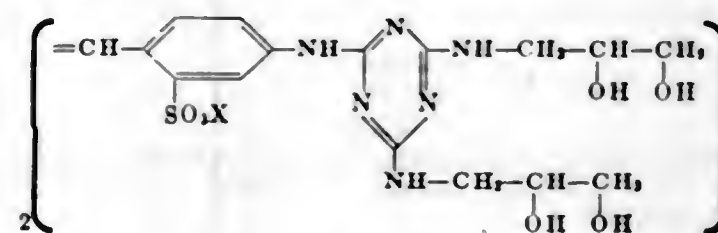
Vinyl halide resin compositions that have excellent heat and light stability and excellent resistance to plate-out and that retain these properties on prolonged exposure to moisture containing a solid stabilizer that comprises a liquid organic phosphite sorbed onto a finely-divided, porous, inert carrier material, such as hydrous calcium silicate. The solid phosphite stabilizers may be used alone or in combination with known metal salt stabilizers.

### 3,382,200 COMPOSITION FOR TREATING AND BRIGHTENING CELLULOSE FIBERS

Bennett George Buell, Somerville, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
 No Drawing. Original application May 11, 1964, Ser. No. 366,635, now Patent No. 3,309,363, dated Mar. 14, 1967. Divided and this application Sept. 29, 1966, Ser. No. 583,091

2 Claims. (Cl. 260-29.4)

A composition for treating cotton contains a DAS-triazine brightener of the formula



a conventional textile improving resin and a cationic softener.

### 3,382,201 PROCESS OF BLENDING PEARLESCENT PLATELETS IN TOUGH MOLDING RESIN AND PREPARATION OF PEARLESCENT PLASTIC ARTICLES FROM THE RESULTING BLEND

Ira H. Gutman and Jules Pinsky, West Hartford, Conn., assignors to Monsanto Company, a corporation of Delaware  
 No Drawing. Filed Nov. 22, 1963, Ser. No. 325,745  
 9 Claims. (Cl. 260-31.8)

1. A process for making molding resin for the production of pearlescent plastic articles, which comprises adding a paste consisting essentially of 30 to 80% of solid pearlescent crystal platelets having a face diameter of from about 3 to 70 microns and 70 to 20% of a non-volatile oily liquid having a boiling point in excess of about 200° C., to a thermoplastic resin requiring a processing temperature in excess of about 175° C., in an

amount calculated to provide about 0.2 to 5% of crystals in the resin, and coating the resin particles with said paste by gently mixing the paste and resin at a temperature between about 10° and 40° C. without mastication, and without subjecting the mixture to any substantial back pressure.

### 3,382,202 POLYURETHANE COMPOSITIONS CONTAINING FATTY ACID AMIDES AND INERT, PARTICULATE SOLIDS

Frederic J. Forrester, Somerville, N.J., and Stanley Lustig, Park Forest, Vytas Michael Putras, Chicago, and William Frederick Underwood, Oak Park, Ill., assignors to Union Carbide Corporation, a corporation of New York  
 No Drawing. Filed Aug. 27, 1964, Ser. No. 392,604  
 29 Claims. (Cl. 260-32.6)

Anti-blocking characteristics can be imparted to structures obtained from normally tacky polyurethanes when there is incorporated into the resin formulation an amide of a fat-forming fatty acid in combination with an inert, finely divided solid.

### 3,382,203 POLYESTERS AND INSULATING COATINGS FOR ELECTRICAL CONDUCTORS MADE THEREFROM

Wilhelm Rating, Wuppertal-Barmen, Gerhard Koch, Wuppertal-Elberfeld, and Bernd von Bornhaupt, Wuppertal-Barmen, Germany, assignors to Dr. Kurt Herberts & Co., Wuppertal-Barmen, Germany, a corporation of Germany  
 No Drawing. Filed Oct. 8, 1963, Ser. No. 314,636  
 Claims priority, application Germany, Oct. 11, 1962, H 47,121; Oct. 13, 1962, H 47,139  
 9 Claims. (Cl. 260-33.4)

8. A composition of matter consisting essentially of a cresol as a solvent and a polyester polyimide resin substantially free of amido groupents consisting essentially of the product of reaction obtained by heating a starting mixture consisting essentially of (1) per each 10 equivalents of a member selected from the group consisting of the benzene polycarboxylic acids having more than two carboxy groups and having two of said carboxy groups in the ortho-position to each other, the anhydrides of said polycarboxylic acids, and mixtures of said members with a benzene dicarboxylic acid compound selected from the group consisting of terephthalic acid and isophthalic acid, mixtures thereof, the lower alkyl esters of said acids, and mixtures of said esters, (2) from about 5 to 16 equivalents of a member selected from the group consisting of the dihydric lower aliphatic alcohols, the polyhydric lower aliphatic alcohols having more than two hydroxy groups, and mixtures of said members, and (3) from about 3 to 0.8 equivalents of a member selected from the group consisting of the diamines containing the groupment



and mixtures of such diamines, said starting mixture containing said di- and polycarboxylic acid compounds and said di- and polyhydric alcohols in proportions corresponding to from about 4 to 20 equivalents of the polycarboxylic acid and polyhydric alcohol components per each 10 equivalents of dicarboxylic acid and dihydric alcohol components, at a temperature in the range of about 100° C., to about 270° C., until no further amounts of water are separated from the reaction mixture, adding thereto a lacquer solvent thereto in an amount of up to 10%, calculated on the solid resin content, and an organic ester of an acid selected from the group consisting of

zirconic and titanac acid in an amount corresponding to from about 0.05 to 0.5 g. of the element selected from the group consisting of titanium and zirconium per each 100 g. of resin, and heating the reaction mixture to the elevated temperature for a few minutes.

### 3,382,204 FIRE-RETARDANT COMPOSITIONS

Edward V. Gouinlock, Jr., Buffalo, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York  
 No Drawing. Filed Dec. 23, 1965, Ser. No. 516,126  
 10 Claims. (Cl. 260-33.8)

Lead arsenate has been found to be an effective adjuvant for rendering fire-retardant polymeric combustible polymers containing a halogenated organic compound selected from the group consisting of perhalopentacyclopentane and compounds of the formula:



wherein X is selected from the group consisting of bromine, chlorine and fluorine, Y is selected from the group consisting of bromine, chlorine, fluorine, alkyl and alkoxy and Z is a tetravalent hydrocarbon radical having at least four carbon atoms wherein the valences are attached to two pairs of adjacent carbon atoms; and a lead arsenate.

### 3,382,205 COMPOSITIONS CONTAINING SILANOL CHAIN-STOPPED POLYDIMETHYL-SILOXANE, ORGANOSILICON PROCESS AID, AND CURING AGENT

Melvin D. Beers, Latham, N.Y., assignor to General Electric Company, a corporation of New York  
 No Drawing. Filed Sept. 27, 1963, Ser. No. 312,011  
 7 Claims. (Cl. 260-37)

1. A substantially anhydrous organopolysiloxane composition curable at room temperature to the elastomeric state upon exposure to moisture comprising (A) 100 parts of a silanol chain-stopped organopolysiloxane consisting essentially of chemically combined diorganosiloxy units of the formula:



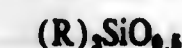
(B) from about 2 to 20 parts of a curing agent of the formula:



and (C) 2 to 30 parts of an organosilicon process aid composed of diorganosiloxy units of (A) chemically combined with organosiloxy units of the formula:



and triorganosiloxy units of the formula:



where said organosilicon process aid has from 0.1 percent to 8 percent by weight of hydroxy radicals attached to silicon, and a ratio of organosiloxy units to diorganosiloxy units of from about 0.11 to 1.4 inclusive, and a ratio of triorganosiloxy units to diorganosiloxy units of from about 0.02 to about 1 inclusive, R is a member selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and cyanoalkyl radicals, and R' is a member selected from the class consisting of hydrogen and a monovalent aliphatic radical.



3,382,206

## PENCIL RECEPTIVE FILM

Michael Karickhoff, Circleville, Ohio, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 3, 1965, Ser. No. 485,079  
2 Claims. (Cl. 260—40)

From 0.5 to 10% by weight, based upon the weight of polyester, of particulate, naturally occurring, non-porous, crystalline silica having a minimum silicon dioxide content of 99.5%, an average particle size ranging between 1 and 5 microns, and a surface area ranging between 0.5 to 2.2 square meters per gram, is incorporated in film-forming polyethylene terephthalate and the resulting composition is melt-extruded to form film. The silica-containing film is subsequently biaxially oriented and heat set.

3,382,207

## FLAME-RETARDANT POLYCARBONATES

Donald B. G. Jaquis, Lenox, Mass., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed Sept. 30, 1965, Ser. No. 491,862  
5 Claims. (Cl. 260—45.7)

A flame-retardant composition having in admixture a high ignition temperature polymer, which polymer ignites at a temperature in excess of 700° F., and at least 1.0 weight percent of a polyhalodiphenyl carbonate containing 6–10 halogen atoms and preferably the polyhalodiphenyl carbonate being decabromodiphenyl carbonate. The halogen atoms of the polyhalodiphenyl carbonate may be either bromine, chlorine, fluorine or iodine, or mixtures thereof.

3,382,208

## SOLID ORGANIC SUBSTRATES STABILIZED WITH BORATES OF ALKANOL AMINES

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 15, 1964, Ser. No. 367,854  
12 Claims. (Cl. 260—45.9)

A solid polymeric organic substrate, such as a solid polyolefin, normally subject to deterioration by weathering containing, as a stabilizer against such weathering, a borate of N,N-di-sec-alkyl-alkanolamine or of N,N-dicycloalkyl-alkanolamine. A specific example of this stabilizer is a borate of N,N-di-sec-octyl-ethanolamine.

3,382,209

## FLAME-RETARDANT SYSTEMS

William George Delchert, Flushing, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 23, 1966, Ser. No. 551,907  
9 Claims. (Cl. 260—45.75)

Polyacrylate resins are made resistant to burning and water-induced haziness by incorporating a stannic halide, oxalic acid and a member from the group consisting of the zinc and magnesium salts of carbonic or oxalic acid.

3,382,210

## LACTONE MODIFIED EPOXIDE RESINS

John W. Wyart, Short Hills, Joseph A. Vona, Westfield, and Albert Schrage, East Orange, N.J., assignors to Celanese Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 25,527, Apr. 29, 1960. This application Oct. 26, 1962, Ser. No. 233,421

11 Claims. (Cl. 260—47)

1. A room temperature-curable epoxy resinous composition comprising:

(A) an epoxide resin containing terminal unreacted epoxy groups,

(B) from about 0.2 to 0.8 equivalent, per epoxy equivalent of said (A), of at least one monolactone having from 3 to 6 carbon atoms in the lactone ring, and

(C) a catalytic amount of a catalyst selected from the group consisting of a boron trifluoride-etherate complex and a boron trifluoride-acetic acid complex.

3,382,211

## HEXAPHENYLDICHLOROTETRAPHOSPHONITRILE-DIPHENOL POLYMERS

Irving I. Bezman, Pittsburgh, and Janet H. Smalley, Irwin, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 3, 1964, Ser. No. 349,171

3 Claims. (Cl. 260—47)

1. A linear polymeric product of high heat stability produced by the reaction of a hexaphenyldichlorotetraphosphonitrite in which the chlorine atoms are attached to separate phosphorous atoms and a dihydroxy aromatic compound selected from the group consisting of a p,p'-isopropylidenediphenol, hydroquinone, and a 4,4-bis(p-hydroxyphenyl) pentanoate.

3,382,212

## PROCESS FOR PREPARING POLYPHENYLENE ETHERS

Charles C. Price, Lansdowne, and Gerald D. Staffin, New Brunswick, Pa., assignors, by mesne assignments, to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Continuation of application Ser. No. 820,863, June 17, 1959. This application June 6, 1966, Ser. No. 555,941

2 Claims. (Cl. 260—47)

Polyphenylene ethers (oxides) having an average molecular weight of at least 3400 are disclosed in which adjacent phenylene ether units are joined through carbon-oxygen-carbon linkages. A major amount of the phenylene nuclei of the polymer contains at least one hydrogen atom meta to the ether oxygen atom attached to each of the phenylene nuclei and, also, contains at least one radical of the class consisting of alkyl, alkenyl, alkoxy and alkenyloxy having from one to three carbon atoms attached to each of the phenylene nuclei, any carbon atom joining one of said radicals to each of the phenylene nuclei having at least one hydrogen atom attached thereto. These polymers are prepared by mixing a free radical forming compound capable of removing an electron from an aromatic oxide ion with an alkaline aqueous solution of a halogen containing phenolate ion having the above substituents, in the presence of a liquid inert organic solvent, immiscible with the aqueous phase and capable of dissolving the polymer formed, and recovering a solution of the polyphenylene ether in the organic solvent. The lowered melting and/or softening point and the improved solubility of these polymers makes them extremely useful in preparing solutions for casting purposes. Moreover, the lowered softening point permits the new polymers to be readily calendered onto fabrics such as cotton, nylon and other natural and synthetic materials to provide polymeric coated fabrics. Thus, these polymers can be used to make decorative fabrics, upholstery materials for chairs and the like, wall coverings, coated panels for automobile doors, coatings for conveyor belts, coatings for shipping containers and other materials.

3,382,213

## ONE-STAGE RESIN AND PROCESS FOR PREPARING SAME COMPRISING REACTING A SPACED POLYPHENOL AND AN ALDEHYDE

John D. Nelson, Pittsfield, and William F. Mufatti, Longmeadow, Mass., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 12, 1966, Ser. No. 549,437  
6 Claims. (Cl. 260—57)

1. A one-step process for preparing a one-stage thermosetting resinous condensation product which process comprises (1) heating a monohydric spaced polyphenol and a phenol in the presence of a particular catalyst to a temperature of at least 130° C., said spaced polyphenol consisting of a polyarylated hydrocarbon having phenolic nuclei separated from each other by polymethylene chains, (2) reacting less than one mole of an aldehyde per mole of spaced polyphenol and phenol combined, (3) cooling the reaction to a temperature of about 80–115° C. and (4) reacting additional aldehyde such that the total aldehyde reacted is more than one mole thereof per mole of spaced polyphenol and phenol combined; said particular catalyst being selected from the group consisting of earth alkali metal, earth metal and heavy metal hydroxides and oxides.

3,382,214

## VINYL PYRIDINE COPOLYMERS COMPRISING SEGMENTS HAVING HYDROXY SUBSTITUENTS THEREON AND A PROCESS FOR THEIR PREPARATION

Howard C. Haas, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Nov. 18, 1964, Ser. No. 412,252  
9 Claims. (Cl. 260—67.5)

Vinyl pyridine copolymers comprising segments having hydroxy substituents thereon may be prepared by polymerizing a vinyl pyridine monomer with a comonomer selected from the group consisting of  $\alpha,\beta$ -unsaturated aliphatic monobasic and dibasic acids, esters of said acids and polymerizable  $\alpha,\beta$ -unsaturated aliphatic aldehydes; and hydrogenating the acid, ester or aldehyde groups on the resulting copolymer to hydroxy alkyl groups.

3,382,215

## VIRGIN OLEFIN POLYMERS MODIFIED WITH ORGANIC POLYISOCYANATES

Bernard O. Baum, Plainfield, N.J., assignor to Union Carbide Corporation, a corporation of New York  
No Drawing. Continuation of abandoned application Ser. No. 182,918, Mar. 27, 1962. This application July 14, 1967, Ser. No. 653,578

9 Claims. (Cl. 260—77.5)

The instant specification discloses adhesives prepared by (1) reacting virgin olefin polymers with organic polyisocyanates or (2) reacting virgin olefin polymers with organic polyisocyanates and organic peroxides. "Virgin" olefin polymers are those which have not been subjected to deliberate oxidation. The polymers of this invention may be used as coating materials, films, or as laminate interlayers.

3,382,216

## TRANSPARENT THERMOPLASTIC TEREPHTHALIC ACID CONTAINING POLYAMIDES HAVING SOFTENING TEMPERATURES ABOVE 100° C.

Franz Blaschke and Werner Ludwig, Witten (Ruhr), Germany, assignors to Chemische Werke Witten G.m.b.H., Witten (Ruhr), Germany

No Drawing. Filed June 23, 1964, Ser. No. 377,416  
5 Claims. (Cl. 260—78)

A transparent thermoplastic polyamide having a softening temperature in excess of 100° C. and a relative solvent

viscosity in excess of about 1.8, said polyamide comprising a polycondensation product of hexamethylene diamine with a mixture containing 70–85% by weight of a compound selected from the group consisting of isophthalic acid and polyamide-forming derivatives thereof, and 30–15% by weight of a compound selected from the group consisting of terephthalic acid and polyamide-forming functional derivatives thereof.

3,382,217

## POLYESTER-ETHER THERMOPLASTIC RESIN COMPOSITIONS

Leslie C. Case, 14 Lockeland Road, Winchester, Mass. 01890

No Drawing. Continuation-in-part of application Ser. No. 336,067, Jan. 6, 1964. This application Feb. 4, 1966, Ser. No. 525,128

18 Claims. (Cl. 260—78.4)

Novel polyester-polyether copolymers having polyether segments of variable length between ester linkages are prepared by reacting together (1) a monoepoxide or a monooxetane, (2) a cyclic monoanhydride of an organic dicarboxylic acid, (3) a polymerization starter having at least one active-hydrogen-containing radical selected from the group consisting of hydroxyl, carboxyl, or sulfhydryl radicals, and (4) a catalyst selected from among organic esters, carboxylic acid salts and chelates of elements with an electronegativity value ranging from 1.2 to 2.6. The polyether segments between ester linkages have an average of at least 2.5 cyclic monoether residues. The preferred catalysts for this reaction are the organic acid salts and acetylacetonates of tin, nickel, vanadium, cobalt and zinc, and the alcoholates and acetylacetonates of aluminum, titanium, zirconium, boron and antimony.

3,382,218

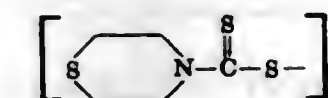
## VULCANIZATION ACCELERATORS

Kamal Naguib Ayad, Ruabon, Wrexham, Wales, assignor to Monsanto Chemicals Limited, London, England, a British company

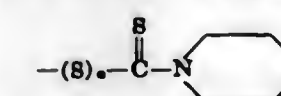
No Drawing. Filed Feb. 18, 1965, Ser. No. 433,785  
Claims priority, application Great Britain, Feb. 28, 1964, 8,355/64

3 Claims. (Cl. 260—79.5)

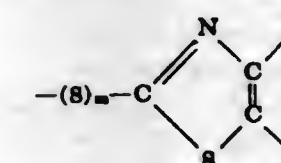
Thiomorpholino-carbodithioic acid derivatives having the formula:



where Q represents a salt-forming atom or group and x is an integer determined by the valence of Q; the group:



where n is 0 or 1 and x is 1; or the group:



where m is 0 or 1, x is 1, Y and Z are each a substituent atom or group, or where Y and Z together with the carbon atoms to which they are shown linked form an aromatic ring; and where the thiomorpholine ring or rings can optionally contain one or more substituents accelerate the vulcanization of rubber.



3,382,219

**INHIBITING PRE-VULCANIZATION OF RUBBER WITH THIOAMINES OF PHENYLENEDIAMINE OR DIHYDROQUINOLINE**

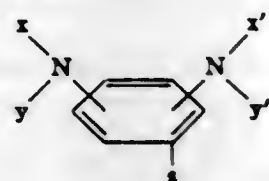
Chester D. Trivette, Jr., St. Albans, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 10, 1966, Ser. No. 519,408

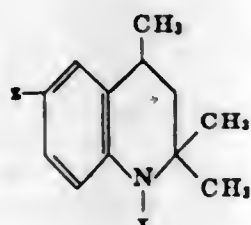
7 Claims. (Cl. 260—79.5)

1. The method of inhibiting premature vulcanization of a vulcanizable diene rubber containing a vulcanizing agent and an organic vulcanization accelerating agent which comprises

incorporating therein in an amount effective to inhibit premature vulcanization phenylene diamine or dihydroquinoline compounds, respectively of the formula



or



wherein

$x$  and  $x'$ , at least one of which contains sulfur in the phenylene diamine compound and  $x$  contains sulfur in the dihydroquinoline compound, are arylthio, alkyl-, chloro- and nitro-substituted arylthio cycloalkylthio, alkylthio, aralkylthio, hydrogen, alicyclic, or alkyl;

$x$  and  $y$  in the phenylene diamine compound taken together are morpholino or 2,6-dialkylmorpholino;

$y$  and  $y'$  in the phenylene diamine compound are hydrogen, aryl, alkyl-, chloro- and nitro-substituted aryl, aralkyl, alkyl, alicyclic, pyridin-3-yl, or alkoxy-aryl; and

$z$  is hydrogen, halogen, alkoxy, aryloxy, aralkoxy, alkyl, aralkyl, aryl, alkyl-, chloro- and nitro-substituted aryl, or alicyclic.

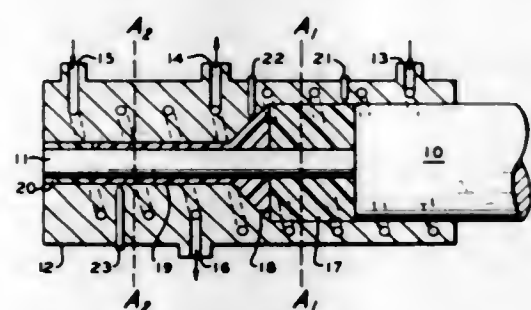
3,382,220

**TRANSPARENT LINEAR POLYMERS**

Mark M. Bowman, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 3, 1964, Ser. No. 341,903

5 Claims. (Cl. 260—88.2)



Oriented, transparent, self-supporting tubing is produced by extruding a linear polymer at about the atmospheric crystalline melt point of the polymer.

3,382,221

**THERMOSET RESINS CONTAINING THE s-TRIAZINE RING**

John Christos Petropoulos, Norwalk, and John Kinsey Gillham, Stamford, Conn., assignors to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware

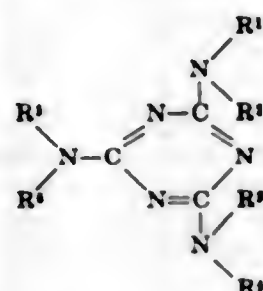
Continuation-in-part of application Ser. No. 183,261,

Mar. 28, 1962, which is a continuation-in-part of application Ser. No. 103,967, Apr. 19, 1961. This application June 17, 1964, Ser. No. 376,310

18 Claims. (Cl. 260—88.3)

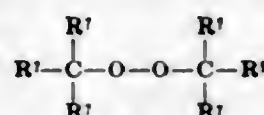
This invention relates to a novel process for the polymerization of a group of compounds having the formula

(I)

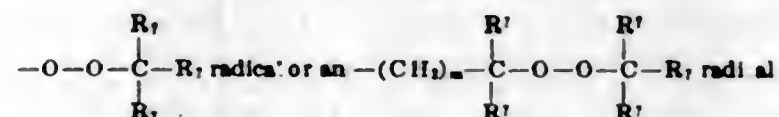


wherein  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$  and  $R^6$  individually represent an alkyl radical having from 1 to 10 carbon atoms, inclusive, an aryl radical having from 6 to 10 carbon atoms, inclusive, an alkene radical having from 2 to 4 carbon atoms, inclusive, an aralkyl radical, an alkaryl radical or a cycloalkyl radical, not more than one of the pairs of radicals  $R^1$  and  $R^2$ ,  $R^3$  and  $R^4$ , and  $R^5$  and  $R^6$ , together with the non-ring nitrogen atom, represent a 6 to 9 membered alkyenimino radical and wherein at least four of the  $R^1$  to  $R^6$  groups are allyl radicals, comprising heating said compound to a temperature of between 70° C. and 350° C. in the presence of a catalyst having the formula

(II)



wherein each  $R^7$  is the same or a different alkyl radical having 1 to 4 carbon atoms, inclusive, and  $R^8$  is an alkyl radical having 1 to 4 carbon atoms, inclusive, an



wherein  $m$  is a whole positive integer of from 1 to 4, inclusive, and  $R^7$  is as defined above for general Formula II.

3,382,222

**FLUORINATED ALLYL ETHERS AND USE THEREOF**

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Feb. 18, 1965, Ser. No. 433,818

12 Claims. (Cl. 260—91.1)

Allyl ethers which contain a fluorine group on the alpha carbon atom of the alcohol moiety are prepared by reacting a ketone with an alkali metal fluoride, and then reacting the resulting fluorocarbon intermediate with an allyl halide. The allyl ethers are useful, in monomeric and especially polymeric form, for imparting water- and oil-repellency to textiles and other fibrous materials.

MAY 7, 1968

3,382,223

**PROCESS FOR THE PRODUCTION OF VINYL-CHLORIDE POLYMERS BY LOW-TEMPERATURE POLYMERIZATION**

Giancarlo Borsini, Milan, Carlo Nicora, Varese, and Lorenzo Ratti, Chavenna, Sondrio, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Continuation-in-part of application Ser. No. 444,811, Apr. 1, 1965. This application Mar. 11, 1966, Ser. No. 533,403

Claims priority, application Italy, Mar. 17, 1965, 5,811/65

8 Claims. (Cl. 260—92.8)

A process for the production of vinylchloride polymers and copolymers by the polymerization at a temperature between substantially 0° C. and -60° C. of a monomeric component containing at least 75% vinylchloride in the presence of a redox-catalyst system consisting essentially of a tetraalkyl lead, a tetravalent-cerium salt and a solvent for said salt, in which the polymerization reaction is terminated at a predetermined degree of conversion of said monomeric component to polymer by introducing into the reaction mass between 0.001 and 5 parts by weight per 100 parts by weight of the monomeric component of at least one polymerization-stopping agent from the group of ascorbic acids, dihydroxy maleic acids, their anhydrides and the oxidation products of carbohydrates, such as glucose and the like, with hydrogen peroxide and ferrous salts.

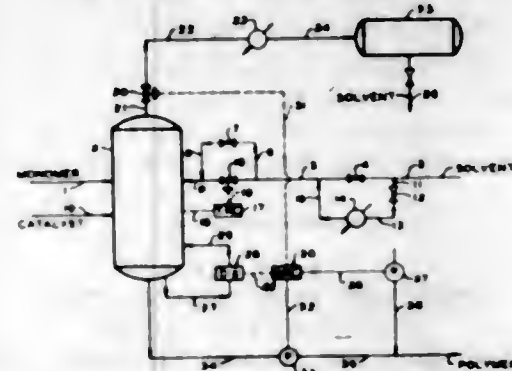
3,382,224

**PROCESS FOR POLYMERIZING A SYSTEM CONTAINING A LOW SOLVENT/MONOMER RATIO**

James Q. Wood, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 4, 1965, Ser. No. 423,222

6 Claims. (Cl. 260—94.2)



Polymerization method comprising providing in a reaction zone a mixture of solvent and monomer which polymerizes exothermically, the mixture being formed at a low solvent to monomer ratio and at a temperature below the upper cloud point temperature of the mixture, adding catalyst to the mixture, allowing the reaction mass to be heated by the exothermic polymerization reaction to a temperature below the upper cloud point temperature, adding additional solvent to maintain the temperature of the reaction mass below the upper cloud point temperature.

3,382,225

**PREVENTION OF COLD FLOW IN POLYBUTADIENE BY ADDING AN ORGANIC COMPOUND HAVING AT LEAST TWO HALOGEN ATOMS ATTACHED ONE CARBON ALPHA TO AN ETHER OXYGEN IN SAID COMPOUND**

Floyd E. Naylor, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 2, 1964, Ser. No. 408,413

5 Claims. (Cl. 260—94.3)

Polymers of butadiene, having a high percentage of cis-1,4 addition and a reduced tendency to cold flow in the unvulcanized state, are made by contacting 1,3-buta-

diene with a catalyst formed by mixing at least one organometal compound and a component containing titanium and iodine and at the conclusion of the polymerization, adding an organic compound having at least two halogen atoms that are attached to at least one carbon atom alpha to an ether oxygen in said compound.

3,382,226

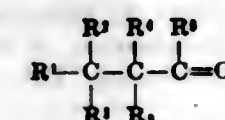
**PROCESS FOR THE PREPARATION OF KETONES AND ALDEHYDES**

Phillip S. Landis, Woodbury, N.J., assignor to Mobil Oil Corporation, a corporation of New York

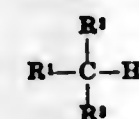
No Drawing. Filed Mar. 17, 1965, Ser. No. 440,618

24 Claims. (Cl. 260—94.9)

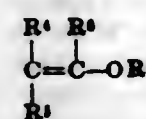
1. A process for preparing a compound having the generic structural formula



in which  $R^1$ ,  $R^2$  and  $R^3$  are the same or different and selected from the group consisting of hydrogen, halogen, cyano, carboxyl and hydrocarbyl; in which  $R^4$ ,  $R^5$  and  $R^6$  are the same or different and selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, alkaryl and aralkyl; in which  $R^1$ , when  $R^1$  and  $R^2$  are hydrocarbyl, can be directly attached to  $R^2$  in a cyclic configuration; and in which  $R^4$ , when  $R^4$  and  $R^5$  are other than hydrogen, can be directly attached to  $R^5$  in a cyclic configuration; which process comprises reacting an organic compound having the structural formula



in which  $R^1$ ,  $R^2$  and  $R^3$  have the aforescribed significance, with a vinyl ether having the structural formula



in which  $R^4$ ,  $R^5$  and  $R^6$  have the aforescribed significance and in which  $R^7$  is selected from the group consisting of alkyl, alkenyl, aryl, alkaryl and aralkyl, under free radical initiating conditions sufficient to break the  $R^7$ -oxygen bond in said vinyl ether.

3,382,227

**BLOOD PROTEIN FRACTIONATION EMPLOYING 2-ETHOXY-6,9-DIAMINO-ACRIDINE-LACTATE**

Elvin D. West, Frairiston, Ind., and Milton J. West, St. Anne, Ill., assignors to Pentex Incorporated, Kankakee, Ill., a corporation of Illinois

No Drawing. Continuation-in-part of application Ser. No. 282,207, May 22, 1963. This application Jan. 30, 1967, Ser. No. 612,326

13 Claims. (Cl. 260—112)

A method of fractionating animal blood serum in which the serum is cooled and the pH is adjusted to approximately 7.9. The beta and gamma globulins are precipitated with alcohol. The precipitates are dissolved in a salt solution, and an acridine derivative precipitates all fractions in the salt solution except gamma globulin. The gamma globulin solution is cooled, and alcohol precipitates the gamma globulin to recover the gamma globulin. The precipitates with the beta globulin are dissolved in a second saline solution and the acridine derivative is removed. The beta globulin solution is cooled and alcohol precipitates the beta globulin to recover the beta globulin.



3,382,228

**PROCESS FOR PREPARING AZOMALONANILIDE PIGMENTS**

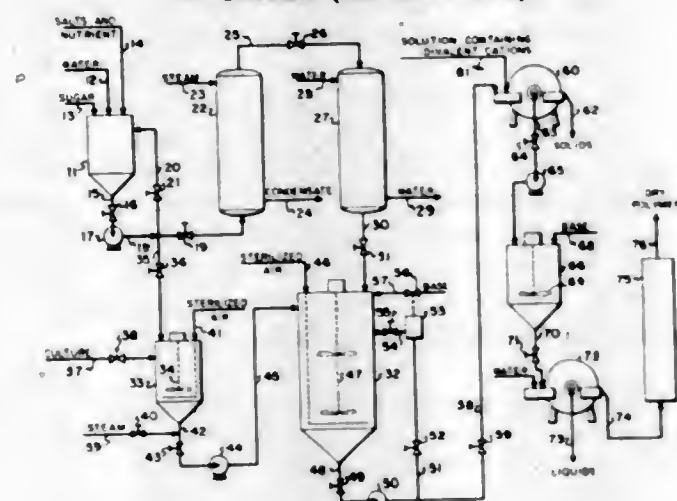
John E. Ferrari, Scarsdale, and Arthur P. Kurtz, Staten Island, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio  
No Drawing. Filed May 3, 1965, Ser. No. 452,863  
6 Claims. (Cl. 260—158)

Preparation of azomalonanilide pigments by coupling a diazonium salt with a malonanilide derivative in an organic solvent containing a substantial amount of an acid having a pKa value less than about 5. The organic solvent is inert towards the reactants and has substantial solvent action on them under the reaction conditions.

3,382,229

**POLYSACCHARIDE RECOVERY PROCESS**

John T. Patton and Willis E. Holman, Tulsa, Okla., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware  
Filed Apr. 11, 1963, Ser. No. 272,342  
12 Claims. (Cl. 260—209)



1. A process for precipitating a heteropolysaccharide produced by the action of bacteria of the genus Xanthomonas on a carbohydrate from an aqueous solution containing said heteropolysaccharide bacteria and other insoluble material which comprises

- adding a water-soluble salt yielding polyvalent cations to said aqueous solution, said salt being added in concentration sufficient to precipitate the heteropolysaccharide on raising the pH of said solution to an alkaline value in excess of about 8.5,
- removing said insoluble materials from said solution,
- and thereafter adding an alkaline agent to said solution in a concentration sufficient to raise the pH to said alkaline value and precipitate said heteropolysaccharide.

3,382,230

**OXYGENATED DERIVATIVES OF METHYL 6-AMINO-6,8-DIDEOXY-1-THIO-D-ERYTHRO- $\alpha$ -D-GALACTO-OCTOPYRANOSIDE AND ETHYL 6-AMINO-6,8-DIDEOXY-1-THIO-D-ERYTHRO- $\alpha$ -D-GALACTO-OCTOPYRANOSIDE AND PROCESS FOR PRODUCING THE SAME**

Barney J. Magerlein, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware  
No Drawing. Filed July 8, 1966, Ser. No. 563,720  
20 Claims. (Cl. 260—210)

Oxygenated derivatives of methyl 6-amino-6,8-dideoxy-1-thio-D-erythro- $\alpha$ -D-galacto-octopyranoside and ethyl 6-amino-6,8-dideoxy-1-thio-D-erythro- $\alpha$ -D-galacto-octopyranoside and processes for producing the same. These compounds are useful as intermediates to make antibacterially-active compounds.

3,382,231

**METHOD OF EXTRACTING NUCLEOTIDES, NUCLEOSIDES AND THEIR BASE COMPONENTS FROM AQUEOUS SOLUTIONS**

Tsunao Hirahara, Tokyo, and Takeshi Tsukada, Yoshikazu Suzuki, and Tadashi Nakamura, Kanagawa-ken, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan  
No Drawing. Continuation-in-part of application Ser. No. 512,541, Dec. 8, 1965. This application Feb. 18, 1966, Ser. No. 528,405

Claims priority, application Japan, Dec. 9, 1964, 39/69,316; Mar. 6, 1965, 40/13,010; July 13, 1965, 40/42,164

10 Claims. (Cl. 260—211.5)

All naturally occurring purine ribonucleosides, purine ribonucleotides, the desoxyribose analogs thereof, derivatives and other analogs thereof not occurring in nature, and all purine and pyrimidine bases can be extracted from their aqueous solutions by a separate organic phase consisting of tertiary phosphates of alkanols having 2 to 5 carbon atoms or solutions of such phosphates in organic solvents insoluble in the aqueous phase, and can thus be separated from accompanying materials insoluble in the organic phase. The extraction yield is affected by the pH of the aqueous system.

3,382,232

**METHOD FOR THE PRODUCTION OF 5'-RIBONUCLEOTIDE**

Mikio Honjo and Kin-ichi Imai, Takatsuki, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan  
No Drawing. Filed Aug. 24, 1966, Ser. No. 574,530  
Claims priority, application Japan, Aug. 26, 1965, 40/52,274; Aug. 27, 1965, 40/52,427

17 Claims. (Cl. 260—211.5)

Only the hydroxy group at the 5'-position of a ribonucleoside, which is to be converted into the corresponding nucleotide, is selectively phosphorylated—and that without having to protect the 2'- and 3'-OH groups prior to the phosphorylation—by reacting the ribonucleoside with a phosphorylating agent in the presence of an ester of an organic carboxylic acid having 2 to 7 carbon atoms and/or of a nitrohydrocarbon having 1 to 7 carbon atoms, followed by subjecting the resultant product to hydrolysis.

3,382,233

**PROCESS FOR PRODUCING 5'-GUANYLIC ACID**

Hirotoichi Samejima and Hiroshi Teranishi, Machida-shi, and Minoru Ito, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan  
Continuation-in-part of application Ser. No. 456,961, May 19, 1965. This application Nov. 8, 1966, Ser. No. 592,847

Claims priority, application Japan, May 19, 1964, 39/27,828

6 Claims. (Cl. 260—211.5)

1. A process for producing 5'-guanylic acid which comprises heating a solution containing guanosine polyphosphates at a temperature of from 80° to 130° C., said solution having a pH of from 11 to 14.

3,382,234

**PERFLUORO ALDEHYDE TREATMENT OF CELLULOSIC MATERIALS**

Robert D. Englert, Sierra Madre, Ronald Swidler, Pasadena, Lester P. Berriman, Arcadia, and Robert H. Wade, Altadena, Calif., assignors, by mesne assignments, to Koratron Company, Inc., a corporation of California  
No Drawing. Filed Feb. 15, 1965, Ser. No. 432,840

9 Claims. (Cl. 260—212)

The treatment of naturally occurring organic materials having accessible hydroxyl groups with perfluoro alkanals to produce stable acetals. Fabrics treated by

the process are rendered water repellant without undergoing a substantial decrease in the permeability of the fabrics to water vapor.

3,382,235

**CONCENTRATING VISCOUS SOLUTIONS OF MACROMOLECULAR SUBSTANCES**

Heinrich V. Lillia, Neu-Isenburg, Germany, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Filed May 27, 1965, Ser. No. 459,183

1 Claim. (Cl. 260—230)

Solutions of polymers in volatile solvents are concentrated by bringing the solution in contact with a porous wall and withdrawing a portion of the volatile solvent through the porous wall.

3,382,236

**OXYPROPYLATED SUCROSE PHOSPHITES**

Alvin Gutttag, Bethesda, Md., assignor to Weston Chemical Corporation, Newark, N.J., a corporation of New Jersey  
No Drawing. Filed July 23, 1965, Ser. No. 474,459

13 Claims. (Cl. 260—234)

Poly hydrocarbyl (or poly haloaryl) sugar-lower alkylene oxide adduct polyphosphites having two hydrocarbyl or haloaryl groups per phosphorus atom and having a phosphorus atom replacing each hydroxy hydrogen atom of the sugar-alkylene oxide adduct are prepared by reacting a sugar-lower alkylene oxide adduct with at least one mol of a trihydrocarbyl or trihaloaryl phosphite. The products are useful as stabilizers for polymers.

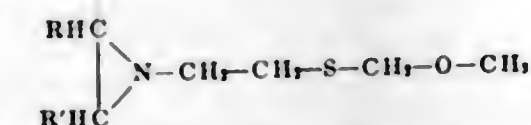
3,382,237

**AZIRIDINE DERIVATIVES**

Morris B. Berenbaum, Levittown, Pa., and Louis Citarel, Trenton, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
No Drawing. Original application Apr. 1, 1963, Ser. No. 269,787. Divided and this application Jan. 27, 1967, Ser. No. 623,790

2 Claims. (Cl. 260—239)

Compounds of the formula:



where R and R' are hydrogen or lower alkyl, are prepared by reacting an aziridine with methoxymethyl vinyl sulfide. The compounds react with carboxylic acids to yield intermediates for making polymers.

3,382,238

**PENICILLIN AND CEPHALOSPORIN DERIVATIVES**

Joseph E. Dolfini, North Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Apr. 27, 1967, Ser. No. 634,115

11 Claims. (Cl. 260—239.1)

This invention relates to novel therapeutic agents related to penicillin and cephalosporin C. The compounds of this invention contain the penicillin and cephalosporin C chemical structure substituted at the 6- or 7-position, respectively with substituted alkyl or aryl sulfinylaryl radicals.

These compounds possess a high degree of antibacterial activity against a large number of microorganisms. In addition, the compounds of this invention are useful as animal feed supplements and as the active ingredient in germicidal preparations employed to disinfect walls, tables, and the like.

3,382,239

**PROCESS FOR THE PREPARATION OF LACTONES**

Derek Harold Richard Barton, Northwood, England, assignor to Research Institute for Medicine and Chemistry, Inc., Cambridge, Mass., a corporation of Massachusetts  
No Drawing. Filed June 26, 1964, Ser. No. 378,441  
Claims priority, application Great Britain, July 3, 1963, 26,391/63

14 Claims. (Cl. 260—239.57)

Lactones are prepared from N-bromo, chloro or iodo carboxylic primary or secondary amides, which have a carbon-attached hydrogen atom conformationally adjacent to the nitrogen atom of the N-halogeno-amide group, by homolytic fission of the nitrogen-halogen bond. Homolytic fission may be effected by illumination with radiation absorbed by the nitrogen-halogen bond and lactone formation may occur spontaneously. If it does not, the intermediate product is subjected to hydrolysis to form the lactone ring.

3,382,240

**PROCESS FOR PREPARING PYRIDINE DERIVATIVES**

Issel Iwai, Eijiro Ohki, and Tetsuo Miyadera, Tokyo, Japan, assignors to Sankyo Company, Limited, Tokyo, Japan  
No Drawing. Filed Mar. 15, 1965, Ser. No. 439,992  
Claims priority, application Japan, Mar. 20, 1964, 39/15,286

3 Claims. (Cl. 260—240)

Process for the preparation of 4-phenyl-1-( $\alpha$ -pyridyl)-1,3-butadiene derivatives. According to the process, quinazolizinium halogenide is reacted with a Grignard reagent or an organo lithium compound. 4-phenyl-1-( $\alpha$ -pyridyl)-1,3-butadiene derivatives are useful as ultraviolet absorbers. 4-phenylethynyl-1-( $\alpha$ -pyridyl)-1,3-butadiene and 6-phenyl-1-( $\alpha$ -pyridyl)-1,3,5-hexatriene are specifically claimed as new compounds.

3,382,241

**CERTAIN ORALLY ACTIVE CEPHALOSPORIN ANTIBIOTICS**

Edwin H. Flynn, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana  
No Drawing. Continuation-in-part of application Ser. No. 610,002, Jan. 18, 1967. This application Feb. 27, 1967, Ser. No. 618,989

6 Claims. (Cl. 260—243)

7-[2' - [4'' - (aminoalkyl)phenyl]acetamido]cephalosporanic and desacetoxyccephalosporanic acid compounds useful for combating microbial infections, and of special interest for their activity as antibiotics when taken orally.

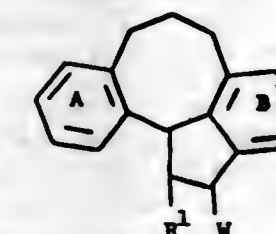
3,382,242

**DIBENZOCYCLOOCTENES**

Albert J. Frey, Essex Fells, and Eugene E. Galantay, Morristown, N.J., assignors to Sandoz Inc., Hanover, N.J.  
No Drawing. Continuation-in-part of application Ser. No. 378,931, June 29, 1964. This application Apr. 8, 1966, Ser. No. 541,104

10 Claims. (Cl. 260—247)

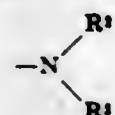
1. A compound selected from the group consisting of compounds of the formula





and the non-toxic pharmaceutically acceptable acid addition salts thereof, wherein

R<sup>1</sup> represents hydrogen or lower alkyl;  
W represents



piperidino, morpholino, 4-methylpiperazino, 4-ethylpiperazino or 4-(β-hydroxyethyl)piperazino;

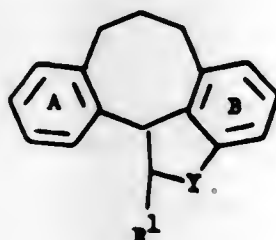
R<sup>2</sup> and R<sup>3</sup>, independently, represent hydrogen, lower alkyl, allyl, methyl, propargyl, β-hydroxyethyl, benzyl, p-chlorobenzyl, p-methoxybenzyl, 3,4-methylenedioxybenzyl, phenethyl, p-chlorophenethyl, p-methoxyphenethyl, 3,4-dimethoxyphenethyl, β-diethylaminoethyl, 1-methylphenethyl, 1-hydroxy-2-butyl or 3-[4-(β-hydroxyethyl)piperazino]propyl;

Ring A is unsubstituted or substituted in at least one of the positions 9, 10 and 11 with at least one substituent of the group chloro, fluoro, lower alkoxy and trifluoromethyl, provided that no two trifluoromethyl groups are ortho to each other; and

Ring B is unsubstituted or substituted in at least one of the positions 3, 4 and 5 with at least one substituent of the group chloro, fluoro, lower alkoxy and trifluoromethyl, provided that no two trifluoromethyl groups are ortho to each other.

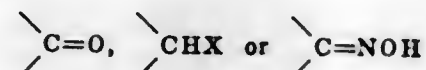
4. The compound of claim 1 which is 2-morpholino-1,2,6,7,8,12b-hexahydrocyclopenta[d,e]dibenzo[a,d]cyclooctene.

7. A compound of the formula



wherein

R<sup>1</sup> represents hydrogen or lower alkyl;  
Y represents



X represents hydroxy, chloro or bromo;

Ring A is unsubstituted or substituted in at least one of the positions 9, 10 and 11 with at least one and no more than two substituents of the group chloro, fluoro, lower alkoxy and trifluoromethyl, provided that no two trifluoromethyl groups are ortho to each other; and

Ring B is unsubstituted or substituted in at least one of the positions 3, 4 and 5 with at least one and no more than two substituents of the group chloro, fluoro, lower alkoxy and trifluoromethyl, provided that no two trifluoromethyl groups are ortho to each other.

### 3,382,243

**ACETAMIDES AND THEIR PREPARATION**  
Stanley C. Bell, Philadelphia, Ronald J. McCaully, Malvern, and Scott J. Childress, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed May 17, 1965, Ser. No. 456,533  
22 Claims. (Cl. 260-247.1)

The invention involves the preparation of N-substituted acetamido compounds and their reaction with compounds characterized as possessing an active hydrogen atom and

a nucleophile group wherein the nucleophile attaches to the alpha-carbon of the acetyl nucleus. The compounds produced have been found to possess at least a central nervous system depressant action, thus making them useful in the field of pharmacology.

### 3,382,244

#### PHENOLIC COMPLEXES

Wilhelm E. Wallis, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 40,536, July 5, 1960. This application Aug. 25, 1964, Ser. No. 392,015

8 Claims. (Cl. 260-247.2)

1. A complex of morpholin-3-one with phenol.  
3. A complex of polymeric 4-vinylmorpholin-3-one and phenol.

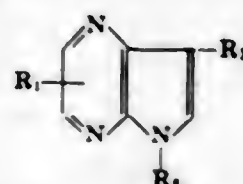
### 3,382,245

#### DIAZAINDOLE COMPOUNDS AND PROCESS FOR THEIR PRODUCTION

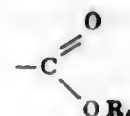
Holger Victor Hansen, Morris Plains, Sylvester Klutchno, Parsippany, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware  
No Drawing. Filed June 29, 1964, Ser. No. 378,978

32 Claims. (Cl. 260-250)

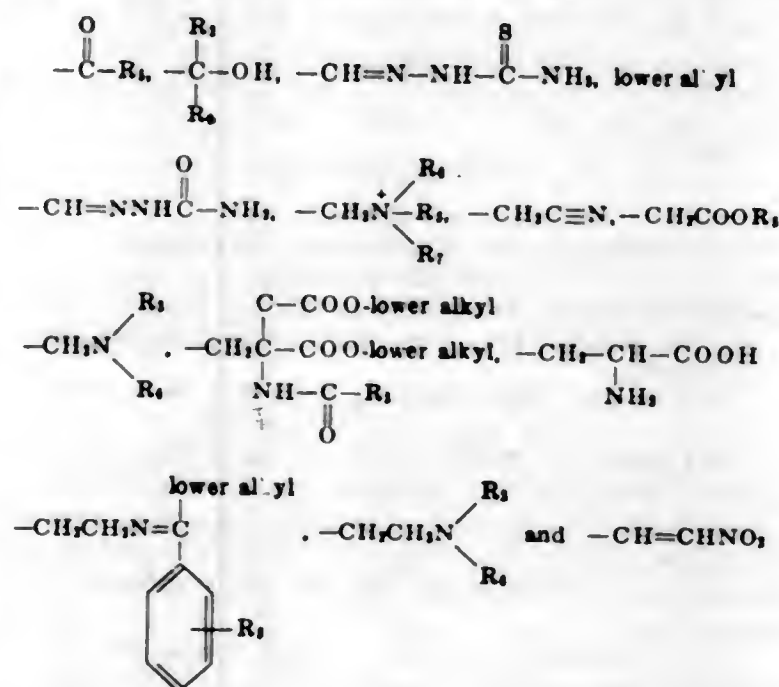
1. A compound selected from the group consisting of the free base of the formula:



wherein R<sub>1</sub> is a member of the group consisting of hydrogen and lower alkyl; R<sub>2</sub> is a member of the group consisting of hydrogen, lower alkyl, phenyl lower alkyl and lower alkanoyl; and R<sub>3</sub> is a member of the group consisting of



in which R<sub>4</sub> is a member of the group consisting of hydrogen, lower alkyl and phenyl lower alkyl;



in which R<sub>5</sub>, R<sub>6</sub> and R<sub>7</sub> is each a member of the group consisting of hydrogen and lower alkyl and the nontoxic pharmaceutically acceptable acid addition salts.

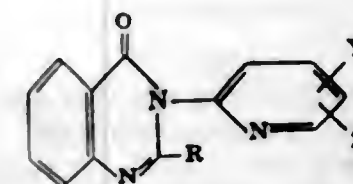
### 3,382,246

**CERTAIN 3-(2'-PYRIDYL)-4(3H)-QUINAZOLONES**  
Hans Suter, Hans Zetter, and René Bosshard, Schaffhausen, Switzerland, assignors to Eprova Limited, Schaffhausen, Switzerland

No Drawing. Filed Apr. 16, 1964, Ser. No. 360,447  
Claims priority, application Switzerland, Apr. 25, 1963, 5,222/63

8 Claims. (Cl. 260-256.4)

1. A derivative of 4(3H)-quinazolinone selected from the group consisting of compounds of the formula



wherein R is lower alkyl; Y is a member of the group consisting of lower alkyl, chlorine and bromine; and Z is a member of the group consisting of hydrogen, lower alkyl, chlorine, and bromine; and of addition salts of said compounds with physiologically tolerated acids.

### 3,382,247

#### 6-AMINO-1,2-DIHYDRO-1-HYDROXY-2-IMINO-4-PHENOXYPYRIMIDINES

William C. Anthony, Kalamazoo, and Joseph J. Ursprung, Portage, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware  
No Drawing. Filed Nov. 1, 1965, Ser. No. 505,989

5 Claims. (Cl. 260-256.4)

6-amino-1,2-dihydro-1-hydroxy-2-imino-4-phenoxypyrimidines and the corresponding acid addition salts are disclosed. These compounds are useful as antihypertensive agents, blood pressure lowering agents, and as agents for the treatment of shock.

### 3,382,248

#### 6-AMINO-4,5-DI(SUBSTITUTED AMINO)-1,2-DIHYDRO-1-HYDROXY-2-IMINOPYRIMIDINES

William C. Anthony, Kalamazoo, and Joseph J. Ursprung, Portage, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware  
No Drawing. Filed Nov. 1, 1965, Ser. No. 505,992

2 Claims. (Cl. 260-256.4)

6-amino-1,2-dihydro-1-hydroxy-2-iminopyrimidines, their carboxylated counterparts, and the corresponding acid addition salts thereof are disclosed. These compounds, useful inter alia as hypertensive agents, bear a substituent in both the 4- and the 5-positions which is a secondary or a tertiary amino moiety.

### 3,382,249

#### 1,2,3,4,5,6-HEXAHYDRO-3-(CYCLOALKYL-LOWER ALKYLENE-)-2,6-METHANO-3-NAPHTH[2,1-f]AZOCINES

Noel F. Albertson, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Oct. 20, 1964, Ser. No. 405,244

9 Claims. (Cl. 260-293)

1,2,3,4,5,6-hexahydro-3-(cycloalkyl-lower alkylene)-6-(R<sup>1</sup>)-13-(R<sup>2</sup>)-2,6-methano-3-naphth[2,1-f]azocines wherein R<sup>1</sup> is lower alkyl and R<sup>2</sup> is hydrogen and lower alkyl have pharmacodynamic activity and are useful as anti-convulsants and as analgesic antagonists. These compounds are prepared from the corresponding 3-(H-) secondary amines, the latter being obtained from dihydro- and tetrahydro-pyridine intermediates.

### 3,382,250

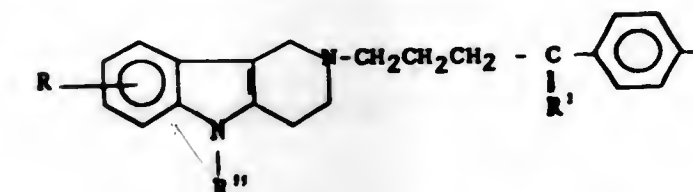
#### AROYLALKYL DERIVATIVES OF 1,2,3,4-TETRAHYDRO-5H-PYRIDO[4,3b]INDOLES

Robert Phillip Johnson and John Paul Oswald, Waukegan, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Dec. 7, 1966, Ser. No. 599,747

5 Claims. (Cl. 260-296)

1. A compound of the formula



wherein R is selected from the group consisting of chlorine, bromine, and trifluoromethyl, R' is oxygen, and R'' is selected from the group consisting of hydrogen and an acid-addition salt thereof.

### 3,382,251

#### BENZYLIDENIC DERIVATIVES OF SUBSTITUTED γ-LACTONES AND THEIR PROCESS OF PREPARATION

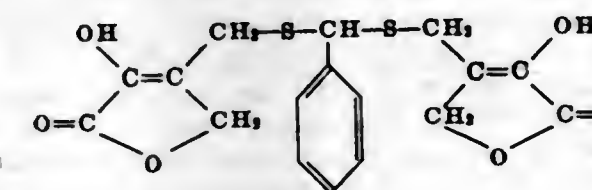
Gaston Amlard, Thorigny-sur-Marne, and René Heymes, Romainville, France, assignors to Roussel-UCLAF, S.A., Paris, France

No Drawing. Continuation-in-part of application Ser. No. 295,815, July 17, 1963. This application Sept. 8, 1965, Ser. No. 485,952

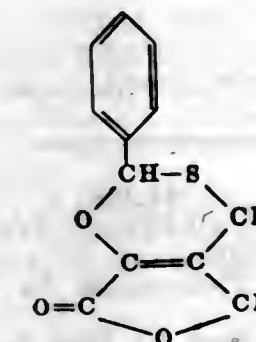
Claims priority, application France, Aug. 7, 1962, 906,330

4 Claims. (Cl. 260-327)

This invention relates to new benzylidenic derivatives of substituted γ-lactones, their process of preparation and intermediates. In particular it relates to benzylidenic derivatives of the 1,4-lactone of 2,4-dihydroxy-3-thiolmethyl-2-butenic acid, which can also be designated as the benzylidenic derivatives of the enol form of β-thiolmethyl-α-keto-γ-butyro-lactone, of the formula selected from the group consisting of



and



their esters and ethers, intermediates and process of preparation. These benzylidenic derivatives are active in the inhibition and prevention of growth of diverse microorganisms, especially bacteria and fungi.

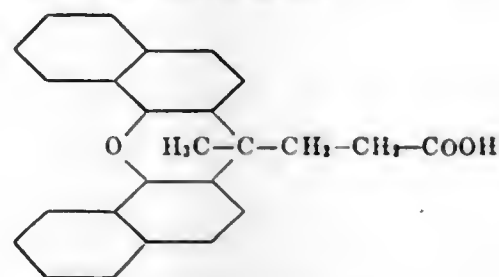


**3,382,252**  
**9-METHYL-3,4,5,6-DIBENZOXANTHENE-9-PROPIONIC ACID**

E. Holmen Reynold, White Bear Township, Ramsey County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Apr. 20, 1955, Ser. No. 502,742  
 1 Claim. (Cl. 260—335)

1. The compound 9-methyl-3,4,5,6-dibenzoxanthene-9-propionic acid having the structure



**3,382,253**  
**17α-OXYGENATED-B-NORPREGN-4-ENE-3,20-DIONES**

Kenneth G. Holden, Stratford, N.J., and James F. Kerwin, Broomall, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 19, 1964, Ser. No. 404,937  
 6 Claims. (Cl. 260—340.5)

Cyclic ketals of 16α,17α-dihydroxy-B-norpregn-4-ene-3,20-diones and 17α-acetoxy-B-norpregn-4-ene-3,20-dione are prepared by ring-contraction of the corresponding 3-acetoxypregn-5-ene-3,20-diones. The products are hydrolyzed to the alcohols and possess progestational activity.

**3,382,254**  
**METHOD OF MAKING TETRABROMOPHTHALIC ACID ANHYDRIDE**

Herbert Jenkner, Cologne-Deutz, Otto Rabe, Cologne-Hohenberg, and Robert Strang, Cologne-Buchheim, Germany, assignors to Chemische Fabrik Kalk G.m.b.H., Cologne-Kalk, Germany

No Drawing. Filed Apr. 22, 1966, Ser. No. 544,363  
 Claims priority, application Germany, May 6, 1965, C 35,778

2 Claims. (Cl. 260—346.3)  
 Method of producing tetrabromophthalic acid anhydride by reacting bromine with phthalic acid anhydride in a molar ratio of 2.01 to 2.1 in a reaction mixture containing a halogenation catalyst and 4.4 to 4.8 moles of SO<sub>2</sub> per mole of phthalic acid anhydride in the form of 50 to 80% oleum wherein at least the first 80% and preferably 85 to 90% of the total bromine is slowly added to the reaction mixture while it is maintained at a temperature of 80 to 90° C. and the remainder being added after the reaction mixture has been heated to 100 to 110° C., then heating the reaction mixture to 120 to 150° C. to distill off the excess SO<sub>2</sub> and bromine, cooling the distillation residue to room temperature and separating off the tetrabromophthalic acid anhydride which crystallized out.

**3,382,255**  
**EPOXIDIZED OLEFINIC POLYMERS**

R Winslow White, Willingboro, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 23, 1964, Ser. No. 398,785

5 Claims. (Cl. 260—348)  
 This invention is directed to specific epoxidized olefinic polymers that are prepared by the reaction of a polymer derived from an olefin containing 2 to 12 carbon atoms and a peracid. The epoxidized polymers are useful as surface impregnants for leather.

**3,382,256**  
**N,N'-ALKYLENEBIS(AZIDOACETAMIDES)**

Philip M. Carabateas, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 15, 1966, Ser. No. 572,220  
 3 Claims. (Cl. 260—349)

N,N'-alkylenebis(azidoacetamides) where alkylene has two to ten carbon atoms, having antitrichomonal activity, are prepared by reacting corresponding alkylenediamines with two molar equivalents of a lower-alkyl azidoacetate.

**3,382,257**  
**MERCAPTOSUCCINAMIC DERIVATIVES OF AMINOSTEROIDS**

Harvey E. Alburn, West Chester, Norman H. Grant, Wynnewood, and Donald E. Clark, Norristown, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 12, 1965, Ser. No. 471,402  
 4 Claims. (Cl. 260—397.1)

1. N - (17β-acetamido-5α-androstan-3α-yl)-3-mercaptosuccinamic acid.

**3,382,258**  
**4α,8,14-TRIMETHYL-18-NOR-5α,8α,14β-ANDROSTANE-3,11,17-TRIONE AND DERIVATIVES THEREOF**

Patrick A. Diassi, Westfield, and Gerald W. Krakower, Elizabeth, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 399,339, Sept. 25, 1964. This application Oct. 3, 1966, Ser. No. 583,955

4 Claims. (Cl. 260—397.3)  
 This invention relates to 4α,8,14-trimethyl-18-nor-5α,8α,14β-androstane-3,11,17-trione and derivatives thereof which are useful as protein anabolic agents.

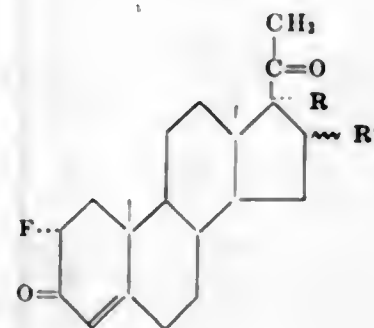
**3,382,259**  
**2α-FLUORO-Δ<sup>4</sup>-PREGNENES**

John Edwards and Howard J. Ringold, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Mar. 24, 1960, Ser. No. 17,244

Claims priority, application Mexico, June 1, 1959, 54,717  
 21 Claims. (Cl. 260—397.4)

1. A compound of the following formula



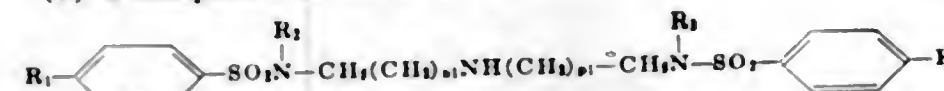
wherein R is selected from the group consisting of hydroxy and a hydrocarbon carboxylic acyloxy group containing from 1 to 12 carbon atoms; R' is selected from the group consisting of hydrogen, α-methyl and β-methyl.

**3,382,260**  
**NOVEL SULFONAMIDE COMPOUNDS AND PROCESSES**

Vsevolod Gruenman, Montclair, Max Hoffer, Nutley, Jay Philip O'Brien, Irvington, Albert Israel Rachlin, Verona, and Gerhard Zbinden, Essex Fells, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 19, 1965, Ser. No. 441,333  
 17 Claims. (Cl. 260—397.7)

1. A compound selected from the group consisting of (a) a compound of the formula



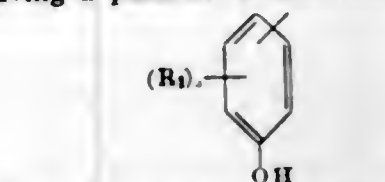
wherein R<sub>1</sub> and R<sub>4</sub> are selected from the group consisting of hydrogen, lower alkyl, chlorine, bromine, and amino; R<sub>2</sub> is selected from the group consisting of hydrogen and lower alkyl; and n<sub>1</sub> and p<sub>1</sub> are each a whole number from 2 to 3, inclusive, and (b) an acid addition salt of a compound of Formula XIII with a pharmaceutically acceptable acid.

**3,382,261**  
**PHENOLIC POLYAMINO-AMIDES CAPABLE OF CURING EPOXY RESINS**

John B. Kittredge, White Bear Lake, Minn., and Albert L. Mitchell, Middletown, N.J., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 176,428, Feb. 28, 1962. This application Jan. 3, 1966, Ser. No. 518,003  
 9 Claims. (Cl. 260—404.5)

1. As a composition capable of crosslinking epoxy resins, a phenolic polyamine having the formula



where x is 2 to about 15 and R<sub>1</sub> is a straight chain aliphatic hydrocarbon radical having at least two carbon atoms and having a phenolic substituent of the formula

**3,382,262**  
**PROCESS FOR NEUTRALIZING FREE FATTY ACIDS IN OILS**

John James Hepburn, Harpenden, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

Filed Feb. 25, 1965, Ser. No. 435,256  
 Claims priority, application Great Britain, Feb. 25, 1964, 7,832/64

4 Claims. (Cl. 260—425)  
 A process for neutralizing the free fatty acid in a fatty oil by the passage on a carrier surface of a film thereof through an aqueous alkaline bath and an apparatus therefor comprising a movable carrier having film-forming and film-removing means operative therewith.

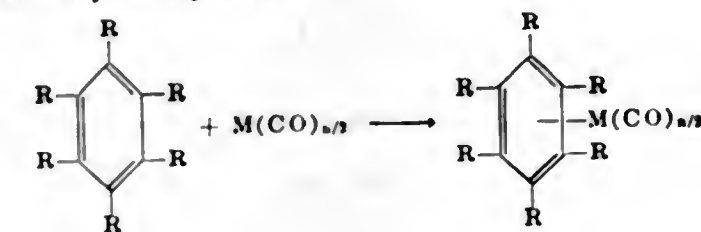
**3,382,263**  
**PROCESS FOR PRODUCING ARENE METAL CARBONYLS**

Roy L. Pruett, Charleston, John E. Wyman, St. Albans, W. Va., and Donald R. Rink and Leo Parts, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York

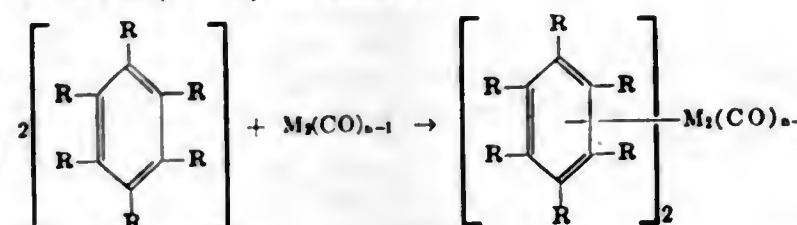
No Drawing. Filed Sept. 12, 1958, Ser. No. 760,576  
 5 Claims. (Cl. 260—429)

4. Process for the production of stable arene metal

carbonyls by the reaction of an arene organic compound with a transition metal carbonyl at a temperature between about 0° C. and about 300° C., which process is represented by the equation



if n is even, and by the equation



if n is odd, wherein:

- (1) M is a carbonyl-forming transition metal selected from metals of Groups VI-B, VII-B and VIII of the Periodic Table;
  - (2) each R group is selected from the class consisting of hydrogen, alkyl, aryl, aralkyl, alkaryl, alkenyl, alkoxy, aryloxy, alkhydroxy, hydroxyl, amino, N-alkyl amino, N,N-dialkylamino, halogeno, aldehyde, acyl, carboalkoxy, carboxamido and carboxyl;
  - (3) n is an integer defined by the relation  $n = G - A$ ;
  - (4) A is the atomic number of M;
  - (5) G is the atomic number of the next higher rare gas with respect to said metal M and
  - (6) in the reaction product, each metal atom is bonded to only one arene organic group;
- wherein said arene organic compound is in the liquid phase and the reaction mixture contains a catalyst selected from the group consisting of primary amines, secondary amines, tertiary amines, pyridine and alkyl-substituted pyridines.

**3,382,264**  
**ORGANOTIN METAL CARBOXYLATE ANTIMICROBIALS**

John R. Leebrick, Lyme, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 11, 1965, Ser. No. 431,996  
 3 Claims. (Cl. 260—432)

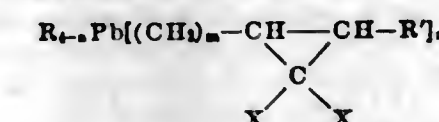
Novel organotin metal carboxylate antimicrobials prepared by esterifying an organotin carbinol and reacting the resulting organotin carboxylic acid with a carboxylate-forming cation-containing reagent.

**3,382,265**  
**ORGANO-1,1-DIHALOCYCLOPROPYL LEAD COMPOUNDS**

Hyman Shapiro and Russell L. Hudson, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,704  
 11 Claims. (Cl. 260—437)

Novel compounds of the formula



wherein R is an organic radical containing from 1 to about 5 carbon atoms, R' is hydrogen, a halogen or an organic radical containing from 1 to about 3 carbon atoms, X is a halogen, n is an integer from 1 to 4 and m is an integer



from 0 to 3 are disclosed, which can be used as anti-knock agents in gasolines.

3,382,266

**METAL CHELATES OF SUBSTITUTED BIS-THIOSEMICARBAZONES OF CYCLIC 1,2-DIKETONES**  
Kenneth Butler, Waterford, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 28, 1964, Ser. No. 407,212  
4 Claims. (Cl. 260-438.1)

Substituted bis-thiosemicarbazones of cyclic 1,2-diketones and metal chelates thereof effective in the control and treatment of coccidiosis.

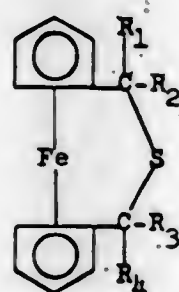
3,382,267

# FERROCENE CYCLIC THIOETHERS

John T. Suh, Mequon, Wis., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,878  
16 Claims. (Cl. 260-439)

1. A compound of the formula



wherein  $R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  are selected from hydrogen, alkyl, aryl, aralkyl, cycloalkyl and cycloalkyl-loweralkyl.

3,382,268

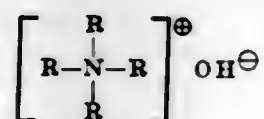
# PROCESS FOR PREPARATION OF METALLOCENES

Michael Calk, 21 Smolenskin St., Ahusa, Haifa, Israel

No Drawing. Continuation of application Ser. No. 314,855, Oct. 9, 1963. This application Apr. 11, 1967, Ser. No. 630,139

6 Claims. (Cl. 260-439)

1. In a process for the preparation of metallocenes wherein the reaction mixture contains a suspension of a compound of the metal to be combined with cyclopentadiene in an amine, the improvement which comprises catalyzing said reaction with a material taken from the class consisting of



wherein R is a radical taken from the class consisting of alkyl, aryl and aralkyl wherein the alkyl group has from 1 to 1 carbon atoms.

3,382,269

# ACTIVATION OF ALUMINUM IN PREPARATION OF ALUMINUM ALKYL

Billy J. Williams, Ponca City, Okla., and Paul A. Lobo, London, England, assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware  
No Drawing. Filed Dec. 30, 1964, Ser. No. 422,391  
12 Claims. (Cl. 260-448)

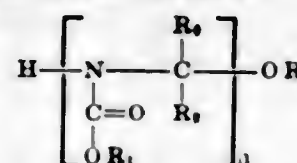
It is disclosed that aluminum to be utilized in preparation of aluminum alkyls can be activated by the presence of a halide of titanium, zirconium, niobium, vanadium, scandium, uranium or hafnium.

## 3,382,270 OLIGOMERS OF ALKYL AZIRIDINYL CARBOXYLATES

George E. Ham, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 20, 1963, Ser. No. 325,160  
14 Claims. (Cl. 260-471)

1. A compound of the formula:



wherein

- R contains from 1 to 10 carbon atoms and is selected from the group consisting of an alkyl group, a phenyl, o-methylphenyl, m-methylphenyl or p-methylphenyl group and an acyl group derived from an alkyl or an aryl carboxylic acid;
- each  $R_2$  is selected from the group consisting of a hydrogen atom and a lower alkyl group of from 1 to 4 carbon atoms;
- each  $R_1$  is an alkyl group of from 1 to 4 carbon atoms; and
- $n$  is an integer from 2 to 6.

3,382,271

## CODISTILLATION OF AROMATIC DICARBOXYLIC ACIDS

Alfred J. McNerney, Wallingford, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Mar. 17, 1964, Ser. No. 352,680  
6 Claims. (Cl. 260-475)

Improved process of purifying and separating aromatic carboxylic acid esters comprising providing for the presence of a small amount of the aromatic carboxylic acid in addition to a relatively high boiling chlorinated aromatic solvent and distilling the mixture at lower, more advantageous, temperatures than is possible without the acid.

Examples of the materials involved are 2,6-dimethyl naphthalene dicarboxylate, 2,6-naphthalene dicarboxylic acid and chlorinated diphenyl.

3,382,272

## FATTY AMINES AS COLOR STABILIZERS FOR DIALKYL PHTHALATES

Clarence E. Tholstrup and Alan Bell, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 1, 1965, Ser. No. 429,606  
5 Claims. (Cl. 260-475)

A color-stable composition comprising a dialkyl ester of a phthalic acid containing a color stabilizing amount of a fatty amine having the formula



wherein  $x$  is an integer of 1 or 2 and  $R^1$  is an aliphatic group containing from 12-24 carbon atoms.

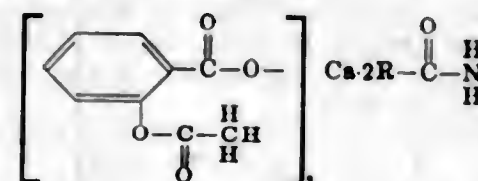
3,382,273

## STABLE, NEUTRAL, WATER-SOLUBLE DERIVATIVES OF ASPIRIN

Alexander Galat, 126 Buckingham Road, Yonkers, N.Y. 10701

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,897  
4 Claims. (Cl. 260-480)

1. Compounds of the formula



where R is a radical selected from the group consisting of the hydrogen radical and lower alkyl radicals.

3,382,274

## SYNTHESIS OF ESTERS

Donald M. Fenton, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,035  
5 Claims. (Cl. 260-484)

The invention comprises oxidation of alpha,beta-ethylenically unsaturated aldehydes to esters by contacting the aldehydes with a primary alcohol and a soluble mercuric salt. The resultant ester of a beta-alkoxy substituted carboxylic acid can then be pyrolyzed to prepare the ester of an unsaturated carboxylic acid, e.g., acrolein can be oxidized to an alkyl-beta-alkoxy propionate and then pyrolyzed to produce an alkyl acrylate. The mercuric salt is reduced to metallic mercury in the oxidation.

3,382,275

## DERIVATIVES OF GLYOXAL DITHIOSEMICARBAZONE

Paul Anthony Barrett, London, England, assignor to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

No Drawing. Filed Aug. 10, 1964, Ser. No. 388,717  
Claims priority, application Great Britain, Aug. 10, 1963, 31,673/63

10 Claims. (Cl. 260-488)

A compound selected from the class consisting of  $\alpha$ -acetoxyethyl-glyoxal dithiosemicarbazone, propionoxymethylglyoxal dithiosemicarbazone, propionoxymethylglyoxal di(4-methylthiosemicarbazone),  $\alpha$ -propionoxymethylglyoxal dithiosemicarbazone,  $\alpha$ -propionoxymethylglyoxal di(4-methylthiosemicarbazone), isobutyroxymethylglyoxal di(4-methylthiosemicarbazone),  $\alpha$ -isobutyroxymethylglyoxal dithiosemicarbazone, and  $\alpha$ -n-butyroxymethylglyoxal dithiosemicarbazone.

3,382,276

## MIXTURES OF OXYGENATED ACYCLIC TERPENES

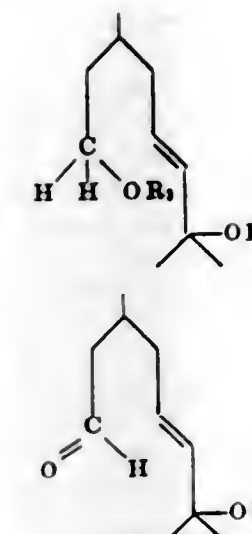
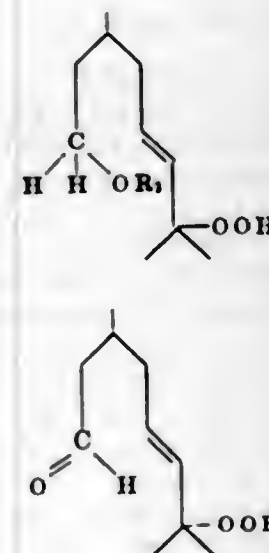
Günther Otto Schenck, Günther Ohloff, and Erich Klein, Mulheim (Ruhr), Germany, assignors to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 182,924, Mar. 27, 1962. This application Jan. 14, 1966, Ser. No. 520,642

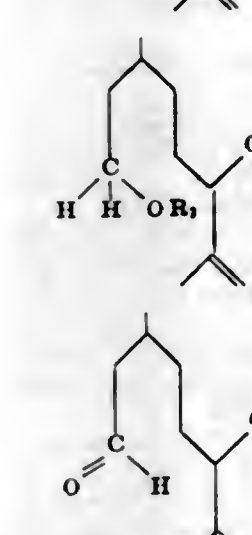
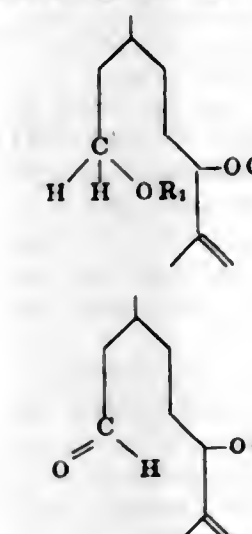
Claims priority, application Germany, Apr. 7, 1961, St 17,665

8 Claims. (Cl. 260-489)

1. A mixture of compounds comprising 60% of one member selected from the group consisting of compounds of the formula



and 40% of the corresponding isomeric member selected from the group consisting of compounds of the formula



wherein  $R_1$  is a member selected from the group consisting of hydrogen and acetyl.

3,382,277

## PROCESS FOR RECOVERING AN ALKALI METAL STYRENE SULFONATE FROM AN AQUEOUS MEDIUM

Rudolph Pick, Metuchen, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 14, 1965, Ser. No. 455,993  
7 Claims. (Cl. 260-505)

1. A method for recovering an alkali metal styrene sulfonate metal salt from an aqueous medium containing the same and water-soluble inorganic alkali metal halides comprising passing said aqueous medium into contact with a weakly basic anion-exchange resin to absorb said styrene sulfonate metal salt on said resin; and removing said styrene sulfonate metal salt from said resin on which it is absorbed by passing an aqueous desorbing medium selected from the group consisting of water and aqueous solutions of an alkali metal hydroxide into contact with



said resin; said resin being prepared by reacting at a temperature of from 140° C. to 250° C. (a) a cross-linked copolymer of 80-99% on a molar basis of an ester having the general formula  $\text{CH}_2=\text{CRCOOR}'$ , in which R is a member of the class consisting of a hydrogen atom and a methyl group and R' is a monovalent hydrocarbon radical containing 1-8 carbon atoms, and 1-20% on a molar basis of a copolymerizable material from the class consisting of divinylbenzene, trivinylbenzene, divinyltoluene, divinylethylbenzene, divinylxylene, divinyl-naphthalene and N,N'-methylene bisacrylamide, and (b) a polyamine which contains at least one primary amino group, said polyamine being present during the reaction in a ratio greater than one mole per mole of said ester and said copolymerizable compound in said copolymer.

## 3,382,278

**4-PROPIOLOYLPHENOXY-ALKANOIC ACIDS**  
Everett M. Schultz, Ambler, and Norman P. Gould, Landsdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey  
No Drawing. Filed Sept. 30, 1964, Ser. No. 400,577  
6 Claims. (Cl. 260-521)

4-propioloylphenoxy-alkanoic acid products which are substituted in the propioloyl group by a lower alkyl, mononuclear aryl or mononuclear aralkyl radical. The products are diuretics and saluretics which can be used in the treatment of hypertension and other conditions associated with edema.

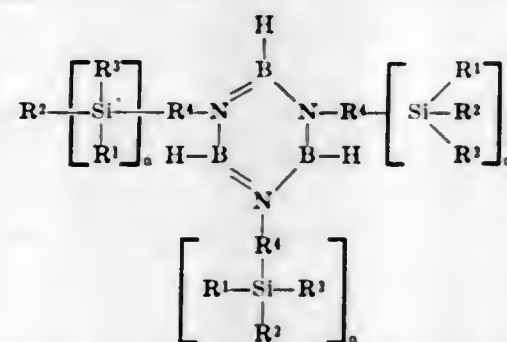
The method employed in preparing the instant products consists in oxidizing an appropriate 4-(1-hydroxy-2-propynyl)-phenoxy-alkanoic acid to its corresponding oxo analog. Suitable oxidizing agents which may be employed in the process include, for example, chromium trioxide in sulfuric acid, pyridine, methyl ethyl ketone or acetone, etc.

## 3,382,279

**PROCESS FOR THE PRODUCTION OF SILICON-CONTAINING N,N',N''-TRIORGANO-B-B'-B''-TRIHYDRIDO-BORAZOLES**  
Elmar-Manfred Horn, Aachen, and Hans Niederprum, Monheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Continuation of application Ser. No. 412,239, Nov. 18, 1964. This application Feb. 8, 1967, Ser. No. 614,754  
Claims priority, application Germany, Nov. 29, 1963, F 41,423

1 Claim. (Cl. 260-551)

A series of novel silicon-containing B,B',B''-trihydrido-N,N',N''-triorgano-borazoles is disclosed along with a method of preparing the same. The novel compounds have the formula



wherein R<sup>4</sup> is a straight chain alkylene radical having 3 to 7 carbon atoms, a 4-benzylene radical, a 3-thia-heptylene radical or a 3-oxahexylene radical, R<sup>1</sup> and R<sup>2</sup> and R<sup>3</sup> are each alkyl having 1 to 2 carbon atoms, alkoxy having 1 to 2 carbon atoms, phenyl, methylphenyl and hydrogen if n is 1 and wherein R<sup>4</sup> is a branched trifunctional alkylene chain, R<sup>1</sup> and R<sup>2</sup> are each hydrogen or methyl and R<sup>3</sup> is substituted by an oxygen linkage between the two Si atoms, if n is 2. The compounds are produced by reacting

an alkali metal borohydride, alkylene earth metal borohydride, boron trihalide, or a boron trihalide ether addition compound with a mononitrile at a temperature of from 0-100° C.

The compounds produced in accordance with the invention can be polymerized to form heat stable polymeric materials.

## 3,382,280

## 3',4'-DICHLOROPROPIONANILIDE

Clarence W. Huffman, Glenview, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Application May 8, 1961, Ser. No. 108,317, which is a continuation-in-part of abandoned application Ser. No. 661,575, May 27, 1957. Divided and this application Feb. 3, 1967, Ser. No. 613,738

1 Claim. (Cl. 260-562)

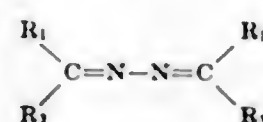
3',4'-dichloropropionanilide is a new compound which has outstanding herbicidal properties.

## 3,382,281

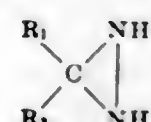
**PROCESS FOR THE PRODUCTION OF AZINES**  
Alfons Jankowski and Siegfried R. Paulsen, Essen-Kray, and Georg Huck, Dortmund-Eving, Germany, assignors to Bergwerksverband G.m.b.H., Essen, Germany  
No Drawing. Filed Aug. 6, 1964, Ser. No. 387,981  
Claims priority, application Germany, Jan. 18, 1964, B 75,054

9 Claims. (Cl. 260-566)

1. A process for the production of an azine of the formula:



wherein R<sub>1</sub> is selected from the group consisting of hydrogen and an alkyl group of up to 6 carbon atoms and R<sub>2</sub> is selected from the group consisting of an alkyl group of up to 6 carbon atoms and a phenyl group, or R<sub>1</sub> together with R<sub>2</sub> forms a ring with 4 to 5 methylene groups, said process comprising: treating at a temperature of 20-100° C. a diazacyclopropane of the formula:



wherein R<sub>1</sub> and R<sub>2</sub> are as defined above, in the presence of an acid which leads to a pH value of 0.5 to about 5.

## 3,382,282

## PROCESS FOR 2-LOWER ALKYL CYCLOPENTANE-1,3-DIONES

Victor J. Grenda, Edison, and Norman L. Wendler, Summit, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 16, 1964, Ser. No. 404,479

7 Claims. (Cl. 260-586)

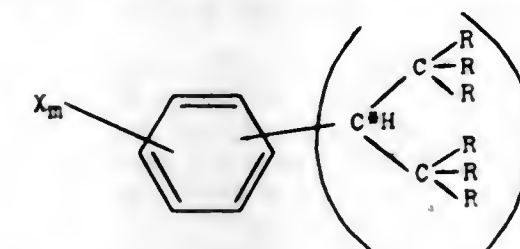
1. A process which comprises reacting succinic anhydride with an enol lower hydrocarbon alkanoate of a lower alkanone containing from four to eight carbon atoms in the presence of aluminum chloride at a temperature from about 30° C. to about 110° C. and quenching the reaction mixture with aqueous acid to produce a 2-lower alkyl substituted cyclopentane-1,3-dione.

3,382,283  
METHOD FOR ALKYLATING PHENOLIC COMPOUNDS

Claude Laurent Zundel, 12 Ave. de Bretteville, Neuilly-sur-Seine, France, and Lucien Choron, 14 Rue Rieux, Boulogne-sur-Seine, France  
No Drawing. Filed Oct. 5, 1964, Ser. No. 401,727  
Claims priority, application France, Oct. 22, 1963, 951,440; Italy, Feb. 1, 1964, 1,889/64, Patent 670,052

5 Claims. (Cl. 260-609)

A method for preparing alkylated aromatic phenolic-type compounds which comprises the steps of placing a mixture of (1) an aromatic phenolic-type compound and (2) a conventional alkylation catalyst in a reaction zone, heating said mixture in said zone to a temperature between about 50° C. and 150° C. under substantially atmospheric pressure, injecting into said heated mixture a liquid olefin having from two to seven carbon atoms and a boiling point at atmospheric pressure lower than the said temperature of said heated mixture, at a rate whereby said liquid olefin is practically instantaneously vaporized, maintaining said heated mixture substantially at said temperature and at substantially atmospheric pressure for a time sufficient to alkylate said aromatic phenolic-type compound, and recovering said alkylated aromatic phenolic-type compound.



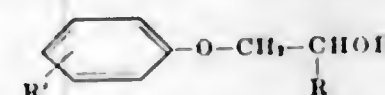
where C\* is the tertiary carbon atom to be oxidized, R at each occurrence is a member independently selected from the group consisting of hydrogen and alkyl groups of 1 to 5 carbon atoms, n is an integer of from 1 to 3, X is a member selected from the group consisting of alkyl, hydroxyalkyl, and halogen, and m is an integer of from 0 to 2 with the sum of m and n being no greater than 4 and all unspecified valences are satisfied with hydrogen, and an aqueous solution of tripotassium phosphate with a gas containing elemental oxygen at a temperature of at least about 80° C., there being employed at least about 0.05 mole of tripotassium phosphate per (mole of said organic compound/n).

## 3,382,284

## PREPARATION OF DIOLS

Helmut Schulze, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware  
No Drawing. Filed Aug. 31, 1964, Ser. No. 393,359  
4 Claims. (Cl. 260-613)

1. A method for obtaining a product containing an average of about two hydroxy groups per molecule which comprises reacting formaldehyde in the presence of an acid catalyst with an aryloxyalkanol of the formula:



wherein R is selected from the group consisting of hydrogen, methyl, ethyl and phenyl and R' is selected from the group consisting of hydrogen, methyl and ethyl, under reaction conditions including:

- a temperature within the range of about 40° to about 160° C.;
- an aryloxyalkanol to formaldehyde molar ratio of from about 2:1 to about 10:1;
- a catalyst to formaldehyde molar ratio of up to about 1:1.

## 3,382,285

## LIQUID NONIONIC POLYOXYALKYLENE SURFACE-ACTIVE MATERIALS

Richard R. Egan, Edina, and Leon D. Sniens, Minneapolis, Minn., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky  
No Drawing. Continuation-in-part of application Ser. No. 414,455, Nov. 27, 1964. This application Nov. 8, 1965, Ser. No. 506,900

3 Claims. (Cl. 260-615)

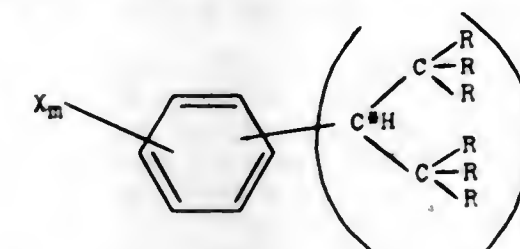
1. A liquid composition comprising a mixture of polyoxyalkylene compounds each having a heteric polyoxyalkylene chain of randomly distributed oxyethylene and oxypropylene groups attached to the residue of a straight-chain monohydroxy primary alcohol at the site of its reactive hydrogen atom, said chain having 12 to 20 oxyalkylene groups with the ratio of said oxyethylene to oxypropylene groups being 2 to 4.5, said alcohol having 12 to 20 carbon atoms per molecule and having a primary hydroxyl group as its only reactive substituent.

## 3,382,286

## PREPARATION OF AROMATIC TERTIARY ALCOHOLS BY OXIDATION

William D. Griffin, Morristown, N.J., Colin R. McArthur, Liverpool, N.Y., and Zalik Oser, Falls Church, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed Jan. 21, 1965, Ser. No. 427,092  
8 Claims. (Cl. 260-618)

1. A process of preparing a tertiary alcohol by oxidizing a tertiary carbon atom of an organic compound, said process comprising contacting a liquid reaction mixture containing an organic compound of the formula:



where C\* is the tertiary carbon atom to be oxidized, R at each occurrence is a member independently selected from the group consisting of hydrogen and alkyl groups of 1 to 5 carbon atoms, n is an integer of from 1 to 3, X is a member selected from the group consisting of alkyl, hydroxyalkyl, and halogen, and m is an integer of from 0 to 2 with the sum of m and n being no greater than 4 and all unspecified valences are satisfied with hydrogen, and an aqueous solution of tripotassium phosphate with a gas containing elemental oxygen at a temperature of at least about 80° C., there being employed at least about 0.05 mole of tripotassium phosphate per (mole of said organic compound/n).

## 3,382,287

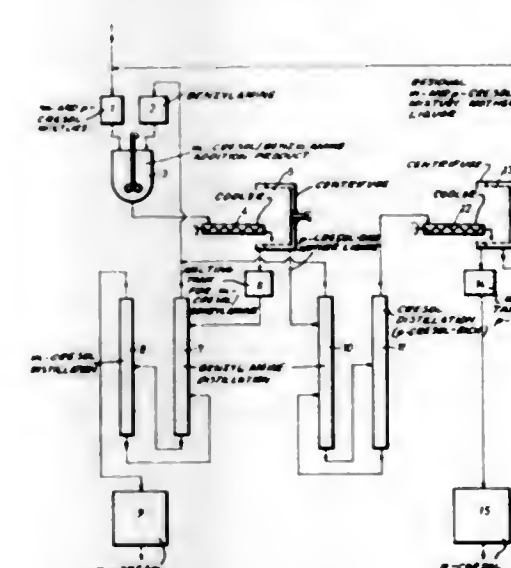
## PROCESS AND DEVICE FOR THE SEPARATION OF m- AND p-CRESOL

Jürgen Fleischer, Leverkusen-Schlebusch, and Erich Meier, Cologne-Deutz, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

Filed Mar. 3, 1965, Ser. No. 436,845

Claims priority, application Germany, Mar. 13, 1964, F 42,305

2 Claims. (Cl. 260-621)



1. Process for the continuous separation of the respective isomers from a mixture of m-cresol and p-cresol by crystallization, which comprises combining continuously with the isomer mixture an amount of benzylamine equivalent to the corresponding molecular compound



with the cresols, crystallizing from the reaction mixture obtained the resulting molecular compound m-cresol/benzylamine, subjecting the crystallized molecular compound m-cresol/benzylamine and the resulting mother liquor to separate azeotropic distillation and recovering separately the m-cresol from the benzylamine content of such molecular compound and the p-cresol from the mother liquor.

3,382,288

# ALKYLATION OF ADAMANTANE HYDROCARBONS

Abraham Schnelder, Overbrook Hills, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey  
No Drawing. Filed Feb. 2, 1967, Ser. No. 613,443  
17 Claims. (Cl. 260-666)

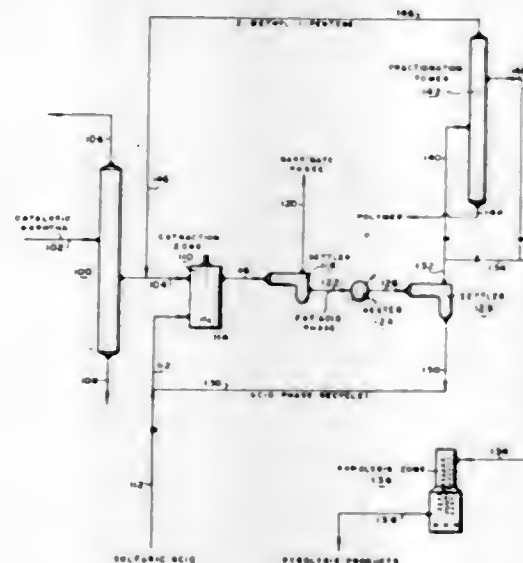
Adamantane hydrocarbons of the C<sub>10</sub>-C<sub>30</sub> range having 1 to 4 open bridgehead positions are alkylated by reaction with aliphatic or cycloaliphatic olefins or alcohols of 2 to 30 carbon atoms using H<sub>2</sub>SO<sub>4</sub> or HF of 90-100% strength as catalyst at a temperature in the range of -20° C. to 100° C. When the alkylating agent is ethylene or ethyl alcohol, a temperature of 50-80° C. preferably is used. For C<sub>3</sub> and higher olefins or alcohols preferred temperatures are in the range of 0-50° C. During the reaction the adamantane nucleus stays intact and any alkyl groups attached thereto in the adamantane hydrocarbon feed remain at the original position. Alkylation occurs only at bridgehead positions of the nucleus and from 1 to 4 alkyl or cycloalkyl groups can be substituted if such bridgehead positions are open in the starting hydrocarbon. In some cases a minor but appreciable amount of product is obtained which has two adamantane nuclei joined by an alkylene group.

3,382,289

# PREPARATION OF ISOPRENE FEEDSTOCK

William R. Edwards and Robert D. Wesselhoft, Baytown, Tex., and Bert B. Williams, Princeton, N.J., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Apr. 1, 1963, Ser. No. 269,438  
1 Claim. (Cl. 260-680)



1. A method of producing isoprene from a catalytic naphtha which comprises fractionating said catalytic naphtha to obtain a heart cut boiling over the range of about 125° F. to about 165° F., which contains 2,3-dimethyl-1-butene, 2-methyl-1-pentene, 2-ethyl-1-butene, 2-methyl-2-pentene, 3-methyl-2-pentene, and 2,3-dimethyl-2-butene,

contacting said heart cut with 60% to 75% sulfuric acid at a temperature within the range of 20° F. to 60° F. for a time within the range of 5 minutes to 3 hours and at an acid-to-hydrocarbon ratio within the range of 10:1 to 1:10 to obtain a fat acid extract phase containing from 15% to 35% reacted hydrocarbons and a raffinate phase, separating said extract phase from said raffinate phase, indirectly heating said extract phase at a rate of at least 400° F. per minute to a final temperature within the range of 150° F. to 250° F. to release the olefins from combination with the acid and obtain an olefin phase and an acid phase, fractionating said olefin phase to obtain a 2-methyl-1-pentene stream and a product stream, recycling said 2-methyl-1-pentene stream to said contacting zone, and pyrolyzing said product stream at about 1472° F. for about 0.01 to 0.05° second to obtain isoprene in high yield.

3,382,290

# PURIFICATION OF DEHYDROGENATION EFFLUENTS

Calvin M. Tidwell, Houston, Tex., and Harlan B. Johnson, Augusta, Ga., assignors to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware  
No Drawing. Filed Aug. 16, 1967, Ser. No. 660,915  
15 Claims. (Cl. 260-681.5)

Process for dehydrogenation of hydrocarbons in the presence of bromine and for removal of methyl bromide and/or acetylenes from dehydrogenation effluents by contacting the effluents with specified Cr (II) complexes. The spent Cr (III) and bromine are recycled.

3,382,291

# POLYMERIZATION OF OLEFINS WITH BF<sub>3</sub>

James A. Brennan, Cherry Hill, N.J., assignor to Mobil Oil Corporation, a corporation of New York  
No Drawing. Filed Apr. 23, 1965, Ser. No. 450,536  
2 Claims. (Cl. 260-683.15)

In polymerizing a 1-olefin to an oily polymer, greater reproducibility is obtained by feeding to a reaction zone a stream (1) of a 1-olefin that is saturated with BF<sub>3</sub> and a stream (2) of BF<sub>3</sub> complexed in a 1:1 molar ratio with a promoter. BF<sub>3</sub> and BF<sub>3</sub> complex are the sole catalyst components. The process is particularly useful for producing synthetic lubricants.

3,382,292

# PROCESS FOR DIMERIZATION OF LOWER OLEFINS HAVING INTERNAL DOUBLE BONDS

Harry Endler and Fausto Facchini, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy  
No Drawing. Filed Jan. 23, 1964, Ser. No. 339,584  
Claims priority, application Italy, Jan. 31, 1963, 1,930/63

5 Claims. (Cl. 260-683.15)

1. A process for dimerization of mono-olefins having internal double bonds of dimers of the corresponding alpha-olefins, which comprises contacting said mono-olefins with a catalyst consisting essentially of aluminum alkyl compounds and a Brönsted-Lewis acid co-catalyst selected from the group consisting of natural and artificial aluminum silicates, aluminum oxide, natural and artificial silicon oxides, decoloring clay, bauxite and silica gel, said co-catalyst being in the ratio between 1% and 20% by weight with respect to said aluminum alkyl compounds.

3,382,293

# POLYOXYMETHYLENE BLENDED WITH PHENOLIC NOVOLAC

Martin B. Price, Berkeley Heights, N.J., assignor to Celanese Corporation, a corporation of Delaware  
No Drawing. Continuation of application Ser. No. 172,791, Feb. 12, 1962. This application Sept. 2, 1966, Ser. No. 577,082  
6 Claims. (Cl. 260-838)

Thermosetting blends capable of forming a tough resilient product are formed from certain relatively stable normally thermoplastic oxymethylene polymers or copolymers, and from about 15 to about 70 percent based on the total weight of the blend of certain materials capable of reaction with formaldehyde. Thermoset products formed from the blends are supported by a core of high molecular weight oxymethylene polymer, and are free from brittleness which is commonly characteristic of thermoset resins.

3,382,294

# COATING COMPOSITION COMPRISING AN ACRYLIC INTER-POLYMER, AN AMINE-ALDEHYDE RESIN, AND AN ALKYD RESIN

Roger M. Christenson and Bruce N. McBane, Gibsonia, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania  
No Drawing. Continuation-in-part of application Ser. No. 277,678, May 3, 1963. This application June 24, 1966, Ser. No. 560,104  
19 Claims. (Cl. 260-850)

1. A vehicle for a coating composition comprising:
  - (1) an interpolymer of (a) about 2 to 15 percent by weight of a hydroxyalkyl ester of an alpha,beta-ethylenically unsaturated carboxylic acid, (b) about 1 to 5 percent by weight of unsaturated carboxylic acid, and (c) at least one alkyl ester of an alpha,beta-ethylenically unsaturated carboxylic acid;
  - (2) about 10 to 50 percent by weight of a monohydric alcohol-modified amine-aldehyde resin; and
  - (3) about 5 to 35 percent by weight of an alkyd resin.

3,382,295

# BLEND OF AMORPHOUS POLYESTERS AS FLUIDIZED BED COATING MATERIAL

Charles W. Taylor, Jr., Akron, and Daniel T. Conrad, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,598  
8 Claims. (Cl. 260-860)

The present invention provides a polyester coating suitable for fluidized bed coating which is a fused blend of at least two linear, amorphous, copolyester resins having different thermal characteristics, i.e., one copolyester having a high glass transition temperature of from 40° C. to about 120° C., the other having a low glass transition temperature of from about -50° C. to 40° C., the difference in the glass transition temperatures of the polyesters being at least 15° C.

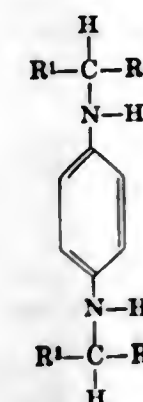
3,382,296

# COLOR INDICATORS FOR DETERMINING DEGREE OF CURE OF POLYESTER RESINS

David A. Tenquist and Daniel L. Edwards, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed Apr. 25, 1966, Ser. No. 544,808  
5 Claims. (Cl. 260-864)

1. A peroxide-sensitive mixture comprising an unsatu-

rated polyester, a liquid vinyl monomer and a compound having the formula:



wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are each the same or different aliphatic groups having from 1 to 6 carbon atoms.

3,382,297

# POLYMER DISPERSIONS

Morice William Thompson, Maldenhead, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Filed July 20, 1964, Ser. No. 383,941  
Claims priority, application Great Britain, Aug. 1, 1963, 30,582/63

4 Claims. (Cl. 260-875)

A dispersion in organic liquid of crosslinkable addition polymers, one polymer containing a group which is capable of reacting with a complementary group in another of the polymers to crosslink the polymers, each polymer being in a different part of the disperse phase. The polymer is obtained by a process of stabilised dispersion polymerization in which an ethylenically unsaturated monomer containing a first reactive group is copolymerized in an initial stage with a main monomer, and an ethylenically unsaturated monomer containing a different reactive group is polymerized in a later stage with the main monomer.

3,382,298

# STRESS-CRACK RESISTANT POLYETHYLENE CONTAINING A POLYVINYL ACETAL

Hans R. Larsen and Robert S. Zalkowitz, Montreal, Quebec, Canada, assignors to Union Carbide Canada Limited, Toronto, Ontario, Canada, a corporation of Canada  
No Drawing. Filed Dec. 17, 1964, Ser. No. 419,239  
3 Claims. (Cl. 260-897)

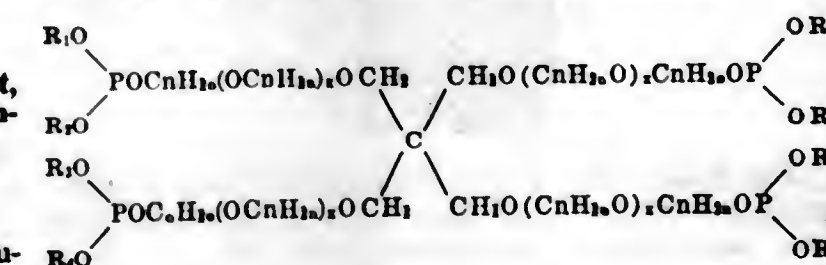
The environmental stress crack resistance of polyethylene is improved by blending the polyethylene with a polyvinyl ester or a polyvinyl acetal. Low density polyethylene mixed with polyvinyl ester or polyvinyl acetal results in a composition which has good environmental stress crack resistance and yet is easily extrudable on cable sheath.

3,382,299

# TETRA PHOSPHITE OF PENTAERYTHRITOL-LOWER ALKYLENE OXIDE ADDUCTS

Millard S. Larrison, Livingston, N.J., assignor to Weston Chemical Corporation, Newark, N.J., a corporation of New Jersey  
No Drawing. Filed July 13, 1965, Ser. No. 471,712  
10 Claims. (Cl. 260-929)

Compounds are prepared having the formula





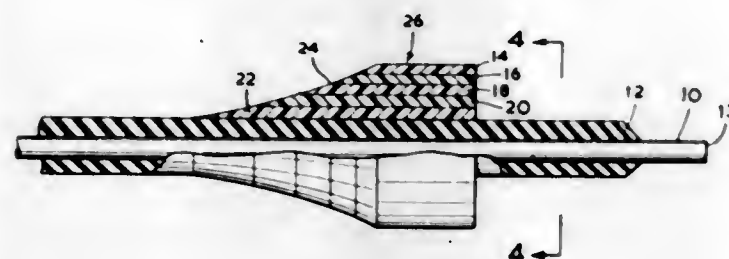




3,382,308

**METHOD OF FORMING A HEAT SHRINKABLE STRESS CONTROL CONE**

Herbert Douglass Short, Newmarket, Ontario, Canada, assignor to Lacle Industries Limited, Newmarket, Ontario, Canada

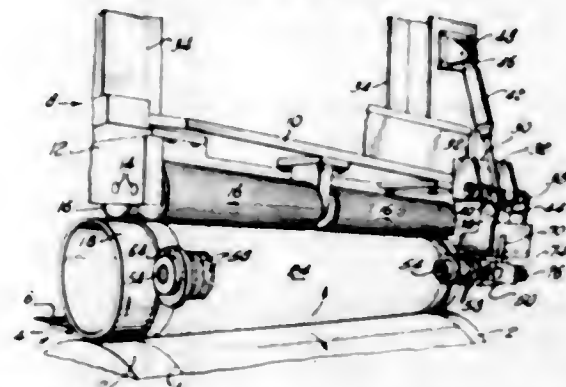
Filed Sept. 7, 1965, Ser. No. 485,412  
2 Claims. (Cl. 264—249)

The invention is a method of forming a stress control on an electrical conductor where the conductor terminates by arranging a plurality of heat shrinkable tubular sections around the conductor with their ends progressively staggered so as to define a stress control cone profile.

3,382,309

**METHOD AND APPARATUS FOR FORMING AN END PROFILE ON ASBESTOS-CEMENT PIPE**

Robert H. Adams, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Oct. 1, 1964, Ser. No. 400,858  
12 Claims. (Cl. 264—296)

A system for the formation of an end profile on asbestos-cement pipe by removing portions of the asbestos-cement material while it is still wet and on the forming mandrel.

**ELECTRICAL**

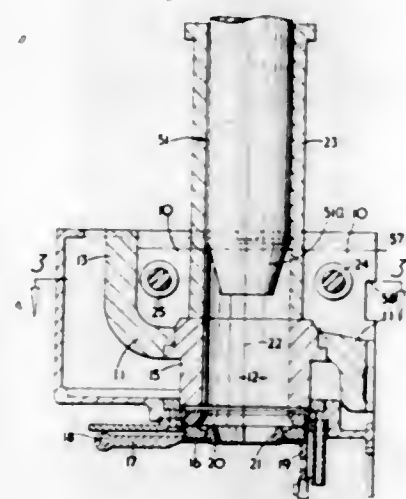
3,382,310

**GLASS FEEDING FURNACES**

Douglas Graeme Hann, Ryton, near Shifnal, and Richard J. Brinkman, Kilsall Hall, near Shifnal, England, assignors to Elemelt Limited, Bilston, England, a British company

Filed Apr. 27, 1966, Ser. No. 545,768  
Claims priority, application Great Britain, Apr. 29, 1965, 17,987/65

7 Claims. (Cl. 13—6)



1. In a glass feeding furnace comprising a feeding chamber having a side wall formed with a lateral entry for inflow of glass into said chamber to maintain the surface of such glass in said chamber above a minimum level and a bottom wall having an outlet for downward delivery of a body of glass from said chamber, the improvement comprising:

(A) lower electrode means disposed in the vicinity of said outlet and extending around a reference axis passing upwardly through said outlet,

(B) upper electrode means including a plurality of electrodes disposed in positions spaced apart angularly about said reference axis and spaced axially thereof from said lower electrode means each of said electrodes including a portion disposed in said chamber below said minimum level and a portion extending through one of said chamber walls,

(C) a source of electrical current,

(D) circuit means connecting said source to said upper electrodes and said lower electrode means to pass current through the glass contained in said chamber in a plurality of path extending from said lower electrode means to said upper electrodes respectively, and

(E) means for varying the current density in one of said paths relatively to that in another of said paths.

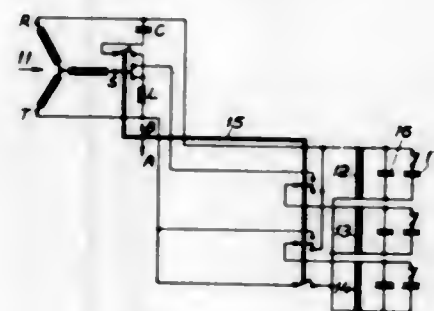
3,382,311

**LOW FREQUENCY INDUCTION MELT PLANT**

Mats Rydinger and Yngve Sundberg, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed June 7, 1965, Ser. No. 462,019  
Claims priority, application Sweden, June 18, 1964, 7,495/64

3 Claims. (Cl. 13—26)



A low frequency induction furnace has an induction coil formed of three parts with a symmetrizing device and a change-over switch for alternatively connecting the coil over the symmetrizing device to single phase or multiphase to the same multiphase network. The multiphase connection results in motoric stirring.

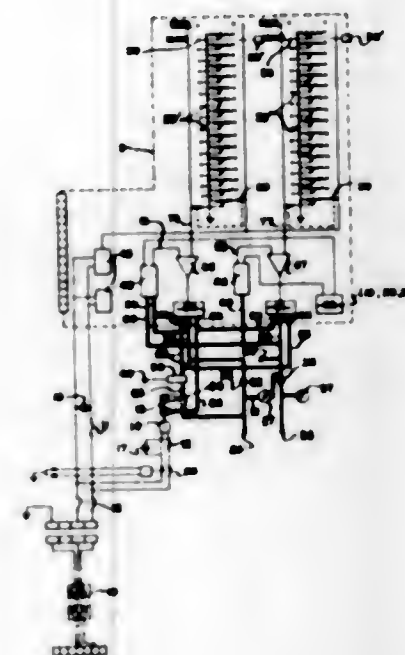
3,382,312

**SIMULATOR FOR AIR SPEED METER WITH ELECTRONICALLY CONTROLLED SERVO VALVE**

Leland W. Topham, Sherman Oaks, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 29, 1963, Ser. No. 305,311

23 Claims. (Cl. 35—10.2)



A simulator having an electronically controlled servo valve which provides accurately controlled pressures at an outlet connection for checking air speed meters, altimeters, and like instruments connected thereto.

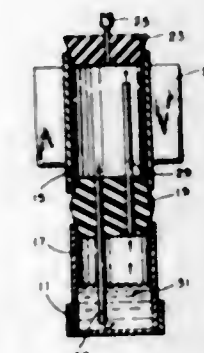
3,382,313

**COOLING MEANS FOR ELECTRICAL POWER CONVERSION SYSTEM**

Joseph P. Angello, Eatontown, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed July 6, 1966, Ser. No. 563,656

1 Claim. (Cl. 174—15)



This invention contemplates a cooling means for the electrical connector straps of a power conversion system and comprises essentially a dual compartmented sealed tower including a liquid reservoir compartment and a liquid condensation compartment and a pair of oppositely disposed tubes extending through a separator between said compartments.

3,382,314

**ELECTRIC LINE, PARTICULARLY FOR USE IN TELECOMMUNICATION SYSTEMS, AND A METHOD OF MANUFACTURING SUCH AN ELECTRIC LINE**

Sven S. Nordblad, Spanga, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Continuation-in-part of application Ser. No. 344,469, Feb. 12, 1964. This application June 21, 1966, Ser. No. 563,012

Claims priority, application Sweden, Feb. 15, 1963, 1,677/63

23 Claims. (Cl. 174—34)



An electric line, particularly suitable for use in telecommunication systems, and a method of manufacturing such an electric line, including, randomly mixing at least three conductors, usually three pairs in telecommunication work, within a single group of conductors, or three groups of conductors within a single line or cable, or both the individual conductors of the groups and the groups of conductors within the cable, while combining the same, by twisting, plaiting, etc., to produce a group of combined conductors and/or a cable of combined groups of conductors in which the position of each conductor and/or group of conductors varies essentially at random over at least a substantial length of the group and/or cable with respect to all other conductors in the groups and all other groups in the cable. An illustrative method of randomly mixing the conductors is illustrated which includes drawing each individual line from a separate spool mounted on a freely moveable platform and moving the platforms randomly with respect to each other as the lines are being combined through a gathering eyelet. After passing through a gathering eyelet, the lines may be twisted and thereafter wound on a drum.

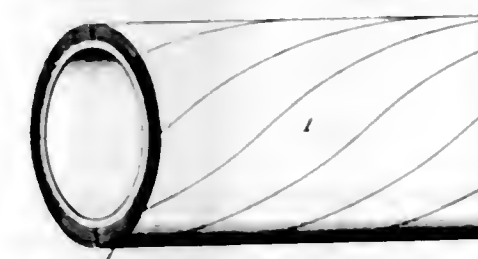
3,382,315

**TRANPOSED STRIP CONDUCTOR**

Stephen H. Minnich, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Aug. 24, 1966, Ser. No. 574,761

6 Claims. (Cl. 174—34)



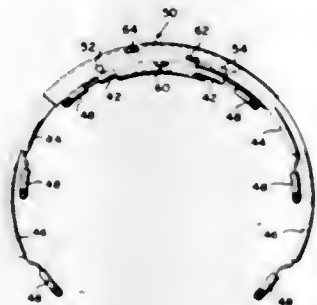
1. A composite strip comprising: a strip folded into a series of folds along the longitudinal length of said strip, said strip comprising two flat layers made of a single ribbon of conductive material wound in a regularly progressing manner to form said strip of conductive material, said ribbon being made of thin elongated conductive material having insulation adhering to all its surfaces.



3,382,316

**ALTERNATOR RECTIFIER PLATE HARNESS**

Al Weiner, 2111 Regatta Ave.,  
Miami Beach, Fla. 33139  
Filed May 10, 1967, Ser. No. 637,513  
8 Claims. (Cl. 174-72)

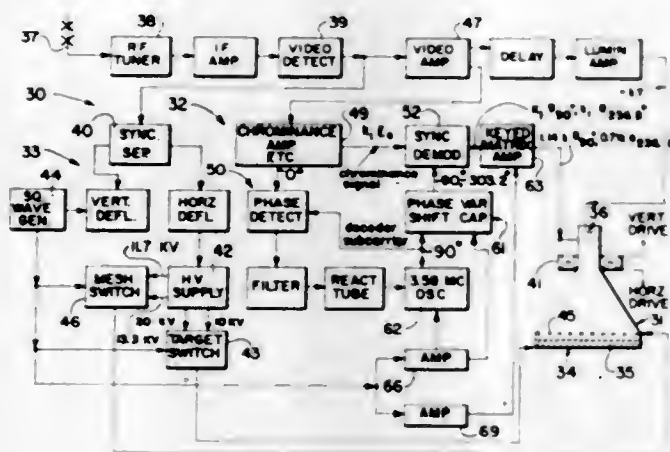


A three-phase alternator, as used in automobiles, having a pair of rectifier plates with three diode units on each plate, one for each phase, are connected by an electrical harness of three rigid diode current conductors. The conductors are made of heavy gauge wire with terminal wire engaging members at the ends thereof and output lead engaging portions of U-shape formed from the central portion thereof. The three diode current conductors are arcuately shaped and have a common central section which is encased in a rigid plastic of sufficient rigidity to support and provide a bridge between the separate rectifier plates so that they can be handled as one integral unit with the electrical harness.

3,382,317

**COLOR TELEVISION RECEIVER USING SWITCHED SYNCHRONOUS DEMODULATOR**

Donald M. Sandler, Oak Park, Ill., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware  
Original application Oct. 15, 1964, Ser. No. 404,047.  
Divided and this application Oct. 20, 1965, Ser. No. 498,887  
1 Claim. (Cl. 178-5.4)



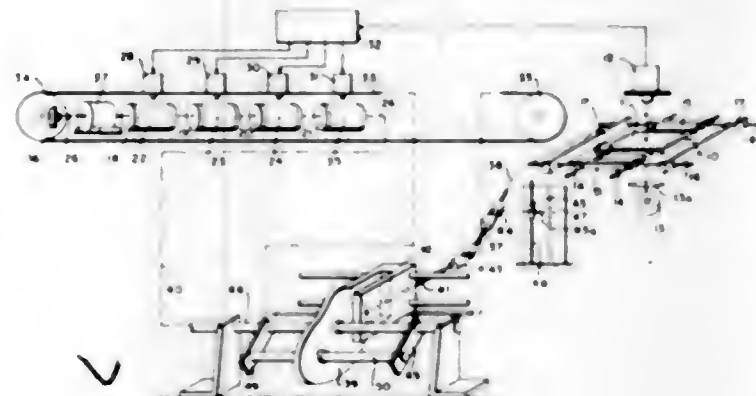
1. A television receiver for reproducing a scene being televised in color using the red-white system of color analysis from a color television signal transmitted by modulating on the main picture carrier of a television channel a composite video signal that includes a luminance signal matrixed from the red, green and blue content of a scanned element and representative of its brightness, a coded chrominance signal in the form of a sub-carrier of predetermined frequency whose amplitude and phase are functionally related to the saturation and dominant wavelength respectively of the scanned element, and a sync signal to which the phase of said chrominance signal is referred; said receiver comprising:

- (a) means for synchronously demodulating said coded chrominance signal with a local oscillator signal at said predetermined frequency and with a predetermined phase relative to said sync signal to obtain a demodulated chrominance signal;
- (b) means including voltage-variable capacitance means for causing said predetermined phase to sequentially switch between two values;
- (c) means to matrix said luminance signal and said demodulated chrominance signal to obtain a pair of sequential signals, the first of which is obtained when said predetermined phase has one of said two values and is functionally related to substantially only the red content of said scanned element; and the second of which is obtained when said predetermined phase has the other of said two values and is functionally related to substantially only the green content of said scanned element;
- (d) a kinescope having a viewing screen with red and minus red phosphor materials thereon, the selective excitation of said red phosphor material causing said screen to emit reddish light and the simultaneous excitation of both of said phosphor materials causing said screen to emit substantially achromatic light; and a single electron gun for producing an electron beam focused to impinge on said screen to excite said phosphor materials;
- (e) means to cause said beam to selectively excite one or both of said materials for sequentially producing reddish and achromatic light on said screen; and
- (f) means for causing said first of said pair of signals to modulate the intensity of said beam when only said red phosphor material is excited, and means for causing said second of said pair of sequential signals to modulate the intensity of said beam when both of said red and minus red phosphors are excited.

3,382,318

**VARIABLE-RATIO COPY-REPRODUCING MACHINE**

Samuel W. Levine, Westbury, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware  
Filed Feb. 8, 1965, Ser. No. 430,897  
7 Claims. (Cl. 178-6.6)

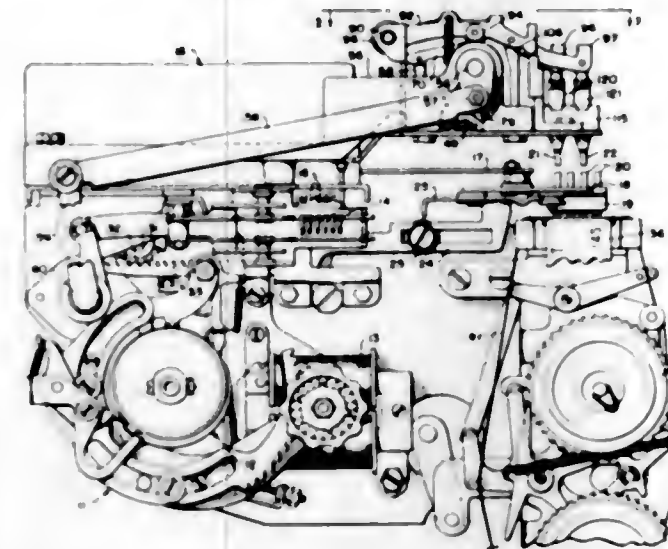


- 6. A variable-ratio mechanism for driving a first scanner having scanning movements in orthogonal directions in a common plane from a second scanner having axial and rotational scanning movements comprising:
  - a ratio arm, one end adapted to be connected to said first scanner and having a longitudinally adjustable intermediate universal support;
  - a cam rotated in synchronism with rotational movement of said second scanner and movable axially in synchronism with axial movement thereof;
  - and a cam-follower engaging said cam and adapted to be connected to the other end of said ratio arm.

3,382,319

**STOCK QUOTATION PRINTER**

Leonard A. Nash, Evanston, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware  
Filed Mar. 17, 1964, Ser. No. 352,459  
3 Claims. (Cl. 178-34)

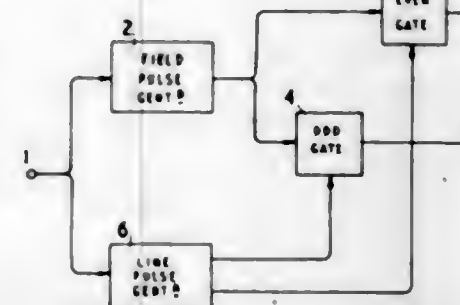


A telegraph printer of the type employing a pair of print hammers including a hammer actuating shaft that oscillates through a predetermined arc during each cycle of the printer, a pair of camming members mounted on the actuating shaft adjacent the hammers for pivotal motion with respect to the hammers, a code bar controlled blocking member mounted for movement into a blocking position with respect to the camming member associated with a selected one of the hammers thereby preventing pivotal movement of the blocked camming member and forcing the blocked camming member into engagement with its respective hammer, a pair of latching members one positioned adjacent each of the hammers and each mounted for latching engagement with its respective hammer whenever that hammer is engaged by its associated camming member and means driven by the actuating shaft for operating both latching members in an unlatching manner thereby unlatching the latched hammer.

3,382,320

**TELEVISION FIELD-RECOGNITION APPARATUS**

John Lewis Edwin Baldwin, Croydon, and John David Millward, Orpington, England, assignors to Rank-Bush Murphy Limited  
Filed Feb. 1, 1965, Ser. No. 429,474  
Claims priority, application Great Britain, Jan. 31, 1964, 4,186/64  
9 Claims. (Cl. 178-69.5)



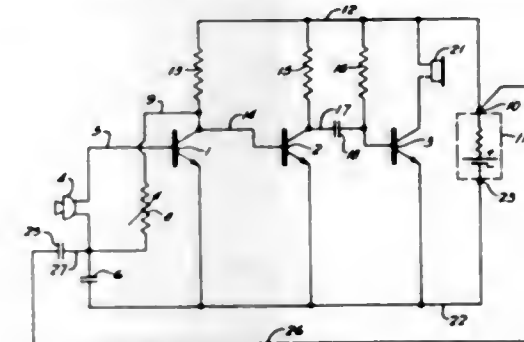
1. Television field-recognition apparatus comprising, in combination: a source of mixed television synchronizing signals including horizontal synchronizing signals and vertical synchronizing signals each comprising a train of broad pulses, said vertical synchronizing signals being differently timed with respect to said horizontal synchronizing signals in odd and in even fields; circuit means operating when fed with a signal including vertical synchronizing signals to yield output impulses corresponding

to the leading edge of the first broad pulse of a vertical synchronizing signal; means for applying said television synchronizing signal to said circuit means; further circuit means operating when fed with a signal including horizontal synchronizing signals to develop a two-valued signal having a first value during a period approximating the first half of each horizontal period and having a second value at other times; means for applying said mixed synchronizing signals to said further circuit means; gate means having first and second inputs and an output and operating to yield a signal at said output when an impulse is applied to said first input only when a signal applied to said second input has a predetermined one of said values; means for applying said output impulses to said first input; and means for applying said two-valued signal to said second input, whereby said gate means yields signals corresponding with a predetermined set of said odd or even fields.

3,382,321

**TRANSISTORIZED AMPLIFIER CIRCUIT FOR HEARING AIDS**

Samuel F. Lybarger, Peters Township, Washington County, Fred E. Barron, Baldwin Township, Allegheny County, and William A. Steele, Bethel Park, Pa., assignors, by mesne assignments, to Radioear Corporation, Canonsburg, Pa., a corporation of Pennsylvania  
Filed July 9, 1964, Ser. No. 381,345  
7 Claims. (Cl. 179-1)

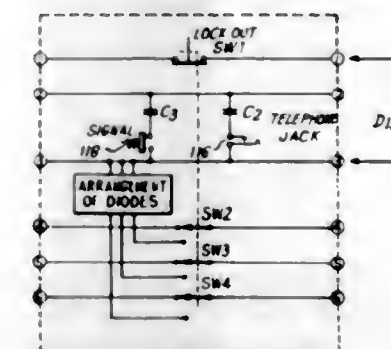


In a hearing aid amplifier, low frequency oscillations known as "motorboating" are neutralized by a negative feedback loop so connected that when the D-C source voltage drops due to internal impedance, a corresponding voltage of reverse phase is fed back from the battery terminal to balance the oscillatory tendency.

3,382,322

**APPARATUS FOR ELECTRICALLY IDENTIFYING ONE OF A NUMBER OF STATIONS**

Francis Duerden and Patrick Donald Allen, Harlow, England, assignors to A. C. Cossor Limited, Harlow, England  
Filed Dec. 7, 1964, Ser. No. 416,199  
Claims priority, application Great Britain, Dec. 20, 1963, 50,471/63  
18 Claims. (Cl. 179-2)



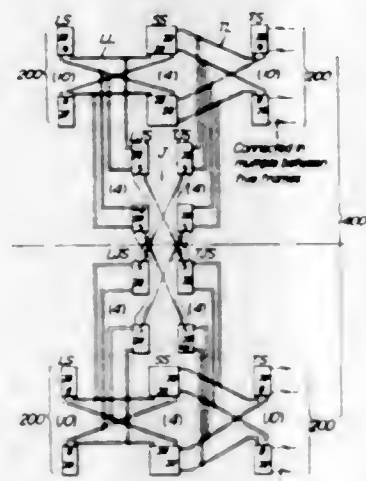
A system is described in the hereinafter specification for indicating at which one of a number of stations lo-



cated along a conveyor a switch has been operated. Each station is provided with a combination of rectifiers which are connected to a small number of energized conductors joining the stations to a control station. When a switch at a station is operated currents unique to that station are caused to flow and the station can be automatically identified from these currents. Facilities are also provided for stopping a conveyor and speaking by telephone to the station at which an emergency has occurred.

**3,382,323**  
**MULTISTAGE SWITCHING FRAMES HAVING LINK CONGESTION REDUCING MEANS**  
Hirotochi Shirasu, Tadahiko Akiyama, and Yasumichi Arai, Yokohama, Japan, assignors to Hitachi, Ltd., Tokyo, Japan

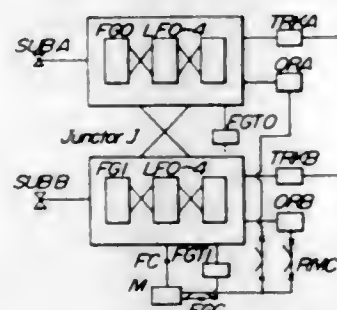
Filed May 7, 1965, Ser. No. 453,991  
Claims priority, application Japan, May 8, 1964, 39/25,807  
5 Claims. (Cl. 179-22)



1. An automatic switching system including a plurality of multistage switching frames each having a plurality of links arranged in more than two stages, said system comprising additional links for connecting the first stage links in each switching frame with the last stage links in the other switching frames.

**3,382,324**  
**MULTISTAGE CONNECTION COMMON CONTROL SWITCHING SYSTEM HAVING IDLE STATE INDICATING MEANS**  
Hirotochi Shirasu and Tadahiko Akiyama, Yokohama, Japan, assignors to Hitachi, Ltd., Tokyo, Japan

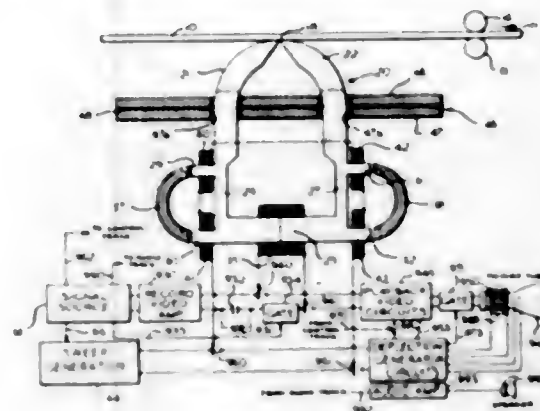
Filed June 28, 1965, Ser. No. 467,294  
Claims priority, application Japan, June 29, 1964, 39/36,352  
1 Claim. (Cl. 179-22)



1. A multistage-connection common-control type automatic switching system having a frame arrangement including a plurality of switching frames in multiple connection with each other and each including routing paths for interconnection between incoming and outgoing lines, said system comprising an artificial link network arranged in

common to the plurality of frames in multiple connection and corresponding to the link arrangement with rectifiers connected in series with the break contacts which indicate the idle state of the links.

**3,382,325**  
**MAGNETIC TRANSDUCER SYSTEM**  
Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, a corporation of Illinois  
Continuation-in-part of application Ser. No. 415,811, Mar. 12, 1954. This application Aug. 20, 1959, Ser. No. 835,017  
38 Claims. (Cl. 179-100.2)

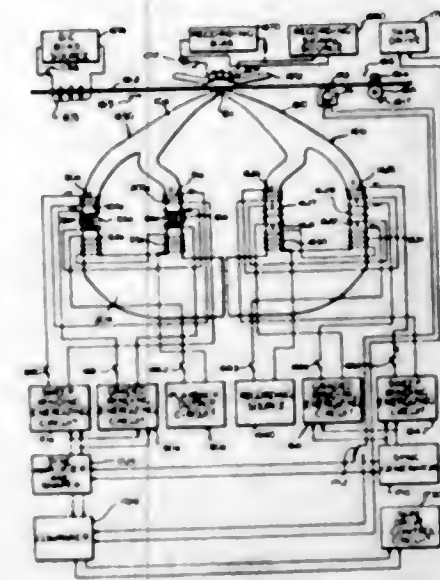


1. A magnetic head comprising a magnetic core having a signal flux path including a magnetic pole portion with a nonmagnetic gap adjacent thereto for receiving a magnetic record medium and said signal flux path including two spaced legs in parallel with respect to said signal flux path, said two legs providing a loop magnetic circuit including said two legs in series but excluding said gap, bias winding means encircling each of said legs of said loop magnetic circuit and connected to establish a series saturating bias flux in the circuit and through said two legs in series to saturate the two legs, control winding means encircling each of the two legs of said loop magnetic circuit for providing a control flux opposing the bias flux produced by the bias winding means in said two legs, signal coupling means coupled with said signal flux path including said two legs in parallel and said pole portion for providing interlinkage between an electric signal in said signal coupling means and a magnetic signal flux in said gap adjacent said pole portion, and means for connecting a control signal with said control winding means of magnitude to effectively place said two legs in unsaturated condition.

**3,382,326**  
**MAGNETIC TRANSDUCER HEAD**  
Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, a corporation of Illinois  
Continuation-in-part of applications Ser. No. 835,017, Aug. 20, 1959, and Ser. No. 47,741, Aug. 5, 1960. This application Mar. 8, 1962, Ser. No. 178,293  
26 Claims. (Cl. 179-100.2)

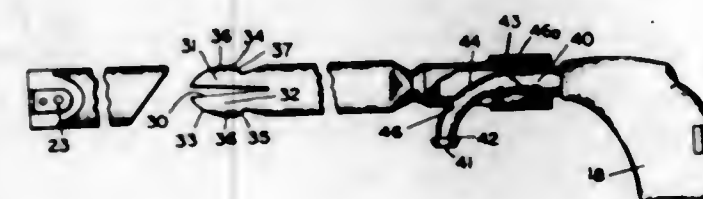
1. A transducer device comprising a core having large cross section portions with a large flux carrying capacity and having a constricted cross section portion with a substantially reduced flux carrying capacity in comparison to said large cross section portions of said core, first and second energizing means coupled to said core for generating cyclically varying magnetomotive forces in the core of respective amplitudes and phases which coact to switch said core from one polarity of magnetization to another polarity of magnetization in successive cycles thereof, and

means comprising said core for carrying out a transducing operation at the time intervals when said core is being switched from said one polarity of magnetization to the other polarity of magnetization,



said first and second energizing means comprising sources of magnetomotive force producing respective first and second periodic cyclically varying magnetomotive forces acting substantially directly on said constricted cross section portion of said core.

**3,382,327**  
**HEARING AID EYEGLASS FRAME**  
Francis J. Bowes, Winchester, Mass., assignor to Non-Slip Temple Company, Inc., Holliston, Mass., a corporation of Massachusetts  
Filed May 7, 1965, Ser. No. 454,014  
8 Claims. (Cl. 179-107)

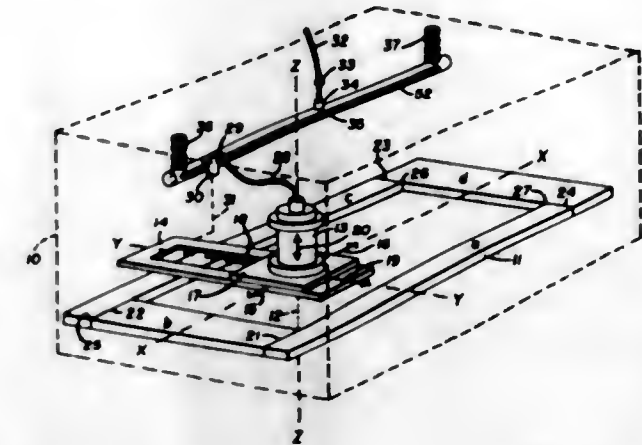


5. In a temple assembly comprising a temple substantially cylindrical at its rear end, an elongated bore defined by said temple and a first and second opening through said temple to said bore, the improvement comprising a curved sound tube integrally attached to a hearing aid case forming an ear piece, said sound tube passing into said first opening and having an end adapted to be connected to hearing aid means and passing out of said second opening.

**3,382,328**  
**HIGH VOLTAGE POWER PICKOFF FOR A MOVING ELECTRON BEAM GUN**  
Milan E. Gerard, Chula Vista, Calif., assignor to Rohr Corporation, Chula Vista, a corporation of California  
Filed Nov. 29, 1966, Ser. No. 597,752  
10 Claims. (Cl. 191-12)

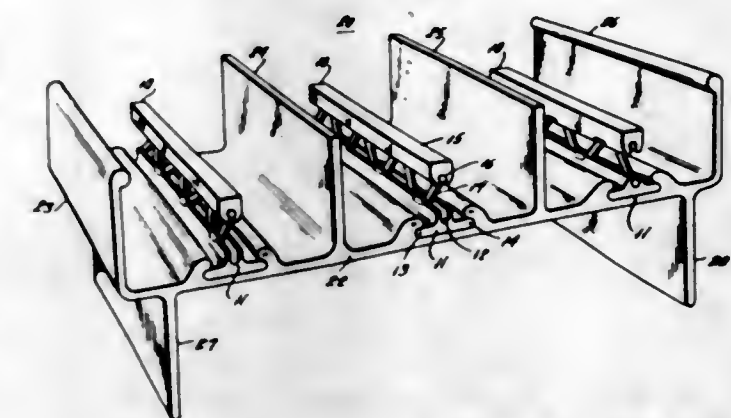
1. A high voltage pickoff for a moving electron beam gun operable in a vacuum chamber comprising, in combination, an elongated tube disposed within the vacuum chamber in parallel with an axis of movement of the electron beam gun, said tube having an elongated sidewall

slot which extends substantially the full length of the tube, a plurality of bus bars mounted within the tube substantially coextensively therewith, a pair of said bus bars being disposed respectively adjacent to and opposite said slot and electrically insulated from each other, a first pair of terminals connectable to a source for supplying filament and beam power for operation of the electron beam gun, said first terminals being electrically connected respectively to said pair of bus bars, a slide mounted on the tube for movement along said slot and operatively connected to said gun for movement therewith along said



axis, said slide having mounted thereon for movement therewith a pair of contact members electrically insulated from each other and respectively disposed in yieldable and sliding contact engagement with said pair of bus bars, and a second pair of terminals mounted on said slide and electrically connectable to the gun, said second terminals being electrically connected respectively to said pair of contact members.

**3,382,329**  
**ELECTRICAL CONDUCTOR FOR RAPID TRANSIT ELECTRIFICATION**  
Harry K. Wilcox, Greensburg, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania  
Filed Nov. 12, 1964, Ser. No. 410,447  
6 Claims. (Cl. 191-29)



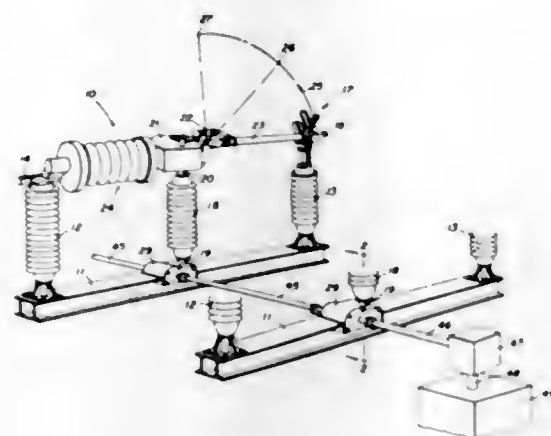
An electrical conductor for rapid transit electrification comprising an elongated abrasive resistant electrical conductor having an outward surface along which the electric power collector shoe of a rapid transit system unit may rub to obtain power; a base for supporting the elongated conductor, the base being adaptable for being engaged by a support for the electrical conductor and base; the base being optionally conductive to bring electric power to the elongated conductor; the conductor and the base



being spaced apart and being joined by a truss comprised of an elongated metal rod, which may optionally be electrically conductive, which rod is in a serpentine configuration and supports the conductor away from the base.

### 3,382,330 OPERATING MECHANISM FOR HIGH VOLTAGE SWITCH

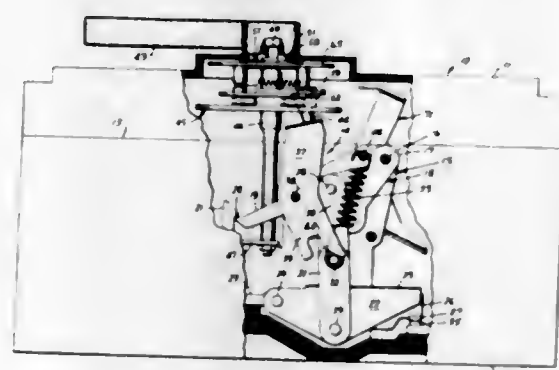
Joseph Bernatt, Arlington Heights, and Otto Meister, Evanston, Ill., assignors to S & C Electric Company, Chicago, Ill., a corporation of Delaware  
Filed July 25, 1967, Ser. No. 655,791  
9 Claims. (Cl. 200-48)



For operating one or more load interrupter switches between open and closed positions a rotatable drum is employed for each switch having a spiral or helical track engaged by a follower to rotate the individual switch.

### 3,382,331 CIRCUIT BREAKER ROTARY HANDLE MECHANISM CAM LOCK

Charles L. Jencks, Avon, and George W. Kiesel, Unionville, Conn., assignors to General Electric Company, a corporation of New York  
Filed Nov. 30, 1966, Ser. No. 597,946  
9 Claims. (Cl. 200-50)



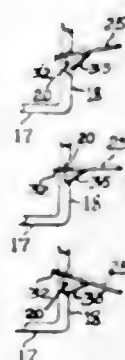
1. An electric circuit breaker comprising:
  - (a) a support;
  - (b) at least one stationary contact supported on said support;
  - (c) at least one movable contact;
  - (d) means movably supporting said movable contact on said support for movement between a closed circuit position in which it is in engagement with said stationary contact and an open circuit position in which it is out of engagement with said stationary contact;
  - (e) operating means for operating said movable contact between said open and closed circuit positions,

said operating means comprising a contact operating member and means connecting said contact operating member to said movable contact;

- (f) biasing means biasing said contact operating member in contact closing direction;
- (g) a cam member having a cam surface;
- (h) means movably supporting said cam member for movement along a predetermined path;
- (i) a cam follower member supported on said support and connected to said contact operating member;
- (j) said cam surface engaging said cam follower member as said cam member is moved along said predetermined path and moving said cam follower member in a direction to move said contact operating member away from said closed circuit position against the bias of said biasing means and suddenly permitting movement of said cam follower member in a direction to permit movement of said contact operating member toward said closed circuit position;
- (k) cam operating means supported on said support for moving said cam member along said predetermined path;
- (l) one-way drive means connecting said cam operating means to said cam member to drive said cam member in contact-closing direction; and
- (m) locking means carried by one of said cam member and said cam operating means and preventing relative movement between said cam member and said cam operating means during the final portion only of said movement of said cam member immediately prior to and during said sudden release of said cam follower member and preventing acceleration of movement of said cam member in said contact closing direction by action of said cam follower member thereon.

### 3,382,332 MULTIPOSITION SNAP-ACTION SWITCH BLADE

Walter L. Cherry and Daniel W. Grady, Highland Park, Ill., assignors to Cherry Electrical Products Corporation, Highland Park, Ill., a corporation of Illinois  
Filed Feb. 13, 1967, Ser. No. 615,493  
5 Claims. (Cl. 200-67)

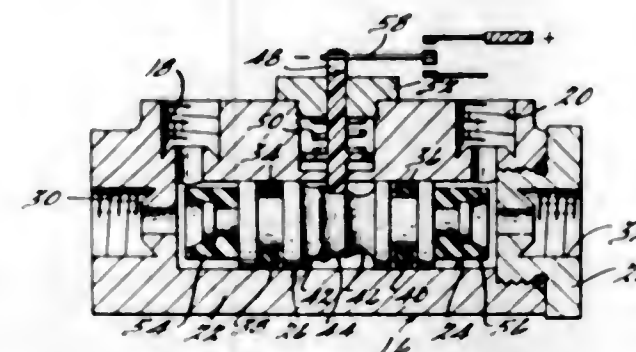


A snap action switch having a coiled spring over-centering mechanism for pivotally moving a switch blade through a multitude of positions. The switch blade includes angularly positioned tab members normally in contact with a pair of pivot posts to which a switch blade is pivotally connected by the coil spring of the over-centering mechanism with the tab members momentarily restricting the free pivotal movement of the switch blade between engagement with circuit making contacts so as to provide a multitude of positions of the switch blade directly related to the actuation of the over-centering mechanism.

### 3,382,333 WARNING LIGHT SWITCH FOR SPLIT BRAKE SYSTEM

Joseph J. Ihnacik, Jr., Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

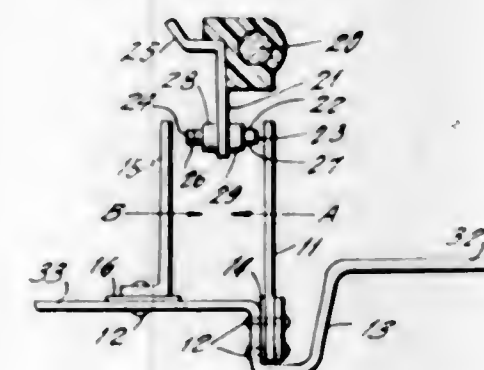
Filed Dec. 10, 1965, Ser. No. 512,941  
7 Claims. (Cl. 200-82)



Warning apparatus switch for a split or dual brake system having a circuit closing detent actuated by a pressure-responsive grooved piston that signals a pressure differential between the separate valves of the fluid system.

### 3,382,334 AUXILIARY THERMAL ELEMENT FOR ALTERING TRIP UNIT CHARACTERISTICS

Carl E. Grycko, Haddon Heights, N.J., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania  
Filed May 2, 1966, Ser. No. 546,989  
6 Claims. (Cl. 200-116)



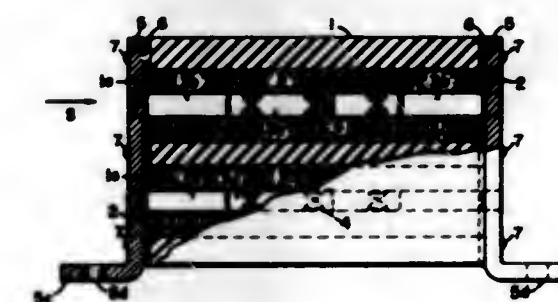
A circuit breaker trip unit having a heater heated by the circuit being protected; a primary and a secondary thermal element thermally mounted on the heater and thermally mounted independently from each other; the thermal elements being positioned to deflect toward one another as they are heated and deflecting as different functions of the load current in the heater; a means interposed between the thermal elements, whereby the deflection of one thermal element is modified by the deflection of the other, circuit breaker contacts being normally in engagement and means for separating the contacts being held from operation by a latch supported by a rotatable tripper bar; movement of the thermal elements affecting the rotative position of the tripper bar to release the latch and trip apart the circuit breaker contacts.

### 3,382,335 ELECTRIC FUSE HAVING PRISMATIC CASING

Frederick J. Kozacka, Southampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.  
Filed Sept. 7, 1967, Ser. No. 666,188  
3 Claims. (Cl. 200-120)

An electric fuse in a prismatic casing containing both arc-quench filler and fusible elements conductively con-

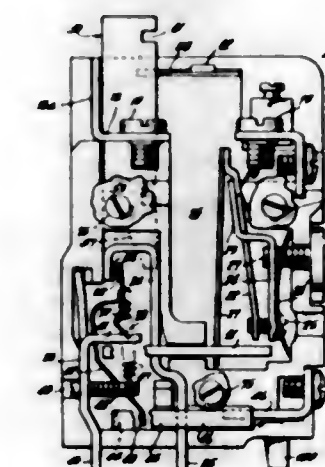
nected at each end to terminal plates by 90 degree bends for close fit to the plates. The ends of the fusible ele-



ments engage recesses in edges of the plates and are spot-welded thereto.

### 3,382,336 MANUAL OPERATOR AND LOCK MEANS THEREFOR FOR OVERLOAD PROTECTIVE DEVICE

Robert W. Thomas, St. Clair Shores, and Elwood T. Platz, Grosse Pointe Farms, Mich., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania  
Continuation of application Ser. No. 481,235, Aug. 20, 1965, which is a division of application Ser. No. 225,044, Sept. 20, 1962. This application Feb. 21, 1967, Ser. No. 617,714  
11 Claims. (Cl. 200-122)



A manual operator for an overload protective device having a thermally actuated overload sensing bimetallic strip for tripping apart the contacts of the device; the manual operator is elongated with two inclined cam surfaces forming a wide mouthed notch; when the element is depressed: if the contacts are together, the first cam surface engages the contact arm of the movable contact and separates the contacts; or if the contacts are apart, the second cam surface engages the contact arm and drives the contacts together; an alternate form of operator has only the second cam surface and has a lock means to retain the element in a depressed position for automatic reclose.

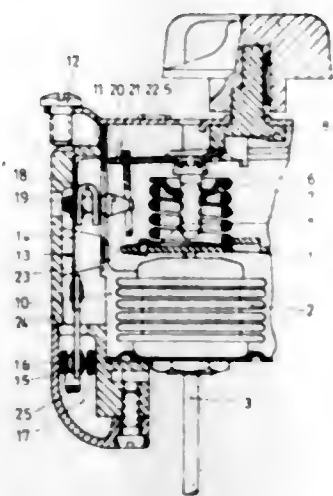
### 3,382,337 THERMOSTAT AND INDEPENDENT SWITCH OPERATED FROM THERMOSTAT AND INDEPENDENTLY SET

Karl Marius Larsen, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark  
Filed July 5, 1966, Ser. No. 562,690  
Claims priority, application Germany, July 3, 1965  
D 47,653  
4 Claims. (Cl. 200-139)

A temperature-responsive thermostatic system having a movable member moved in response to temperature

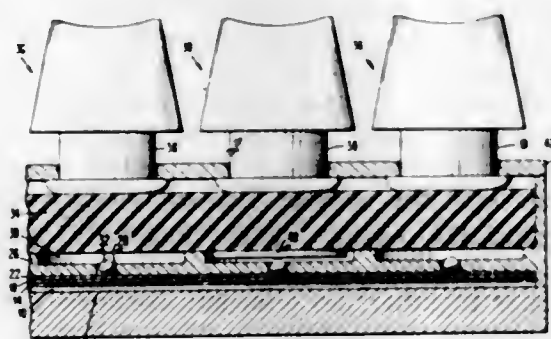


variations being sensed by the system and effective for causing execution of a primary control function. An auxiliary switch for controlling an auxiliary control function is combined in parallel with the thermostatic system to be operated by the system at a temperature sensed by the system while carrying out its sensing for its primary control function. The auxiliary control function



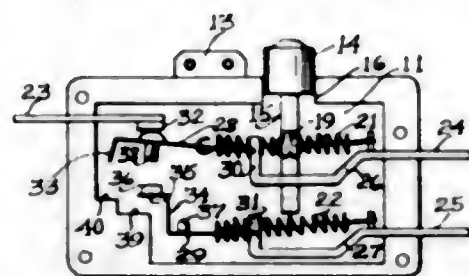
### 3,382,338 PUSHBUTTON ACTUATOR FOR ELASTOMERIC SWITCH

Paul Arseneault, Wappingers Falls, Silvio U. Blaskovic, Yorktown Heights, and Larry G. Lankford, Mahopac, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Apr. 26, 1966, Ser. No. 545,330  
8 Claims. (Cl. 200-159)



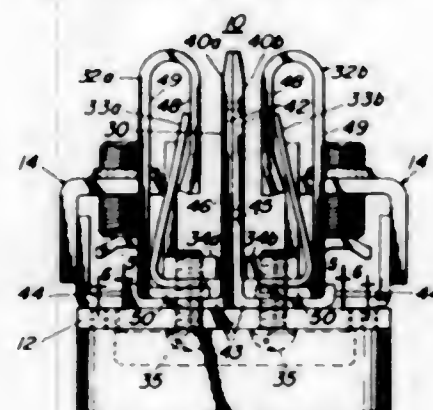
An elastomeric diaphragm type switch wherein there is included a rigid non-deformable member such as a sphere on an elastic diaphragm of the switch opposite to one of its contacts and an elastically deformable member disposed on the rigid member. In operation, the button of the switch, upon being depressed, is made to bear against the elastically deformable member, the latter member suitably being of a material such as neoprene. With this arrangement, there is thereby incorporated the need for a discernible stroke displacement which is essentially absent in the operation of sensitive diaphragm switches and thereby provides a familiar and comfortable sensation to the operators.

**3,382,339  
SNAP-ACTION SWITCH**  
Fred N. Anderson, Highland Park, Ill., assignor to Cherry Electrical Products Corporation, Highland Park, Ill., a corporation of Illinois  
Filed July 14, 1967, Ser. No. 653,443  
7 Claims. (Cl. 200-160)



An electric switch having a plurality of contact blades movable with a snap action by overcentering mechanisms activated by a single actuator with the blades establishing a momentary or pulse contact therebetween. Each of the contact blades movable between stop members controlling the distance of the pivotal movement and duration of contact between the blades as the same are moved in either of two directions by their respective overcentering mechanisms.

**3,382,340  
DOUBLE JAW FOR A KNIFE SWITCH**  
Ernest W. Moodie, Downsview, Ontario, and William C. Carlyle, Toronto, Ontario, Canada, assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan  
Filed Mar. 30, 1967, Ser. No. 627,065  
Claims priority, application Canada, Sept. 24, 1966, 971,217  
6 Claims. (Cl. 200-166)

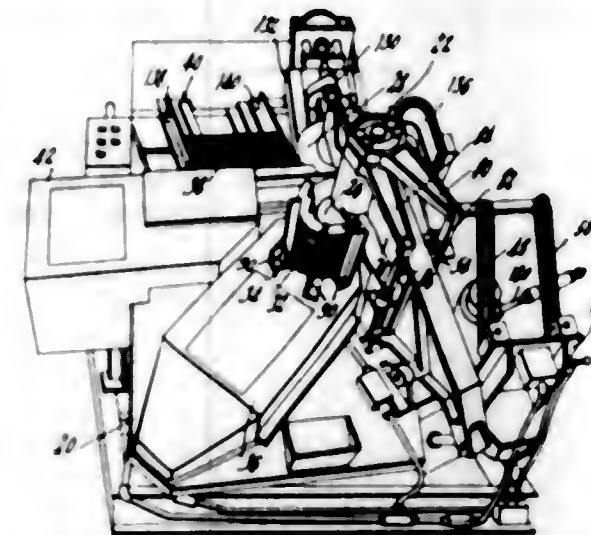


A pair of outer jaw members with U-shaped upper portions have inwardly turned lower flanges supported respectively on outwardly turned flanges of a pair of inner jaw members having upstanding contact portions disposed between facing sides of the U-shaped upper portions of the outer jaw members.

**3,382,341  
BRAKE SHOE WELDER**  
Charles D. Moore, Rowley, Mass., assignor to Thomson Electric Welder Company, Inc., Lynn, Mass., a corporation of Massachusetts  
Filed Oct. 12, 1964, Ser. No. 403,241  
5 Claims. (Cl. 219-81)

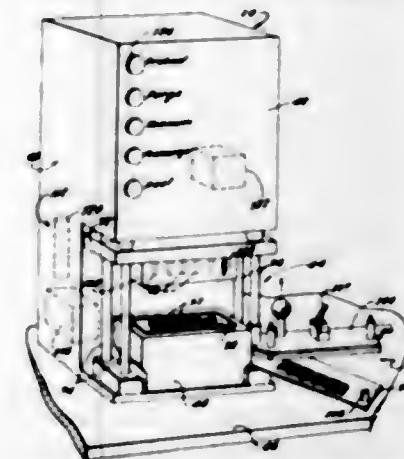
The disclosure involves a machine for welding a band to the peripheral edge of an arcuate web in face-to-edge relation. Its major operating elements are a cylindrical formed welding head rotatable on an axis inclined at roughly 45° from the vertical having axially separable transverse clamping faces providing peripheral margins for clamping said web with the arcuate edge thereof exposed, an electrode wheel providing a welding nip between said web blank and a transversely fed band in face-to-edge relation in intersecting planes each sloping rough-

ly 45° from the vertical, a web blank magazine in which web blanks are stacked for delivery by gravity to a plane normal to said welding head axis, a web blank pusher feed device on which web blanks are successively advanced in said plane from said magazine between the clamping faces of said welding head, a band blank maga-



zine in which band blanks are stacked for delivery in the plane of said nip, and a band blank pusher feed device on which band blanks are successively advanced between said band blank magazine and said nip, at which the two parts are welded to produce the welded article which is thereafter ejected.

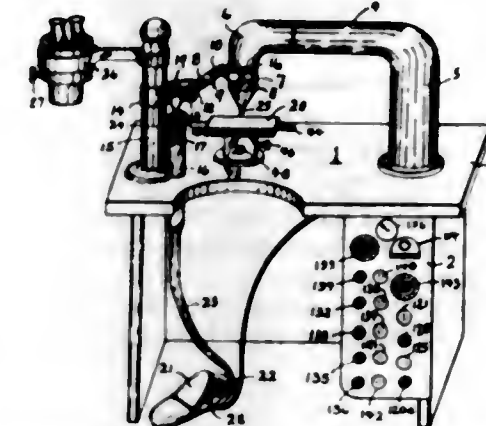
**3,382,342  
MICROMODULAR PACKAGE AND METHOD  
OF SEALING SAME**  
Sydney Dix, David W. Davis, and Martin L. Sklena, Costa Mesa, and Robert M. Sutherland, Redondo Beach, Calif., assignors, by mesne assignments, to GTI Corporation, Providence, R.I., a corporation of Rhode Island  
Filed Sept. 3, 1964, Ser. No. 394,143  
19 Claims. (Cl. 219-85)



The present invention relates to electronic devices and more particularly to means for packaging electronic devices by a sealing machine. The sealing machine is provided with a large number of heating units for simultaneously heating a corresponding number of micromodular packages. Each of the heating units includes a heating element that transfers heat into a junction between the cover and sidewall portions of the package. Each heating unit is constructed of a plurality of segments and the segments have different configurations so as to produce different amounts of heat in the different junction portions. The different amounts of heat are used so as to compensate for the varying amounts of heat transferred through the sidewalls. The heating element, therefore, provides for a uniform amount of heat around the junction so as to minimize the heat transfer into the electrical element contained within the micromodular package. The

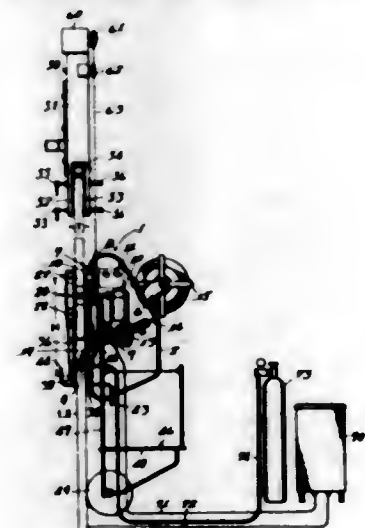
present invention also includes the use of a heat sink which also may be constructed of a plurality of segments so as to compensate for changes in heat transfer. The use of the heating element and heat sink, therefore, minimizes any damage to the electrical element within the micromodular package. Other aspects of the present invention are accurate transfer and aligning means.

**3,382,343  
LASER WELDING MACHINE**  
Hrand M. Muncheryan, 1735 Morningside St., Orange, Calif. 92667  
Filed July 23, 1964, Ser. No. 384,655  
14 Claims. (Cl. 219-121)



A laser welding machine is described, covering a console or work bench having a water-cooled laser welding head supported thereon and adapted to be rotated horizontally or vertically to position said head with respect to a workpiece. A pulse-repetition-controlled power supply contained in said console furnishes power to activate the laser head, which is provided with a short optical system for welding parts positioned on said console and being interchangeable with an elongated optical system consisting of a light pipe, a laser amplifier, and a lens means for welding structures remote from said console. Each of the optical systems terminates in a conical lens mount having a split tip spaced from the lens in said mount a distance equal to the focal length of said lens to focus the laser beam on the workpiece upon contact of said split tip therewith.

**3,382,344  
AUTOMATIC WELDING MACHINE**  
Mitsuo Hasegawa, 3 4-chome, Chitose-Dohri, Toyonaka, Osaka-fu, Japan, and Hideo Ikai, 755 Yokoya, Uozaki-machi, Higashi-Nada-ku, Kobe, Japan  
Filed Jan. 12, 1965, Ser. No. 424,938  
Claims priority, application Japan, Jan. 21, 1964, 39/2,509  
2 Claims. (Cl. 219-126)



An automatic welding machine for welding a pair of vertically disposed workpieces arranged in spaced edge-to-

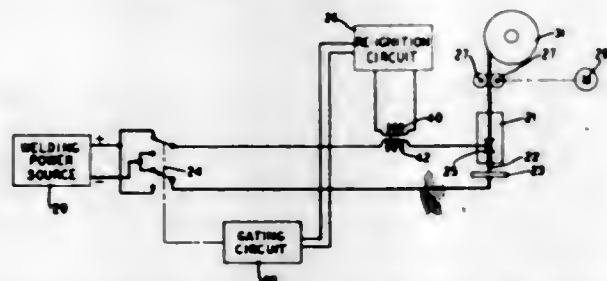


edge confrontation so as to define an open seam therebetween. The vertical welding machine has a carriage which carries an electrode centered in the open vertical seam being welded. The electrode is maintained in a central position of the open seam by a roller mechanism attached to the carriage and which prevents lateral movement of the carriage. The roller mechanism comprises a first set of rollers attached to the carriage at one side of the workpieces and bearing against the faces thereof and a second set of bevel edge rollers located at the opposite side of the workpieces and having their bevel edges engaging the corner edges of the workpieces, the bevel edge rollers also being fixedly connected with the carriage. The carriage is suspended from supporting structure including hoisting means for raising and lowering the carriage to move the electrode along said open seam.

### 3,382,345 ASYMMETRIC ALTERNATING CURRENT WELDING

Neil J. Normando, Livingston, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 1, 1966, Ser. No. 569,497  
5 Claims. (Cl. 219-137)

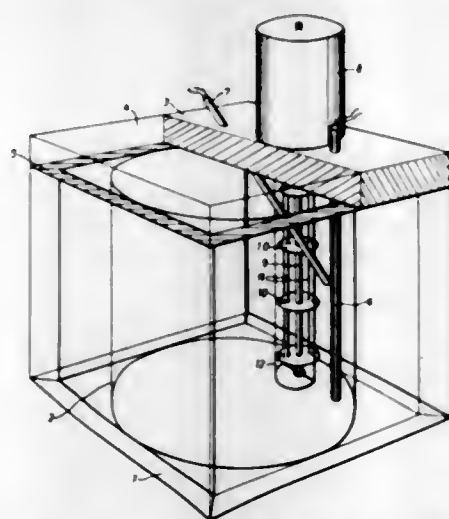


A process, and apparatus for use therein, of electric arc welding with a continuous consumable electrode wherein a D.C. power supply is connected to supply welding current to the electrode through a switching means such that the polarity between the electrode and workpiece can be reversed at an adjustable frequency and the ratio of time at one polarity to the time at the opposite polarity may also be varied.

### 3,382,346 THERMOSTATICALLY CONTROLLED CONSTANT TEMPERATURE BATH

Wolfram Breuer and Klaus Siemer, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Sept. 27, 1965, Ser. No. 490,424  
Claims priority, application Germany, Oct. 9, 1964,  
F 44,178  
1 Claim. (Cl. 219-331)

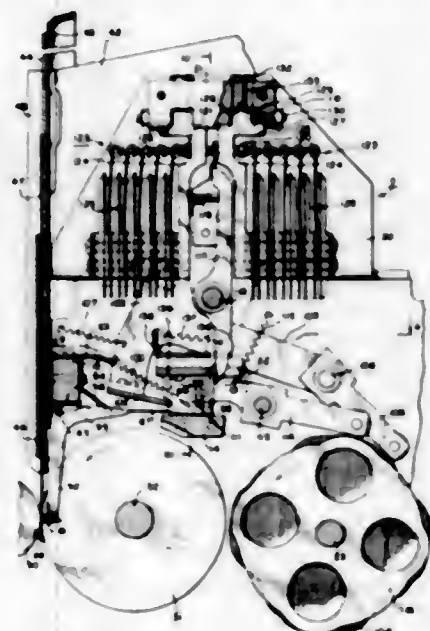


Liquid thermostat comprising a container having a two-part cover; a stirrer within the container having vertically

disposed stirring discs with taut wires extending therebetween depending from a first part of the cover; a heating means depending from said first part of the cover; a temperature probe depending from said first part of the cover; a cylindrical screen within the container surrounding the stirrer, temperature probe and heating means; and a shield adjacent said stirrer between such and the remainder of the area in said container.

### 3,382,347 TABULATING CARD READER

Wilbur C. Ahrens, Rochester, N.Y., assignor by mesne assignments, to Friden, Inc., San Leandro, Calif., a corporation of Delaware  
Filed Jan. 3, 1963, Ser. No. 249,202  
13 Claims. (Cl. 235-61.11)



1. A tabulating card reader comprising reading means for reading successive items of coded information recorded in a tabulating card, a power driven feed roll adapted to engage and drivingly transport a tabulating card past said reading means by accurately controlled step motion, to read successive items of coded information thereof, a pressure roll and means for retaining said pressure roll out of pressure engagement with said card, positioning means for positioning the leading edge of the card between said feed roll and pressure roll in readiness to begin reading of the first recorded item of information thereof, means controllable to release said pressure roll into engagement with the card after said positioning thereof by said positioning means to effect driving engagement of the card with said feed roll and effect card feed to read said successive items of coded information thereof, means for actuating said last-mentioned means to release said pressure roll and initiate a card transport operation, and means responsive to a preselected extent of each card transport movement, corresponding substantially to the physical spacing between the first and last of said items of coded information thereof, for automatically moving said pressure roll out of pressure engagement with the card to release the card from reading position and terminate said card transport operation.

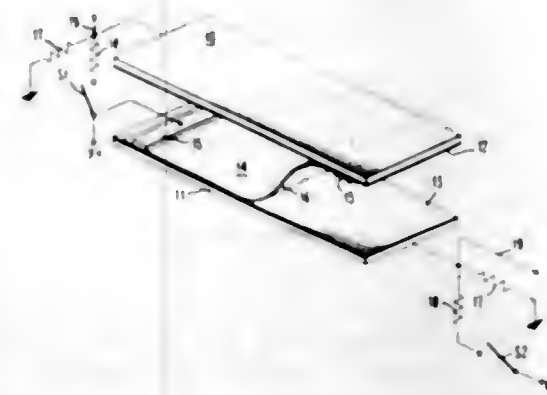
### 3,382,348 ELECTROSTATICALLY DRIVEN ANALOG DEVICE

Yates M. Hill, Union, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 11, 1964, Ser. No. 366,510  
19 Claims. (Cl. 235-61.11)

1. An electrostatically driven device comprising: a pair of electrodes providing substantially uniformly spaced surfaces,

means providing layers of dielectric overlying said surfaces, a thin, movable, electrically conductive strip-like member, the end portions of which are held respectively against remote points of one and the other of said layers, said member being longer than the distance between said points to permit selective contact of said member with said layers except for a transition portion extending angularly between said layers, and

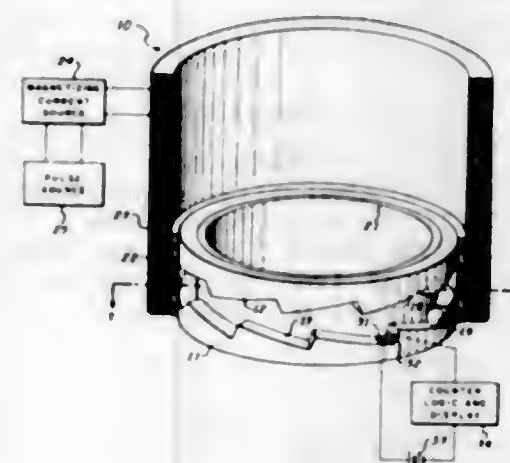


means for creating a potential difference between said member and at least one of said electrodes to cause a progressive movement of the transition portion relative to said surfaces in a direction corresponding to the point of application of such potential difference.

### 3,382,349 MAGNETO-MECHANICAL COUNTING DEVICE

John M. Lester, Garden City, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Feb. 10, 1965, Ser. No. 431,616  
7 Claims. (Cl. 235-92)



A magnetic flux pulse counter in which a ball of magnetic material, in response to successive magnetic flux pulses, is stepped circumferentially along a path formed by a pair of vertically spaced-apart races. Each complete revolution of the ball around the path is detected and an output signal produced.

### 3,382,350 REVERSE COUNTING LOGIC SYSTEMS

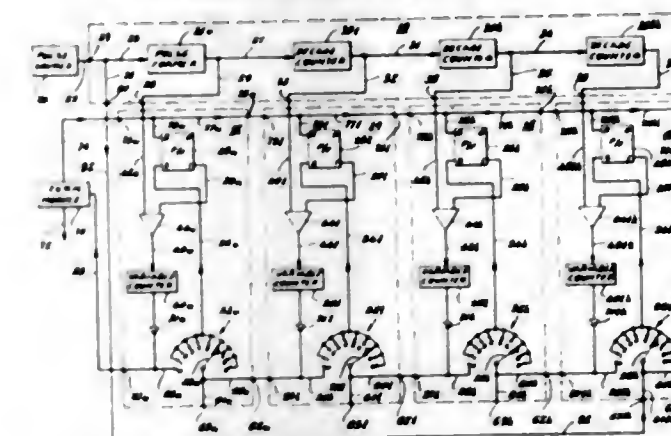
George J. Yagusic, Litchfield, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed May 10, 1965, Ser. No. 454,571  
19 Claims. (Cl. 235-92)

1. A selectable count counter for providing an output upon the attainment of a preselectable total multi-digit count comprising, in combination:

(A) a plurality of fixed and variable counters,

(1) said fixed counters connected in iterative series to provide a fixed count output upon the attainment of a total fixed count equal to the fixed counts of said fixed counters multiplied together, (2) each of said variable counters having an input selectively responsive to the output of one of said fixed counters, and;

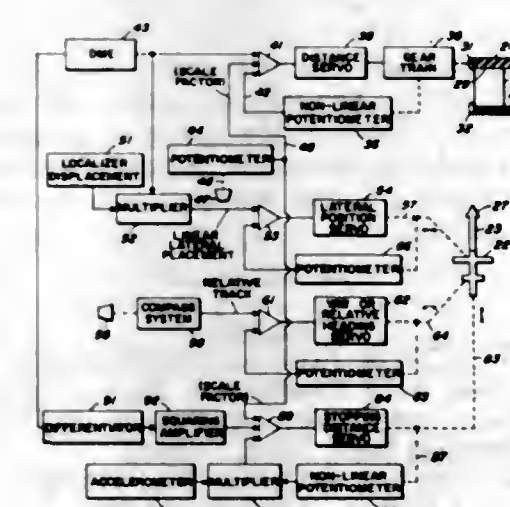
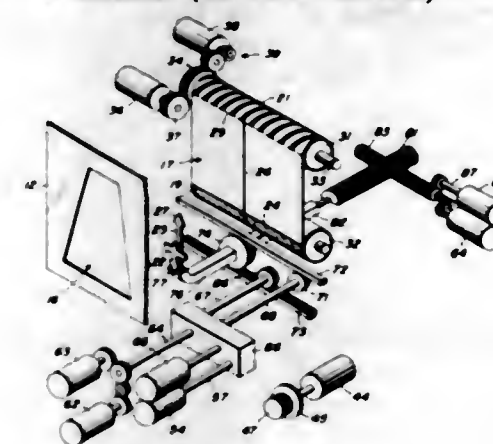


(B) control means responsive to said fixed count output to cause said variable counters to successively and individually count the digits of the preselected total count in reverse order beginning with the highest order digit and progressing to the lowest order digit,

(1) said control means comprising electronic switch means and a single pole double throw switch for effecting counting by said variable counters in said reverse order.

### 3,382,351 ROLLOUT GUIDANCE DISPLAY

Horst M. Schweighofer and Kenneth C. Emerson, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa  
Filed May 11, 1967, Ser. No. 637,841  
4 Claims. (Cl. 235-150.22)



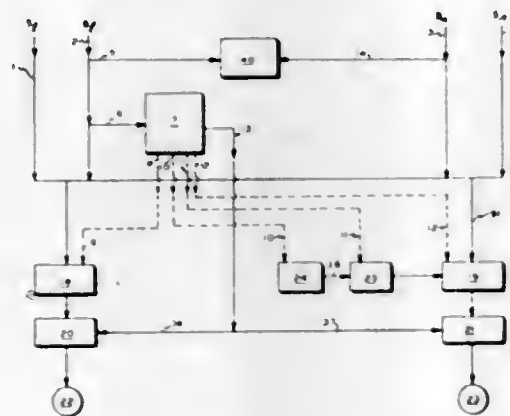
An indicator which illustrates to the pilot of an aircraft the alignment with a runway and which shows the



stopping point of the aircraft on the runway so that this point may be varied in accordance with the space available.

### 3,382,352 PROCESS CONTROL APPARATUS WITH VELOCITY PATTERN REPERTORY

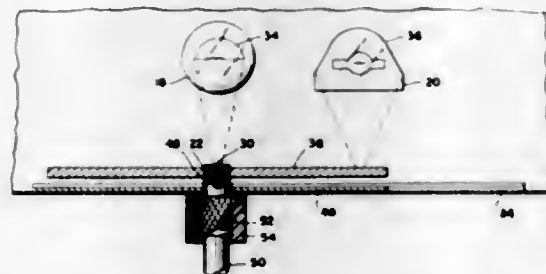
Edward W. Yetter, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Filed Apr. 25, 1963, Ser. No. 275,651  
6 Claims. (Cl. 235-151.1)



Apparatus for process control utilizing the sampled data approach and the computation of a plurality of parameters characterizing the process which is to be controlled, thereby permitting selection of appropriate velocity patterns from a repertory of available velocity patterns applicable to jointly effective power-driven apparatus operative on the process.

### 3,382,353 FIBER OPTIC LIGHT SOURCE

Reinhold Danforth Wappler, New York, N.Y., assignor to American Cystoscope Makers, Inc., Pelham Manor, N.Y., a corporation of New York  
Filed Nov. 30, 1966, Ser. No. 598,071  
7 Claims. (Cl. 240-1)



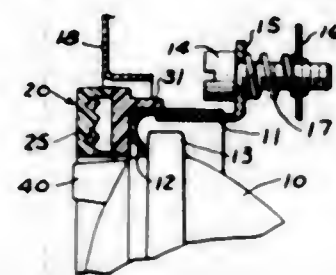
A light source unit having two electromagnetic radiant energy sources for delivering radiant energy to a bundle of radiant energy carrying fibers which may be inserted into the unit's outlet. The unit has means for providing relative movement between the energy receiving end of such a bundle and the sources thereby enabling the bundle end to receive and transmit energy from one source or the other as desired.

### 3,382,354 REFLECTOR FOR AUTOMOBILES

Peter Hedgewick, 2375 Windermere Road, Windsor, Ontario, Canada, and Wallace A. Stanley, 5215 Winlane Drive, Bloomfield Hills, Mich. 48013  
Filed July 21, 1965, Ser. No. 473,761  
12 Claims. (Cl. 240-41.38)

The reflector disclosed herein comprises a first substantially continuous ring of transparent material which has a smooth outer surface and an inner surface formed

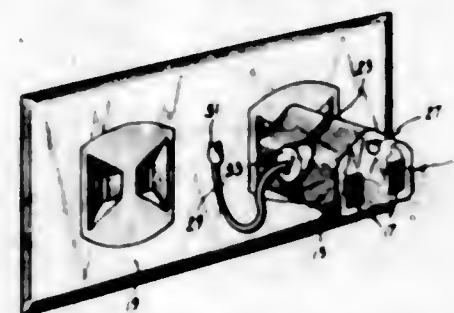
with a plurality of reflecting prisms such that light passing through the outer surface is reflected by the prisms on the inner surface back out through the outer surface and a



second ring of material which is joined to the first ring in spaced adjacent relation. Means are shown for mounting the rings so that the rings encircle the headlamp of an automobile.

### 3,382,355 ILLUMINATED ELECTRICAL CONNECTOR

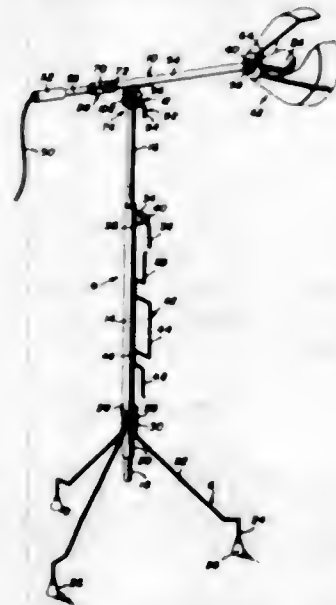
John S. Prifogle, Williamsburg, and Rodney J. Ross, Richmond, Ind., assignors to Belden Corporation, a corporation of Illinois  
Filed Sept. 26, 1966, Ser. No. 582,142  
3 Claims. (Cl. 240-73)



This device comprises an illuminated electrical connector with a body molded of light transmitting material. The illuminating means consisting of an elongated neon bulb to direct light through a dielectric barrier positioned within the body.

### 3,382,356 PORTABLE STAND WITH ADJUSTABLE LAMP SUSPENDING ARM

George F. Eyth, R.D. 2, Chicora, Pa. 16025  
Filed June 28, 1966, Ser. No. 561,214  
3 Claims. (Cl. 240-81)

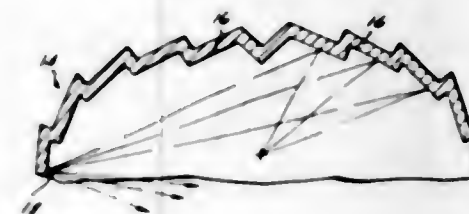


The lamp-equipped stand disclosed is versatile in capability. It lends itself to practical usage wherever a variable but properly directed beam of light is needed to assist a user in effectually taking care of work needs that call for

or necessitate adequate illumination. It provides a controllably aimed beam of light at a night barbecue, while washing one's car, attending to needs of livestock, painting indoors or outdoors, and for purposes too numerous to mention. It comprises a tripodal base, vertically adjustable standard, dual purpose handgrip, and a multipurpose lamp supporting arm adjustable atop the standard.

### 3,382,357 REFLECTOR FOR STREET LIGHTING LUMINAIRE

Dale E. Welty, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware  
Filed May 3, 1966, Ser. No. 547,277  
2 Claims. (Cl. 240-103)



A reflector is provided for a street lighting luminaire which provides reflected light in beam direction on either side of the luminaire along the street below. This reflector utilizes longitudinally extended scalloped panels to reflect up light from the light source downwardly across the luminaire to the beam panels of the reflector, which in turn reflect the light again across the luminaire toward the street in beam direction. These beam panels of the reflector also perform the usual task of reflecting direct light in beam direction.

### 3,382,358 LAMP SHADE SUPPORT MEANS

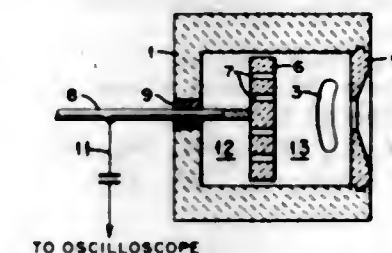
Matthew L. Pike, Jr., 173 Walnut, Marion, Ark. 72364  
Filed Sept. 6, 1966, Ser. No. 577,477  
2 Claims. (Cl. 240-108)



A support for a lamp of the type including a standard and a shade. The support includes a base member secured on the standard and a plurality of arm members, each including a resiliently flexible helical tension spring and a rod-like shank flexibly secured from the shade by the spring so that the ends of the shank can be inserted in the socket of the base member to support the shade from the standard.

### 3,382,359 CALUTRON ION SOURCE HAVING A MOVABLE BAFFLE FOR IMPROVING THE ION OUTPUT

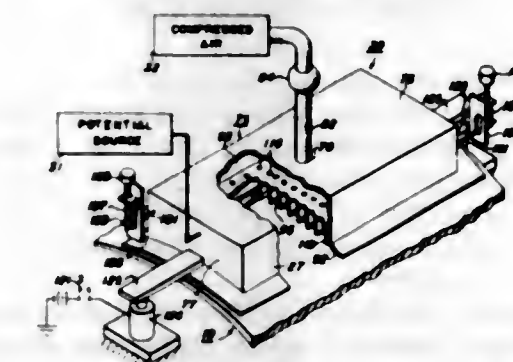
John V. Lee, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission  
Filed July 8, 1965, Ser. No. 470,651  
7 Claims. (Cl. 250-41.9)



A perforated movable baffle is utilized within the ionization chamber of a calutron ion source and means are provided for adjusting the position of the baffle such that signals derived from the baffle, as viewed on an oscilloscope, indicate a minimum in the amplitudes of oscillations when the baffle has been positioned properly which results in a maximum ion output.

### 3,382,360 XEROGRAPHIC CHARGING SYSTEM HAVING MEANS FOR PROVIDING AN AIR CUSHION BETWEEN THE CHARGING DEVICE AND THE XEROGRAPHIC DRUM

James E. Young, Pittsford, Kent W. Hemphill, Rochester, and Raymond T. Wright, Penfield, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York  
Filed Sept. 10, 1965, Ser. No. 486,304  
9 Claims. (Cl. 250-49.5)



8. In a xerographic apparatus including a xerographic drum comprising a photoconductive layer on a conductive substrate, and means to continuously rotate said drum sequentially past a plurality of processing stations, a corona generating device for applying a uniform electrostatic charge onto the surface of said drum comprising in combination:

- contiguous walls partially forming an enclosure, including an inlet opening in one of said walls for connecting a source of air thereto;
- a frame coextensive with and connected to said walls to form a plenum chamber therebetween being positioned generally parallel to the photoconductive layer, said frame containing a plurality of air passages communicating therethrough between said plenum chamber to the exterior of said frame;
- means for selectively urging said device against said air cushion;
- an array of corona discharge wires supported in said frame at least partially exposed to the exterior thereof;
- a source of potential connected to said wires sufficient to generate a corona charging current thereon; and



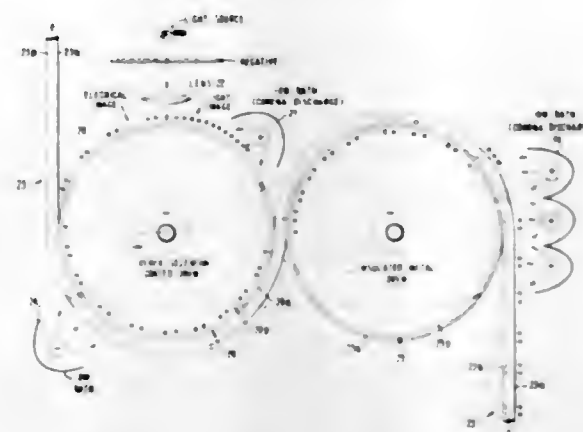
(f) means for supplying compressed air to said opening to effect during charging an air flow from said plenum through said passages providing an air cushion support between said frame and said xerographic drum.

3,382,361

# METHOD OF AND APPARATUS FOR CHARGING A THERMOPLASTIC RECORD MEDIUM TO PREVENT ARCING

John F. Schomburg, Stony Point, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 13, 1965, Ser. No. 513,191  
7 Claims. (Cl. 250—49.5)



1. The method of charging a thermoplastic record member with a charge pattern manifestive of a visible image desired to be stored in the member comprising the steps of:

- applying a charge pattern of a first electrical polarity to a charging member manifestive of the pattern of optical densities desired to be recorded in the thermoplastic record member;
- overlaying the charging member with the thermoplastic record medium with a first surface thereof in contiguous relationship to the charging member;
- irradiating the second surface of said record member with ions of a second polarity, while said record member remains in contiguous relationship with said charging member;
- overlaying the second surface of said record member with an insulated metal keeper unconnected to any potential source;
- separating the record member and the keeper from the charging member;
- irradiating the first surface of the record member, thus exposed, from a source of ions of said first polarity;
- and separating said record member from said keeper.

3,382,362

# FLUORESCENT SCREEN FOR AN X-RAY STEREO-SCOPIC PHOTOGRAPHIC DEVICE

Tomoyasu Tokuyama, 108 5-chome, Gotanda, Shinagawa-ku, Tokyo-to, Japan, and Masaaki Kobori and Michio Horuchi, Tokyo-to Japan; said Kobori and said Horuchi assignors to said Tokuyama

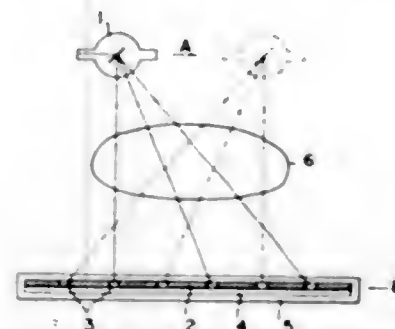
Filed May 7, 1965, Ser. No. 454,001

Claims priority, application Japan, May 13, 1964, 39/36,834

9 Claims. (Cl. 250—60)

A device for stereoscopic X-ray photography is disclosed as including a source of X-rays positioned on one side of a body or specimen to be examined and a screen and a film are positioned on the opposite side of the body or specimen to be examined so that X-rays passing through the body or specimen to be examined will im-

pinge on the screen. The screen is formed of material which is impervious to X-rays, impervious to visible light rays, or impervious to both, and is formed with a series of uniformly spaced and parallel, relatively narrow slots therethrough extending transversely thereof. Either fluorescent material is disposed in each of these slots or an intensifying sheet of fluorescent material is disposed along the surface of the screen remote from the source of X-rays. The film may be placed on the side of the screen remote from the source of X-rays, as on the side of the intensifying sheet, or may be placed on that side of the screen facing the X-ray source. The film is insensitive to



X-rays but is sensitive to visible light rays. The X-ray source is displaceable in a direction substantially parallel to the screen and perpendicular to the slot direction, and either the screen or the film is similarly displaceable, parallel to itself, in coordination with the displacement of the X-ray source, but in a direction opposite to the direction of displacement of the X-ray source. Thus, the X-ray source can be moved in a plane parallel to the screen or may be moved through a relatively long radius arc centered on the object or specimen at i contact with the screen. X-rays passing through the object and through the slots excite the fluorescent material to produce visible light rays which expose the film.

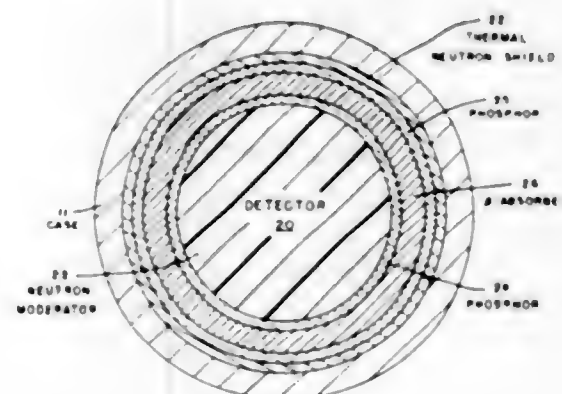
3,382,363

# EPITHERMAL NEUTRON SCINTILLATION DETECTOR

Orland J. Gant, Jr., Dallas, Benjamin F. Gibson V, Lufkin, and William C. Pritchett, Dallas, Tex., assignors to Atlantic Richfield Company, a corporation of Pennsylvania

Filed Nov. 5, 1964, Ser. No. 409,158

5 Claims. (Cl. 250—83.1)



A scintillation detector to be used in an epithermal neutron logging sonde. Thermal neutron shielding material is located around the periphery of the detector; neutron moderating material is contained within the center portion of the detector; and scintillation material is positioned between the shielding material and moderating material. The scintillation material can be formed as one or

more cylindrical shells or as a plurality of rods. Where the scintillation material is formed as a plurality of units, the individual units are separated by beta-absorbing material.

3,382,364

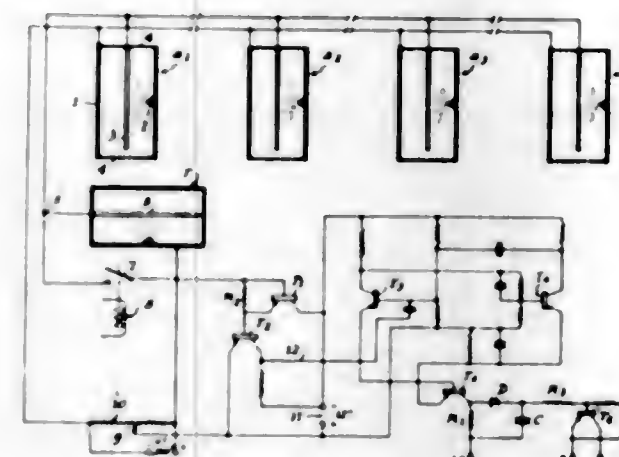
# APPARATUS COMPRISING A SIGNAL OUTPUT CIRCUIT RESPONSIVE TO A VARIABLE D-C VOLTAGE INPUT

Robert Guilleux, Chatillon-sous-Bagneux, France, assignor, by mesme assignments, to Compagnie Centrale Sicil, Paris, France

Filed Oct. 9, 1963, Ser. No. 315,072

Claims priority, application France, Oct. 12, 1962, 912,026

5 Claims. (Cl. 250—83.6)



- Monitoring apparatus comprising, in combination:
  - at least one ionization chamber sensing unit defining a capacitor;
  - an ionization chamber reference unit defining a capacitor and connected in series with said at least one sensing unit;
  - D.C. voltage supply means connected across the series circuit constituted by said sensing and reference units;
  - an amplifier circuit having an input terminal;
  - normally open switch means connected between said input terminal and the junction between said reference unit and said at least one sensing unit; and
  - switch closing means operatively connected with said switch means for periodically opening and closing the latter in a continual manner so as to conductively connect said junction to said input terminal, thereby to apply the voltage appearing at said junction to said input terminal in the form of a plurality of voltage pulses whose amplitudes are proportional to the load on those electrodes of said ionization chamber units which are connected together at such junction.

3,382,365

# APPARATUS FOR MEASURING THE HALF VALUE OF A CURRENT WITH A SUBSTANTIALLY EXPONENTIAL VARIATION

Jacques Lacour, Robert Poujols, and Maurice Thuilliere, Grenoble, France, assignors to Commissariat à l'Energie Atomique, Paris, France

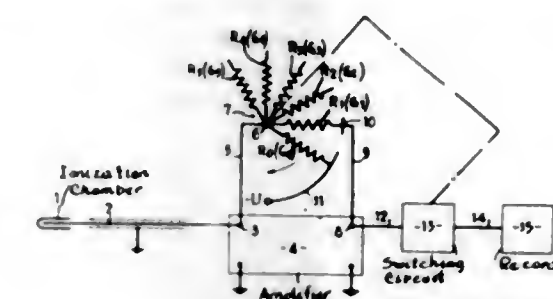
Filed Mar. 30, 1964, Ser. No. 355,739

Claims priority, application France, Apr. 2, 1963, 930,117

7 Claims. (Cl. 250—83.6)

1. Apparatus for measuring the time constant of a current or a voltage having an exponential variation comprising, an amplifier having an input and an output, means

for applying to said input a current corresponding to the quantity to be measured, a resistance network comprising a series of  $(n+1)$  resistors of which the first has a given conductance  $G_0$  and the  $n$  remaining resistors have as their conductance value the  $n$  first terms of a geometrical progression having a common ratio of 2 and a first term  $G_0$ , one of the ends of each of said  $(n+1)$  resistors being



connected in common to said amplifier input, and means for connecting the other end of a resistor in a range  $i$  to the output of said amplifier and in parallel therewith and the other end of each of said resistors in a range which is lower than  $i$  to a terminal having a fixed potential while the other end of each of said resistors in a range which is higher than  $i$  is not connected.

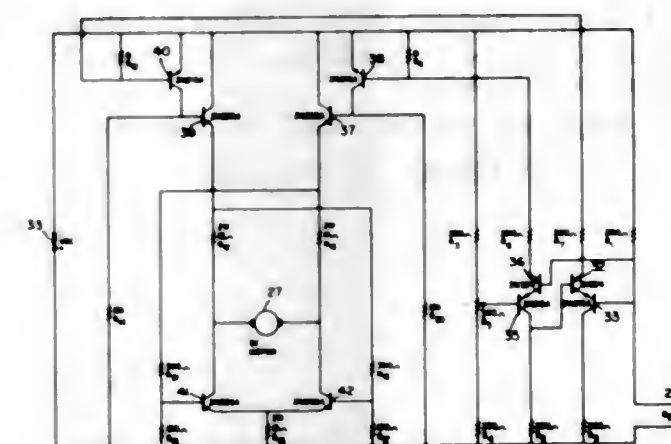
3,382,366

# EDGE FOLLOWING DEVICE EMPLOYING SERVOSYSTEM HAVING BRIDGE WITH COMPLEMENTARY TRANSISTORS

Irvin D. Johnson, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

Filed Jan. 25, 1965, Ser. No. 427,877

11 Claims. (Cl. 250—202)



1. Electro-optical devices for automatically following the periphery of objects substantially opaque to radiation which objects are moving in relation to the devices, said devices operating without mechanical contact with said objects, said devices comprising in combination a source of radiation, a relatively directional radiation detector generating a quantitative electrical signal indicative of the amount of radiation to which the face of said detector is exposed positioned some distance from said source, said detector being positioned to receive radiation from said source and having a substantial area exposed to said radiation, movable support means for positioning said detector and said source in relation to said object so as to expose only a predetermined portion of said face of said detector to said radiation, reversible and stoppable drive means for moving said support in relation to said object to alternate positions so as to successively expose greater and lesser portions of the face of said detector to said radi-



ation, a controller for operating said drive means in response to said quantitative signals generated by said detector, said controller comprising an electrical bridge circuit connected to a power supply and having four arms forming four junctions, a transistor switching circuit connected between two opposite junctions of said bridge and having first and second outputs connected to energize said drive means, said switching circuit comprising two pairs of interconnected transistors, said detector comprising a variable impedance electrically connected in one arm of said bridge for varying the electrical potential at one of said opposite junctions in proportion to the radiation being received by said detector, and adjustable impedance means in another arm of said bridge for adjusting the electrical potential at the other of said opposite junctions to correspond to said preset level of the signal received from said detector, whereby said control means controls said drive means so as to decrease the area of said detector face whenever said bridge is unbalanced by a quantitative signal from said detector which exceeds a preset value which preset value corresponds to the exposure of said predetermined area of said detector to said radiation, said controller stopping said drive means whenever said bridge is balanced by a signal from said detector equal to said preset value and said controller reversing said drive means whenever said bridge is unbalanced by a signal from said detector less than said preset value wherein each of said transistor pairs comprises complementary transistors and wherein the base electrode of one transistor of each pair of complementary transistors is connected to one of said opposite junctions and the base electrode of the other transistor of each pair is connected to the opposite junction.

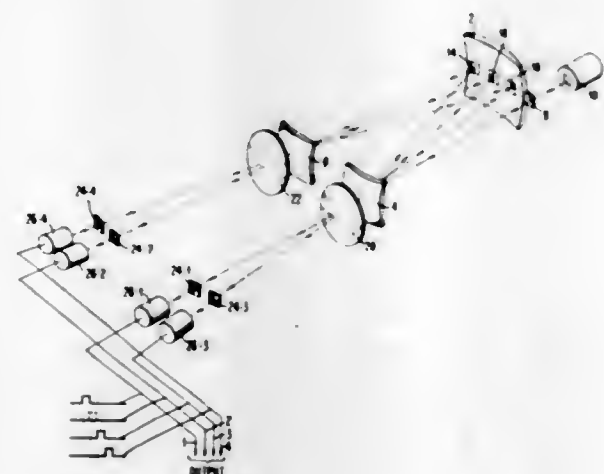
3,382,367

#### TECHNIQUES FOR FORMING MULTIPLE IMAGES OF AN OPTICAL PATTERN USING SPHERICAL MIRRORS

Wilton A. Hardy, Ossining, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

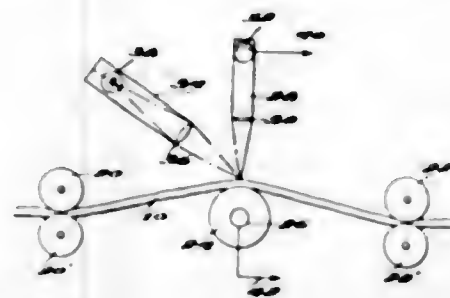
Filed Dec. 17, 1964, Ser. No. 419,003

27 Claims. (Cl. 250—216)



1. An optical system comprising, in combination: means for applying an optical image to the system; a plurality of spherical mirrors that are arranged to form multiple, essentially-identical, reproductions of the applied image by multiple reflections; and a plurality of indicating means, each responsive to one of said reproduced images for providing an indication that is dependent upon a portion of the applied image.

3,382,368  
UNDULATION COUNTING APPARATUS  
Harry Gorsuch Conner, Kennett Square, Pa., Jack Arnet Hancock, Nashville, Tenn., and Edward William Yetter, West Chester, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 5, 1964, Ser. No. 401,511  
5 Claims. (Cl. 250—219)

Apparatus to count crimp frequency of a moving textile tow comprising: a light source illuminating a small spot on the tow at a critical angle; a photoelectric detector receiving light pulses scattered from the spot and generating signals determined by crimps passing per unit time; a speed transducer generating signals determined by tow speed; a tension transducer generating signals determined by tow tension; and electronic computing and display circuitry for analyzing the signals and producing a read-out of crimps per unit tow length at a preselected tension.

3,382,369

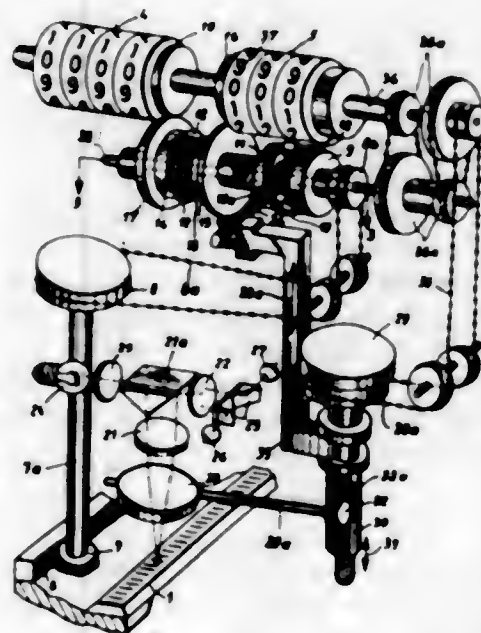
#### TWO STAGE READING DEVICE FOR LENGTH AND ANGLE MEASURING SCALES

Kurt Rantsch and Adolf Weyrauch, Wetzlar (Lahn), and Heinrich Staden, Braunfels, near Wetzlar, Germany, assignors to M. Hensoldt & Söhne, Optische Werke Ag., Wetzlar (Lahn), Germany

Filed Dec. 26, 1963, Ser. No. 333,507

Claims priority, application Germany, Jan. 5, 1963, H 47,885

13 Claims. (Cl. 250—237)



An apparatus for the measurement of the displacement of an object displaceable in a pre-determined direction wherein mechanical means drives a coarse register and an optical means drives a fine register and there being first and second differentials connected in series between the registers and the optical and mechanical drives therefor and a reduction drive between the optical means and the coarse register.

3,382,370

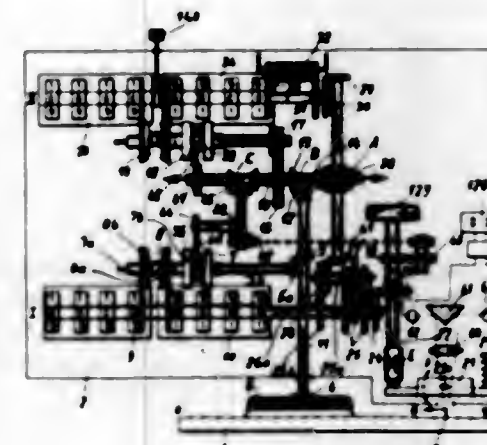
#### TWO-STAGE READING DEVICE FOR LENGTH AND ANGLE MEASURING SCALES

Kurt Rantsch, Heidenheim (Brenz), and Heinrich Staden, Braunfels, near Wetzlar, Germany, assignors to M. Hensoldt & Söhne, Optische Werke Aktiengesellschaft, Wetzlar, Germany

Filed July 9, 1964, Ser. No. 381,464

Claims priority, application Germany, July 9, 1963, H 49,675

8 Claims. (Cl. 250—237)



An apparatus in a machine tool for the measurement of the displacement of a slidable carriage in a pre-determined direction and having first and second units with each unit including a coarse register and a fine register wherein one unit is continuously driven to measure the displacement from absolute zero and the other unit is resettable to zero positions for measurements from various zero positions with said units also being reversible so as to indicate positive displacement measurements for either direction of movement of the slide.

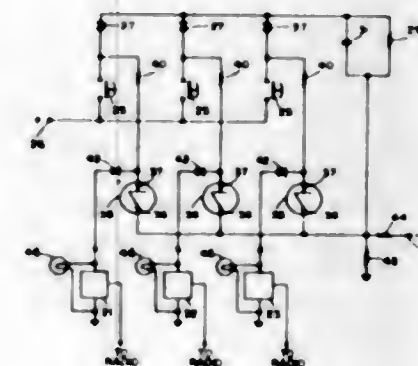
3,382,371

#### ELECTRONIC LATCHING SWITCH

Stanley Feldman, Evanston, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Feb. 1, 1965, Ser. No. 429,273

5 Claims. (Cl. 307—38)



This electronic latching switch includes a plurality of four layer diodes each of which is connected between a power supply and a load. A plurality of momentary pushbutton switches, each of which is associated with a respective four layer diode, may be selectively engaged to initially couple a control potential through an RC time base circuit to the cathodes of all of the four layer diodes to render them non-conducting. The four layer diode associated with the momentary pushbutton switch that has been engaged will then be energized through the

pushbutton switch by the charging up of the capacitor in the RC time circuit, which removes the control potential from the cathodes of the four layer diodes.

3,382,372

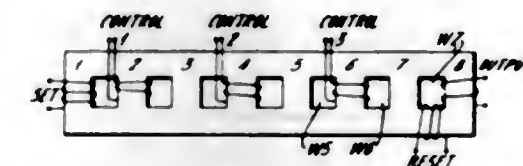
#### PROTECTIVE APPARATUS

Roy Hutchins and John Edmund Robson, Leicester, England, assignors to Associated Electrical Industries Limited, London, England, a British company

Filed Jan. 27, 1964, Ser. No. 340,342

Claims priority, application Great Britain, Jan. 29, 1963, 3,657/63

2 Claims. (Cl. 307—88)



A laddic is provided with an input winding at one end of the laddic and an output winding at the other end thereof and intermediate control windings on rungs between the two windings. A reset winding is provided which in the preferred form is about the laddic solely between the last control winding and the output winding.

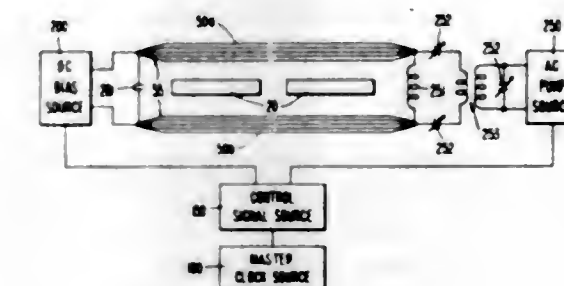
3,382,373

#### EXCITATION SYSTEM FOR PARAMETRIC DEVICES

Sidney N. Elmhorn, Willow Grove, and Wilmer S. Powell, Paoli, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed May 7, 1964, Ser. No. 365,724

8 Claims. (Cl. 307—88)



The present disclosure describes both the electrical and mechanical aspects of a system for distributing excitation power to parametrons, particularly those employing magnetic thin films as variable inductance components, wherein the AC pump and DC bias currents are applied to the parametrons by means of a strip line comprising a plurality of electrical conductors arranged in sets, positioned respectively on either side of the parametron variable inductance components and coupled thereto.

3,382,374

#### INTERLOCK CIRCUIT FOR FLOATING POWER SUPPLY

Richard A. Campbell, West Concord, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

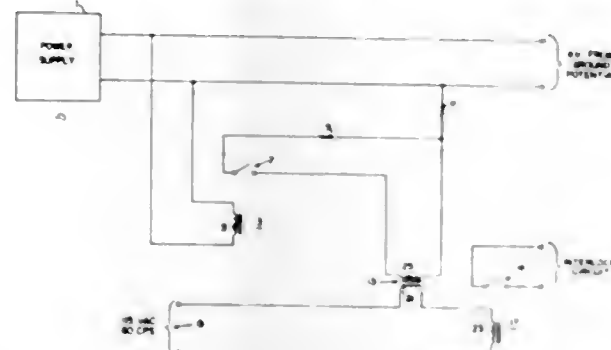
Filed Nov. 30, 1964, Ser. No. 414,931

6 Claims. (Cl. 307—130)

A shorted secondary winding filament transformer provides the proper isolation for the interlock circuit. A re-



lay winding is connected to the DC power supply. A resistor connects the contacts of the relay to the DC

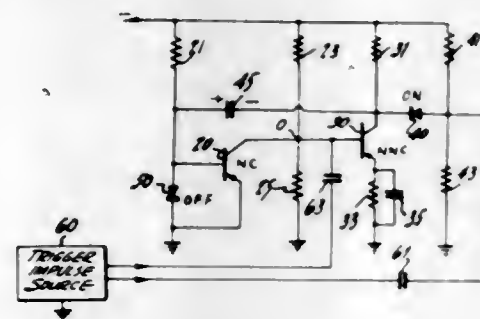


power supply to keep the contacts near the voltage level of the relay winding.

3,382,375

**COUNTER EMPLOYING MONOSTABLE-MULTIVIBRATOR WITH ITS TIMING CYCLE DETERMINED AND INITIATED BY FIRST TWO PULSES OF INPUT CLOCK BUT THEN ISOLATED THEREFROM FOR REMAINDER OF COUNT**

Robert A. Dischert Burlington, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Apr. 3, 1964, Ser. No. 357,026  
7 Claims. (Cl. 307-225)



1. A counter circuit for providing a count of  $n$ , comprising in combination:  
a capacitor;  
means for initiating the charging of said capacitor in response to the appearance of an initial one of a periodic train of input pulses;  
means for terminating said charging of said capacitor in response to the appearance of the input pulse of said train next succeeding said initial one; and  
means for discharging said capacitor for a period commencing with said charge termination and concluding at a time intermediate the times of appearance of a pair of successive input pulses of said train, the duration of said discharging period exceeding  $(n-2)$  times the duration of the recurrence period of said input pulse train, and being less than  $(n-1)$  times the duration of said recurrence period.

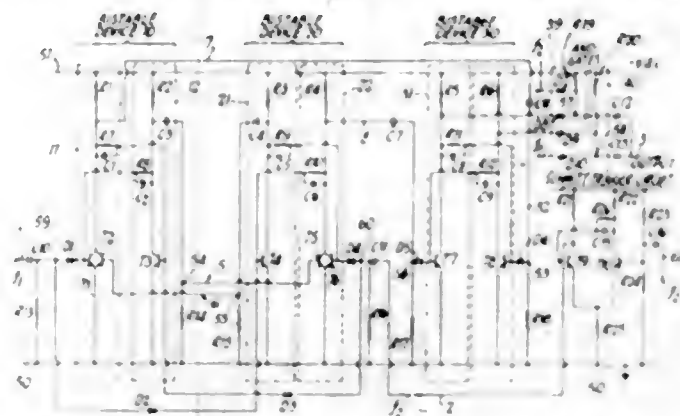
3,382,376

**FREQUENCY COMPARISON DEVICES**

Raymond J. Sowden, Stevenage, England, assignor to Hawker Siddeley Dynamics Limited, Hatfield, England, a company of Great Britain  
Filed Jan. 14, 1965, Ser. No. 425,568  
Claims priority, application Great Britain, Jan. 20, 1964, 2,405/64  
14 Claims. (Cl. 307-233)

The invention relates to a frequency comparison device which includes two bistable devices each operable in response to pulses at a first repetition frequency to assume one of two possible states of each device and in response

to pulses at a second repetition frequency to assume the other of the said two states of each device, a first inhibiting connection controlled by the first of the bistable devices and arranged, while the first repetition frequency is greater than the second, to prevent a change of state of the second bistable device, and a second inhibiting con-



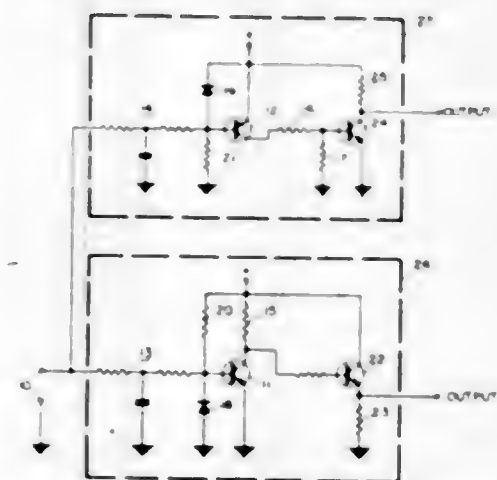
nection controlled by the second of the bistable devices and arranged, while the second repetition frequency is greater than the first to prevent a change of state of the first bistable device, whereby the two bistable devices together assume one or other of two operative configurations respectively according as the first or the second repetition frequency is the higher of the two frequencies.

3,382,377

**POLARITY SHIFT RECEIVER**

Jerry P. Huffman, Rochester, and John H. Auer, Jr., Fairport, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Jan. 13, 1964, Ser. No. 337,455  
10 Claims. (Cl. 307-236)



Apparatus for providing electrical outputs which are indicative of the polarity of D.C. signals received over a wire line. The invention is comprised of two transistorized switching units, one unit providing an output when energy of positive polarity is received, the other providing an output when energy of negative polarity is received. Each unit is protected by a low pass filter, preventing damage by surge voltages such as may be caused by lightning.

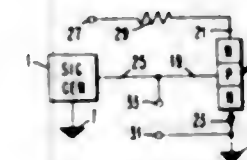
3,382,378

**CLAMP CIRCUIT**

Ivars G. Akmenkalns, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York  
Filed Apr. 27, 1964, Ser. No. 362,716  
4 Claims. (Cl. 307-237)

A low level clamping circuit comprising a transistor operating as a diode. More specifically, a transistor is connected in a grounded emitter configuration and is equipped with a load resistor and voltage supply for determining its entry point into the saturated condition and a base

lead for applying the signal to the transistor. The ohmic value of the load resistor and the collector voltage supply specifies the point on the transistor characteristic curve at which the transistor saturates. The saturation point



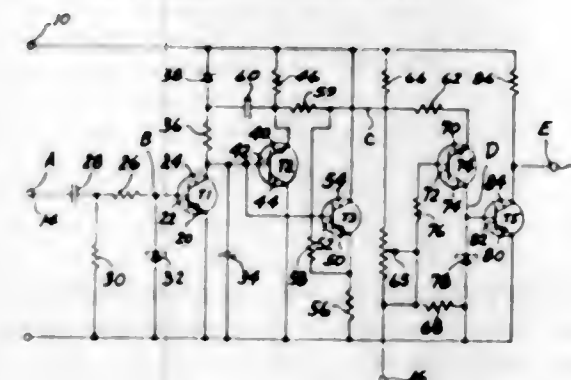
specifies the rectifying level because the transistor enters saturation at the input voltage level that is selected as the clamping level. The instant invention creates a low level clamp circuit which begins operation with a few microamps of base-emitter current.

3,382,379

**PHASE SHIFTER**

William F. Lawless, Cupertino, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Mar. 30, 1964, Ser. No. 355,802  
16 Claims. (Cl. 307-262)

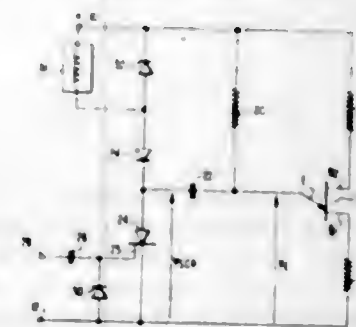


1. A phase shifter for producing an output pulse in response to a varying amplitude waveform and a phase change signal, comprising: means for varying the level of the varying amplitude waveform in response to the phase change signal, and means for switching alternately between one voltage and another in response to the crossing of a certain reference level by the level-varied varying amplitude waveform thereby simultaneously providing isolation between said signal and said waveform while in one of said voltage levels.

3,382,380

**PULSE GENERATOR EMPLOYING UJT CIRCUIT CONTROLLED BY SCR**

Harold D. Fish, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware  
Continuation-in-part of application Ser. No. 496,359, Oct. 15, 1965. This application June 28, 1966, Ser. No. 561,122  
8 Claims. (Cl. 307-268)



An electronic pulse, unijunction transistor, D.C. amplifier having a silicon controlled rectifier connected in series with a load across the base electrodes of the tran-

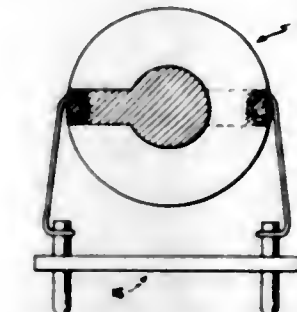
sistor, a resistor and capacitor being connected in parallel with the load and the emitter electrode of the transistor being connected at a point between the resistor and capacitor. The silicon controlled rectifier conducts in response to an input voltage pulse to reduce the voltage on one plate of the capacitor initiating a timing interval determined by the time required for the capacitor to charge through the resistor to a potential sufficiently high to fire the transistor.

3,382,381

**TAB PLATEBACK**

William H. Horton, Orlando, Fla., assignor to Piezo Technology Inc., Orlando, Fla., a corporation of Florida

Filed May 27, 1965, Ser. No. 459,411  
7 Claims. (Cl. 310-8.2)



1. A resonator for relatively high frequency use comprising a crystal having formed thereon an electrode region and lead attachment tabs, said lead attachment tabs having a thickness  $t_L$  such that

$$\omega_{ro} < \omega_L \leq \omega_{r1}$$

where the frequency determined by  $t_L$  is  $\omega_L$ , in accordance with the equation

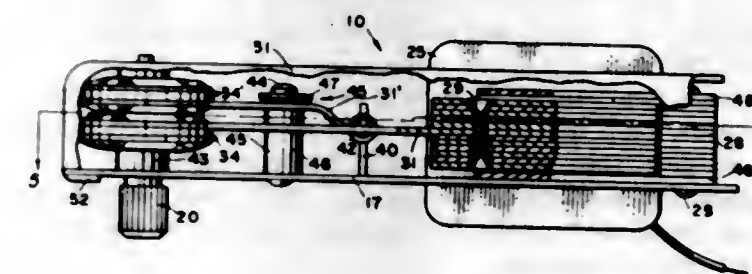
$$\omega_L = \frac{N}{t_b} \left( 1 - 2 \frac{t_L}{t_b} \frac{\rho_e}{\rho_Q} \right) n$$

$n$  (the overtone number) is an odd positive integer; and where  $N$  is a frequency constant being approximately 1670 kHz/mm.;  $t_b$  is the thickness of said crystal;  $\rho_e$  is the density of the material of said electrode region; and  $\rho_Q$  is the density of said crystal, for suppressing unwanted anharmonic overtone responses in the vicinity of the main mode frequency of said resonator.

3,382,382

**TWO-SPEED SYNCHRONOUS MOTOR**

Gianni A. Dotto, Dayton, Ohio, assignor to F. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware  
Filed Feb. 12, 1965, Ser. No. 432,327  
19 Claims. (Cl. 310-37)



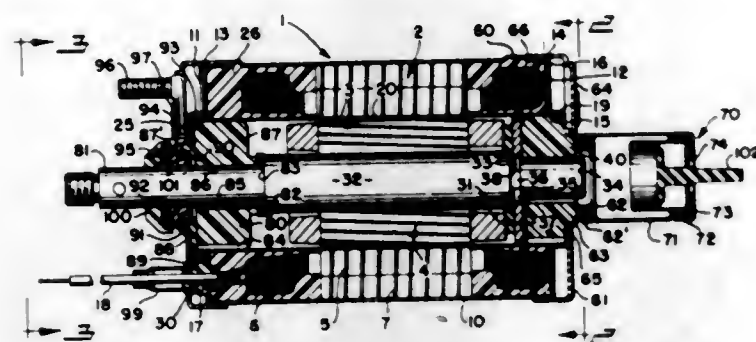
A low wattage prime mover including an electrical input means, a coil, at least one oscillating armature, one-way clutch means cooperatively associated with said armature or armatures and a rotatably displaceable shaft driven by said armature or armatures through said one-way clutch means.



3,382,383

**SUBMERSIBLE PUMP MOTOR**

James R. Turk, Solon, Ohio, assignor to Vincent K. Smith, Gates Mills, Ohio  
Filed Sept. 13, 1965, Ser. No. 486,912  
16 Claims. (Cl. 310—86)

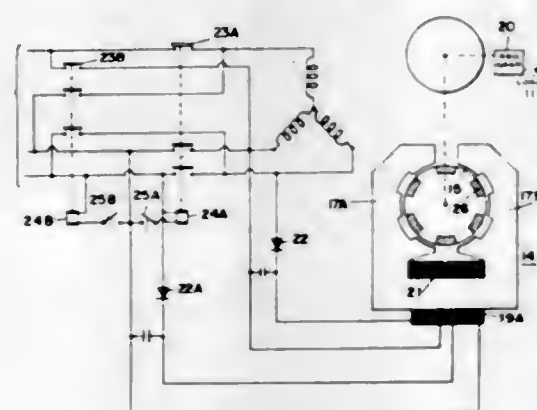


1. A submersible electric motor comprising a stator assembly, a tubular shell disposed around said stator assembly, a liner disposed within the bore of said stator assembly, end rings inserted between the ends of said shell and liner adjacent the ends of said stator assembly, said end rings being welded to said shell and liner while held concentric with respect to said stator bore, support bearings received within said liner, a rotor assembly disposed in said liner, said rotor assembly being concentrically supported in said stator bore by said support bearings, and end covers mounted on each end of said motor, one of said end covers being provided with a central axially outwardly extending spherical socket which engages spherical portions on the axial outer face of the adjacent support bearing to assist in maintaining said support bearing concentrically disposed in said stator bore.

3,382,384

**ELECTROMAGNETIC BRAKES AND CLUTCHES**

Leonard Robin Hulls, Gwynedd Valley, Pa., assignor to Leeds & Northrup Company, a corporation of Pennsylvania  
Filed June 26, 1964, Ser. No. 378,292  
12 Claims. (Cl. 310—93)



1. An electromagnetic device suited for a system including motor means and a load element positioned thereby comprising

at least one pair of relatively rotatable magnetic structures, each having spaced pole teeth separated by an air gap from pole teeth of the other structure, means for mechanically coupling one of said structures to the motor means for rotation relative to the other of said structures, means for producing a magnetic field linking said relatively rotatable structures by magnetic flux traversing said air gap between the pole teeth of said structures to provide a non-frictional static-braking torque alternately resisting and assisting relative rotation of said structures from one to the next position of alignment of their pole teeth for minimum air-gap reluctance,

coil means energizable to buck out said magnetic field to permit relative rotation of said structures, and non-magnetic conductive means disposed on one of said structures and providing a winding for cooperation with said magnetic field when said coil means is deenergized to provide a non-frictional dynamic-braking torque reducing the relative speed of said structures during their relative rotation.

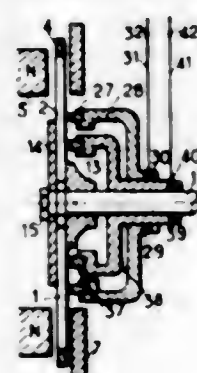
3,382,385

**ELECTROMAGNETIC CLUTCHES**

Jacques Henry-Baudot, Antony, France, assignor to Societe d'Electronique et d'Automatisme, Courbevoie, France.

Filed July 27, 1964, Ser. No. 385,243  
Claims priority, application France, Sept. 4, 1963, 946,578, Patent 1,375,230; Feb. 29, 1964, 965,668, Patent 85,373

15 Claims. (Cl. 310—94)



A variable electromagnetic coupling between shafts is provided by a heteropolar field structure carried by one shaft and defining a magnetic airgap and a rotor disc within the airgap and carried by the other shaft. The rotor disc is preferably slotted and means are provided to short-circuit the disc either in steps or continuously to vary the coupling and slip between the shafts in any desired manner.

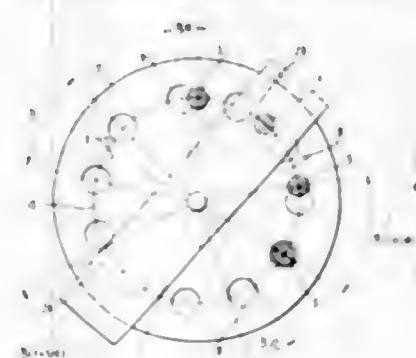
3,382,386

**MAGNETIC GEARS**

Hans P. Schlaeppli, Thalwil, Zurich, Switzerland, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 23, 1964, Ser. No. 420,505  
Claims priority, application Switzerland, Dec. 31, 1963, 16,083/63

14 Claims. (Cl. 310—104)



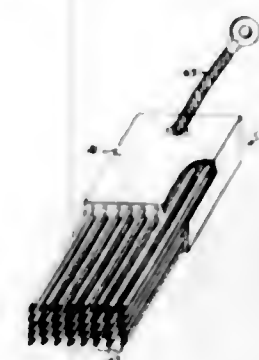
A magnetic gear consisting of magnetic coupling elements and of driving and driven components which are at a selected distance from each other, the whole being accommodated in a casing such that the magnetic flux through the aforesaid elements and components is closed. In operation, the change in magnetic resistance owing to the change of position of the driving and driven components in relation to the coupling elements generates the coupling forces, the ratio of the number of mag-

netizable areas in the driven component to the number of such areas in the driving component determining the gear ratio.

3,382,387

**ELECTRICAL CURRENT COLLECTION AND DELIVERY METHOD AND APPARATUS**

Richard A. Marshall, Rexford, N.Y., assignor to General Electric Company, a corporation of New York  
Filed June 21, 1965, Ser. No. 465,557  
13 Claims. (Cl. 310—219)



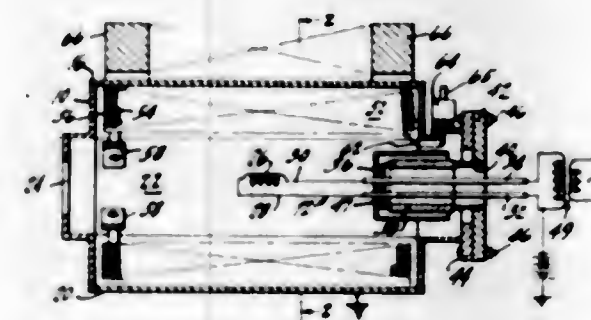
A resilient wire of circular right cross section has a metal outer sheath enclosing a core of weld inhibiting material such as carbon. The resilient wire is used as a brush for making electrical contact to a sliding contact electric power transfer apparatus.

3,382,388

**ION PUMP AND SCRUBBING GUN FOR HIGH VACUUM APPARATUS**

William G. Henderson and John T. Mark, Lancaster, Pa., assignors to Radio Corporation of America, a corporation of Delaware

Filed June 15, 1966, Ser. No. 557,755  
7 Claims. (Cl. 313—7)



A sputter ion pump has an electron scrubbing gun disposed within the pump housing for dislodging adsorbed and absorbed gases from the housing walls. To shield the flat gas absorbing electrodes of the sputter ion pump from the electron scrubbing gun, such electrodes have their edges oriented toward the scrubbing gun.

3,382,389

**COLD CATHODE IONIZATION GAUGE WITH A SEPARATE IONIZATION CHAMBER CONNECTED TO THE MEASURING CHAMBER**

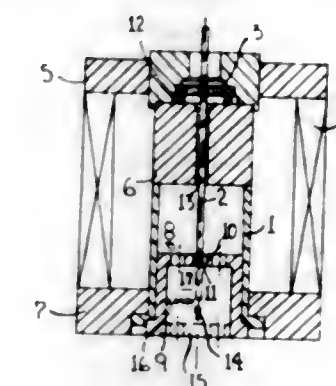
Walter Schaedler, Triesen, Liechtenstein, assignor to The Bendix Corporation, Rochester, N.Y., a corporation of Delaware

Filed Feb. 1, 1967, Ser. No. 613,312  
Claims priority, application Switzerland, Feb. 2, 1966, 1,499/66

4 Claims. (Cl. 313—7)

A cold cathode ionization gauge, according to the invention, which has a body defining a hollow cylindrical measuring space, an axially-arranged, rod-shaped anode

extending through the measuring space and an axial magnetic field. The invention is characterized by an external chamber connected to the measuring chamber by an opening and by the anode projecting into the external chamber.



In a particular form of the carrying out of the invention, it will be provided that the free end of the anode rod projects into a hole in the fixed side lying opposite to the face of the cathode cylinder formed as an external chamber.

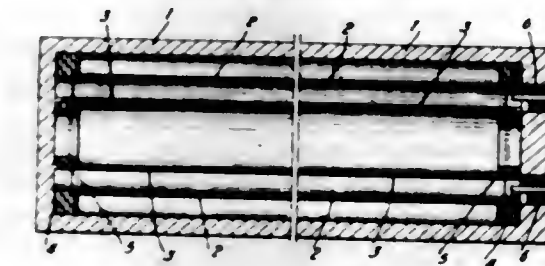
3,382,390

**RADIATION DETECTOR MADE FROM TITANIUM OR ZIRCONIUM**

Jean Gustave Chameroy, Guyancourt, and Yves Wilmart, Paris, France, assignors to Societe Anonyme: Groupement Atomique Alsacienne Atlantique (G.A.A.A.), Le Plessis-Robinson, Seine, France, a corporation of France

Filed Jan. 12, 1965, Ser. No. 424,978  
Claims priority, application France, Jan. 15, 1964, 960,456

2 Claims. (Cl. 313—61)



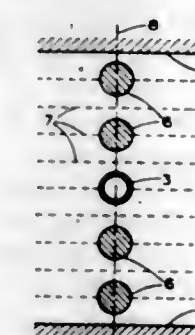
Radiation detectors made from titanium or zirconium and having three coaxial cylindrical metallic members spaced apart by insulator rings at the ends of the members are described herein.

3,382,391

**FERROMAGNETIC ROD CORRECTION MEANS FOR THE MAGNETIC FIELD OF A MICROTRON**

Herbert Reich, Braunschweig, Germany, assignor to Mullard Limited, London, England  
Continuation of application Ser. No. 471,943, July 14, 1965. This application Aug. 30, 1967, Ser. No. 664,571

9 Claims. (Cl. 313—62)



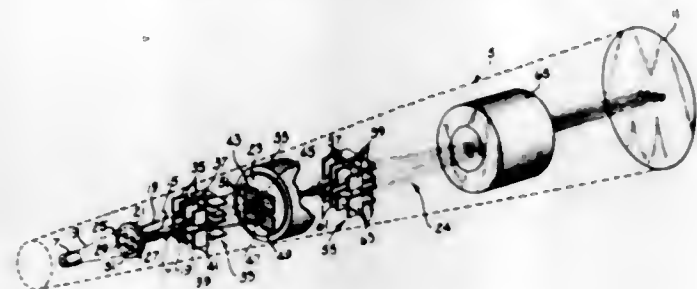
A microtron employing field compensating members symmetrically positioned about the plane of the beam



of charged particles. Each of the compensating members, which are rods of ferromagnetic material, has its axis parallel to a ferromagnetic tube provided in the path of the charged particles. Each of the rods are spaced from the pole-pieces.

**3,382,392**  
**CATHODE RAY TUBE SIMULTANEOUSLY**  
**GENERATING A PLURALITY OF SHAPED**  
**ELECTRON BEAMS**

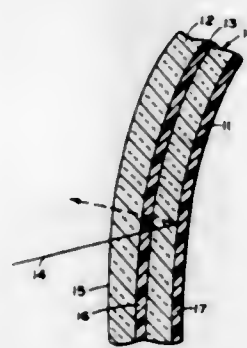
Charles Robert Corpew, La Mesa, Calif., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware  
Filed Jan. 16, 1967, Ser. No. 609,444  
6 Claims. (Cl. 313-69)



A shaped beam tube in which an electron beam is divided into a plurality of separate electron beams and the separate electron beams are then passed through a means for forming a cross section of each beam. The shaped beams are then directed and focused so as to impinge on a screen to thereby produce displays corresponding to the cross sections of the beams.

**3,382,393**  
**COLOR TELEVISION TUBE WITH FACEPLATE**  
**PANEL OF HIGH TRANSMITTANCE IN THE**  
**RED COLOR**

James W. Schwartz, Western Springs, Ill., assignor to National Video Corporation, Chicago, Ill., a corporation of Illinois  
Filed Sept. 8, 1966, Ser. No. 578,092  
3 Claims. (Cl. 313-92)

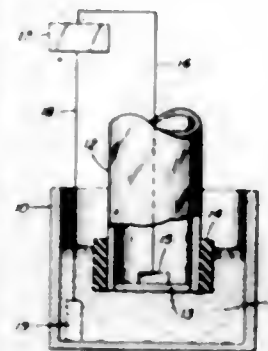


In a conventional color television tube of the shadow mask type, in which the phosphor deposited on the interior of the faceplate panel for emitting red light is yttrium vanadate activated by europium, an additive of substantial portion of phosphorous pentoxide augmented by minor amounts of ferric and nickel oxide is included with the faceplate panel for promoting the transmittance of the red color. In a further improvement in which a glass safety panel is affixed to the exterior of the faceplate panel with an adhesive, dichroic crystals are added to the adhesive for attenuating the transmittance of the light generated by phosphors other than the red phosphor to substantially enhance color contrast.

**3,382,394**  
**ELECTROLUMINESCENT PROCESS INCLUDING**  
**INJECTION OF NEGATIVE CARRIERS INTO**  
**A CRYSTAL OF AN ORGANIC COMPOUND**

Wolfgang Mehl, Meiner, Switzerland, assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Mar. 24, 1965, Ser. No. 442,325  
5 Claims. (Cl. 313-108)



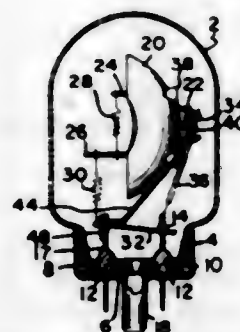
The invention relates to a process for injecting negative charged carriers into single crystals of substantially pure organic compounds having fused rings, such as anthracene. This is accomplished by contacting such a crystal with a reducing agent of sufficient strength to inject negatively charged carriers of the organic compound into the crystal when the crystal and the reducing agent are subjected to an electrical field. A useful reducing agent is an ethylenediamine solution of lithium metal.

The invention further relates to the generation of visible light by providing a process in which positive charged carriers may be injected into the same crystal simultaneously with the negative charged carriers when a suitable oxidizing agent is placed in contact with a second side of the crystal and the reducing agent crystal and oxidizing agent are subject to an electrical field.

**3,382,395**  
**PROJECTION LAMP WITH GLASS REFLECTOR**  
**SPRING CLIP SUPPORT**

Richard E. Smith, Lexington, and Chester C. Blair, Jr., Winchester, Ky., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 28, 1965, Ser. No. 516,950  
2 Claims. (Cl. 313-113)



A projection lamp of the type having a glass reflector disposed therein in which the means for supporting the reflector includes a substantially rectangular spring clip having downturn edges at the corners to define bearing surfaces which abut the back of the reflector.

**3,382,396**  
**SUPERHIGH-PRESSURE MERCURY VAPOR**  
**DISCHARGE LAMPS**

Thomas Holmes and Abraham Timmermans, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 355,667, Mar. 30, 1964. This application Mar. 13, 1967, Ser. No. 622,828  
Claims priority, application Netherlands, Apr. 3, 1963, 291,092  
4 Claims. (Cl. 313-228)

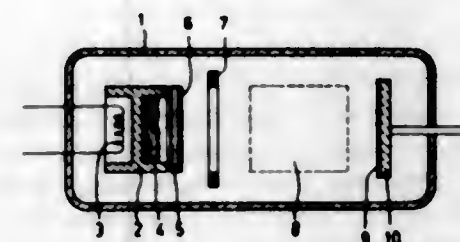


1. A superhigh-pressure mercury vapor lamp comprising an envelope having a quartz glass wall portion surrounding a discharge space, electrodes within said envelope for producing a discharge in said space spaced apart a distance exceeding twice the smallest inner diameter of the discharge space, a supply of mercury within said discharge space and an inert gas at a pressure at which a discharge is produced between said electrodes which produces a load of at least 300 w./cm.<sup>2</sup> on the inner surface of said wall portion, and between  $5 \times 10^{-3}$  and  $5 \times 10^{-7}$  gram-atoms/cm.<sup>3</sup> of a halogen in said discharge space whereby the life of said lamp is greater than the same lamp without the halogen and no spectral lines of an element bound to the halogen are emitted.

**3,382,397**  
**ION SOURCE HAVING A HIGH WORK FUNCTION**  
**MATERIAL COATING THE OUTER SURFACE**  
**OF THE IONIZER**

Pieter Zalm, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

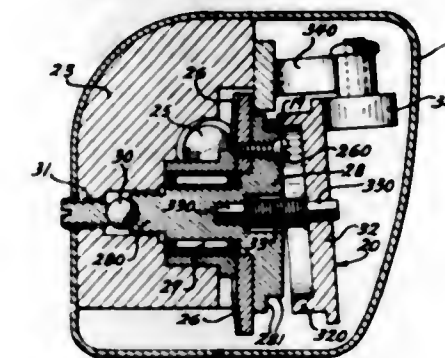
Filed Nov. 12, 1964, Ser. No. 410,584  
Claims priority, application Netherlands, Nov. 20, 1963, 300,777; Feb. 12, 1964, 64-1,192  
4 Claims. (Cl. 313-230)



An ion source comprising a supply of an ionizable material behind a porous tungsten substrate having on its outer surface a coating of iridium, ruthenium, rhenium, or osmium.

**3,382,398**  
**WELDING WIRE FEED MEANS FOR**  
**WELDING GUNS**

Wilbert L. Austin, 441 Colonial Court, Grosse Pointe Farms, Mich. 48236, and Earl J. Bogard, 20626 Whitlock, Dearborn Heights, Mich. 48127  
Filed Aug. 8, 1966, Ser. No. 571,003  
4 Claims. (Cl. 314-69)

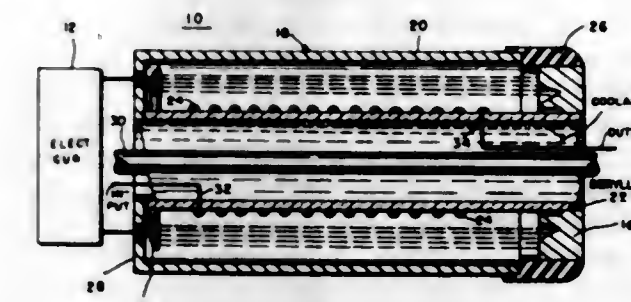


1. Means for feeding welding wire through welding guns and the like comprising a power driven welding wire feed disc having an axially and radially disposed angular welding wire seat formed around the periphery thereof accommodating a welding wire therein, a welding wire feed plate including an annular bearing lip having an annular axially disposed bearing surface, power means driving said welding wire feed disc, resilient coupling means keyed centrally to said power driven wire feed disc and said wire feed plate supporting said wire feed plate in axial spaced relationship with respect to said power driven wire feed disc and rotatable therewith, and a spring loaded pressure roller means contacting said welding wire feed plate causing said welding wire feed plate to tilt and bring the annular axially disposed bearing surface thereof into engagement with a welding wire disposed in the welding wire seat of said welding wire feed disc opposite the point of contact of the said spring loaded pressure roller on said wire feed plate whereby to positively grip and feed said welding wire through said welding gun.

**3,382,399**  
**MODIFIED TRAVELING WAVE TUBE**

Kenton Garoff, Little Silver, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed May 6, 1965, Ser. No. 453,846  
1 Claim. (Cl. 315-3.5)



A traveling wave tube including a transmission circuit which comprises an evacuated annular cylinder having an outer metallic surface and an inner surface made of beryllia upon which is deposited a slow-wave propagating structure. An annular electron beam passes through the evacuated cylinder and interacts with the electromagnetic wave propagated along the slow-wave circuit, and a liquid coolant is passed through the center of the beryllia cylinder.

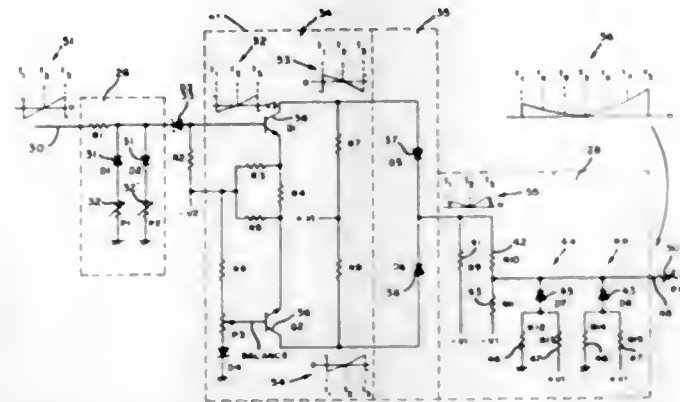


der and in contact with the beryllia surface. To provide an axial magnetic field, a permanent magnet is axially aligned within the cylinder.

3,382,400

**CONVERGENCE CIRCUIT**

Cleve M. Hart, Ben Lomond, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware  
Filed Feb. 26, 1965, Ser. No. 435,547  
8 Claims. (Cl. 315-13)



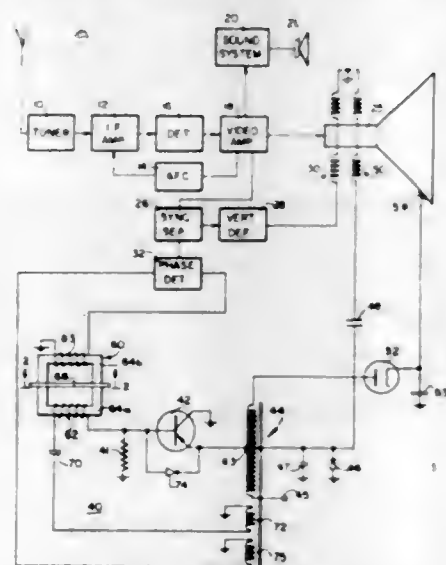
5. In a color display including a multi-beam kinescope and means providing deflection signals for deflecting the beams, a convergence circuit for developing a signal for controlling convergence of a beam, said convergence circuit comprising

first means for attenuating a deflection signal when the deflection signal has predetermined values, means for inverting the output of said first attenuating means when the value of the attenuated signal passes in one direction a predetermined threshold value, and for providing the attenuated signal at an output when its value passes in the opposite direction the predetermined threshold value, and second means for attenuating selected portions of the output of said inverting means.

3,382,401

**SELF-OSCILLATING DEFLECTION CIRCUIT HAVING A SERIES RESONANT FEED-BACK CIRCUIT**

Douglas W. Taylor, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois  
Filed Sept. 25, 1964, Ser. No. 399,146  
8 Claims. (Cl. 315-27)



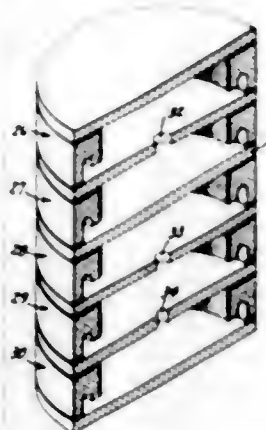
A TV deflection system providing a signal at the horizontal deflection frequency of a cathode ray tube and including a deflection winding coupled between a DC power supply and a switching transistor. A series resonant circuit is connected in a feedback network between the

deflection winding and the switching transistor and resonates at the horizontal deflection frequency to alternately bias the switching transistor into conduction. The feedback network includes a magnetic core, the inductance of which is variably controlled by an error signal in a phase locked loop which is connected between the deflection winding and the magnetic core. The error signal locks the resonant frequency of the series resonant circuit at the horizontal deflection frequency.

3,382,402

**MULTI-STABLE SERIES CONNECTED GASEOUS DISCHARGE DEVICES**

James M. Lafferty, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
Filed Sept. 20, 1965, Ser. No. 488,557  
1 Claim. (Cl. 315-36)

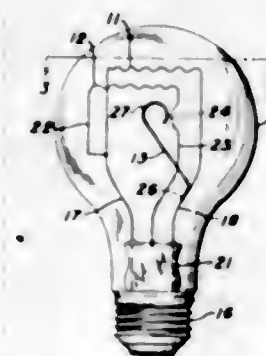


Voltage regulator includes a series connected longitudinal stack of separate gaseous discharge devices where in spaced members define separate compartments and are cathode of one separate device and anode of abutting separate device. Intermediate member is apertured to allow separate arcs or a single arc for entire device, thus attaining bistable voltage characteristic.

3,382,403

**ELECTRIC LAMP**

Gordon Lloyd, 6906 Norfolk Road, Berkeley, Calif. 94705  
Filed July 20, 1965, Ser. No. 473,347  
6 Claims. (Cl. 315-65)

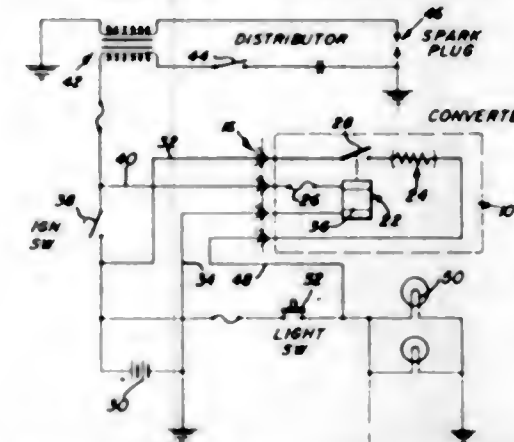


1. An electric lamp comprising, primary and secondary electrically energized light emitting elements, a thermostatically operated switch mounted for heating by each of said elements, and for driving thereby to a heated position, said elements and switch being connected for normal operation of only said primary element, said switch being constructed to move automatically between said heated position and an unheated position and being connected to make and break electrical connection to said secondary element in said unheated and heated positions respectively, whereby upon open circuiting of said primary element said switch will produce periodic energization and blinking of said secondary element.

3,382,404

**LOW VOLTAGE CONVERTER FOR PROTECTIVE FILAMENT HEATING SYSTEM**

George D. Baldwin, Jamestown, N.Y., and Joseph Spliteri, Erie, Pa., assignors to Truck-Lite Co., Inc., Jamestown, N.Y., a corporation of New York  
Filed Nov. 10, 1964, Ser. No. 410,098  
2 Claims. (Cl. 315-77)

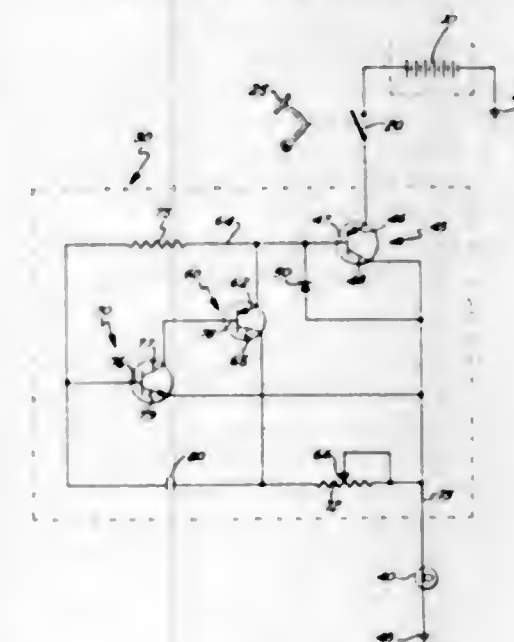


A converter unit installed within a vehicle and connected to the ignition and lighting circuits to continuously supply an undervoltage to the vehicle lamp filaments when the lamp switch is opened and the ignition switch is closed. The undervoltage applied is regulated to maintain the lamp filaments in a pliable state at a threshold temperature above which incandescence occurs in order to prevent cold shock when full voltage is applied upon closing of the lamp switch.

3,382,405

**TRANSISTOR OSCILLATOR SYSTEM FOR FLASHING BRAKE LIGHTS**

Howard S. Johnson, Minneapolis, Minn., assignor, by mesne assignments, to Safety Systems, Inc., Minneapolis, Minn., a corporation of Minnesota  
Filed July 15, 1966, Ser. No. 565,607  
8 Claims. (Cl. 315-80)

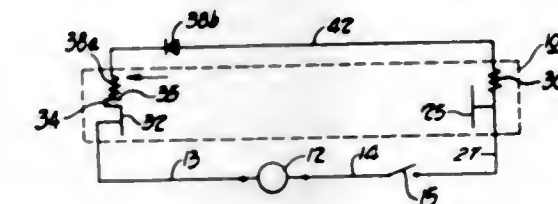


The invention is directed to a transistorized electronic switch mechanism connected in the brake stop-light circuit. The electronic switch mechanism also includes a Zener diode connected between the base and collector elements of the switching transistor or power transistor to maintain a voltage level at the base element thereof and thus limit the conduction of the switching transistor. Operating the switching transistor, is a transistorized oscillator which sets the frequency of the timing pulses applied to the switching transistor. The signal lamps are thus continually supplied with a pulsating signal voltage which is always above the low reference point of potential of

3,382,406

**FLUORESCENT LIGHT STARTING AND OPERATING CIRCUIT WITH HEATER AND LIGHT SENSITIVE CUT-OUT THEREFOR**

Edward L. Schiavone, 10502 Insley St., Silver Spring, Md. 20902  
Filed Oct. 11, 1965, Ser. No. 494,639  
8 Claims. (Cl. 315-94)



A fluorescent lamp having a starter electrode positioned adjacent an operating electrode is connected to the second electrode through a light sensitive means responsive to the light from the lamp for isolating the starter electrode from the lamp circuit.

3,382,407

**IGNITION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE**

Gianni A. Dotto, 3005 Clair Ave., Dayton, Ohio 45429  
Filed June 21, 1965, Ser. No. 494,639  
17 Claims. (Cl. 315-209)



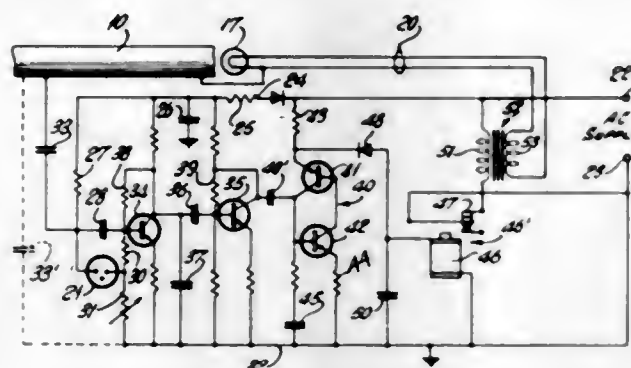
1. An ignition system for an internal combustion engine comprising: a source of direct current; a first converter means coupled to said direct current source, said converter means for converting said direct current to an alternating current; a coupling means for coupling said converter means to a second converter means, said second converter means for converting said alternating current to a direct current; an alternating current filter means coupled to said second converter for filtering said direct current output of said second converter means; means coupled to said second converter means for periodically interrupting said direct current output of said second converter means; an inductance means for storing magnetic energy coupled to said second converter means, said magnetic energy of said inductance means collapsing when said direct current output of said second converter is interrupted; and a spark gap means coupled to said inductance means, said collapsing magnetic energy producing a spark across said spark gap means for producing improved firing of fuel within said internal combustion engine.



3,382,408

**TOUCH CONTROL CIRCUIT**

Carl E. Atkins, Montclair, N.J., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware  
Filed Oct. 21, 1966, Ser. No. 588,457  
4 Claims. (Cl. 315-362)



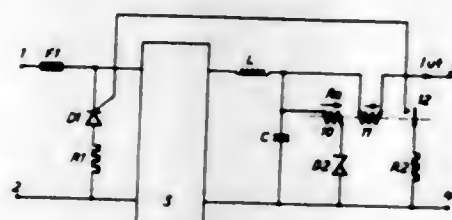
1. The combination with a lamp installed in a handle to be held by an operator of a control circuit for the lamp comprising a source of alternating energy, an oscillator coupled to the source for producing control signals, said oscillator being normally balanced to produce a null signal, a capacitor forming one element of the oscillator, and connected to the handle for unbalancing the oscillator to produce output signals when the handle is held by an operator, means for amplifying the oscillator output, an electronic switching device connected to said amplifying means to be rendered conductive upon application of an amplified signal thereto and a relay connected across said switching device to be shunted thereby when said switching device is rendered conductive, said relay controlling energization of the lamp.

3,382,409

**OVERCURRENT- AND OVERVOLTAGE- PROTECTION ARRANGEMENT**

Bengt Assow, Wellington, North Island, New Zealand, and Rolf Gustafsson, Huddinge, Sweden, assignors to Telefonaktiebolaget L.M. Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed May 11, 1966, Ser. No. 549,394  
1 Claim. (Cl. 317-16)

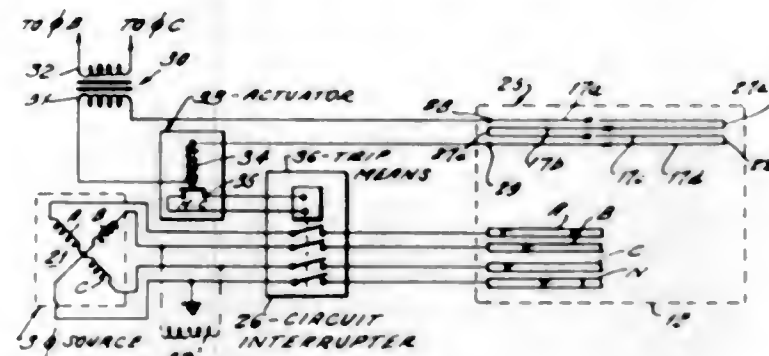


1. An arrangement with input and output terminals for protection against overcurrents and overvoltages at a power regulator, to the output of said regulator a low pass filter being connected, between said filter and said output terminals a relay comprising a current winding and a voltage winding being connected, said current winding being connected between the connection point between the coil and the capacitor of said filter and the first of said output terminals, said voltage winding being connected in series with a Zener diode between said connection point and the second of said output terminals, to said input terminals a controlled rectifier in series with a resistance being connected, the ignition electrode of said controlled rectifier in series with a make contact of said relay being connected to said second output terminal, said relay having an operating time less than the time constant of said filter.

3,382,410

**ARCING FAULT DETECTOR**

Kelth H. Grimm, Detroit, Mich., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania  
Filed Apr. 13, 1966, Ser. No. 542,290  
10 Claims. (Cl. 317-18)



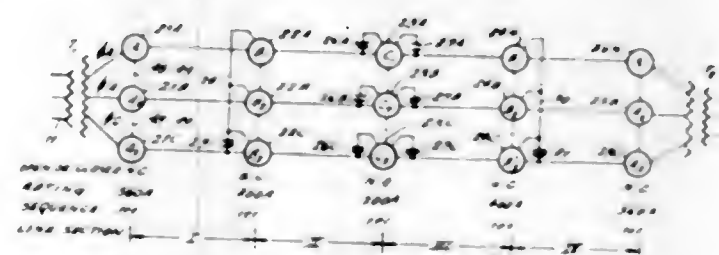
1. A bus duct system including an elongated housing, a plurality of bus bars extending along the length of said housing, means positioning said bus bars within said housing and insulated from each other, a circuit interrupter connected in circuit with said bus bars for connecting said bus bars to a source of electrical energy, said circuit interrupter including a tripping means which when actuated automatically causes said circuit interrupter to open, arcing fault detecting means to determine the presence of current arcs between said bus bars as well as current arcs between said bus bars and said housing; said arcing fault detecting means including a messenger wire disposed within said housing and extending along the length thereof, an actuating means connected to said tripping means, said actuating means connected in a circuit with said messenger wire and being energized when said messenger wire is subjected to an arcing fault, said actuating means upon energization thereof actuating said tripping means thereby opening said circuit interrupter.

3,382,411

**ELECTRICAL DISTRIBUTION CIRCUITS EMPLOYING COMBINED SINGLE PHASE AND THREE-PHASE SECTIONALIZING PROTECTION**

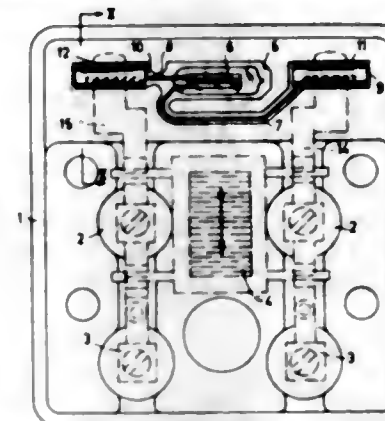
Everett J. Field, Jeannette, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 26, 1966, Ser. No. 545,325  
8 Claims. (Cl. 317-25)



1. A multiphase open-loop power system comprising a power source having at least a first connecting point; first, second, third and fourth network sections; first recloser means connected between said first connecting point and said first section; second recloser means connected between said first connecting point and said fourth section; third recloser means connected between said first and second sections; fourth recloser means connected between said third and fourth sections; tie recloser means positioned between said second and third sections and being normally open;

said tie recloser means including means for sensing the loss of power in either said second or third network to electrically connect said second and third sections;  
said first, second, third and fourth recloser means each being comprised of a single phase recloser connected to an associated phase of said system, and lockout means coupling the single phase reclosers of each recloser means for tripping and locking out said recloser means upon the occurrence of a permanent fault;  
said third and fourth recloser means each including sequence changing means coupled to said lockout means for sensing the absence of power to its associated section to omit the reclosure operation of its associated single phase reclosers thereby causing its associated reclosers to trip and lock out.



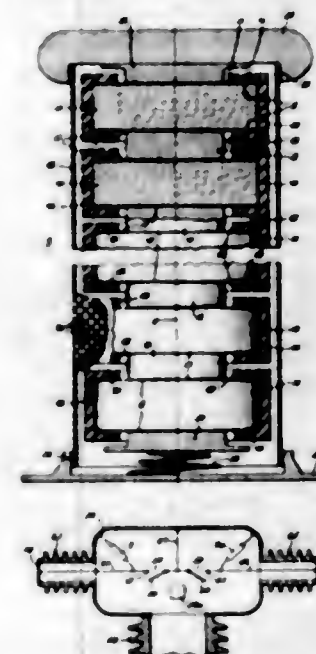
resilient member provides the physical connection to the lamp lead and also functions as the ballast impedance for the lamp.

3,382,412

**ELECTRIC CIRCUIT BREAKER COMPRISING CERAMIC CAPACITOR ELEMENTS CONNECTED IN PARALLEL WITH ITS CONTACTS**

Lawrence L. Mankoff, Broomall, and Roy Nakata, Bryn Mawr, Pa., assignors to General Electric Company, a corporation of New York

Original application Nov. 13, 1963, Ser. No. 323,414, now Patent No. 3,325,708, dated June 13, 1967. Divided and this application May 22, 1967, Ser. No. 640,033  
3 Claims. (Cl. 317-58)



An electric circuit breaker comprising separable contacts and a capacitor assembly comprising series-connected ceramic capacitor elements connected in parallel with the contacts. The capacitor assembly comprises conductive buttons between the ceramic elements that have sufficient resistance to overdamp the circuit comprising said capacitor assembly and said contacts when said contacts are closed while said circuit breaker is energized.

3,382,413

**SOLDERLESS METHOD FOR CONNECTING AND APPARATUS INCLUDING A GLOW DISCHARGE LAMP**

Chimanlal Nagindas Gandhi, Wealdstone, Harrow, Middlesex, England, and Donald Howard Holloway, Woolhara, New South Wales, Australia, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

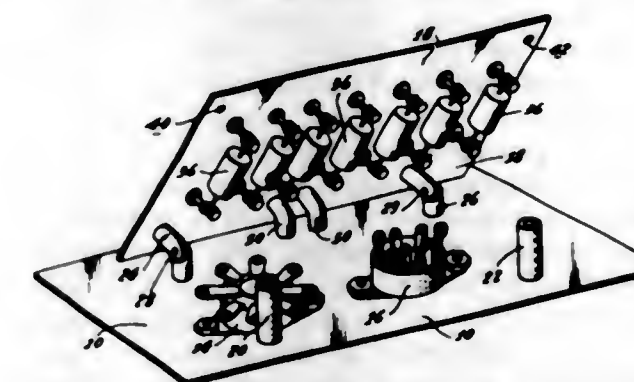
Filed June 30, 1965, Ser. No. 468,328  
8 Claims. (Cl. 317-99)

A solderless method of and apparatus for mounting an electric discharge lamp and a ballast resistor on a support. The ballast resistor comprises an electrically conductive resilient member. The resilient member and one

3,382,414

**MULTIDECK CIRCUIT BOARD ASSEMBLY AND RESILIENT ELECTRICAL CONNECTORS THEREBETWEEN**

Gerhard J. Borner, Northridge, Calif., assignor to The Dorann Company, Northridge, Calif., a partnership composed of Gerhard J. Borner and Willis W. Brunzell  
Filed Dec. 28, 1965, Ser. No. 516,930  
4 Claims. (Cl. 317-101)



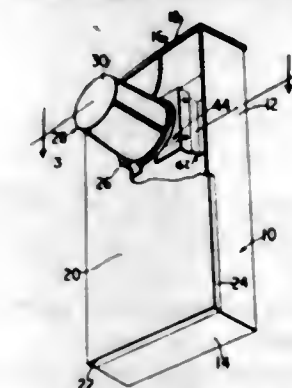
A multideck circuit board assembly is described in the following specification, together with resilient connectors interconnecting the circuits on the individual circuit boards which make up the assembly, so as to permit the individual circuit boards to be hinged so as to facilitate servicing and the like, and yet maintain electrical contact between the circuits on the various boards.

3,382,415

**METER HOLDER FOR RINGLESS METER SOCKET**

John E. Perkins, Manchester, N.H., assignor to Sola Basic Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 13, 1966, Ser. No. 520,322  
4 Claims. (Cl. 317-104)



A ringless meter socket device including an open box with socket means for receiving a meter, and a bracket

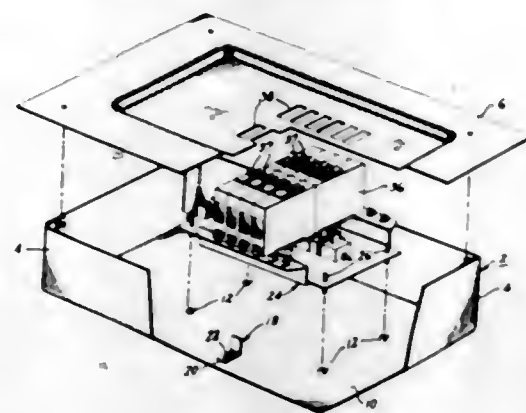


mounted in the box for supporting the meter, and a meter holding means engageable with the meter and releasably engaging the bracket for mounting the meter within the box.

3,382,416

### ADJUSTABLE PANEL ASSEMBLY FOR ELECTRICAL APPARATUS

Lewis W. Jacobs, Garden City, N.Y., and Joseph J. Mrowka, Plainville, Conn., assignors to General Electric Company, a corporation of New York  
Filed May 11, 1967, Ser. No. 637,729  
4 Claims. (Cl. 317-119)

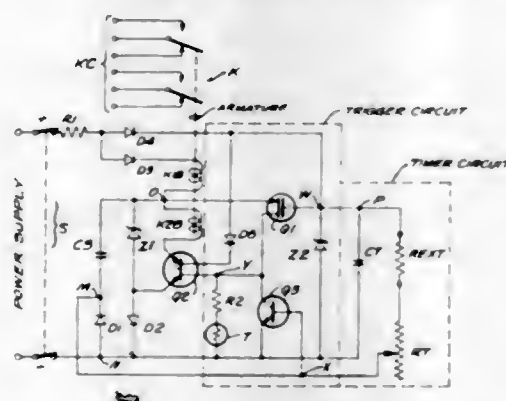


An enclosed circuit breaker panel assembly includes an enclosure having an "interior" assembly mounted therein on the back wall. The "interior" assembly comprises a supporting pan having busbars and circuit breakers mounted thereon. The supporting pan has four adjusting screws, at the corners, each screw having a circumferential groove adjacent its lower end. The back wall has inwardly-offset portions having slots cut therein so that the interior assembly can be slid laterally to move the grooved portions of the screws into the slots of the offset portions. The assembly is then held from reverse lateral movement by an L-shaped bracket which is attached adjacent one edge of the supporting pan but which still permits adjusting movement of the assembly toward and away from the back wall.

3,382,417

### TIME DELAY RELAY DEVICE

William Richard Armstrong, Riverside, Calif., assignor to Bourns, Inc., a corporation of California  
Filed July 30, 1965, Ser. No. 476,121  
6 Claims. (Cl. 317-142)



1. A relay device adapted to be set incident to supply of electric power thereto and to be automatically reset following expiration of a determined period of time next following discontinuance of supply of power thereto, said relay device comprising:

- first means, including electrical power means, arranged, to be energized and de-energized;
- second means, including a relay setting coil and a relay resetting coil;

third means, including an electronic gate device susceptible of being biased to either of conductive and nonconductive states, said gate device being a PNP silicon controlled switch having anode and cathode gate terminals and anode and cathode terminals connected in series with said setting and resetting coils across said power means;

fourth means, including storage capacitor means connected to said power means to be charged through said setting coil incident to energization of the power means and connected to said resetting coil to be discharged through the latter incident to biasing of said gate device to the conductive state; and

fifth means, including capacitive timing circuit means, connected to said power means to be charged therefrom and to said gate device and effective incident to energization of said power means to bias said gate device to nonconductive state and effective incident to de-energization of said power means to relieve said gate device of the said bias following elapse of a determined time period next succeeding de-energization of said power means, said fifth means further comprising a trigger-circuit means connected between said capacitive timing circuit means and said silicon controlled switch for triggering the latter to conductive state incident to decrease of potential across said capacitive timing means to a predetermined potential, said trigger-circuit means being maintained inactive to trigger said silicon controlled switch to the conductive state while the potential of said timing means exceeds said predetermined potential, to thereby permit discharge of said storage capacitor means through said resetting coil to energize the latter at a determined time subsequent to de-energization of said power means.

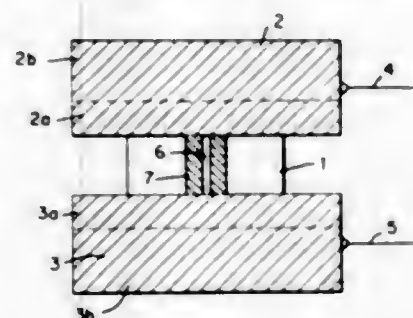
3,382,418

### SEMICONDUCTOR SWITCHING ELEMENT WITH HEAT-RESPONSIVE CENTRAL CURRENT PATH

Arne Jensen, Havnbjerg, Als, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Filed Nov. 18, 1965, Ser. No. 508,437  
Claims priority, application Germany, Nov. 18, 1964, D 45,871

7 Claims. (Cl. 317-237)



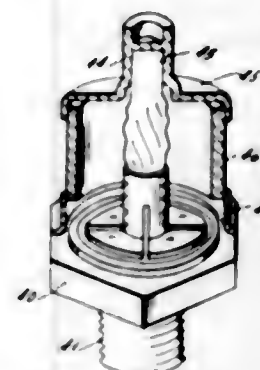
A switching element having a thermally-conductive solid state semiconductor body sandwiched between a pair of electrically and thermally conductive electrodes. The semiconductor has a negative temperature coefficient of electrical conductivity and the electrodes have a coefficient of thermal conductivity less than the coefficient of thermal conductivity of the semiconductor body so that in operation a centrally located current path obtains and the path retains and is responsive to heat resulting from current flow therein. The relatively poor heat conductivity of the electrodes and the coverage of all the side area of the semiconductor by the electrodes results in a position of the current path centrally and the cross-sectional enlargement of the path due to radial heat migration allows current flow increases.

3,382,419

### LARGE AREA WAFER SEMICONDUCTOR DEVICE

John L. Boyer, El Segundo, and Richard A. Hartman, Palos Verdes Estates, Calif., assignors to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed May 12, 1966, Ser. No. 549,671  
6 Claims. (Cl. 317-234)



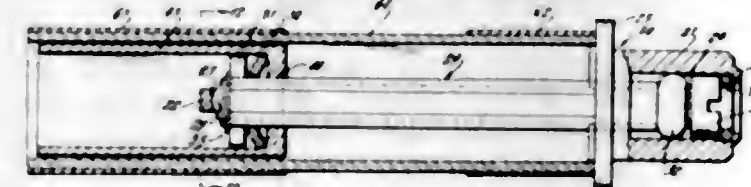
The upper expansion plate of a large area semiconductor wafer is connected to a coaxial conductive tube, and the plate is segmented into a plurality of spaced sections, with the tubular conductor being similarly segmented. The upper segmented large area expansion plate is then connected to the large area wafer, with its segmented construction decreasing the effects on the wafer of differential expansion and contraction between the expansion plate and semiconductor wafer due to temperature change.

3,382,420

### TRIMMER CAPACITOR WHEREIN BOTH ENDS OF THE ADJUSTMENT SCREW ARE SUPPORTED

Joseph Carnazza, Brooklyn, N.Y., assignor to JFD Electronics Company, a division of Stratford Retreat House, Brooklyn, N.Y., a corporation of New York

Filed Nov. 4, 1966, Ser. No. 592,058  
5 Claims. (Cl. 317-249)



The present disclosure describes a piston trimmer capacitor in which the piston electrode is axially movable within the interior of a dielectric cylinder without rotation. This piston is threadably carried by a rotatable adjustment screw where the adjustment screw has one end captured in a main support bushing while its other end is captured in the bottom of a frame member which extends from the support bushing, whereby both ends of the adjustment screw are supported and the adjustment screw may be rotated without advancing axially with respect to the frame. The piston, which is threaded on the adjustment screw, then has at least a portion of the frame extending through the bottom wall thereof so that, as the adjustment screw rotates, the piston will advance axially without rotation.

3,382,421

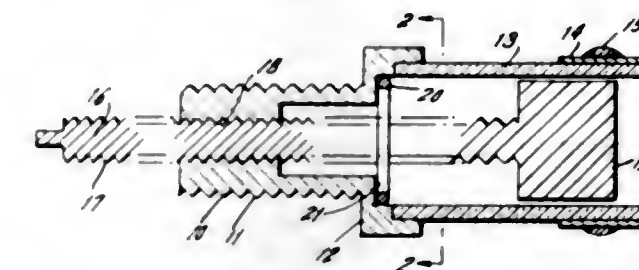
### TRIMMER CAPACITOR

Herz Hirschberg, New York, N.Y., assignor to JFD Electronics Company, a division of Stratford Retreat House, Brooklyn, N.Y., a corporation of New York

Filed Jan. 20, 1967, Ser. No. 610,637  
6 Claims. (Cl. 317-249)

A flat spring clip device grips a screw thread in its pitch diameter and extends over one pitch length. A portion of the spring extends beyond the outer diameter of

the screw and is connected by friction, by fitting, or by welding to a fixed body which threadably receives the screw thread. This holds the spring from rotating with the screw and the spring exerts an inward force on the screw to set the adjustment torque for the screw. The spring is also placed under cantilever strain so that the



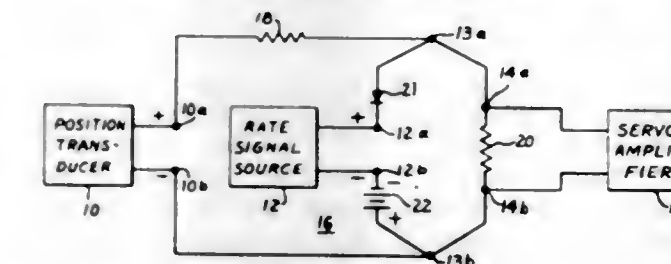
screw is also biased in one direction to absorb back-lash. A flat spring is also connected to the interior of a split bushing having an exterior thread with the single flat spring biasing the exterior threads into engagement with a cooperating interior thread which receives a split bushing.

3,382,422

### POSITIONING CONTROL CIRCUIT INCLUDING A SIGNAL PROPORTIONAL TO THE SMALLER OF ERROR AND RATE SIGNALS

Roger D. Meter, Menominee Falls, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Feb. 23, 1965, Ser. No. 434,463  
9 Claims. (Cl. 318-18)



1. An electrical circuit component for use in a positioning system and responsive to a variable error signal and a rate signal, either of which might be smaller than the other at any instant, to provide an output signal proportional to the smaller of the error and rate signals, said component comprising a first resistor of relatively small resistance and a second resistor of relatively large resistance connected in series with each other to form a series circuit, means for impressing the error signal as a voltage across said series circuit, rectifier means connected in series with said first resistor and in parallel with said second resistor to form a branch circuit, said rectifier being poled to conduct current flowing in said first resistor as a result of said impression of the error signal, means for impressing the rate signal as a voltage in said branch circuit in opposition to the error signal, and means at the terminals of said second resistor to provide an output signal.

3,382,423

### SPEED CONTROL SERVO SYSTEM HAVING RAPID REDUCTION OF LARGE ORDER SPEED DIFFERENCE ERROR SIGNALS

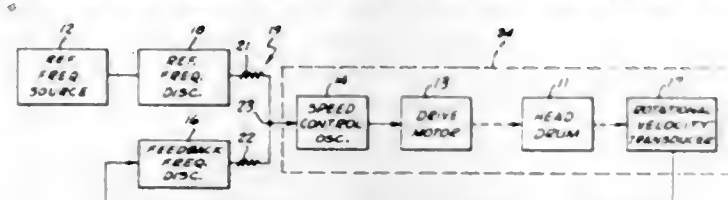
Harold V. Clark, Menlo Park, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Mar. 12, 1965, Ser. No. 439,372  
7 Claims. (Cl. 318-318)

A servo system for synchronizing the speed of a rotary element to a reference. A motor driving the rotary element has a speed varied by a control means in accordance with the magnitude of an error signal. The error signal has



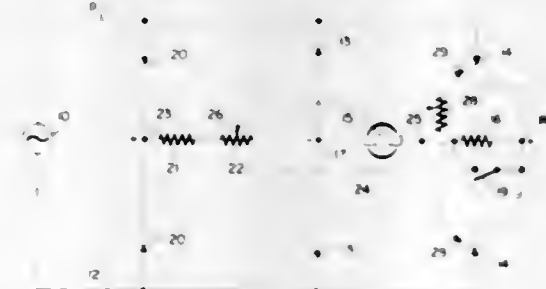
a magnitude proportional to the difference between the frequency of a speed indicating signal representative of the speed of the motor and rotary element, and the frequency of a reference signal, whereby the speed of the



rotary element is synchronized to the reference signal. In order to avoid overcompensation in response to excessive frequency difference error signals, provision is made to divide same by a predetermined factor.

**3,382,424**  
**MOTOR CONTROL CIRCUIT FOR D.C. SHUNT MOTOR USING CONTROLLED RECTIFIERS**  
Lawrence R. Goetz, Morristown, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

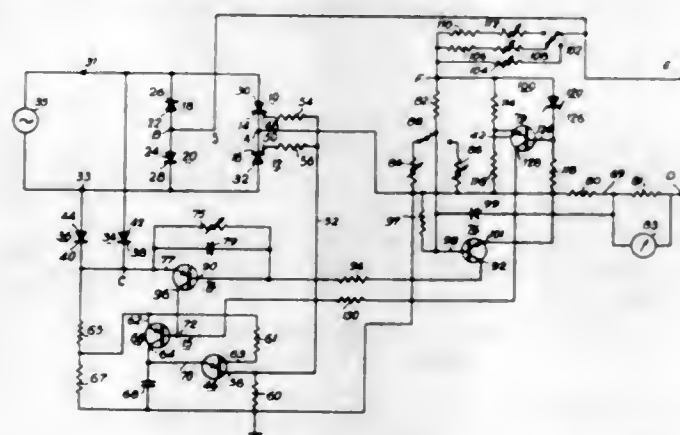
Filed July 22, 1965, Ser. No. 474,026  
4 Claims. (Cl. 318—331)



A circuit for supplying variable full-wave rectified current from an A.C. source to a D.C. shunt motor by means of a first bridge rectifier having an SCR in each of the two adjacent legs has a second bridge rectifier which supplies the firing current for the SCR's. A tapped resistance voltage divider is connected in series with the motor armature winding across the output of the second bridge rectifier in such a manner that the back E.M.F. of the armature opposes the D.C. output of the second bridge rectifier. This arrangement results in placing the armature winding outside the series loop circuit furnishing the triggering voltage to the gate-cathode terminals of the SCR's so that the inductance of the armature winding does not delay the rise in gate current and the response time is improved.

**3,382,425**  
**BATTERY CHARGER**  
Raymond H. Legatti, Moultrie, Ga., assignor to Electro-magnetic Industries, Inc., Sayville, N.Y., a corporation of New York

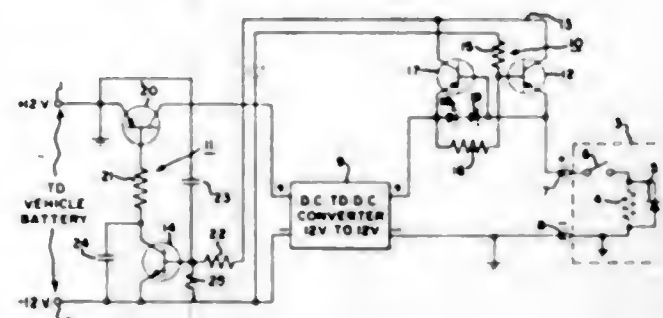
Filed Oct. 5, 1965, Ser. No. 493,109  
7 Claims. (Cl. 320—32)



An apparatus for charging batteries having gate-controlled rectifier means and automatic charging current and

charging voltage control which is independent of A.C. source voltage magnitude and frequency variation.

**3,382,426**  
**VOLTAGE CONVERTER AND CONVERTER SWITCHING ARRANGEMENT**  
William G. Mustain, Lynchburg, Va., assignor to General Electric Company, a corporation of New York  
Filed May 31, 1966, Ser. No. 554,127  
10 Claims. (Cl. 321—21)

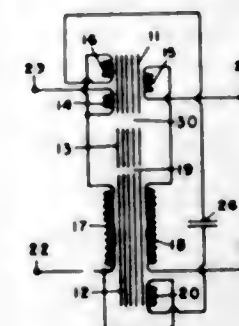


1. In a selectively actuated voltage conversion arrangement for providing a supply voltage having predetermined characteristics from a primary supply voltage having different characteristics, the combination comprising:
  - (a) a pair of input terminals adapted to have a unidirectional primary supply voltage impressed thereon, said primary voltage having a given set of characteristics,
  - (b) a pair of output terminals adapted to have load-circuit selectively connected thereto, said load circuit requiring a unidirectional supply voltage having characteristics differing from those of the primary voltage for proper operation,
  - (c) a voltage converter for converting the primary voltage so that the characteristics of the output voltage from the converter are the same as those required by the load circuit, the output of said converter being coupled to said output terminals and the input of said converter being coupled to said input terminals,
  - (d) load-controlled switch means for selectively applying the primary voltage to the input of said converter only when the load circuit is connected to said output terminals including:
    - (1) a solid-state load-responsive converter control switch coupled to said output terminals and said converter whereby connection of said output terminals establishes a current path for energizing said control switch,
    - (2) a converter input switch coupled between said input terminals and said converter, and
    - (3) means coupling the converter control switch in circuit with said input switch whereby energization of said control switch and current flow therethrough actuates said input switch to apply the primary voltage to said converter only if the load circuit is connected to the output terminals to minimize the current drain on the source supplying said primary voltage.

**3,382,427**  
**VOLTAGE STABILIZING AND HARMONIC SUPPRESSION TRANSFORMER SYSTEMS**  
Robert S. Quimby, Lexington, Mass., assignor to Stevens-Arnold Inc., South Boston, Mass.  
Filed Apr. 19, 1966, Ser. No. 543,682  
10 Claims. (Cl. 323—61)

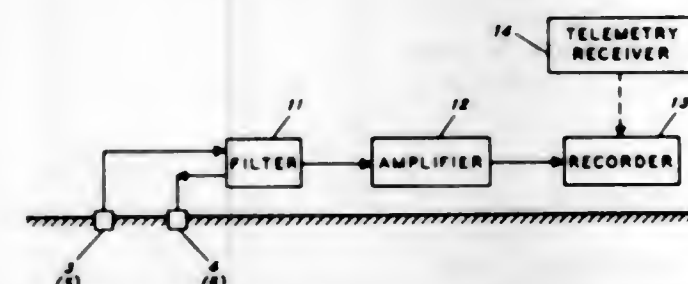
1. A voltage stabilizing and harmonic reducing system, comprising a core having side legs, having a cross portion extending between and connecting said legs, having a first central leg extending from one end of said core between said side legs to said cross portion, said first leg

having a relatively wide air gap extending thereacross, said core having a second central leg extending from the opposite end of said core between said side legs to said cross portion, said second leg having a relatively narrow air gap extending thereacross; primary and secondary transformer windings around said second leg; first and



second choke windings around said first leg; an input circuit including said first choke winding and said primary winding in series; an output circuit including said secondary winding; a capacitor; and means connecting said capacitor and said second choke winding in series across one of said transformer windings.

**3,382,428**  
**FREQUENCY SPECTRUM ANALYSIS OF INJECTED CODED SIGNAL AND MEASURED PROBE SIGNAL FOR GEOPHYSICAL PROSPECTING**  
John W. C. Sherwood, Whittier, and Sulhi H. Yungul, La Habra, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware  
Filed May 6, 1966, Ser. No. 548,195  
6 Claims. (Cl. 324—9)

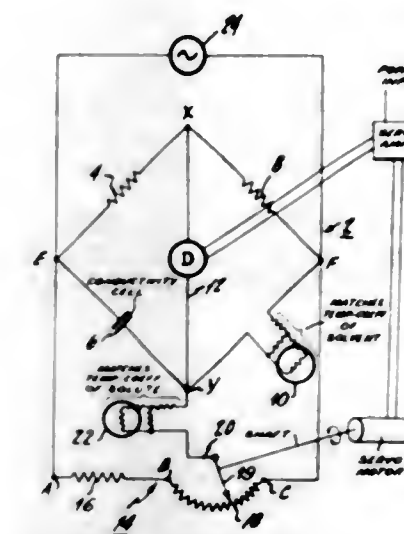


The invention described is a geophysical prospecting method wherein an electrical signal having a predetermined amplitude-versus-frequency spectrum is fed into the ground at a source dipole and the electrical field resulting from the input signal is measured at a probe dipole disposed in a known relationship with respect to the source dipole. The input signal and the measured signal are then cross-correlated and further analyzed to derive amplitude-versus-frequency and phase-versus-frequency functions from the cross-correlation function between the input and the measured signal. These functions are then interpretable in terms of layer thickness and layer resistivity to develop a cross-section of the earth formation by matching the experimentally obtained data to certain standardized theoretical data.

**3,382,429**  
**METHOD OF AND APPARATUS UTILIZING BRIDGE FOR MEASURING CONDUCTIVITY**  
Elmer A. Sperry III, Pompton Plains, N.J., assignor to Industrial Instruments, Inc., Cedar Grove, N.J., a corporation of New Jersey  
Filed June 2, 1965, Ser. No. 460,765  
6 Claims. (Cl. 324—30)

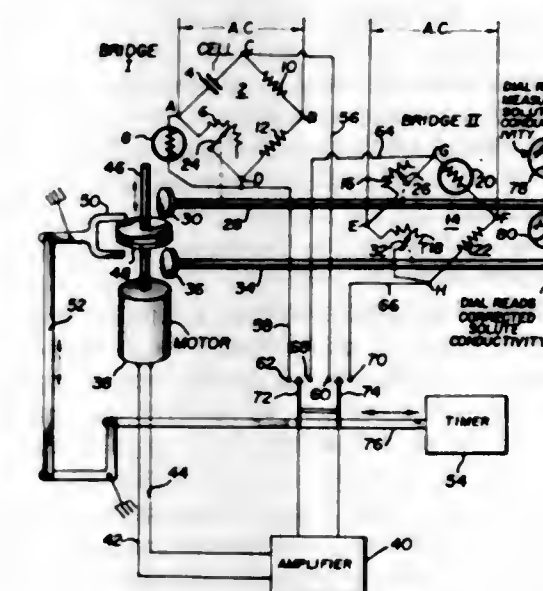
The invention comprises an improved method of and apparatus for measuring electrical conductivity of the

solute portion of ionic solutions wherein provision is automatically made for compensation of the effects of solvent conductivity and for changes in conductivity of both solvent and solute due to changes in solution temperature. The apparatus utilizes a bridge across one diagonal of which a source of low voltage is connected and across the other diagonal of which a detector is connected. A conductivity cell is connected in one arm



of the bridge and a temperature sensitive element with a resistor network having a temperature coefficient of resistance substantially the same as that of the solvent is connected in the corresponding arm of the bridge. Another temperature sensitive element with its associated resistor network having a temperature coefficient of resistance substantially the same as that of the solute is connected to one terminal of said other diagonal.

**3,382,430**  
**DOUBLE BRIDGE APPARATUS FOR DETERMINING ELECTROLYTIC CONDUCTIVITY**  
Leo C. Cuniff, Cedar Grove, and Robert Rosenthal, Tenafly, N.J., assignors, by means assignments, to Beckman Instruments, Inc., Fullerton, Calif., a corporation of California  
Filed July 26, 1965, Ser. No. 474,638  
8 Claims. (Cl. 324—30)



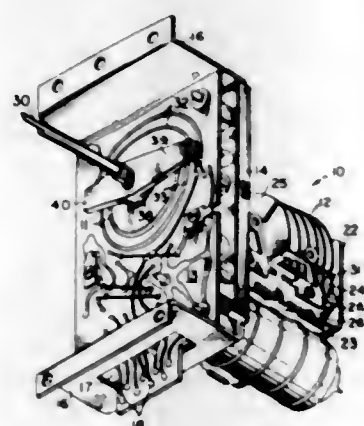
3. Electrical measuring apparatus comprising in combination, a first and second bridge, said first bridge having a conductivity cell in one arm thereof for measuring solute concentration and a variable resistor in another



arm thereof, said second bridge having a variable resistor in each of two different arms thereof, means mechanically coupling said variable resistor of said first bridge and one of said variable resistors of said second bridge, said means being responsive to unbalance in said first bridge due to addition of some of said solute to said cell, and movable means coupled to the other of said resistors of said second bridge for re-balancing said second bridge in response to unbalance in said second bridge due to a change in the resistance of said one resistor thereof.

### 3,382,431 TUNING DEVICE

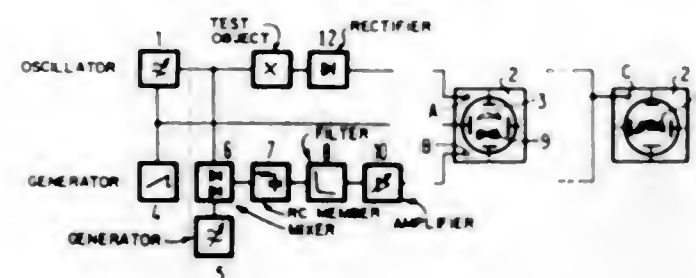
Elden R. Davisson, Greenwood, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware  
Continuation of application Ser. No. 383,472, July 17, 1964. This application Apr. 21, 1966, Ser. No. 544,181  
10 Claims. (Cl. 334-43)



1. An electromagnetic energy tuning device for accepting a determined range of frequencies comprising: a U-shaped supporting chassis, said chassis having an apertured top plate and a plurality of legs integrally connected and dependent therefrom substantially at right angles thereto, one of said legs having an aperture, an apertured printed circuit board connected to and held by mounting pegs carried by said top plate in spaced parallel relationship with said plate so that said aperture of said plate and said aperture of said printed circuit board are axially aligned, a terminal end of said board protruding through said aperture of said one leg so that printed terminals on said board are readily accessible, a plurality of printed inductors placed flat on one side of said board and tunable by a wiping means coupled to and displaced by a shaft projecting through said axially aligned apertures of said printed circuit board and said plate, the other side of said board being spaced from and facing said plate, said other side of said board supporting cooperating electrical components connected to said inductors in the space between said side and said plate, a C-shaped mounting bracket having aperture legs, one of said apertured legs fixedly connected to said top plate in such a manner as to axially align said apertures of said bracket with said apertures of said plate and said printed circuit board so that said shaft projects therethrough, a rotatably tuned capacitance means carried by said bracket, said capacitance means having rotor plates connected to and displaced by rotational displacement of said shaft, said capacitance means connected to said electrical components, said shaft adapted upon rotation to simultaneously displace said wiping means on said inductors and displace said rotor plates of said capacitance means so as to accept a desired frequency, and said board further having a position along said mounting pegs allowing for rapid dissipation of heat generated by said electrical components during operation of said tuning device whereby the efficiency of said tuning device is increased.

### 3,382,432 CIRCUIT ARRANGEMENT FOR GENERATING A FREQUENCY MARKER IN A MEASURING DEVICE WHICH PROVIDES A REPRESENTATION OF A FREQUENCY CURVE

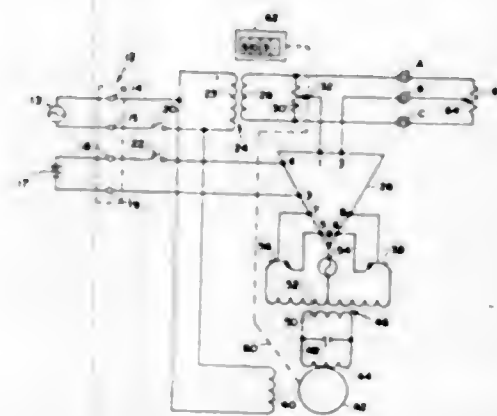
Hans Schittko, Karl Bauernfeind, and Horst Thies, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany  
Filed Aug. 12, 1964, Ser. No. 389,043  
6 Claims. (Cl. 324-57)



A circuit arrangement for generating a frequency marker in a frequency response testing system employing a measuring device and a display device in the form of a cathode ray oscilloscope. A measuring voltage having a variable and, in particular, wobbled frequency is mixed with an adjustable reference frequency, the difference frequency being applied to the input of a selective network, the output voltage of which is used to form frequency markers. There are means provided for displaying a representation of the output voltage of the selective network versus time simultaneously with a representation of the measuring voltage versus time over a common time base on the screen of the cathode ray oscilloscope. The output voltage representation constituting by an incision in the amplitude envelope thereof, a frequency marker which is applicable to the representation of the measuring voltage. A scale for the adjustment of the reference frequency can preferably be read to the values of the frequencies to be marked.

### 3,382,433 SELF-BALANCING SERVOMOTOR OPERATED AUTOMATIC CALIBRATOR

William T. Escue, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army  
Filed Nov. 19, 1963, Ser. No. 324,895  
6 Claims. (Cl. 324-63)

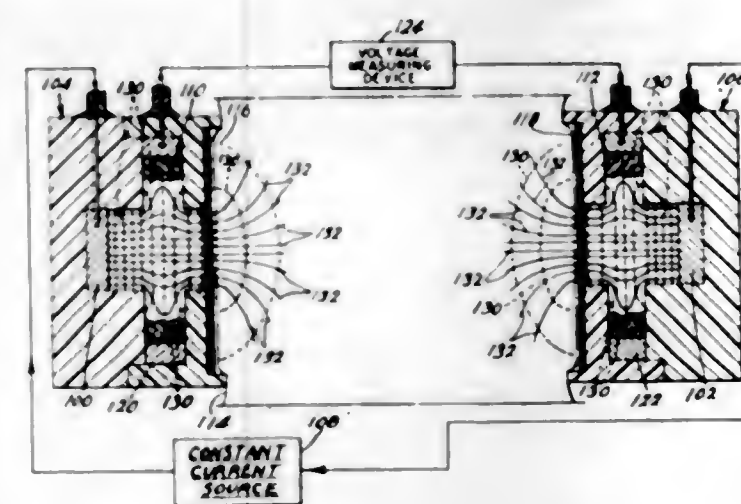


1. An automatic calibrator comprising an A.C. voltage source, a first potentiometer, and a second potentiometer all connected in parallel with each other; said first and second potentiometers having first and second slider arms respectively; an amplifier having first and second input terminals, and first, second, third, fourth, and fifth output terminals; said first input terminal being connected

to said first slider arm, and said second input terminal being connected to said second slider arm; a first transistor having first emitter, base and collector electrodes; a second transistor having second emitter, base and collector electrodes; said first output terminal of said amplifier being connected to the first emitter electrode, the second output terminal being connected to said first base electrode, said third output terminal being connected to said second emitter electrode, and the fourth output terminal of said amplifier being connected to the second base electrode; a transformer having a center tapped primary winding and a secondary winding; one end of said primary winding being connected to said first collector electrode, the other end of said primary winding being connected to said second collector electrode; a fuse; one end of said fuse being connected to said fifth output terminal of said amplifier, the other end of said fuse being connected to the center tap on said primary winding of the transformer; a servomotor having first and second windings; said first winding being connected in parallel with said secondary winding, said second winding being connected directly across said A.C. voltage source; a shaft means driven by said servomotor; a digital readout meter; said shaft means driving both the first slider arm of said first potentiometer and said digital readout meter; said digital readout meter indicating the position of said first slider arm along said first potentiometer from zero to one hundred percent; and a D.C. source of voltage connected to said amplifier for supplying power thereto.

### 3,382,434 ELECTRODE SYSTEM EMPLOYING SEPARATE CURRENT AND POTENTIAL ELECTRODES

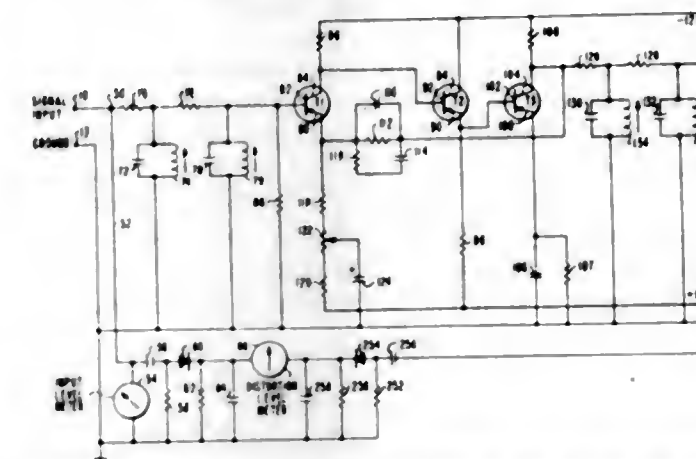
Robert J. Gibson, Jr., Narberth, and Robert M. Goodman, Elkins Park, Pa., assignors to The Franklin Institute, Philadelphia, Pa., a corporation of Pennsylvania  
Filed Aug. 10, 1964, Ser. No. 388,466  
8 Claims. (Cl. 324-64)



An electrode system for use in measuring conditions in a conductive medium is provided including a first electrode apparatus and a second electrode apparatus adapted to be positioned in conductive contact with the conductive medium. Each electrode apparatus includes a housing having a reservoir for electrolyte and an opening from a reservoir, the electrolyte providing an electrical path through the reservoir into the opening. A current electrode is positioned in the reservoir and the housing is provided with a recess from the reservoir located between the position of the current electrode and the conductive medium under consideration. A potential electrode is positioned in the recess in contact with the electrolyte, the potential electrode in the recess being arranged such that the electrical path from the current electrode through the opening to the conductive medium will be substantially unaffected by the potential electrode.

### 3,382,435 ELECTRONIC TESTING EQUIPMENT

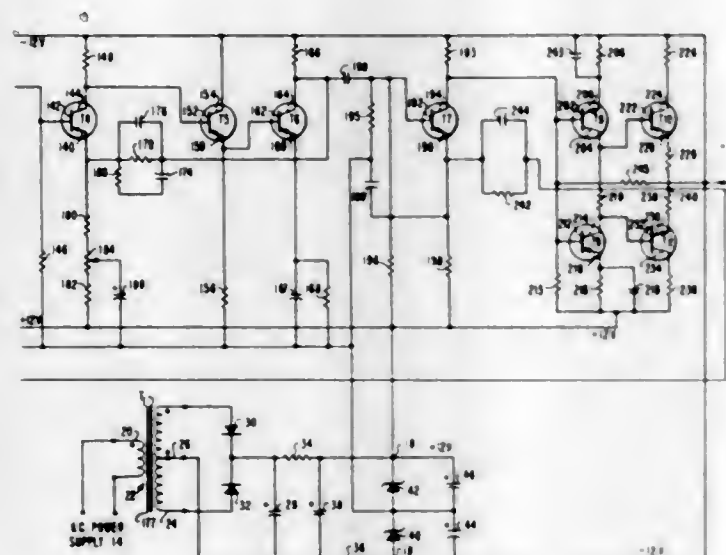
Walter K. Bockholt, Redwood City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California  
Filed May 4, 1964, Ser. No. 364,590  
2 Claims. (Cl. 324-77)



1. A distortion level monitor having an input terminal, a ground terminal, a first capacitor coupled to the input terminal, a first rectifier coupled to the first capacitor, the parallel combination of a first resistor and a second capacitor coupled between the first rectifier and the ground terminal, a center scale voltmeter having two input terminals, one of said input terminals being coupled to the first rectifier, a second resistor coupled to the input terminal, the parallel combination of a third capacitor and first inductor coupled between the input terminal and ground, a third resistor coupled to the second resistor, the parallel combination of a second inductor and a fourth capacitor coupled between the third resistor and ground, a first transistor having emitter, base, and collector, the base of the first transistor being coupled to the third resistor and being coupled through a fourth resistor to ground, the emitter of the first transistor being coupled to a first variable resistor, a wiper on the first variable resistor being coupled through a fifth capacitor to ground, a second transistor having emitter, base, and collector, the base of the second transistor being coupled to the collector of the first transistor, a third transistor having emitter, base, and collector, the base of the third transistor being coupled to the emitter of the second transistor, the emitter of the third transistor being coupled through the parallel combination of a fifth resistor and a sixth capacitor to ground, a feedback network between the collector of the third transistor and the emitter of the first transistor, said feedback network comprising the parallel combination of a seventh capacitor, a sixth resistor, and a seventh resistor and an eighth capacitor in series, an eighth resistor coupled to the collector of the third transistor, the parallel combination of a third inductor and a ninth capacitor coupled between the eighth resistor and ground, a ninth resistor coupled to the eighth resistor, the parallel combination of a fourth inductor and a tenth capacitor coupled between the ninth resistor and ground, a fourth transistor having an emitter, base, and collector, the base of the fourth transistor being coupled to the ninth resistor and coupled through a tenth resistor to ground, the emitter of the fourth transistor being coupled to a second variable resistor, a wiper of the second variable resistor being coupled through an eleventh capacitor to ground, a fifth transistor having emitter, base, and collector, the base of the fifth transistor being coupled to the collector of the fourth transistor, a sixth transistor having emitter, base, and collector, the base of the sixth transistor being coupled to the emitter of the fifth transistor, the emitter of the sixth transistor being coupled through the parallel combination of an eleventh resistor and a twelfth capacitor to ground, a feedback circuit coupled between the collector of the



sixth transistor and the emitter of the fourth transistor, said feedback circuit comprising the parallel combination of a thirteenth capacitor, an eighteenth resistor, and a fourteenth capacitor and a nineteenth resistor in series, a fifteenth capacitor coupled to the collector of the sixth transistor, a seventh transistor having emitter, base, and collector, the base of the seventh transistor being coupled directly to the fifteenth capacitor, the emitter of the seventh transistor being coupled and through a sixteenth capacitor to ground, an eighth transistor having emitter, base, and collector, the base of the eighth transistor being coupled to the collector of the seventh transistor, a ninth transistor having emitter, base, and collector, the base of the ninth transistor being coupled through a seventeenth capacitor to the base of the eighth transistor, the collector of the ninth transistor being coupled through a fourteenth resistor to the collector of the



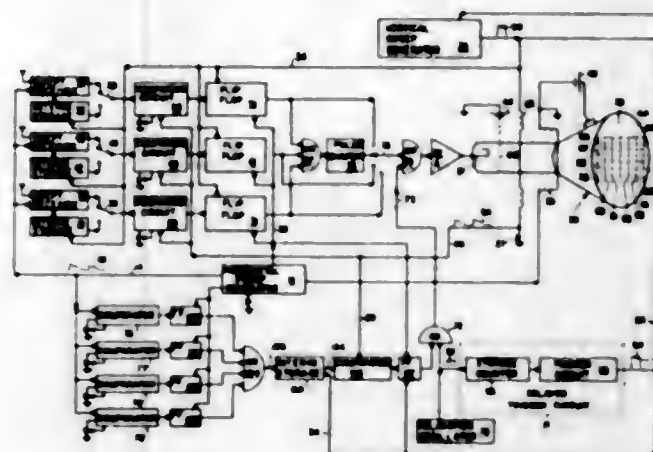
eighth transistor, a tenth transistor having emitter, base, and collector, the base of the tenth transistor being coupled to the collector of the eighth transistor, and the emitter of the tenth transistor being coupled through a fifteenth resistor to the base of the ninth transistor, an eleventh transistor having emitter, base, and collector, the base of the eleventh transistor being coupled to the collector of the ninth transistor, a sixteenth resistor coupled to the base of the eleventh transistor, a seventeenth resistor coupled between the sixteenth resistor and the base of the tenth transistor, an eighteenth capacitor coupled between the sixteenth and seventeenth resistors, a second rectifier coupled to the eighteenth capacitor, the parallel combination of an eighteenth resistor and a nineteenth capacitor coupled between the second rectifier and ground, and a second input terminal of the center scale voltmeter coupled to the second rectifier.

**3,382,436**  
**PANORAMIC SOLID-LINED AND DOTTED GRAPHIC DISPLAY SYSTEMS**  
William L. Wu, Westport, Conn., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed July 22, 1965, Ser. No. 474,001  
16 Claims. (Cl. 324-77)

8. In a spectrum analyzer, a cathode ray tube having first means for deflecting the ray vertically and second means for deflecting the ray horizontally, a first time base generator for providing a vertical deflection signal, said first generator coupled to said first means to provide said vertical deflection signal to said first means to deflect said ray vertically, as a function of the magnitude of said first signal, a second time base generator for providing a hori-

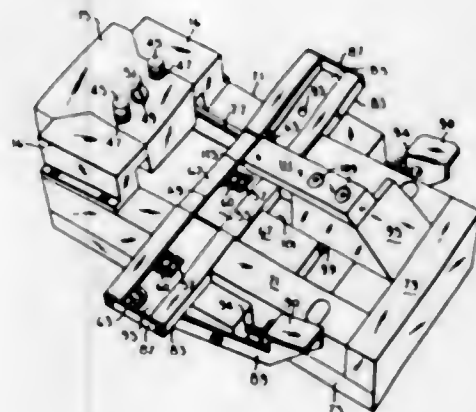
zontal deflection signal having a substantially longer time period than said first time base generator, said second time base generator coupled to said second means to deflect said ray horizontally, means for blanking said ray, a comparing circuit for comparing two potentials and providing an output on reaching a predetermined ratio of one potential relative to the other potential, means for actuating blanking coupled to said means for blanking,



said means for actuating blanking being connected to be driven by said comparing circuit, said comparing circuit being coupled to receive said one potential from said first means, said one potential being proportional to said first deflection signal, and having an input for receiving a said other potential to be displayed and providing an output when said predetermined ratio is reached during each deflection in said one direction.

**3,382,437**  
**NETWORK TESTING APPARATUS INCLUDING MEANS FOR AUTOMATICALLY MAKING TEST CONNECTIONS**  
William T. Illingworth, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

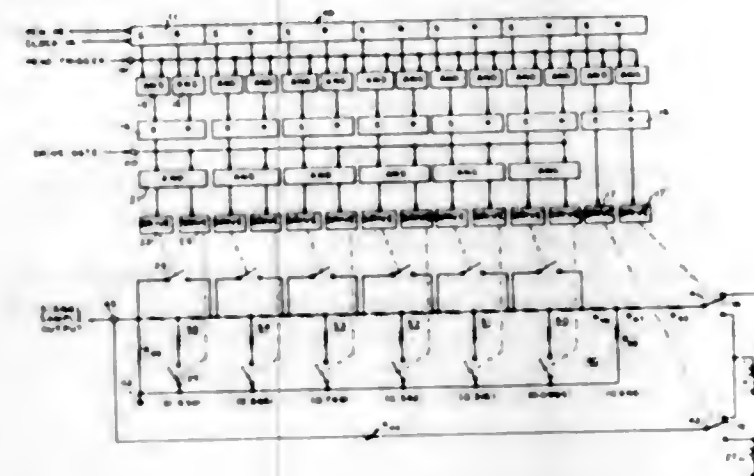
Filed Nov. 30, 1964, Ser. No. 414,694  
12 Claims. (Cl. 324-158)



In the testing apparatus disclosed, an integrated circuit network retained in a carrier is moved into a testing station by a carriage which is reciprocable between the testing station and a second position in which the network is spaced apart from the testing station. The carriage is moved by an operating member which is connected to the carriage by a lost-motion connection. Contact means are moved into engagement with the network by movement of the operating member beyond that which brings the carriage to the testing station. The carriers are fed into the carriage on tracks which extend transversely to the sliding movement of the carriage.

**3,382,438**  
**NONLINEAR PULSE CODE MODULATION SYSTEM CODING AND DECODING MEANS**  
William L. Geller, Plainview, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

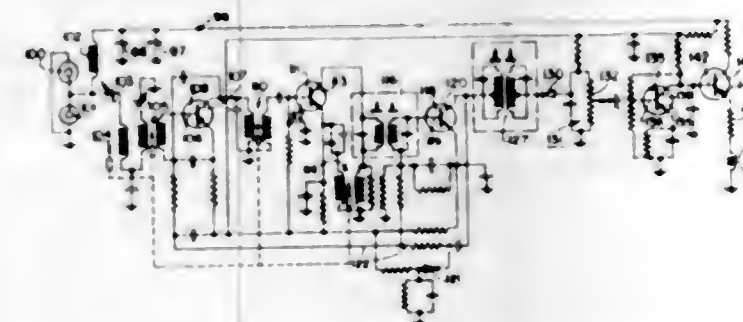
Filed July 13, 1964, Ser. No. 382,090  
5 Claims. (Cl. 325-38)



Bipolar coding means for a PCM system is described in which the attenuation of a reference voltage by a network of matched resistive attenuators is varied in accordance with a PCM signal to reconstruct a quantized signal sample. A voltage having a polarity opposite to the reference voltage and a magnitude which is a function of the quantizing characteristic is added to the output of the attenuator network. The sum of these voltages is essentially zero when the attenuation provided by the network is at a maximum to permit bipolar operation of the coding means.

**3,382,439**  
**RADIO SIGNAL DISTRIBUTION SYSTEM**  
Henry Neil Frihart, La Grange Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

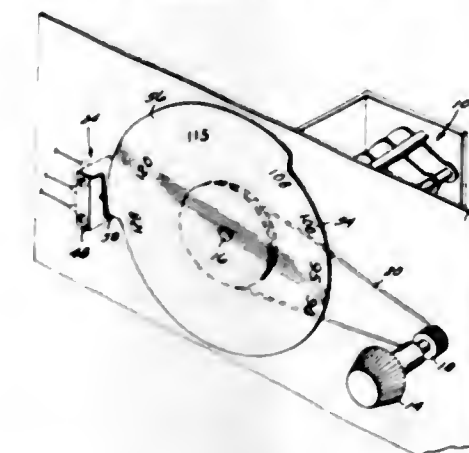
Filed Sept. 9, 1964, Ser. No. 395,143  
9 Claims. (Cl. 325-308)



A radio signal distribution system particularly adapted for use in a vehicle uses a single antenna and tuned distribution amplifier to receive radio signals and a single cable to distribute the radio signals to a plurality of receivers. The single cable also acts to distribute the power required by each of the individual receivers. The individual receivers are separately tunable and have transducers for developing sound signals in response to the radio signals. The transducers are such that the sound signals produced thereby are inaudible a very short distance from the transducer so that the sound signal therefrom will not disturb passengers in the vehicle. Sound tube earphones are connected to each of the transducers to convey the sound signal to individual listeners as desired.

**3,382,440**  
**APPARATUS FOR AUTOMATICALLY CONVERTING A RADIO RECEIVER TO AN FM OR VHF RECEIVER**

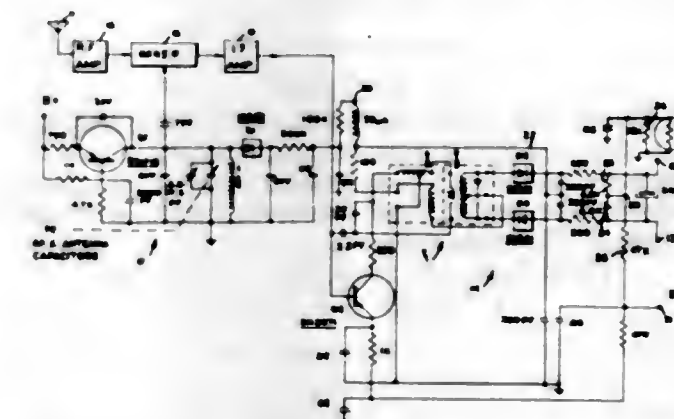
William T. Turner, 3027 Rutger Ave., Long Beach, Calif. 90808  
Filed Oct. 10, 1966, Ser. No. 585,562  
3 Claims. (Cl. 325-317)



A radio receiver having a detector including circuitry for converting such detector to either an AM or FM detector. A switch for controlling the AM to FM conversion is included in the circuitry and is mechanically coupled with the frequency control knob whereby the detector is automatically converted to an AM or FM detector when the radio is tuned to AM or FM frequencies, respectively.

**3,382,441**  
**AUTOMATIC FREQUENCY CONTROL WITH TEMPERATURE COMPENSATED D-C COMPONENT**  
Edward L. Hunter, Randolph, Mass., assignor to Automatic Radio Manufacturing Co., Inc., Melrose, Mass., a corporation of Massachusetts

Filed Mar. 22, 1965, Ser. No. 441,824  
3 Claims. (Cl. 325-422)

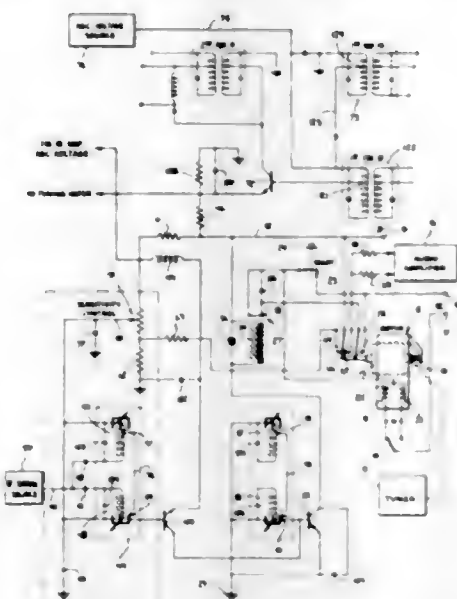


A receiver includes a mixer and a local oscillator whose frequency of oscillation is controlled by a capacitor and the capacity provided by a reverse-biased semiconductor rectifying junction. The local oscillator signal and input signal are mixed in the mixer to provide an intermediate frequency signal. A ratio detector provides a D-C control signal representative of the difference between the intermediate frequency and the normal intermediate frequency that is applied to the semiconductor diode to control the bias so that the capacity provided by the diode causes the local oscillator signal frequency to change and reduce the difference between the intermediate frequency and the normal intermediate frequency. The D-C control signal includes a D-C component provided by a temperature sensitive attenuator so as to maintain the intermediate frequency essentially at the normal value in the presence of wide temperature variations.



**3,382,442**  
**SEARCH TUNER FOR AM-FM RADIO RECEIVERS**  
 Louis F. Mayle, Fort Wayne, Ind., assignor to The  
 Magnavox Company, Fort Wayne, Ind., a corpora-  
 tion of Indiana

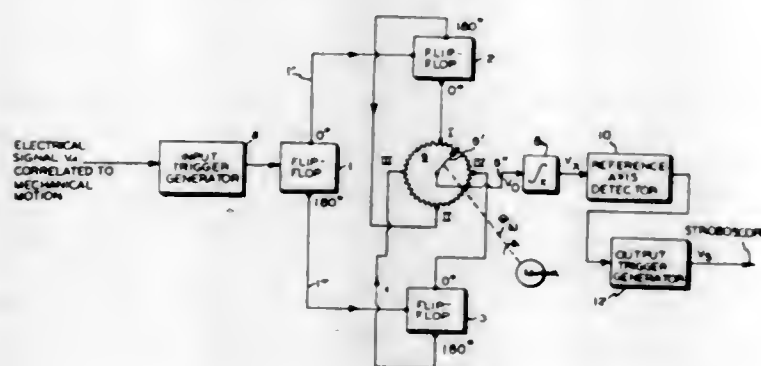
Filed Sept. 14, 1964, Ser. No. 396,256  
 18 Claims. (Cl. 325-470)



A search-tune system with a normally closed electrically operable tuner motor stopping switch in a tuner motor hold circuit. A stop switch operating coil in series with a normally quiescent transistor. Another transistor with two tuned circuits at its input, one tuned to the AM intermediate frequency and the other tuned to the FM intermediate frequency, both being coupled to an I-F signal source of the receiver, peaking of a signal in either circuit upon proper tuning of an adequate signal causing an output from this transistor to the transistor in series with the motor stopping switch coil to cause conduction therein, opening the switch and stopping the tuner motor. Additional tank circuits are provided at the base of this latter translator to aid in this function.

**3,382,443**  
**METHOD OF AND APPARATUS FOR SIGNAL-FREQUENCY SHIFTING**  
 Charles E. Miller, Acton, Mass., assignor to General  
 Radio Company, West Concord, Mass., a corpora-  
 tion of Massachusetts

Filed Sept. 10, 1964, Ser. No. 395,414  
 36 Claims. (Cl. 328-55)



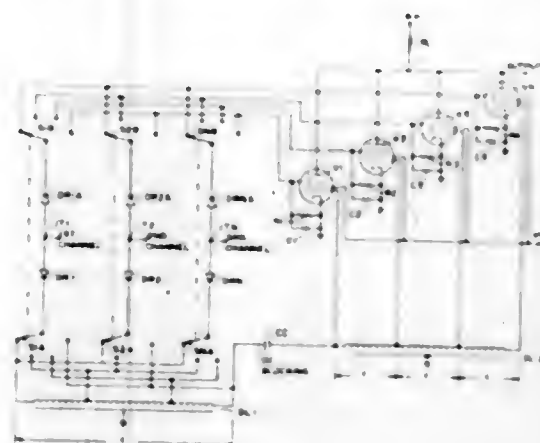
1. Apparatus of the character described having, in combination, means for producing input signal components of successive phase displacements, summing means having phase-displaced inputs respectively corresponding to and connected to receive the phase-displaced signal components, integrating means connected with the sum-

ming means, means responsive to the integrated and summed signals for detecting a reference-level signal-crossing time sequence therein, and means for producing output signals corresponding to the said time sequence.

29. A method of the character described, that comprises, producing input signal components of successive phase displacements, summing the phase-displaced signal components, integrating the same, detecting the integrated and summed signals to locate a reference-level signal-crossing time sequence therein, and producing output signals corresponding to the said time sequence.

**3,382,444**  
**MULTICHANNEL TIME DELAY SYSTEM EMPLOYING LESS DELAY LINES THAN THE NUMBER OF CHANNELS**

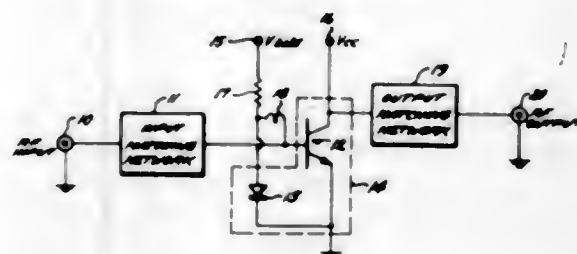
Alexander A. Gorski, Cinnaminson, N.J., assignor, by  
 mesne assignments, to the United States of America  
 as represented by the Secretary of the Army  
 Filed Oct. 21, 1965, Ser. No. 500,454  
 4 Claims. (Cl. 328-104)



Two tapped delay lines are provided, with the taps of one line connected through switch contacts to the channels. The delay lines are connected together, and the taps of the second line are connected to storage and coincidence circuits. The channels are also connected to the storage and coincidence circuits by additional switch contacts.

**3,382,445**  
**BIAS SHIFT COMPENSATION CIRCUITRY FOR TRANSISTORS**

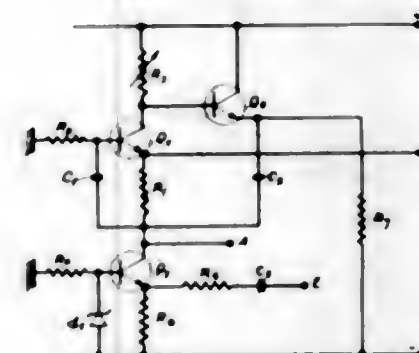
Wallace D. Williams and Zung F. Chang, Somerville, N.J., assignors, by mesne assignments, to the  
 United States of America as represented by the  
 Secretary of the Air Force  
 Filed July 26, 1966, Ser. No. 568,073  
 3 Claims. (Cl. 330-23)



Thermal bias shift compensation apparatus for transistors in which a diode is incorporated inside a transistor package with the temperature coefficient of the diode being similar to the base-to-emitter junction temperature coefficient of the associated transistor. The diode is closely spaced to its associated transistor to provide a fast thermal response therebetween to maintain a stable quiescent point and thus provide thermal compensation.

**3,382,446**  
**RESONANT AMPLIFIER CIRCUIT**  
 Roland Carre, Paris, France, assignor to CSF—Compagnie  
 Generale de Telegraphie Sans Fil, a corporation of  
 France

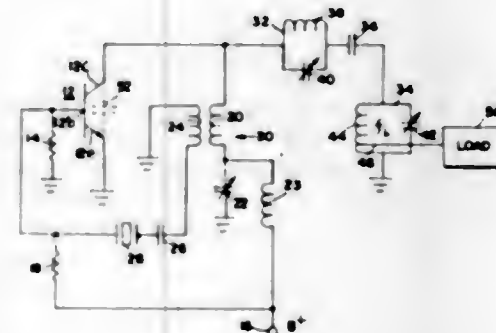
Filed Mar. 12, 1965, Ser. No. 439,313  
 Claims priority, application France, Mar. 13, 1964,  
 967,261  
 4 Claims. (Cl. 330-31)



In order that the resonance frequency and the damping can be adjusted independently of each other, an active resonant circuit is provided, comprising two cascade coupled transistors associated with resistors and capacitors, to the exclusion of any inductance coil. The damping is adjusted by varying the value of a resistor inserted in the collector circuit of the first transistor, and the resonance frequency by varying the values of the resistors and capacitors intercoupling the two transistors.

**3,382,447**  
**ULTRASTABLE CRYSTAL-CONTROLLED TRAN-SISTOR OSCILLATOR-MULTIPLIER**

Joseph E. Racy, Nashua, N.H., assignor to Sanders As-  
 sociates, Inc., Nashua, N.H., a corporation of Delaware  
 Filed Oct. 18, 1966, Ser. No. 587,501  
 20 Claims. (Cl. 331-60)

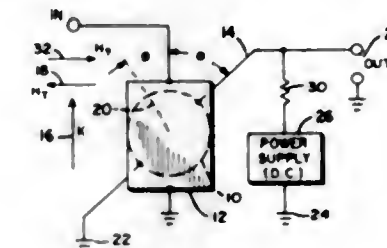


The invention is directed to a crystal-controlled frequency-multiplying transistor oscillator which utilizes feed-back at the oscillator fundamental frequency from an idler circuit and which also employs the inherent transistor characteristics to generate harmonics of the fundamental frequency of oscillation.

**3,382,448**  
**MAGNETORESISTIVE AMPLIFIER**  
 Paul E. Oberg, Minneapolis, and Charles H. Tolman,  
 Bloomington, Minn., assignors to Sperry Rand Corpo-  
 ration, New York, N.Y., a corporation of Delaware  
 Filed Oct. 29, 1964, Ser. No. 407,413  
 5 Claims. (Cl. 330-62)

A magnetoresistive amplifier which produces amplifica-tion of an input signal by means of the magnetoresistive effect in a magnetic element. Optimum amplification is achieved by applying the input signal to a strip line which

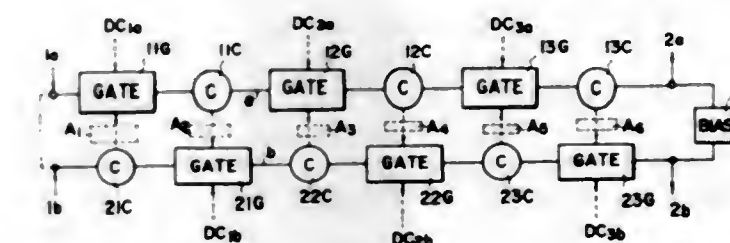
has essentially the same area as the magnetoresistive ele-  
 ment. This strip line is positioned substantially directly



over said element and is preferably positioned parallel to the easy axis of said element and at an angle of 45° with respect to the output line that is attached to said element.

**3,382,449**  
**AMPLIFIER USING MAGNETORESISTIVE MEDIUMS**

Hajime Enomoto, Ichikawa-shi, Japan, assignor to  
 Kokusai Denhin Denwa Kabushiki Kaisha, Tokyo-  
 to, Japan, a joint-stock company of Japan  
 Filed July 26, 1965, Ser. No. 474,567  
 Claims priority, application Japan, July 27, 1964,  
 39/42,022  
 24 Claims. (Cl. 330-62)



1. An amplifier, comprising a plurality of magnetore-sistive mediums each having a resistance which is variable in proportion to the magnitude of a control magnetic field applied thereto, a plurality of control means each for ap-plying the magnetic field to the medium, two paths in each of which the mediums and the control means are alternately connected in cascade, said control means are one of said paths being respectively interlinked to the mediums of the other of the paths so that the resistance of the respective medium of said one of the paths is con-trolled so as to vary in inverse proportion to magnitude of a signal passing through the same medium, from the con-trol means of the other of the paths, at an instant when a signal passed through the control means adjacent to the medium of said one of the paths passes through the said adjacent medium of the instant path, bias means for ap-plying an appropriate D-C bias to each of the paths, input means coupled with either of the paths for applying an input signal thereto, and output means coupled with the path coupling with the input means for deriving an am-plified output signal therefrom, whereby the input signal travels in the path to which it is applied and is succes-sively amplified through the respective mediums of the same path.

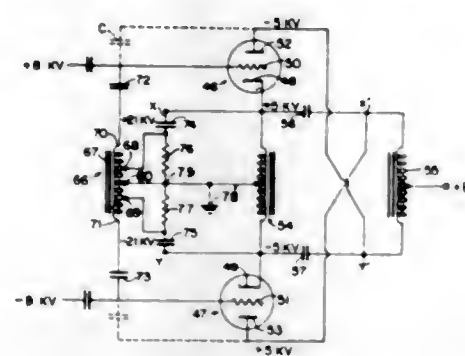
**3,382,450**  
**NEUTRALIZING CIRCUITS FOR PUSH-PULL AND CATHANODE STAGES**  
 Ronald J. Rockwell, Cincinnati, Ohio, assignor to  
 Avco Corporation, Cincinnati, Ohio, a corporation  
 of Delaware

Filed Nov. 12, 1965, Ser. No. 507,429  
 4 Claims. (Cl. 330-77)

In prior art balanced vacuum tube circuits the voltages available at the anode are generally not adequate in



magnitude to provide adequate neutralization. Here there is disclosed a balanced vacuum stage having a cathode reactor. An autotransformer has its primary capacitively



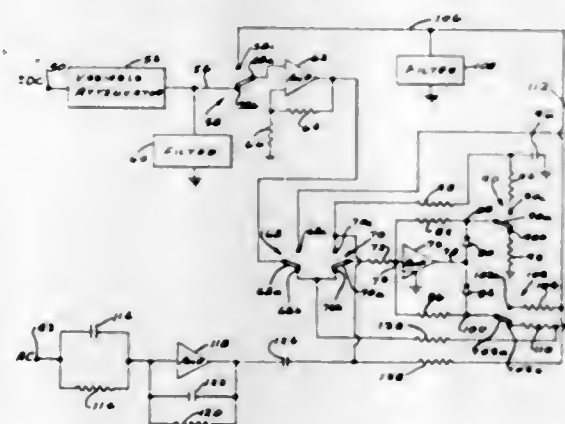
coupled to the reactor and its end turns individually coupled by neutralizing capacitors to the grid. The autotransformer is proportioned to produce secondary voltages which are adequate for neutralization.

3,382,451

### INSTRUMENTATION SYSTEM FOR PROVIDING A REPRESENTATIVE OUTPUT FROM EITHER AN A.C. OR A D.C. INPUT

Garry C. Gillette and James A. Nelson, Costa Mesa, and Norman C. Walker, Newport Beach, Calif., assignors to Dana Laboratories, Inc., Irvine, Calif., a corporation of California

Filed Oct. 24, 1965, Ser. No. 504,579  
9 Claims. (Cl. 330-147)



The disclosed system includes two separate signal paths, one for each of D.C. input signals and A.C. input signals; which paths are exclusively coupled through a switching structure to processing circuitry, the output of which may consistently provide an amplitude-modulated signal. The A.C. signal is accomplished into an output of representative amplitude by doubling the alternating amplitude for algebraic combination with a phase-shifted form of the signal having the original amplitude. The electrical signal resulting from the combination is then processed as a D.C. signal, in a manner somewhat similar to the D.C. input to accomplish the amplitude-representative output.

3,382,452

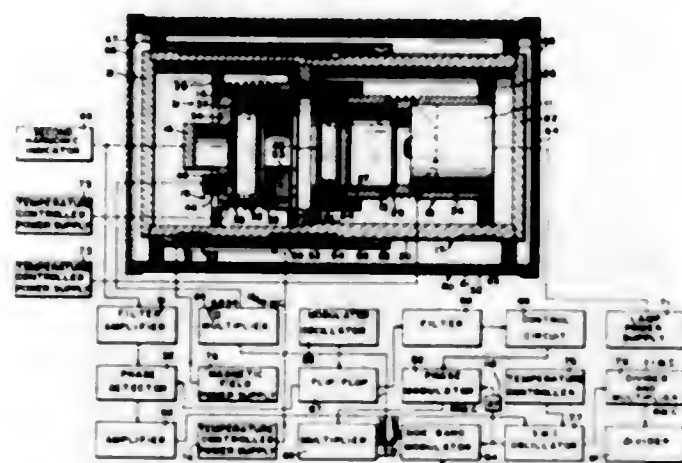
### FREQUENCY STABILIZATION APPARATUS

Robert C. Rempel and Byron E. Swartz, Santa Clara County, Martin E. Packard, San Mateo County, and Robert J. Rorden, Santa Clara County, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Continuation of application Ser. No. 129,874, Aug. 7, 1961. This application Apr. 15, 1965, Ser. No. 448,496  
19 Claims. (Cl. 331-3)

1. A frequency stabilization apparatus including a light source for projecting a light beam, a light absorption cell

enclosed within a cavity resonator for intercepting said light beam, a light intensity means for detecting the intensity of the light beam after passing through said cell, an oscillator for generating a radio frequency that is coupled to the cavity resonator, circuit means for producing a square wave function, filter means for changing said



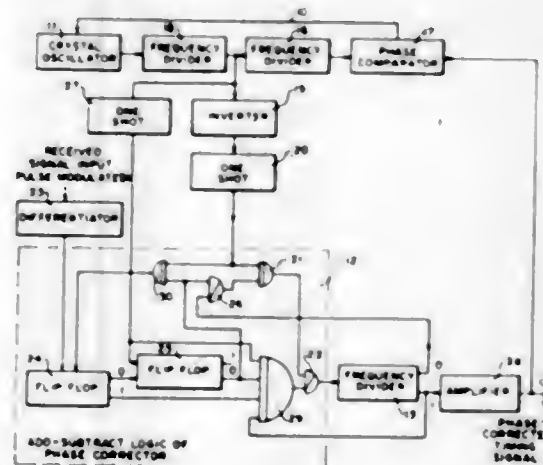
square wave function to a pure fundamental sine wave function substantially free of even harmonics, a modulator means for phase modulating said radio frequency and controlled by said sine wave, and a phase detector means coupled to said light intensity means and to said oscillator for tuning said oscillator in accordance with the light intensity detected by said light intensity means.

3,382,453

### CIRCUIT FOR STABILIZING AN OSCILLATOR DURING INTERRUPTION OF SYNCHRONIZING SIGNAL

Berton E. Dotter, Jr., Belmont, Calif., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware

Filed Apr. 10, 1967, Ser. No. 629,448  
5 Claims. (Cl. 331-14)



The output of the controlled oscillator is applied to two separate channels, one of which has a phase corrector circuit responsive to the frequency of the incoming or received signal for applying a phase correction to the oscillator signal in that channel. Both channels have frequency dividers which subdivide the frequency of the signals in the respective channels. A phase comparator is connected to the outputs of the two channels and has its output connected to the frequency control element of the oscillator. The phase corrector circuit is connected to the output of a transition time comparison circuit which has one input coupled to the incoming signal and the other input connected to the channel containing the phase corrector circuit.

## ERRATUM

For Class 331-60 see:  
Patent No. 3,382,447

3,382,454

### LOW LOSS INJECTION LASER

Glen Wade, Ithaca, N.Y., and Samuel R. Steele, Sudbury, and Wolfgang M. Felst, Burlington, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Nov. 12, 1963, Ser. No. 322,965  
8 Claims. (Cl. 331-94.5)

1. A semiconductor laser comprising a sandwich including a body of degeneratively doped semiconductor material having side surfaces and opposed end surfaces, a pair of thin metal films overlying opposed side surfaces of said body, a pair of layers of insulating material interposed between said body and respective metal films, electrical circuit means for connecting said metal films and said body to a source of forward bias voltage for causing electrons from the metal films to tunnel



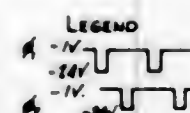
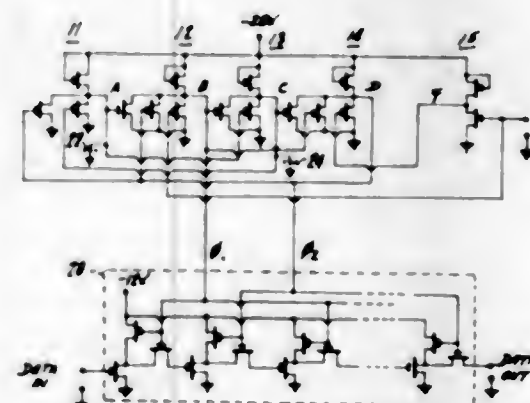
through the insulation into said body and to produce photons of energy within the body, internal reflection enhancing means in contact with the uncovered side surfaces of the body, and means on the end surfaces of said body for enhancing internal reflection of photons and for subsequent exit of photons from the body.

3,382,455

### LOGIC GATE PULSE GENERATOR

Adolph Karl Rapp, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 627,844  
4 Claims. (Cl. 331-111)



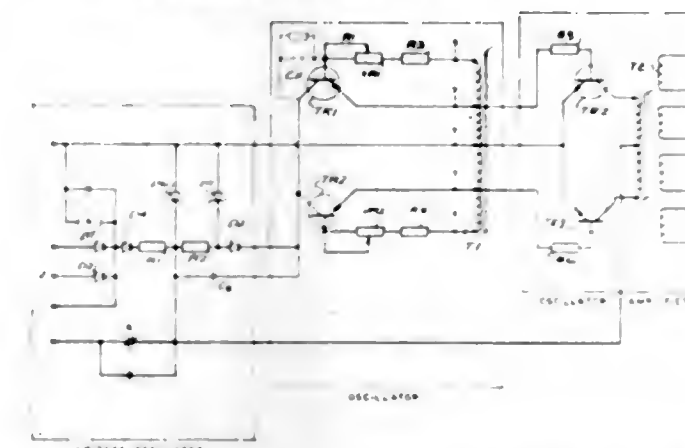
A chain of logic gates interconnected so that they tend to oscillate and a circuit for deriving from the chain in response to a single phase alternating signal, multiple phase output pulses.

3,382,456

### INVERTER CIRCUIT HAVING AN OSCILLATOR-AMPLIFIER WITH FEEDBACK

Stuart P. Jackson, 1723 Grace Lane 43221; Dennis M. Swing, 1745 Newfield Road 43209; and Kenneth A. Wallace, 2631 Muskingum Court 43210, all of Columbus, Ohio

Filed Oct. 20, 1965, Ser. No. 499,102  
4 Claims. (Cl. 331-113)



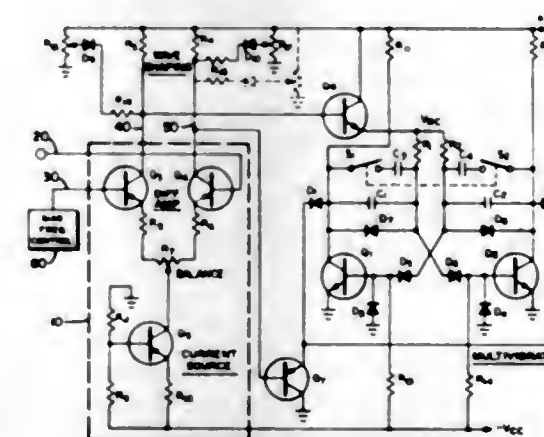
This invention is directed to an inverter circuit having an oscillator-amplifier with feedback. Specifically the improvement comprises gapping the oscillator core to assure that its residual flux is that of the output transformer; and further the circuit of the present invention comprises increasing the initial, i.e., startup, frequency of the oscillator.

3,382,457

### WIDE BAND VOLTAGE CONTROLLED MULTIVIBRATOR

Patrick H. Conway, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 3, 1967, Ser. No. 606,947  
5 Claims. (Cl. 331-113)



An astable multivibrator having the time constant network bias voltage and collector voltage swing varied by control voltages applied through a differential amplifier whereby it produces an arbitrary frequency versus control voltage characteristics including logarithmic frequency operation over a wide range including ranges greater than an octave or a decade.

3,382,458

### VARIABLE FREQUENCY SINE WAVE OSCILLATOR

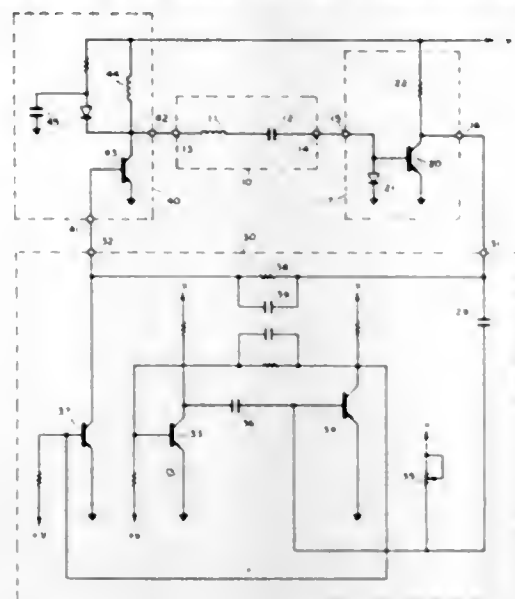
Martin Fischman, Wantagh, N.Y., assignor to General Telephone & Electronics Laboratories, Incorporated, a corporation of Delaware

Filed Feb. 2, 1967, Ser. No. 613,463  
8 Claims. (Cl. 331-113)

A sine wave oscillator is disclosed in which the frequency is controlled by providing a variable phase shift in the oscillator feedback circuit. The variable phase shift is obtained by changing the symmetry of a square wave



feedback signal and thereby varying the phase of the fundamental frequency component of the square wave. The change in the phase of the fundamental component



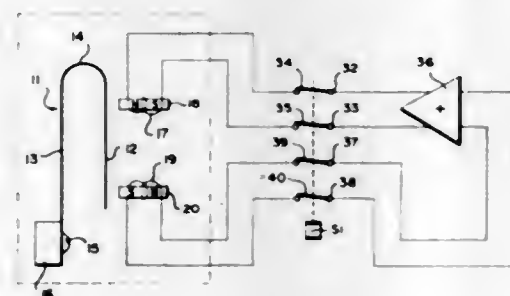
causes the oscillator frequency to adjust to a new frequency in accordance with the frequency-phase relation of the oscillator tuned circuit.

#### ERRATUM

For Class 331—117 sec:  
Patent No. 3,381,533

#### 3,382,459 RESONATOR

William P. Asten, Aldie, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware  
Filed May 10, 1965, Ser. No. 454,311  
29 Claims. (Cl. 331—156)



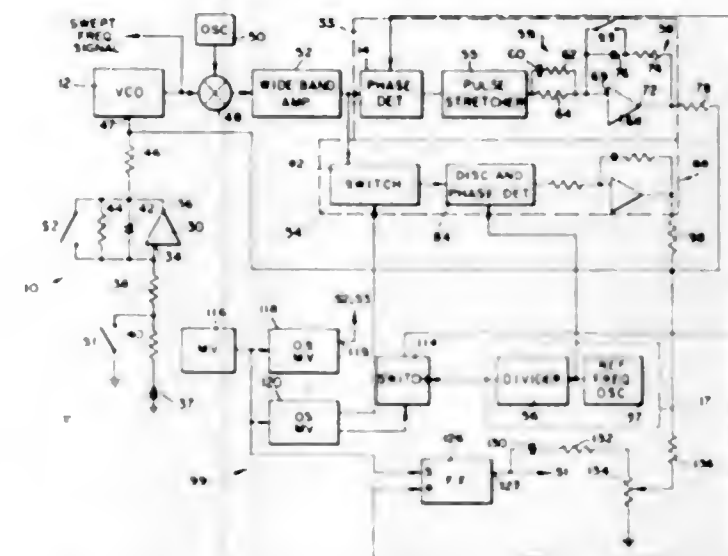
An electromechanical resonator includes a tuning fork having a U-shaped configuration in which normally parallel tines are connected by a bridging portion, the fork supported along one of the tines only, to permit freedom of vibration of that tine along its unrestricted length and of the other tine and the bridging portion along their entire lengths. The fork is driven in either of the tuning fork (opposite movement of the tines) and reed (common movement of the tines) modes of vibration at the disparate natural frequencies of those vibrational modes, and separate and distinct detectors are utilized for sensing the vibrations of the fork in the respective modes.

#### 3,382,460

**LINEARLY SWEEPED FREQUENCY GENERATOR**  
Daniel Blitz, Boston, and Martin R. Richmond, Belmont, Mass., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware  
Continuation of application Ser. No. 548,564, May 9, 1966. This application Sept. 11, 1967, Ser. No. 667,334  
20 Claims. (Cl. 331—178)

1. A controlled sweep frequency generator for providing an output whose frequency varies as a selected function of time, said generator comprising

- a variable frequency generator,
- means for repetitively sampling the phase of the output signal from said variable frequency generator to develop error signals whose magnitude and polarity correspond to the difference between said phase and the phase of a reference signal,
- a sampling frequency generator for controlling the sampling rate of said sampling means, said sampling frequency generator having a frequency such that when the output signal from said variable frequency



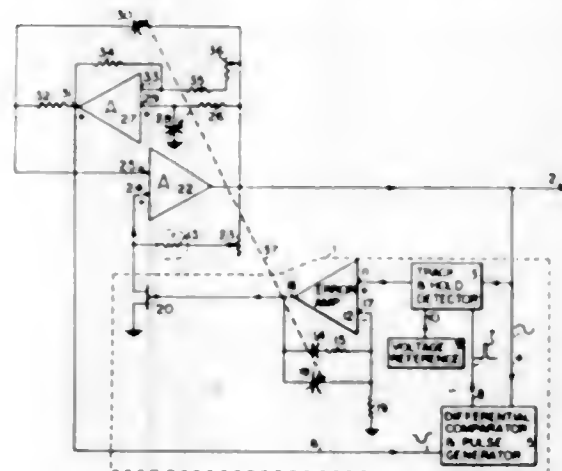
generator changes frequency as said function of time, the phase of said output signal changes by predetermined increments between successive samplings by said sampling means, and

- means for correcting the frequency of said variable frequency generator by applying to said variable frequency generator a correction signal in response to said error signal so as to make the variation of said frequency conform substantially to said function of time.

#### 3,382,461

**TRACK AND HOLD SERVOCONTROL CIRCUIT**  
Henry O. Wolcott, Chatsworth, Calif., assignor to Optimization, Inc., Sun Valley, Calif., a corporation of California

Filed Nov. 28, 1967, Ser. No. 686,242  
10 Claims. (Cl. 331—183)

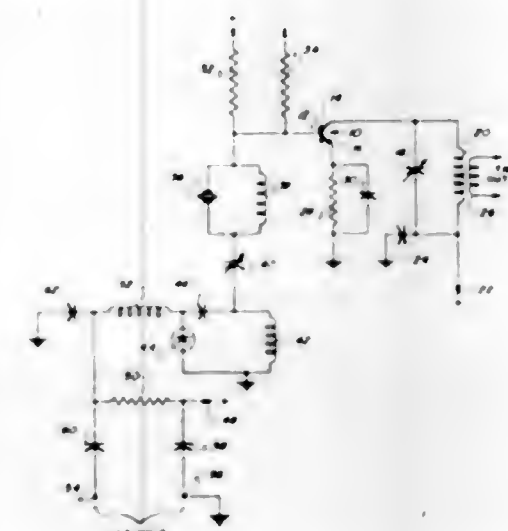


An electrical output-to-input signal control circuit having plural semiconductor elements to rectify separate in-phase and quadrature components of the signal to be controlled. Rectified components of opposite polarities of the signal are formed into a short sampling pulse in a comparator circuit at the time that the quadrature component passes through zero amplitude and the in-phase component has one polarity. This pulse gates a semi-

conductor element, which compares the instantaneous value of the signal during the time of the sampling pulse with a constant reference voltage and produces an amplitude error signal of the track and hold type. The error signal passes through an error amplifier, which has a first feedback circuit of long time constant and high gain for long period control and a second feedback circuit of low gain and short time constant for cycle-to-cycle control. The output of the error amplifier controls a further semiconductor element, which is connected to the signal source required to be controlled.

#### 3,382,462 FREQUENCY MODULATED CRYSTAL OSCILLATOR

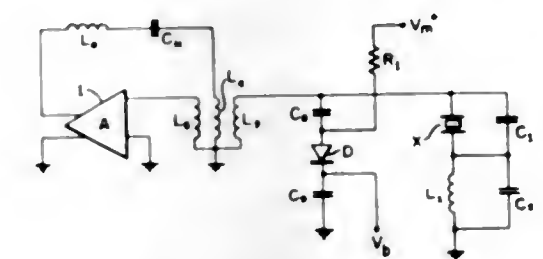
James R. Davis, 3038 SE. Morrison, Portland, Oreg. 97214  
Filed May 24, 1966, Ser. No. 552,506  
5 Claims. (Cl. 332—26)



1. A frequency modulated oscillator comprising: an input circuit, an output circuit, and a point of common reference potential, a single active amplifying device including an output terminal coupled to said output circuit, a control terminal connected to said input circuit, and a common terminal coupled to said point of common reference potential, said control terminal having a higher input impedance than said common terminal, said amplifying device providing the only coupling between said input and said output circuits at the operating frequency of the oscillator, said input circuit comprising the series combination of a quartz crystal and a series resonant circuit substantially resonant at the series resonant frequency of said quartz crystal, and inductive means coupled across said quartz crystal for resonating the parallel capacitance of said quartz crystal to bring the parallel resonant frequency of said crystal approximately to the frequency of series resonance of said crystal, said series resonant circuit comprising a first capacitor in series with a parallel combination of an inductance and an independently variable capacitor adapted for changing its capacitance in response to a modulating signal, said last mentioned inductance having a greater reactive effect than said variable capacitor in said parallel combination to result in a net inductive reactance in said series resonant circuit for resonating with said first capacitor such that the effect of the independently variable capacitor on the resonant frequency of said series resonant circuit is linearized by said last mentioned inductance, and means for providing a modulating signal to said independently variable capacitor.

#### 3,382,463 VARIABLE FREQUENCY VOLTAGE CONTROLLED CRYSTAL OSCILLATOR

Carl R. Hurtig, Greenbush, Mass., assignor to Damon Engineering, Inc., Needham Heights, Mass., a corporation of Massachusetts  
Filed Feb. 20, 1967, Ser. No. 617,152  
7 Claims. (Cl. 332—26)



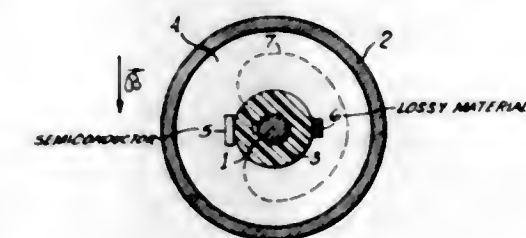
This invention relates to linear crystal controlled oscillator circuits. The oscillator includes a frequency determining portion which is composed of two networks. The first network includes the frequency controlling crystal, whose admittance is highly dependent upon frequency. The second network, whose admittance is a linear function of frequency and a non-linear function of modulating voltage, includes a voltage controlled capacitance, to which the modulating voltage is applied. Parameters of the two networks are selected to make the frequency response of the oscillator linearly dependent on modulating voltage. The full specification should be consulted for a complete understanding of the invention.

#### 3,382,464

**UNDIRECTIONAL COAXIAL LINE DEVICE COMPRISING A SEMICONDUCTOR BODY AND A LOSSY BODY**

Jacques Gremillet, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Jan. 22, 1965, Ser. No. 427,308  
Claims priority, application France, Jan. 23, 1964, 961,282  
3 Claims. (Cl. 333—24)



For making unidirectional a coaxial line for ultra-high frequency energy, the line has between its inner and its outer conductors, two concentric layers of different dielectric constants, chosen in such a manner that a circular polarization is obtained at the surface of separation of the two dielectrics. A semiconductor body is placed at the surface of separation of said layers and an energy dissipating body is mounted on the same surface, diametrically opposite to the semiconductor body. A constant magnetic field is applied perpendicularly to the plane of polarization.

#### 3,382,465

**EQUALIZERS COMPRISING INTERCONNECTED DIRECTIONAL COUPLERS**

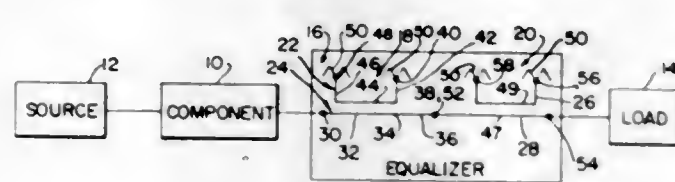
Robert Robbins, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Mar. 20, 1964, Ser. No. 353,378  
25 Claims. (Cl. 333—28)

Disclosed herein is an improved distributed parameter transmission line equalizer having low loss and being readily adaptable to compensate a variety of transmission



characteristics. The invention is suited for economical construction with strip transmission line, and provides relative-



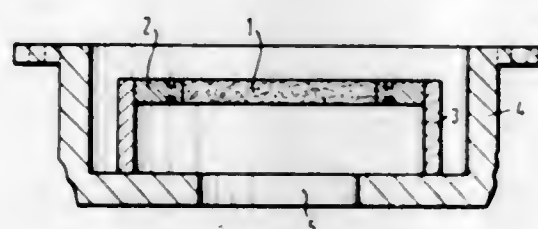
ly flat transmission characteristics in circuits incorporating travelling wave devices or delay lines.

3,382,466

# DEVICE FOR THE TRANSMISSION OF SHORT ELECTROMAGNETIC WAVES, ESPECIALLY FOR HIGHEST FREQUENCY TUBES

Paul Kahl, Arno Hinckeladey, and Erich Mayerhofer, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany  
Filed Sept. 24, 1965, Ser. No. 490,044  
Claims priority, application Germany, Sept. 30, 1964, S 93,499

5 Claims. (Cl. 333-98)

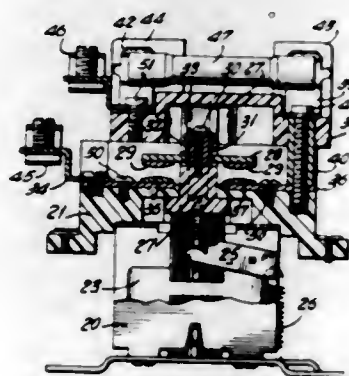


A window structure for a high power traveling wave tube comprising a thin-walled elongated tube of copper secured vacuum tight at one end thereof with an annular copper flange, and at the other, free end thereof with a solid ring of Vacon, which is within such free end and surrounded thereby, the ring of Vacon framing a ceramic plate window.

3,382,467

# FUSED CONTACTOR

Frank T. Marrieh, Baltimore, and Robert I. Bowie, Sykesville, Md., assignors to The Rowan Controller Company, Westminster, Md., a corporation of Maryland  
Filed Aug. 17, 1965, Ser. No. 480,345  
1 Claim. (Cl. 335-142)



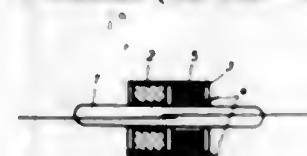
1. A fused contactor comprising: a housing having an opening in the upper end thereof; first and second spaced selectively connectable conductive contacts mounted in said housing directly beneath said opening; an insulative frame mounted on the upper end of said housing for closing said opening, and thereby more fully enclosing said contacts;

first and second spaced fuse clips mounted on said frame directly overlying said first and second contacts, respectively; a conductive fastener mechanically and electrically interconnecting one of said clips and its associated underlying contact; and first and second aligned connectors located exteriorly of said housing and coupled to said other of said clip and associated underlying contact, respectively, for enabling external circuit connections to be made to said fused contactor at approximately a common point.

3,382,468

# LATCHING REED RELAY

Emil Mattes, Bietigheim (Enz), Germany, assignor to International Standard Electric Corporation  
Filed July 14, 1966, Ser. No. 565,253  
Claims priority, application Germany, July 21, 1965, St 24,161  
4 Claims. (Cl. 335-153)

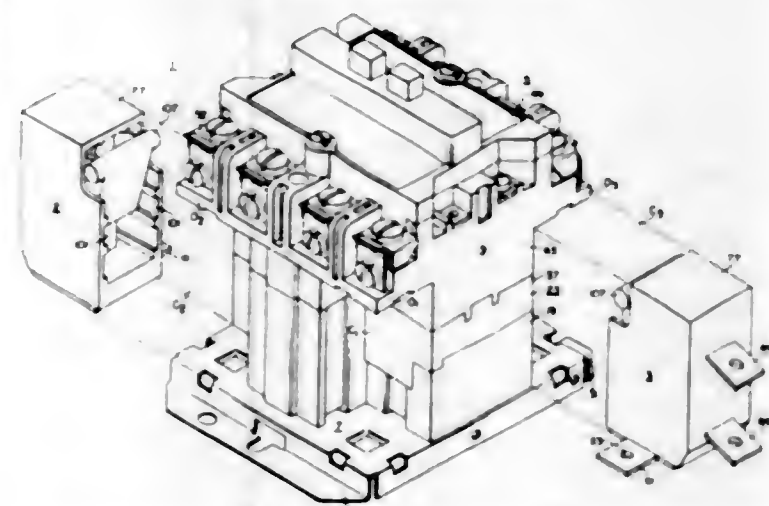


Latching reed relays utilizing permanent magnets and control coils wound of magnetizable material, such as magnetizable tape strips.

3,382,469

# ELECTRIC CONTROL DEVICE AND SUPPLEMENTAL POLE UNIT

John P. Conner, Brighton Township, Beaver, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Nov. 22, 1965, Ser. No. 508,900  
9 Claims. (Cl. 335-161)



An improved control structure comprises an electromagnetic control device and a supplemental pole unit removably connected to the control device for operation by the control device. The supplemental pole unit comprises a movable bridging contact structure and a pivotally supported operating member for moving the bridging contact structure in a direction normal to the direction of movement of the actuator of the control device.

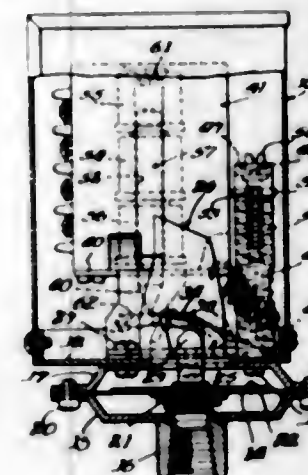
3,382,470

# LEVER OPERATED PRESSURE TRANSDUCER

Paul J. Kvistad, Elgin, Ill., assignor to Furnas Electric Company, Batavia, Ill., a corporation of Delaware  
Filed Sept. 21, 1966, Ser. No. 581,109  
8 Claims. (Cl. 336-30)

1. In a pressure transducer, the combination with a linear variable differential transformer having a vertically

movable metal core and wherein the rectified output of the transformer will vary as a function of the core position, of a pressure responsive lever and a core actuating lever, means respectively mounting said levers for limited oscillating movement on parallel horizontally spaced axes, the core actuating lever overlying the pressure responsive

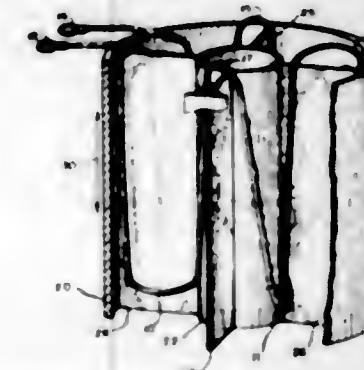


lever and having contact with the latter in a manner whereby core displacement is increased over that for any particular movement of the pressure responsive lever, and resilient means in compression relation with the free end of the pressure responsive lever for opposing the pressure movements of said lever.

3,382,471

# VARIABLE SHIELD CONTROL FOR TOROIDAL CORE INDUCTORS

Helmut Brueckmann, Little Silver, N.J., assignor to the United States of America as represented by the Secretary of the Army  
Filed Jan. 6, 1967, Ser. No. 607,859  
6 Claims. (Cl. 336-87)



This invention relates to variable or controllable inductances and particularly to continuously adjustable inductances tuned by electrostatic shielding. More particularly this invention relates to an electrostatic-shield tuning means for a toroidally wound coil.

This invention is a device that provides a pair of concentric, cylindrical shields; one inside and one outside of a toroidal coil, respectively. The cylindrical shields are connected by radial vanes, also of shielding material, that are shaped and spaced to fit between the individual turns of the toroidal coil windings to provide a unit that can be moved in and out of the magnetic field of the coil without physical or electrical contact with the coil.

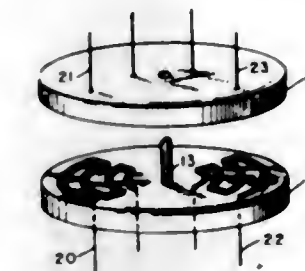
3,382,472

# RELATIVELY MOVABLE COILS IN SLOTTED CORES

Joachim A. Maass, 3212 Querns Road, Belmar, N.J. 07719  
Filed July 6, 1966, Ser. No. 563,652  
6 Claims. (Cl. 336-119)

A transformer with an inductive coupling coefficient that is adjustable over a wide range having two ferromagnetic

bases with each base having a surface with the slot and a wire disposed in each slot. The surfaces are held in abut-



ment and rotating the surfaces with respect to each other varies the coupling coefficient between the wires in the slots.

3,382,473

# DETACHABLE SHAFT FOR ELECTRICAL CONTROL

John D. Van Benthuyssen and Arthur L. Rozema, Elkhart, Ind., assignors to CTS Corporation, Elkhart, Ind., a corporation of Indiana  
Filed May 31, 1966, Ser. No. 554,111  
13 Claims. (Cl. 338-166)



An electrical control having a detachable shaft attachable and detachable from such control by passing one end of the shaft into an opening provided in a driver positioned within the control, the driver being supported therein by a rearwardly extending bearing integral therewith. An opening in the driver is configured to produce an interference fit with the shaft during insertion of the shaft into the opening and a hub having an opening therein is formed integrally with the driver. Abutments positioned in the opening of the driver are movable in response to insertion of the shaft and as a pair of shoulders on the shaft pass beyond the abutments, the abutments move against the shaft to secure the shaft in a predetermined position relative to the driver. An end play compensator may be supported on the driver in engagement with the end of the shaft to eliminate shaft end play. In addition, the shaft may be provided with an integral manually operable knob.

3,382,474

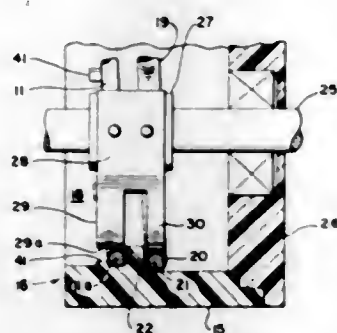
# COMBINATION SLIP RING AND TERMINAL FOR VARIABLE RESISTANCE DEVICE

John P. Doering, Jr., Santa Ana, Calif., assignor to Beckman Instruments, Inc., a corporation of California  
Filed June 27, 1966, Ser. No. 560,576  
3 Claims. (Cl. 338-174)

A slip ring and terminal structure for a variable resistance device comprising a substantially closed ring of wire or other resilient electrically conductive material having one end thereof bent outwardly into a terminal extension which protrudes outwardly through an opening formed in the side wall of the housing of the device. The ring is supported on the inner surface of the cavity



within the housing adjacent the resistance element and is contacted by an electrically conductive wiper as it



traverses its rotational path around the resistance element mounted within the housing.

3,382,475

**CABLE CONNECTOR ADAPTOR**

Sigmund Kramer, Orpington, Kent, England, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army  
Filed Feb. 3, 1966, Ser. No. 525,801  
6 Claims. (Cl. 339-18)



An adaptor for a disconnect type of electrical connector having a pin receptacle including a plurality of pin conductors adapted for connection to a plurality of conductors of a preinstalled circuit. The connector further includes a plug assembly having a cable secured therein with the conductors of the cables communicating into a plurality of apertures in the plug assembly. The adaptor is provided for connecting preselected conductors of the preinstalled circuit with selected conductors of the cable and includes a sleeve having an insert member removably mounted therein. The sleeve is disposed to releasably secure the plug and pin receptacle together. The insert is provided with a plurality of apertures and a pin conductor is releasably mounted in selected ones of the apertures to provide electrical connection between preselected conductors of the cable and of the preinstalled circuit.

3,382,476

**PRINTED CIRCUIT BOARD GUIDE**

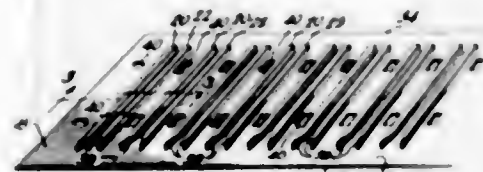
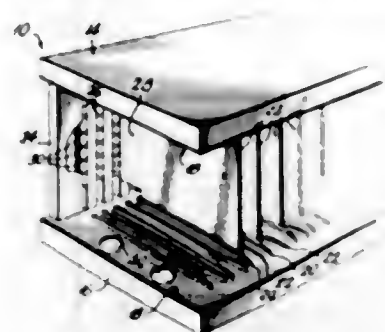
Leon Novet, Oceanside, N.Y., assignor to Potter Instruments Company, Inc., Plainview, N.Y., a corporation of New York

Filed July 12, 1965, Ser. No. 471,041

9 Claims. (Cl. 339-65)

The specification and drawings disclose a rack for storing printed circuit boards in parallel spaced apart relation. The rack comprises a pair of flat guides supported in parallel spaced apart relationship with each guide having a plurality of guide tracks formed therein for slidably retaining the upper and lower edges of the individual printed circuit boards. The rack includes terminal connectors mounted between the guides in position to make elec-

trical connection to the leading edge of each of the printed circuit boards when they are fully inserted between the guides. Each guide comprises a sheet of electrical insulating material such as plastic or plastic coated

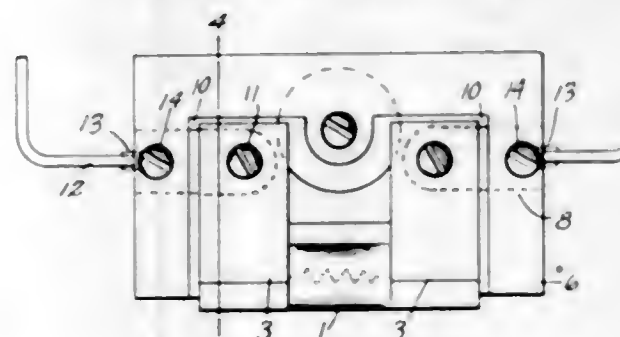


paper having boards or ridges formed thereon by a draw molding operation for defining the guide tracks. A method is also disclosed for cutting the individual guides from a long continuous strip having a large number of guide tracks formed thereon.

3,382,477

**HEAT-DISSIPATING CONNECTOR**

Robert R. Peterson, Erie, Pa., assignor to Lord Corporation, Erie, Pa., a corporation of Pennsylvania  
Filed May 24, 1965, Ser. No. 458,229  
3 Claims. (Cl. 339-112)



A high-intensity lamp having metal terminals sealed into a quartz envelope is supported on a metal body having hard anodized aluminum surfaces in contact with the lamp terminals to form an insulating coating and to conduct heat away and thereby prolong the life of the lamp.

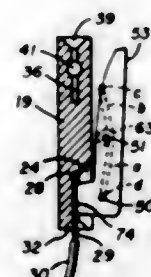
3,382,478

**QUICK CONNECT-DISCONNECT THERMOCOUPLE CONNECTOR**

Marvin L. Satterthwaite, Riverside, Calif., assignor to Rohr Corporation, a corporation of California

Filed Nov. 25, 1966, Ser. No. 596,966

7 Claims. (Cl. 339-210)



A quick connect-disconnect connector having a pair of elongated metal elements within an insulated casing. A pair of manually manipulatable angle members are pivot-

ably supported on opposite sides of the casing and have end portions which releasably clamp an electrical lead to an end of the metal elements.

3,382,479

**SOCKET CONNECTOR**

James S. Cooney, Attleboro, Mass., assignor to Pylon Company, Inc., Attleboro, Mass., a corporation of Massachusetts

Filed Oct. 10, 1966, Ser. No. 585,478

6 Claims. (Cl. 339-256)



An electrical connector comprising a socket having a U-shaped helical spring mounted adjacent the entrance to the socket with the opposed legs of the spring extending chordally across opposite edges of the opening so that when a male connector is inserted into said socket, it will resiliently engage the opposed legs of said spring so as to insure electrical contact.

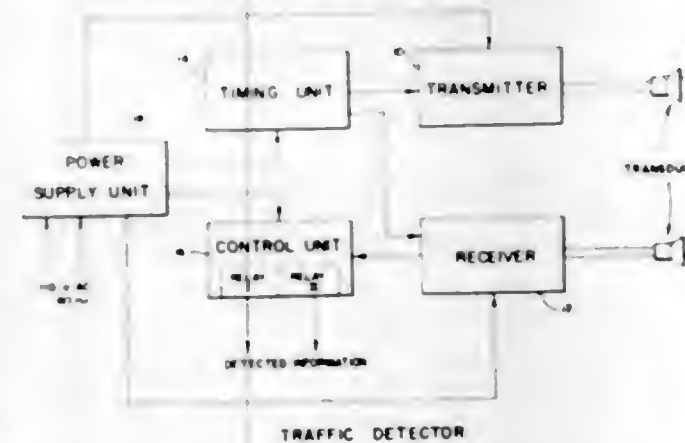
3,382,480

**METHOD OF DETECTING TRAFFIC**

Thomas K. Tsao, 4306 Sarasota Place, and Michael Yu, 4307 Yates Road, both of Beltsville, Md. 20705, and Simon Yin, 1 Comfort New Village, Shen-tai, Taipei, Taiwan, China

Filed July 6, 1966, Ser. No. 563,161

1 Claim. (Cl. 340-1)



A method of detecting objects by means of an ultrasonic echo system. The transmitter operates at a repetition rate of ten cycles per second and the receiver is gated so as to be responsive only during a desired receiving interval. Stationary objects are indicated by integrating successively occurring echoes and operating a relay when the integrator output reaches a predetermined level, while singly occurring echoes representative of a moving object are used to operate another relay.

3,382,481

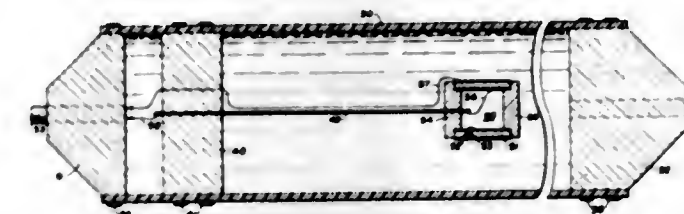
**CANTILEVER MOUNTED HYDROPHONE**

Buford M. Baker, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 24, 1966, Ser. No. 560,130

7 Claims. (Cl. 340-17)

A marine seismometer insensitive to cable strumming



sive detector to form a vibratory mounting resonant at about 5 cycles per second.

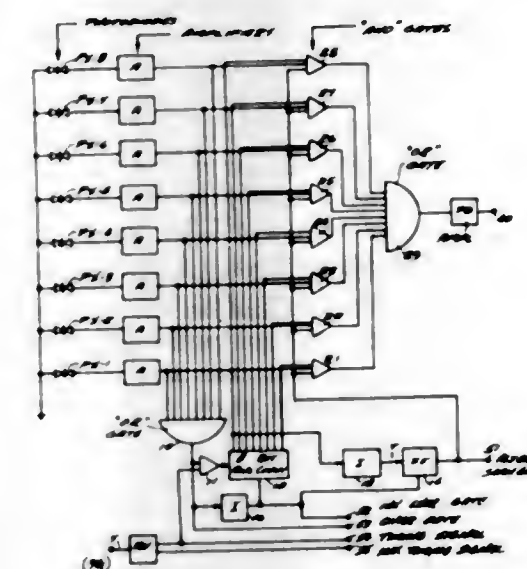
3,382,482

**CHARACTER RECOGNITION SYSTEM**

Robert B. Greenly, Binghamton, N.Y., assignor, by mesne assignments, to Character Recognition Corporation, Binghamton, N.Y., a corporation of Delaware

Filed Oct. 17, 1961, Ser. No. 149,144

22 Claims. (Cl. 340-146.3)



1. In character recognition apparatus, means for scanning a character to be recognized and for providing a bi-valued pulse train characteristic of said character, comprising, in combination: means for moving a document bearing characters to be read in a first direction; a plurality of photo-sensitive elements disposed in a row which extends in a second direction perpendicular to said first direction; means for generating a periodic timing signal; an electronic ring counter connected through a first coincidence gate to be advanced through successive counts by successive occurrences of said timing signal, said counter having a stage individual to each of said photo-sensitive elements; and OR gate having a plurality of input lines connected to a respective one of said photo-sensitive elements and a second input line connected to a respective stage of said counter to connect signals from successive of said photo-sensitive elements successively to respective ones of said input lines of said OR gate, thereby to provide serial output pulse trains from said OR gate.

3,382,483

**TELEMETERING SYSTEM FOR DETERMINING PHASE ANGLE**

Abraham Brothman, Dumont, and Conrad Yanis, Glen Rock, N.J., assignors, by mesne assignments, to Sangamo Electric Company, Springfield, Ill., a corporation of Delaware

Filed Oct. 30, 1963, Ser. No. 320,162

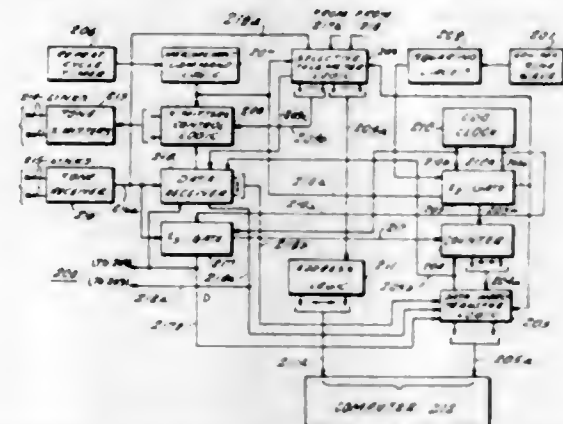
21 Claims. (Cl. 340-151)

This invention teaches a system for use in power distribution networks typically employing a plurality of gen-



erator sources and loads interconnected in the system network wherein it is desired to effect economic dispatch of energy in the system by suitably adjusting the system generators. In order to effect economic dispatch it is necessary to measure phase angle as between a central point in the power network and the plurality of remote points. This is performed by initiating a measurement command signal at the central location causing each remote point to generate a phase angle measurement indicating the phase angle between receipt of the measurement command signal and the beginning of the next 60 cycle sine wave of the system network at that point. Additional means are provided at each remote point for measuring the phase angle between the network sine wave and a highly accurate clock source operating at the same frequency.

Simultaneously therewith the central point generates a phase angle measurement between the initiation of the



measurement command signal and the beginning of the next cycle in the power distribution network at that point. In addition thereto, the central point generates a second phase angle measurement between a local frequency generator and the beginning of each cycle of the network signal at that central point.

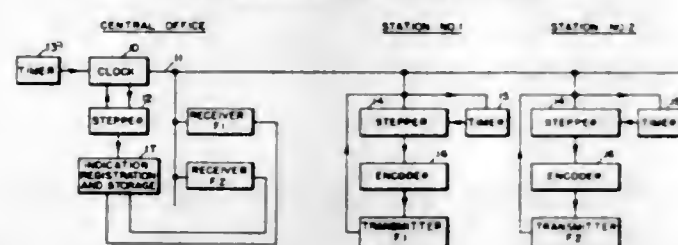
A transmit request signal is sent sequentially to each of the remote points which then transmit the phase angle measurements generated at each remote point. The phase angle measurements are then applied to a computer for establishing the actual phase angle between the voltage signal at the central point in the power distribution network with the signal at the remote point in the power distribution network in order to arrive at a solution for the economic dispatch of power in the network which employs the phase angle measurement as one piece of data used in solving the economic dispatch equation.

3,382,484

### CENTRAL TO REMOTE COMMUNICATION SYSTEM HAVING INTERROGATION PULSE POWERED STEPPER AT THE REMOTE STATION

Henry C. Sibley, Spencerport, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed July 16, 1964, Ser. No. 383,073  
11 Claims. (Cl. 340-163)



A code communication system for registering indications at a control office of the conditions of apparatus at multiple remote stations wherein the remote stations are powered solely by the energy of pulses received over a line circuit from the control office. Each remote station transmits a distinctive frequency, and where several in-

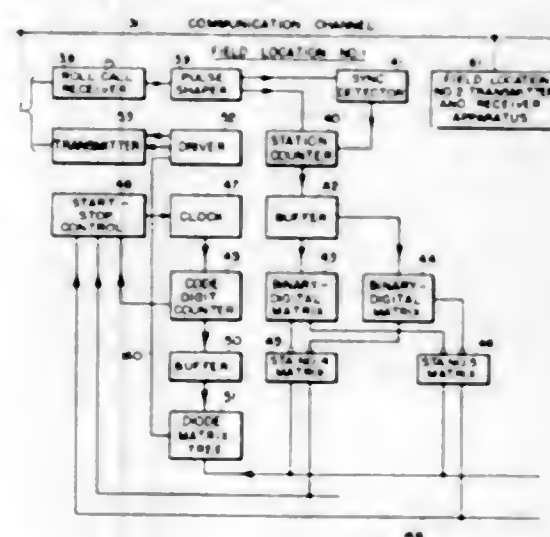
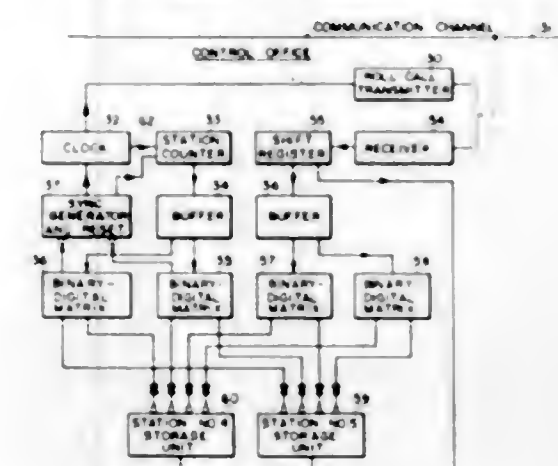
dications are to be transmitted from one station, a stepper is provided at that station, the stepper being powered solely by the energy pulses transmitted over the line circuit, one pulse for each step.

3,382,485

### MULTIPLE STATION CODE COMMUNICATION SYSTEM

Walter G. Pettitt, Rochester, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 14, 1963, Ser. No. 315,760  
5 Claims. (Cl. 340-163)



A code communication system for communicating indication codes from a plurality of field stations over a communication channel to a control office, each station having a chance to transmit when called by station roll call pulses transmitted from the control office. Each station has a binary counter for counting the roll call pulses having first and second groups of stages controlling respectively first and second inhibit matrices for jointly determining when the associated field station can transmit.

3,382,486

### SORTING APPARATUS FOR COLLECTING COMMON ADDRESS DATA FROM AN ORIGINAL MEMORY IN WHICH UNSORTED DATA AND ADDRESSES ARE REGISTERED

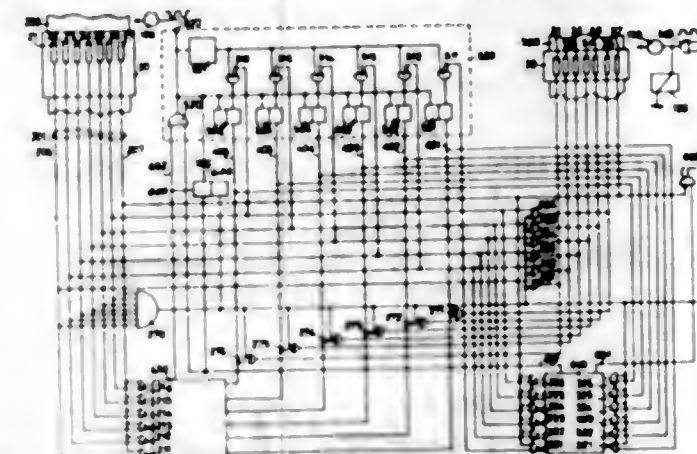
Jacqueline Bernard de Courville, 4 Rue du Figuier, Paris, France

Filed June 29, 1965, Ser. No. 468,020  
Claims priority, application France, June 30, 1964, 980,176

3 Claims. (Cl. 340-172.5)

Sorting apparatus and method for collecting registered unsorted data from an original memory, each of the data being provided with an address wherein all of the data having a common address is sorted out and transferring means transports said sorted data to an output memory in a predetermined order of sorted addresses. The original memory is read cyclically a plurality of times. Dur-

ing each reading the first new address in said predetermined order is selected and during each reading cycle

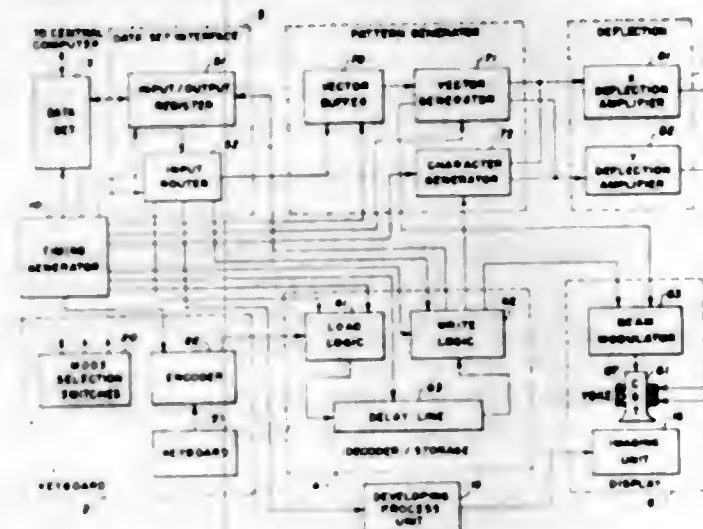


after the first, every data relating to the address selected at the previous reading cycle is transferred into the output memory.

### 3,382,487 DATAPHONE DRIVEN REMOTE DISPLAY SYSTEM

Al U. Sharon, Penfield, Morton Silverberg, Pittsford, and John M. Bailey, Jr., Fairport, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 27, 1965, Ser. No. 516,608  
10 Claims. (Cl. 340-172.5)



1. A data display system for two way communication with a remote telephone line-linked digital computer comprising:

- (a) cathode ray tube display means;
- (b) keyboard and encoding means adapted for producing encoded electrical character data in response to manual activation when said system is in a pre-look mode of operation;
- (c) decoder-storage means adapted for storing encoded character fonts transmitted from said computer when said system is in a load mode of operation, and for storing encoded character data generated by said keyboard and encoding means when said system is in a pre-look mode of operation, said means being further adapted to respond to encoded signals representative of said encoded characters and presented to said means when said system is in a write or pre-look mode, said means responding to said encoded signals by selectively gating out electrical signals indicative of the characters corresponding to said encoded signals;
- (d) character generator means electrically connected to said decoder-storage means and said cathode ray tube display means, said character generator means including circuitry for establishing a fixed scan pattern on the face of said cathode ray tube, said character generator means further including circuit means

for intensity modulating said scan pattern in accord with said electrical signals from said decoder storage means whereby light patterns may be formed upon said cathode ray tube representative of said characters;

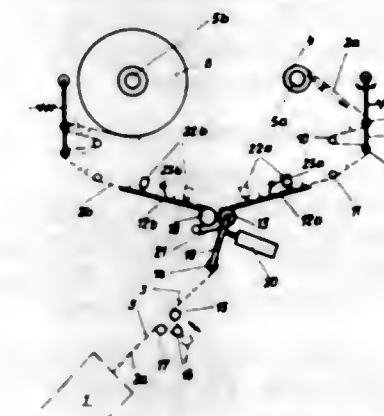
- (e) vector plotting means electrically connected to the deflection circuitry of said cathode ray tube display means and adapted to receive digitally encoded data from said computer representative of the planar coordinates of a graphic representation, said vector-plotting means including circuitry for establishing and moving the light spot of said CRT display means in accordance with the said planar coordinates digitally transmitted from said central computer;
- (f) data interface means electrically positioned to link said system to said telephone line, said data interface means including input router means and input/output register means for routing data to said computer or to portions of said system in accord with the mode of operation of said system;
- (g) mode selection means for determining the mode of operation of said system;
- (h) a xerographic display system including a xerographic plate, charge sensitization means for said plate, developing and erasure means, a viewing screen, and reflection optics means including a light source for projecting developed images on said xerographic plate to said viewing screen; and
- (i) optical means for imaging the light pattern on said cathode ray tube display means upon said xerographic plate when said plate is in a charge sensitized condition, whereby a latent electrostatic image may be formed upon said plate for subsequent development and display.

3,382,488

### PROCESSING MACHINE, PARTICULARLY A PACKING MACHINE

Paul Graf, Neuhausen am Rheinfall, Switzerland, assignor to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland

Filed Jan. 26, 1966, Ser. No. 523,199  
Claims priority, application Switzerland, Jan. 29, 1965, 1,239/65  
8 Claims. (Cl. 340-172.5)



1. In a processing machine, particularly a packing machine, for joining a pair of webs at a trailing and leading end whilst maintaining predetermined spacings between centering marks provided on the webs, a pair of displaceable rollers between which the leading end of one web is held whilst the other web runs therethrough, means for urging said rollers one against the other for joining the trailing end of said other web to said leading end, and a timing device comprising a sensing member capable of being actuated by the trailing end to initiate a signal for joining the ends together, a memory for storing said signal until effective joining can take place and a signal transmitter synchronized with the machine to trigger off the joining if the memory contains a signal transmitted by the sensing member.

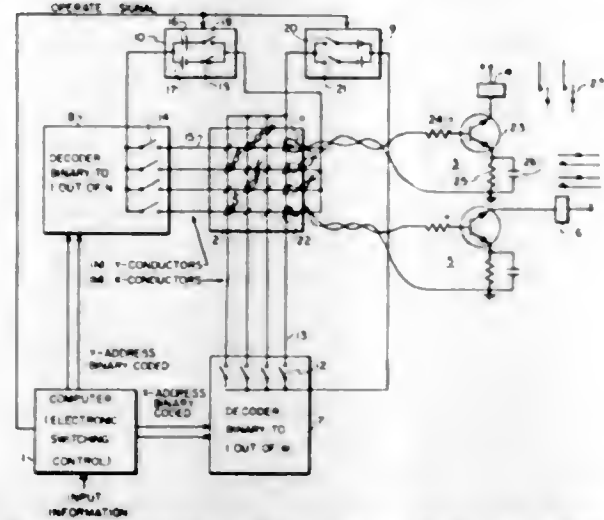


3,382,489

**ELECTRONIC-TO-ELECTROMECHANICAL DISTRIBUTORS**

John G. Van Bosse, Park Ridge, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Feb. 28, 1966, Ser. No. 530,663  
6 Claims. (Cl. 340-172.5)



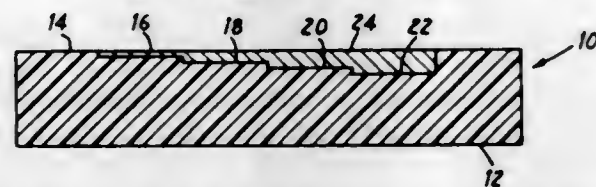
1. In a switching system having an electronic switching control circuit and a plurality of electromechanical devices controlled by said circuit, an electronic-to-electromechanical distributor interposed between said electronic switching control circuit and said electromechanical devices, said distributor comprising:
  - a plurality of memory cores, each having two stable states,
  - means operated by said electronic switching control circuit for successively selecting individual ones of said cores and selectively changing the state of said selected core to one or the other state which is opposite its present state,
  - a plurality of bistable gate-controlled semiconductor devices, each of said semiconductor devices having an input coupled to a respective one of said memory cores and an output connected to a corresponding one of said electromechanical devices, and
  - each of said semiconductor devices being operated to its conductive state in response to the switching of said respective coupled core to said one state and being operated to its nonconductive state in response to the switching of said respective core from said one state to said other state.

3,382,490

**METHOD AND APPARATUS FOR READING THERMOPLASTIC RECORDINGS**

Harold Borkan and Stefan A. Ochs, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Sept. 14, 1964, Ser. No. 396,229  
20 Claims. (Cl. 340-173)



1. Apparatus for the production by optical means of images of an information-containing relief pattern on a recording element comprising a source of light disposed in optical alignment with the recording element to be read out, means for depositing light-absorbing material in said relief pattern, and detection means disposed in optical alignment with said source and said light-absorbing material to detect the intensity of light transmitted through said light-absorbing material, whereby the intensity of

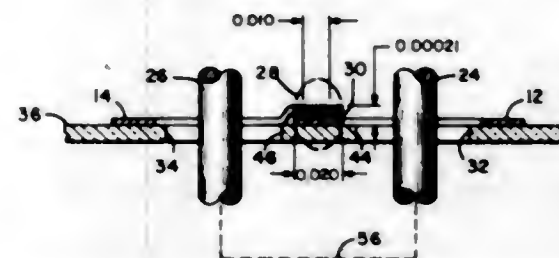
light detected at any discrete point is a function of the depth of the relief pattern at that point and the intensity of light detected at all discrete points constitutes a readout of the element.

3,382,491

**MATED-THIN-FILM MEMORY ELEMENT**

Robert J. Bergman, Univac Park, St. Paul, Minn. 55116

Filed Oct. 23, 1965, Ser. No. 504,008  
9 Claims. (Cl. 340-174)



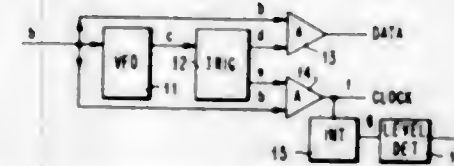
A magnetizable memory element that includes two thin-ferromagnetic-film layers each layer having an aperture therethrough forming a first closed flux path thereabout to drive fields generated by energized first drive lines passing through said apertures. Each of the two layers have superposed first portions that form a memory area which first portions envelop a second drive line and which first portions have sides overlapping the enveloped drive line. The overlapping sides form closely coupled portions on both sides of said enveloped drive line creating a substantially closed second flux path about the enveloped drive line wherein said first and second flux paths are orthogonal to each other in said memory area.

3,382,492

**MAGNETIC DATA RECORDING FORMATTING**

George R. Santana, Saratoga, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 27, 1965, Ser. No. 475,187  
3 Claims. (Cl. 340-174.1)



A technique of providing format signals for information records magnetically recorded with a self-clocking code which involves the omission of regularly occurring flux reversals from a sequence of clock intervals. The omission is detected by a gap sensor to identify the occurrence of the format signals.

3,382,493

**UNDERGROUND PIPE INSULATION LIQUID-DETECTOR**

Lincoln L. Loper, Jr., Bellevue, Wash., and George E. Ziegler, Evanston, Ill., assignors to Thermal Conduits, Inc., a corporation of Washington

Filed Nov. 4, 1964, Ser. No. 408,793  
8 Claims. (Cl. 340-244)

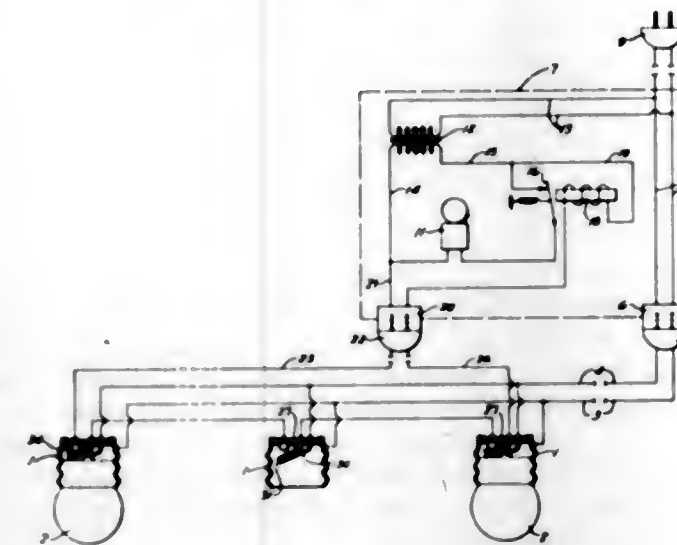
Method and apparatus for detecting excessive moisture concentration in a relatively porous thermal insulation concrete embedment including electrode probes positioned in spaced relation along the embedment, a potential source for applying an alternating potential across the probes, and a sensing means which detects changes in conductivity between the probes when the moisture concentration has become built up sufficiently in the embedment.

3,382,494

**THEFT ALARM FOR ELECTRICAL DEVICE**

David R. Mahacsek, 215 Bonvue St., Pittsburgh, Pa. 15214

Filed June 11, 1965, Ser. No. 463,089  
7 Claims. (Cl. 340-280)



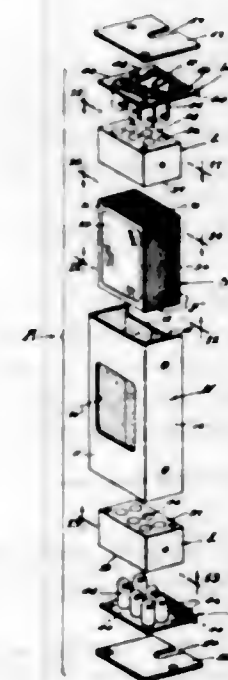
An electric circuit contains an electric alarm and a normally closed switch that is opened by a solenoid in another circuit which includes a pair of wires and means for connecting the wires that is dependent upon the presence of a device, the theft of which it is desired to signal by the alarm. Unauthorized removal of the device will disconnect the wires from each other and thereby permit the alarm switch to close.

3,382,495

**DISPLAY DEVICE HAVING SELECTIVELY ILLUMINATED INDICIA PLATES**

Robert R. Christy, San Marcos, Calif., assignor to Non-Linear Systems, Inc., San Diego, Calif., a corporation of California

Filed June 14, 1965, Ser. No. 463,728  
8 Claims. (Cl. 340-378)



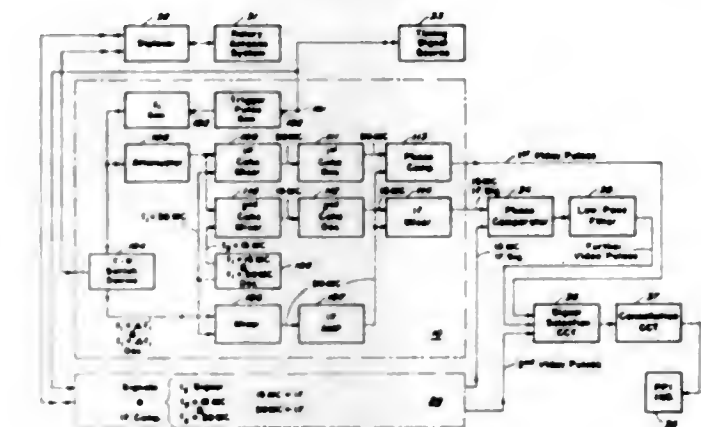
This invention relates to a readout of the type employed in instrument displays wherein visible and changeable characters are to be observed, and is concerned with electrical instruments wherein digital readouts are operated so as to display numerals and other characters or symbols representing values that require observation.

3,382,496

**MOVING TARGET INDICATOR RADAR**

Isao Matsukasa and Syuji Nishimura, Tokyo-to, Japan, assignors to Nippon Electric Company, Limited, Tokyo-to, Japan

Filed Apr. 12, 1967, Ser. No. 630,334  
Claims priority, application Japan, Apr. 12, 1966, 41/23,106  
11 Claims. (Cl. 343-7.7)



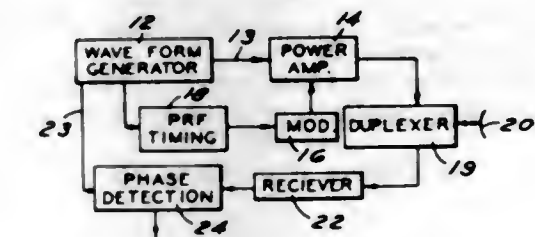
A moving target indicator for cancelling echo reflections due to a target moving below a given speed by producing first video pulses representing the phase difference between two intermediate frequency components derived from the signals of two different signal-transmitter-receiver devices to provide indications of the target, and different from second and third video pulses utilized to provide other indications of the target.

3,382,497

**LINEAR FREQUENCY MODULATED RADAR**

Peter Cooley, Ann Arbor, Mich., assignor to Conduction Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed Oct. 13, 1966, Ser. No. 586,452  
8 Claims. (Cl. 343-17.2)



A pulse type radar wherein each transmitted pulse has linear frequency modulation includes a waveform generator to linearly frequency modulate an intermediate frequency carrier at small signal levels. The frequency of the intermediate carrier is low relative to the carrier frequency of the transmitted pulses. The waveform generator comprises a voltage-controlled variable delay line having a plurality of shunt diodes. A modulating signal having a repetitive waveform that is generally parabolic over each repetition period is applied to the delay line. The modulating signal varies the capacitance of the diodes to in turn vary the effective electrical length of the line. The intermediate frequency carrier is also applied to the delay line and the waveform of the modulating signal causes linear frequency modulation of the intermediate carrier during each repetition period. The frequency modulated intermediate carrier is then frequency multiplied up to the desired frequency for the transmitted carrier. The frequency multiplication also increases the frequency deviations in the intermediate carrier introduced by the delay line. After multiplication, the carrier is periodically switched to provide transmitted pulses each of which has a linear frequency variation.



3,382,498

## I.L.S. AIR-BORNE RECEIVER

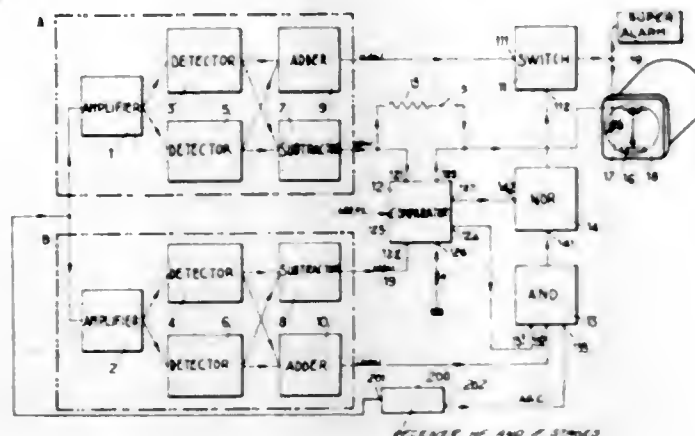
Edouard Mouradian, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Sept. 18, 1966, Ser. No. 582,659

Claims priority, application France, Oct. 4, 1965,

33,619, Patent 1,459,168

4 Claims. (Cl. 343—108)



An I.L.S. air-borne receiver for blind landing, comprising a localizer part and a glide path part, each of them being of the type including two low frequency stages, in which is incorporated a monitoring circuit comprising essentially a comparator and logic circuits. This arrangement extends the facilities of conventional warning circuits by causing alarm signal not only in case of absence or insufficiency of received signals but also if the received information is inaccurate, if the receiver is not functioning correctly or if at least one connection is cut-off between the receiver and the utilization circuits.

3,382,499

## DUAL SIGNAL RECEIVING SYSTEM

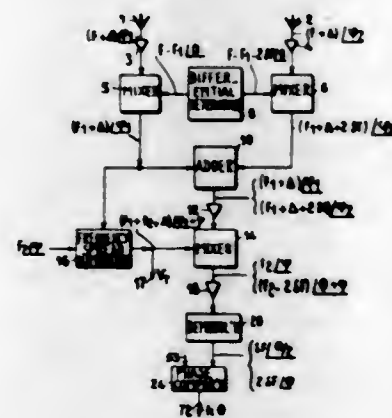
Rémy Baud, Chevirol, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France

Filed May 20, 1966, Ser. No. 551,678

Claims priority, application France, May 21, 1965,

17,890

10 Claims. (Cl. 343—113)



Two phase displaced signals subject to erratic frequency shift are "differentially heterodyned" and commonly amplified. A variable frequency oscillator produces a signal having a component locked in frequency and phase with the erratic frequency shift. This signal is mixed with the amplifier output to eliminate the erratic frequency shift before demodulation and phase comparison.

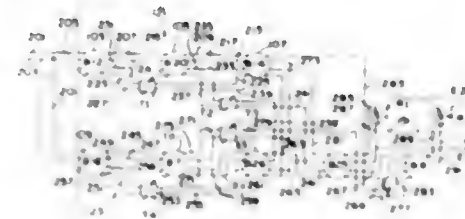
3,382,500

## COORDINATE CONVERTER

Arthur Mayer, Kew Gardens, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed May 26, 1966, Ser. No. 553,608

2 Claims. (Cl. 343—117)



Coordinate converter for an airborne tracking system having an antenna for receiving signals from a ground beacon wherein input signals comprising stabilized elevation, azimuth, heading, pitch and roll work their way through two chains of servo-actuated resolvers forming a matrix toward the middle thereof to produce output elevation and azimuth error signals for moving the antenna to direct it toward the beacon.

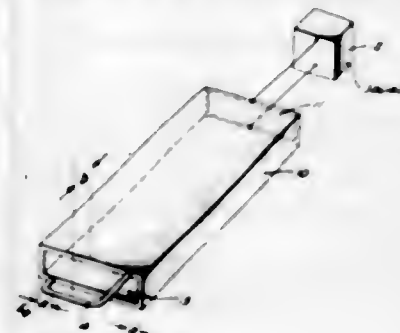
3,382,501

## ELLIPTICALLY OR CIRCULARLY POLARIZED ANTENNA

Maurice L. Fee, Lakewood, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Sept. 22, 1965, Ser. No. 489,222

7 Claims. (Cl. 343—728)



1. In combination, a section of hollow conductively bounded waveguide having at least one open end, said section being capable of supporting propagating electromagnetic wave energy having an electric vector oriented in a given plane of polarization; a thin elongated conductive member in the shape of a loop; and means for conductively connecting each end of said conductive member to opposite sides of said waveguide across said open end, at least a substantial portion of said member being disposed in a plane substantially perpendicular to said given plane.

3,382,502

## LINEAR ARRAY OF HORN ANTENNAS WITH PHASING AND AMPLITUDE CONTROL FOR SCANNING

Maurice Gédéon Bouix, Paris, France, assignor to Societe Anonyme: Societe Alsacienne de Constructions Atomiques de Telecommunications et d'Electronique, Paris, France, a corporation of France

Filed Apr. 1, 1965, Ser. No. 444,632

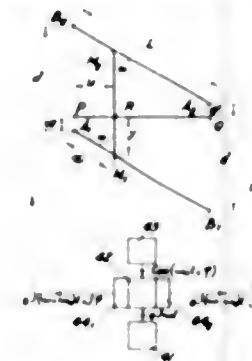
Claims priority, application France, Apr. 7, 1964,

970,026

8 Claims. (Cl. 343—777)

1. An apparatus for rapid pointing of an electromagnetic beam, comprising a plurality of radiators form-

ing a linear array and arranged to radiate an arbitrary polarisation wave; means for separately producing the



two side bands of a sinusoidally modulated carrier frequency, and means for varying the frequency of this radiator.

550 O.G.—10

sinusoidal modulation; two waveguides feeding said linear array; means for applying the two said side bands respectively to the inputs of said feed waveguides; couplers spaced on each of these feed waveguides which start from the input of the latter and the number of which is equal to the number of the radiators, each coupler of a given order on one of the feed waveguides and each coupler of inverse order of the other feed waveguide being respectively connected to two lengths of waveguides ending respectively at the two inputs of a Riblet type coupler, thus producing at the two outputs of said Riblet type coupler two signals on the carrier frequency which are respectively modulated in amplitude by two sinusoids in quadrature, and means for combining these two signals and for applying them to the corresponding radiator.



# DESIGNS

MAY 7, 1968

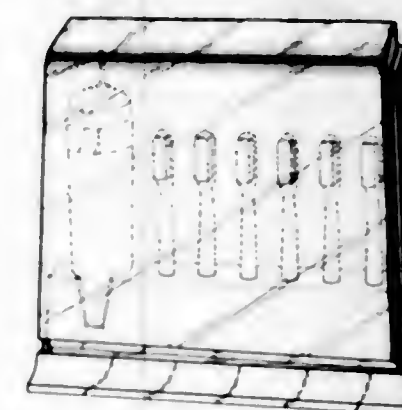
**210,926**  
**FOOTBALL VEST**  
William P. Dickens, Bloomington, Ind., assignor to  
Indiana University Foundation, Bloomington, Ind.,  
a corporation of Indiana  
Filed June 1, 1967, Ser. No. 7,329  
Term of patent 14 years  
(Cl. D2—27)



**210,927**  
**COMBINED SPOOL AND THREAD HOLDER**  
Ellen M. Williamson, 1625 Elderslee Road,  
Pittsburgh, Pa. 15227  
Filed Oct. 12, 1966, Ser. No. 4,250  
Term of patent 14 years  
(Cl. D3—19)



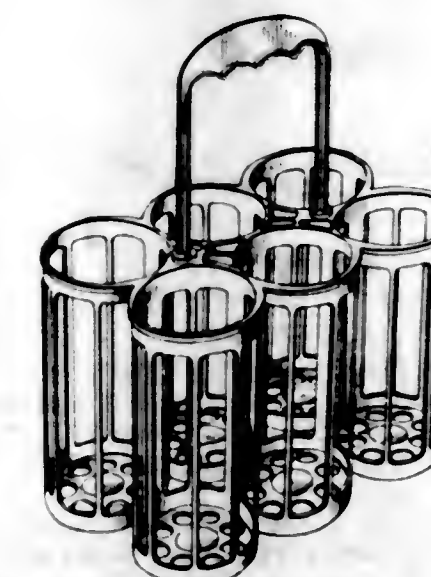
**210,928**  
**TOOTHBRUSH CHARGING STAND**  
Gordon T. Guth, Evanston, and Burton Kelly, Western  
Springs, Ill., assignors to Sunbeam Corporation, Chi-  
cago, Ill., a corporation of Illinois  
Filed Nov. 3, 1966, Ser. No. 4,529  
Term of patent 14 years  
(Cl. D4—16)



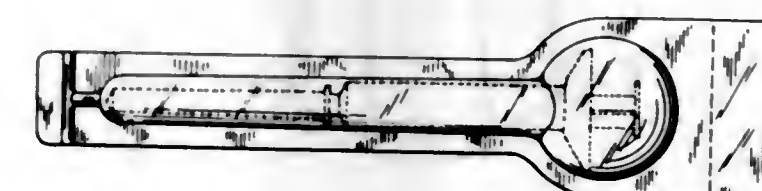
**210,929**  
**BRUSH HANDLE OR SIMILAR ARTICLE**  
Robert F. Mulvaney, Jr., 1480 Creekside Drive,  
Walnut Creek, Calif. 94596  
Filed Sept. 1, 1967, Ser. No. 8,466  
Term of patent 14 years  
(Cl. D4—38)



**210,930**  
**BOTTLE CARRIER**  
Theodor Box, 57—02 251st St.,  
Little Neck, N.Y. 14754  
Filed Apr. 25, 1967, Ser. No. 6,840  
Term of patent 14 years  
(Cl. D9—179)



**210,931**  
**BLISTER PACKAGE FOR A MEDICAL INSTRUMENT**  
James L. Armentrout, South Pasadena, and Pierre Vanat,  
Glendale, Calif., assignors, by mesne assignments, to  
American Hospital Supply Corporation, a corporation  
of Illinois  
Filed Dec. 19, 1966, Ser. No. 5,106  
Term of patent 14 years  
(Cl. D9—192)

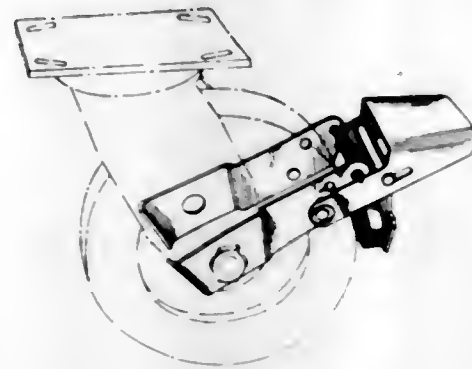




**210,932**  
**CASTER BRAKE**

Anthony C. Libhart, Craighead, Ark., assignor to The Colson Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 29, 1967, Ser. No. 8,423  
Term of patent 14 years  
(Cl. D10-6)

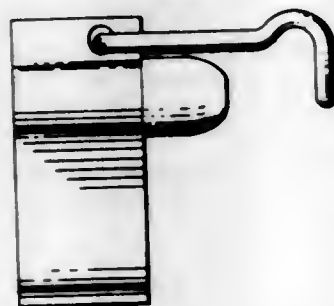


**210,933**  
**DOOR STOP**

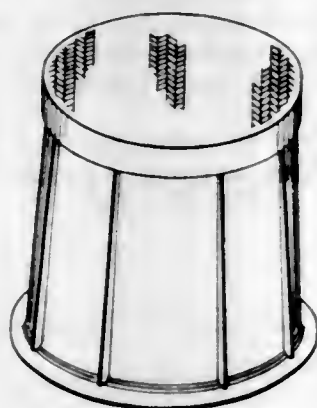
Irvine Kimmel, Miami Beach, Fla., assignor to Endure-A-Lifetime Products, Inc., Miami, Fla., a corporation of Florida

Continuation of design applications Ser. No. 5,185 and Ser. No. 5,186, Dec. 27, 1966. This application June 14, 1967, Ser. No. 8,015

Term of patent 14 years  
(Cl. D10-7)



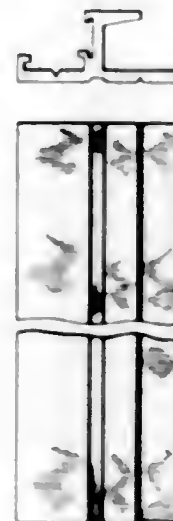
**210,934**  
**UNDERGROUND UTILITIES SERVICE POD**  
Russell W. Johnson, 1819 N. Broadway,  
Santa Ana, Calif. 92706  
Filed July 13, 1966, Ser. No. 3,067  
Term of patent 14 years  
(Cl. D13-1)



**210,935**  
**PERIMETER TRIM FOR CHALKBOARD OR THE LIKE**

John A. Cook, Montreal, Quebec, Canada, assignor to Vilas Industries Limited, Cowansville, Quebec, Canada

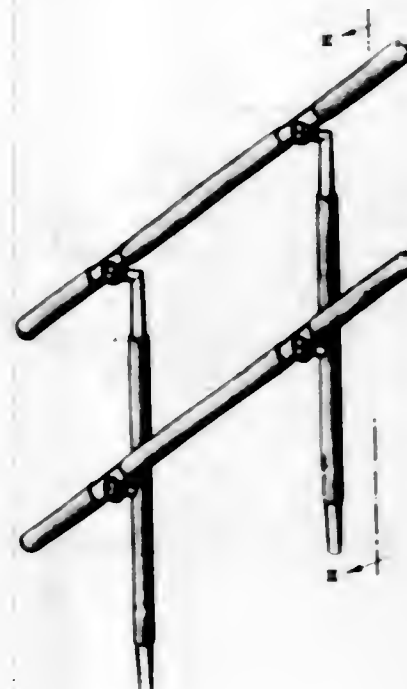
Filed Jan. 23, 1967, Ser. No. 5,518  
Term of patent 14 years  
Claims priority, application Canada July 22, 1966  
(Cl. D13-6)



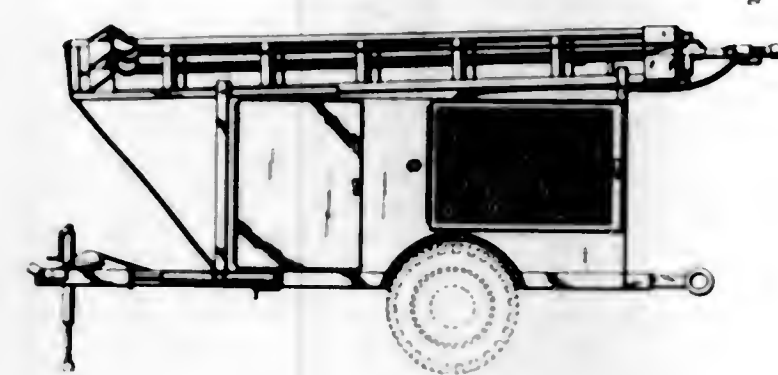
**210,936**  
**ORNAMENTAL RAILING**

Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa.

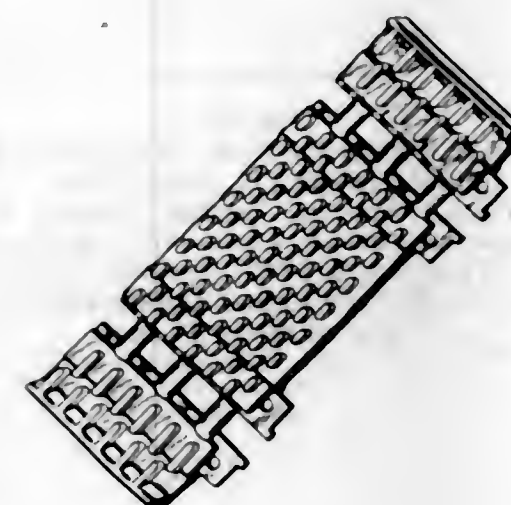
Filed Mar. 31, 1967, Ser. No. 6,462  
Term of patent 14 years  
(Cl. D13-7)



**210,937**  
**TRAILER UNIT FOR PROVIDING LIGHTING**  
Harry T. Clark, Leawood, Kans., assignor to White Night Co., Leawood, Kans., a corporation of Missouri  
Filed Aug. 14, 1967, Ser. No. 8,242  
Term of patent 14 years  
(Cl. D14-3)



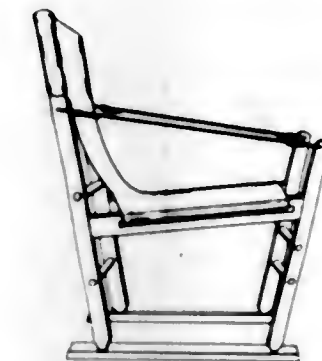
**210,938**  
**CLEATED TRACK FOR SNOW VEHICLES**  
James E. Klapmeier, Mora, Minn. 55051  
Filed Feb. 7, 1967, Ser. No. 6,268  
Term of patent 14 years  
(Cl. D14-24)



**210,939**  
**CHAIR**

George M. Schwarz, Jr., Portland, Oreg., assignor to Gold Medal Folding Furniture Co., Racine, Wis., a corporation of Wisconsin

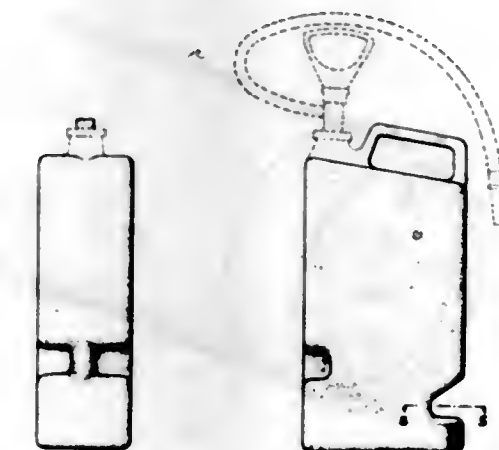
Filed Dec. 19, 1966, Ser. No. 5,075  
Term of patent 14 years  
(Cl. D15-1)



**210,940**  
**SEAT**  
Charles Eames, Venice, Calif., assignor to Herman Miller, Inc., Zeeland, Mich., a corporation of Michigan  
Filed Jan. 30, 1967, Ser. No. 5,599  
Term of patent 14 years  
(Cl. D15-8)

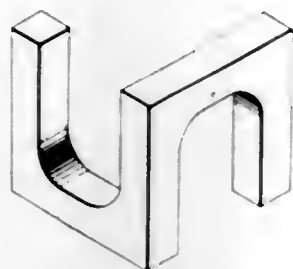


**210,941**  
**FIRE EXTINGUISHER**  
Karl Doster and Timo Simes, both of 1680 Kildare Road, Windsor, Ontario, Canada  
Filed Mar. 7, 1967, Ser. No. 6,108  
Term of patent 14 years  
Claims priority, application Canada Sept. 12, 1966  
(Cl. D16-2)

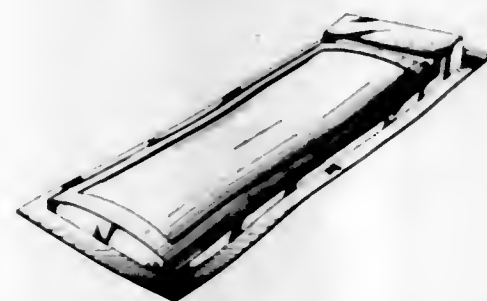




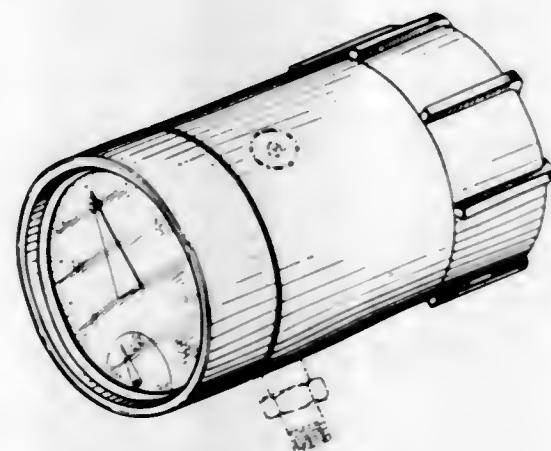
**210,942**  
**BUILDING BLOCK**  
 Gerald L. Jonas, 66 Kirkland St.,  
 Cambridge, Mass. 02138  
 Filed Feb. 13, 1967, Ser. No. 5,783  
 Term of patent 14 years  
 (Cl. D18—2)



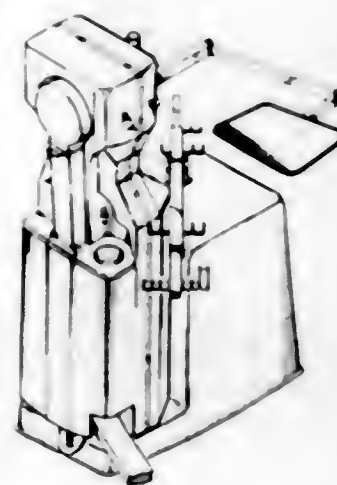
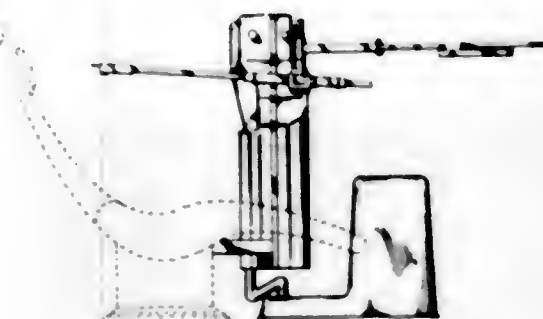
**210,943**  
**GRAVE COVER**  
 Kenneth H. Reeson, Regina, Saskatchewan, Canada, as-  
 signor to Carolina Cemetery Services, Inc., Florence,  
 S.C., a corporation of South Carolina  
 Filed Mar. 8, 1967, Ser. No. 6,118  
 Term of patent 7 years  
 (Cl. D19—1)



**210,944**  
**PRESSURE REGULATING INSTRUMENT**  
 Roger W. Tuthill, Mountainside, Harry T. Hutton, Jr.,  
 Somerville, and Loren C. Smith, Berkeley Heights, N.J.,  
 assignors to Air Reduction Company, Incorporated,  
 New York, N.Y., a corporation of New York  
 Filed June 8, 1966, Ser. No. 2,609  
 Term of patent 14 years  
 (Cl. D23—21)



**210,945**  
**DENTAL EQUIPMENT UNIT**  
 Glenn C. McGouirk, 1105 W. Berry,  
 Fort Worth, Tex. 76110  
 Filed Sept. 15, 1966, Ser. No. 3,881  
 Term of patent 14 years  
 (Cl. D24—1)



**210,946**  
**CHALK TROUGH FOR CHALKBOARDS**  
**OR SIMILAR ARTICLES**  
 John A. Cook, Montreal, Quebec, Canada, assignor to  
 Vilas Industries Limited, Cowansville, Quebec, Canada  
 Filed Jan. 23, 1967, Ser. No. 5,524  
 Claims priority, application Canada July 22, 1966  
 Term of patent 14 years  
 (Cl. D25—1)



**210,947**  
**SCIENTIFIC DEMONSTRATION TOY**  
 Charles W. Sherburne, 3409 S. Patton Ave.,  
 San Pedro, Calif. 90731  
 Filed Nov. 12, 1965, Ser. No. 88,071  
 Term of patent 14 years  
 (Cl. D25—1)



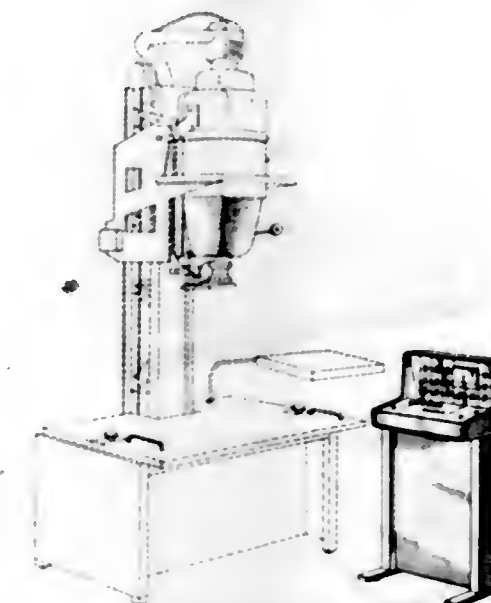
**210,948**  
**ANTENNA CABLE**  
 Marvin P. Middlemark, 96 Store Hill Road,  
 Old Westbury, N.Y. 11568  
 Filed Apr. 28, 1967, Ser. No. 6,874  
 Term of patent 14 years  
 (Cl. D26—1)



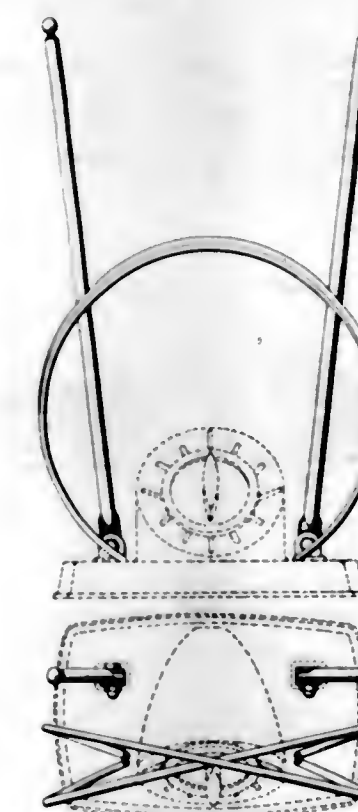
**210,949**  
**TELEPHONE JACK**  
 Joseph Ratner, 225 W. 106th St.,  
 New York, N.Y. 10025  
 Filed June 6, 1967, Ser. No. 7,378  
 Term of patent 3½ years  
 (Cl. D26—1)



**210,950**  
**CONTROL CONSOLE FOR A PROJECTION**  
**CAMERA OR THE LIKE**  
 James T. Aneshansley, Brooklyn, N.Y., assignor to Berkey  
 Photo, Inc., New York, N.Y.  
 Filed Mar. 30, 1967, Ser. No. 6,438  
 Term of patent 14 years  
 (Cl. D26—5)



**210,951**  
**INDOOR TELEVISION ANTENNA**  
 Marvin P. Middlemark, 96 Store Hill Road  
 Old Westbury, N.Y. 11568  
 Filed Oct. 3, 1966, Ser. No. 4,149  
 Term of patent 14 years  
 (Cl. D26—14)

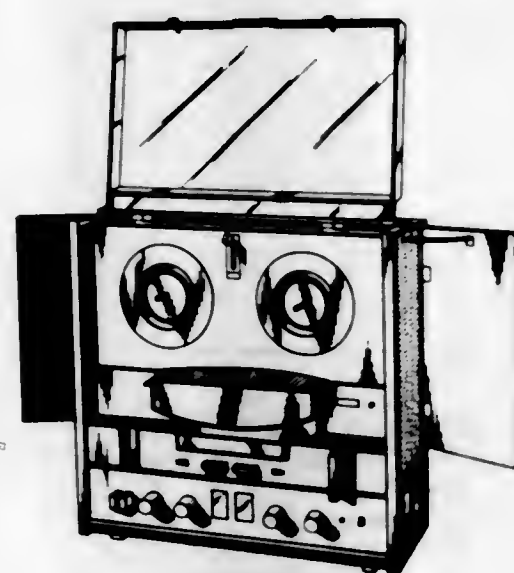
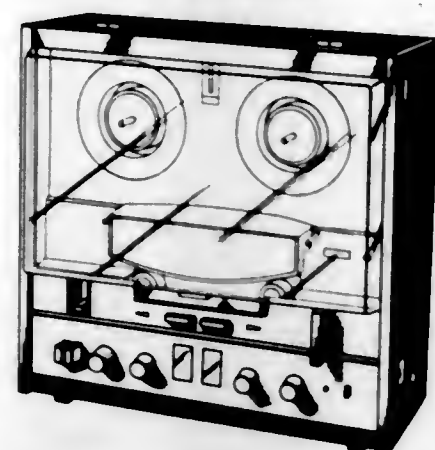




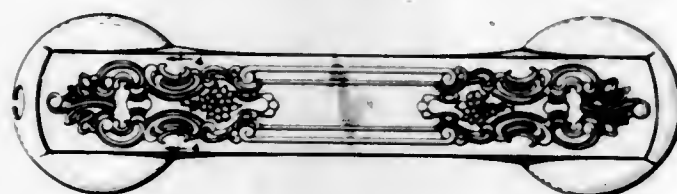
**210,952**  
**TAPE RECORDER**

Takemi Ebata, Kyoto, and Mamoru Yamashita, Kadoma, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan, a corporation of Japan

Filed Nov. 15, 1967, Ser. No. 9,434  
Claims priority, application Japan May 17, 1967  
Term of patent 14 years  
(Cl. D26—14)



**210,953**  
**COVER ATTACHMENT FOR TELEPHONE HANDSETS**  
Walter Eric Youngberg, Cranston, R.I., assignor to Textron Inc., Providence, R.I.  
Filed Jan. 15, 1968, Ser. No. 10,171  
Term of patent 14 years  
(Cl. D26—14)



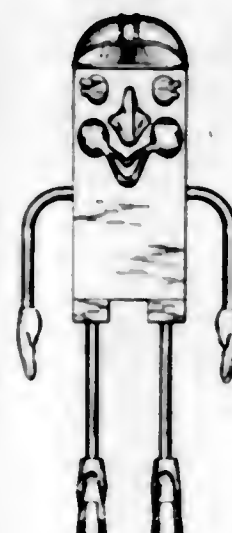
**210,954**  
**CHRISTMAS ORNAMENT OR THE LIKE**  
Dario Maranduzzo, Via Aretina 161, Florence, Italy  
Filed Sept. 22, 1966, Ser. No. 3,986  
Term of patent 14 years  
(Cl. D29—1)



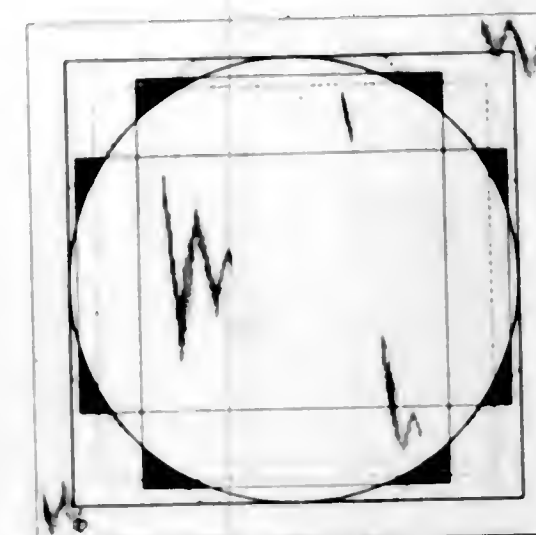
**210,955**  
**TOY DOG**  
Margaret Howard, Lodge Cottage, 4 Church St., Cogenhoe, Northants, England  
Filed July 20, 1967, Ser. No. 7,912  
Claims priority, application Great Britain Feb. 8, 1967  
Term of patent 3½ years  
(Cl. D34—2)



**210,956**  
**TOY FIGURE**  
Ned Strongin, 936 Willow Bend Lane, Baldwin, N.Y. 11510  
Filed Apr. 4, 1967, Ser. No. 6,519  
Term of patent 14 years  
(Cl. D34—4)



**210,957**  
**JIGSAW PUZZLE ASSEMBLY BOARD**  
Lois A. Noyes, Van Nuys, Calif., assignor to Springbok Editions, Inc., New York, N.Y., a corporation of New York  
Filed Nov. 14, 1966, Ser. No. 4,638  
Term of patent 14 years  
(Cl. D34—5)



**210,958**  
**BICYCLE EXERCISER**  
Sven Magnus Westborg, Varberg, Sweden, assignor to Monark-Crescent Aktiebolag, Varberg, Sweden  
Filed Mar. 23, 1967, Ser. No. 6,351  
Term of patent 7 years  
(Cl. D34—5)



**210,959**  
**CHESSE KNIGHT**  
William A. Gabel, Rte. 2, Wabash, Ind. 46992  
Filed Aug. 23, 1967, Ser. No. 8,360  
Term of patent 14 years  
(Cl. D34—5)



**210,960**  
**CHESSE ROOK**  
William A. Gabel, Rte. 2, Wabash, Ind. 46992  
Filed Aug. 23, 1967, Ser. No. 8,361  
Term of patent 14 years  
(Cl. D34—5)



**210,961**  
**CHESSE PAWN**  
William A. Gabel, Rte. 2, Wabash, Ind. 46992  
Filed Aug. 23, 1967, Ser. No. 8,362  
Term of patent 14 years  
(Cl. D34—5)



**210,962**  
**CHESSE BISHOP**  
William A. Gabel, Rte. 2, Wabash, Ind. 46992  
Filed Aug. 23, 1967, Ser. No. 8,363  
Term of patent 14 years  
(Cl. D34—5)



**210,963**  
**CHESSE KING**  
William A. Gabel, Rte. 2, Wabash, Ind. 46992  
Filed Aug. 23, 1967, Ser. No. 8,364  
Term of patent 14 years  
(Cl. D34—5)





210,964

**CHESS QUEEN**

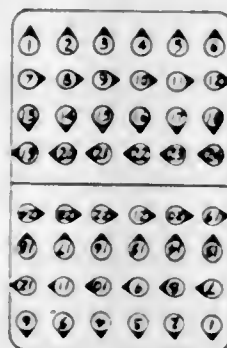
William A. Gabel, Rte. 2, Wabash, Ind. 46992  
 Filed Aug. 23, 1967, Ser. No. 8,365  
 Term of patent 14 years  
 (Cl. D34—5)



210,965

**PLAYING CARD**

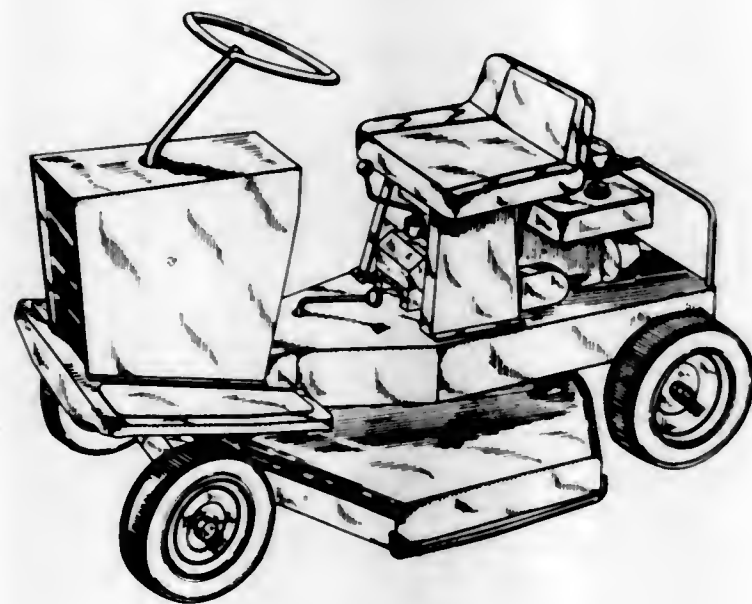
Vincent Orlando, 425 L Ridge Road,  
 North Arlington, N.J. 07032  
 Filed Feb. 23, 1967, Ser. No. 5,990  
 Term of patent 7 years  
 (Cl. D34—13)



210,966

**LAWN MOWER TRACTOR**

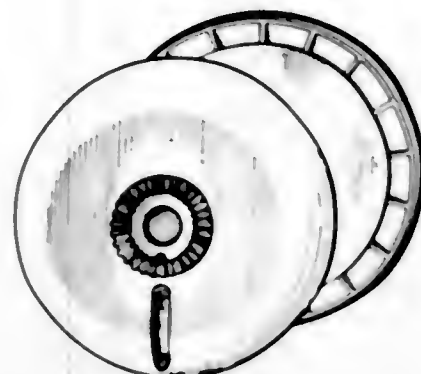
Gordon D. Kelly, Elm Grove, and James J. Wickler, Racine, Wis., assignors to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin  
 Filed Aug. 17, 1967, Ser. No. 8,296  
 Term of patent 14 years  
 (Cl. D40—1)



210,967

**SPOOL FOR CABLE, WIRE AND THE LIKE**

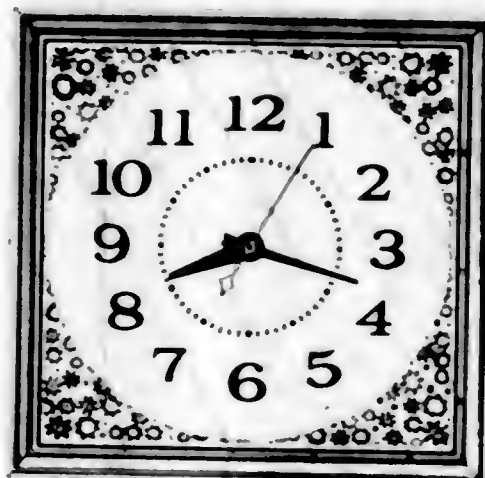
Albert Storz, Pottstown, Pa., assignor to Alpha Wire Corporation, a division of Loral Corporation, Elizabeth, N.J.  
 Filed May 15, 1967, Ser. No. 7,108  
 Term of patent 14 years  
 (Cl. D41—1)



210,968

**CLOCK**

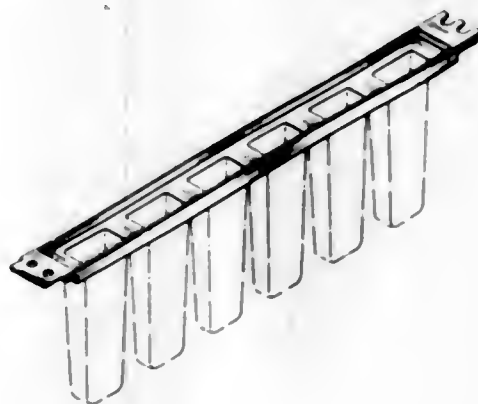
Walter B. Herbst, Evanston, and Ralph M. La Zar, Skokie, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois  
 Filed Feb. 20, 1967, Ser. No. 5,863  
 Term of patent 14 years  
 (Cl. D42—7)



210,969

**TRAY FOR HOLDING CONFECTION FORMING MOLDS OR THE LIKE**

Ben E. Rasmusson, 12510 SE. 62nd Place, Bellevue, Wash. 98004  
 Filed Dec. 23, 1966, Ser. No. 5,171  
 Term of patent 14 years  
 (Cl. D44—1)



210,970

**CONFECTION FORMING MOLD**

Ben E. Rasmusson, 12510 SE. 62nd Place, Bellevue, Wash. 98004  
 Filed Nov. 13, 1967, Ser. No. 9,368  
 Term of patent 14 years  
 (Cl. D44—1)



210,971

**CONFECTION FORMING MOLD**

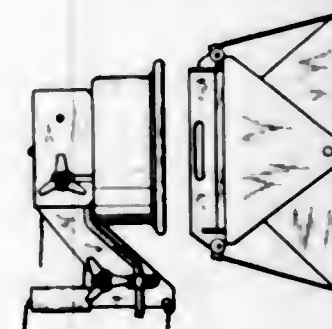
Ben E. Rasmusson, 12510 SE. 62nd Place, Bellevue, Wash. 98004  
 Filed Nov. 13, 1967, Ser. No. 9,369  
 Term of patent 14 years  
 (Cl. D44—1)



210,972

**LIGHTING FIXTURE**

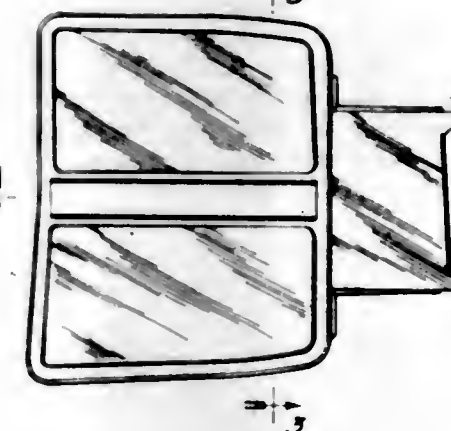
Ross Lowell, 60 Riverside Drive, New York, N.Y. 10024  
 Filed June 19, 1967, Ser. No. 7,522  
 Term of patent 14 years  
 (Cl. D48—20)



210,973

**COMBINED TAILLIGHT AND SIDELIGHT UNIT FOR AUTOMOBILES OR THE LIKE**

Richard A. Teague, Franklin Village, Mich., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland  
 Filed Oct. 18, 1966, Ser. No. 4,323  
 Term of patent 7 years  
 (Cl. D48—32)



210,974

**FACE PANEL FOR A CONTROL INSTRUMENT**

Ronald C. Miller, Norristown, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware  
 Filed Aug. 11, 1966, Ser. No. 3,420  
 Term of patent 14 years  
 (Cl. D52—6)



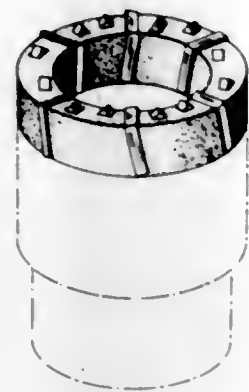


210,975

**CARBIDE INSERT BIT**

Robert R. Blau, Scranton, Pa., assignor to Acker Drill Company, Inc., Scranton, Pa., a corporation of Pennsylvania

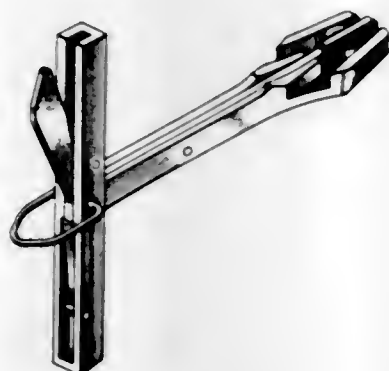
Filed July 28, 1967, Ser. No. 8,049  
Term of patent 14 years  
(Cl. D54-4)



210,976

**SURVEYOR'S CHAIN CLAMP OR SIMILAR ARTICLE**

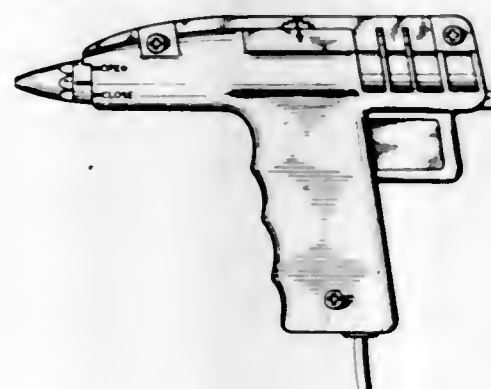
Julius H. Smith, Rte. 2, Molena, Ga. 30258  
Filed Aug. 4, 1967, Ser. No. 8,135  
Term of patent 14 years  
(Cl. D54-13)



210,977

**DESIGN FOR A LIQUID GLUE DISPENSER OR SIMILAR ARTICLE**

Henry Ruskin, Cranford, N.J., assignor to Swingline Inc., Long Island City, N.Y., a corporation of New York  
Filed Aug. 8, 1967, Ser. No. 8,162  
Term of patent 14 years  
(Cl. D54-13)

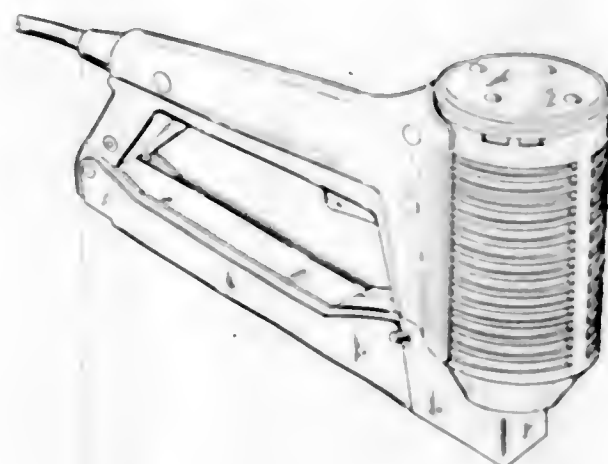


210,978

**ELECTRIC STAPLING MACHINE OR SIMILAR ARTICLE**

Harry Preble, Jr., Cross River, N.Y., assignor to Swingline Inc., Long Island City, N.Y., a corporation of New York

Filed Aug. 15, 1967, Ser. No. 8,273  
Term of patent 14 years  
(Cl. D54-14)



210,979

**ADJUSTABLE SPUD WRENCH**

Gary Lamar Robillard, 60 Hathaway, St. Clair, Mich. 48079  
Filed Aug. 14, 1967, Ser. No. 8,249  
Term of patent 14 years  
(Cl. D54-16)

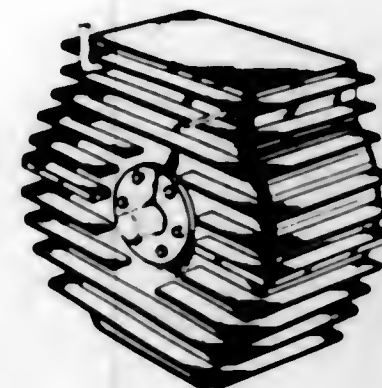


210,980

**HYDRODYNAMIC RETARDER**

Ray F. Smith, Berwick, Pa., assignor to Berwick Forge & Fabricating Corporation, Berwick, Pa., a corporation of Pennsylvania

Filed May 26, 1967, Ser. No. 7,269  
Term of patent 14 years  
(Cl. D55-1)

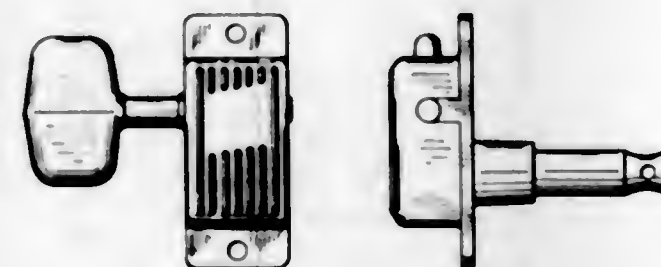


210,981

**GUITAR MACHINE**

Josephus B. Thompson, Covington, Ohio, assignor to Grover Musical Products, Inc., Cleveland, Ohio

Filed Apr. 7, 1967, Ser. No. 6,577  
Term of patent 14 years  
(Cl. D56-1)

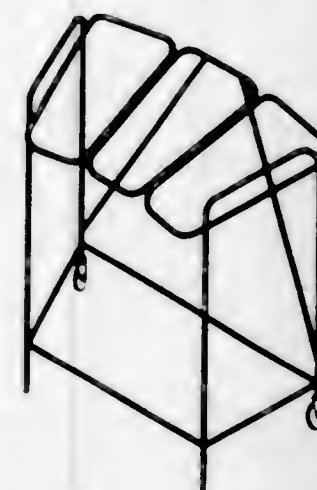


210,982

**RACK FOR HOLDING LAUNDRY SORTING NETS**

Milton B. Hellwell, New City, and Howard Youngquest, Yorktown Heights, N.Y., assignors to Pinnacle Products Corporation, Blauvelt, N.Y., a corporation of New York

Filed Oct. 31, 1966, Ser. No. 4,487  
Term of patent 14 years  
(Cl. D58-2)

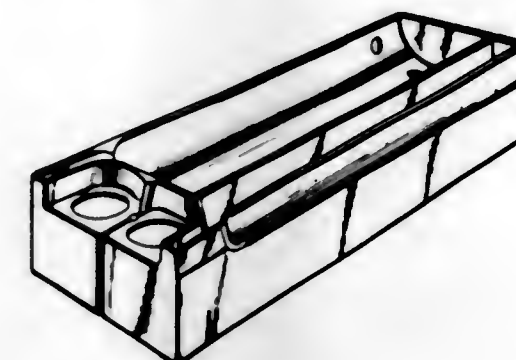


210,983

**PHOTOGRAPHIC PROCESSING UNIT**

Patrick Lawrence Stephens Lee, South Bersted Industrial Estate, Durban Road, Bognor, Regis, Sussex, England

Filed Mar. 7, 1966, Ser. No. 1,300  
Claims priority, application Great Britain Sept. 7, 1965  
Term of patent 14 years  
(Cl. D61-1)

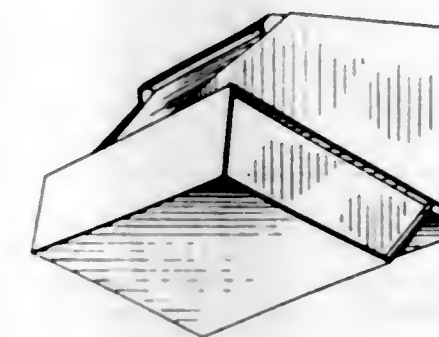


210,984

**REAR PROJECTION VIEWER OR SIMILAR ARTICLE**

Robert C. Schwartz and Burton J. Gold, Jamaica Estates, N.Y., assignors to Motiva Ltd., Jamaica Estates, N.Y., a corporation of New York

Filed June 30, 1966, Ser. No. 2,877  
Term of patent 14 years  
(Cl. D61-1)

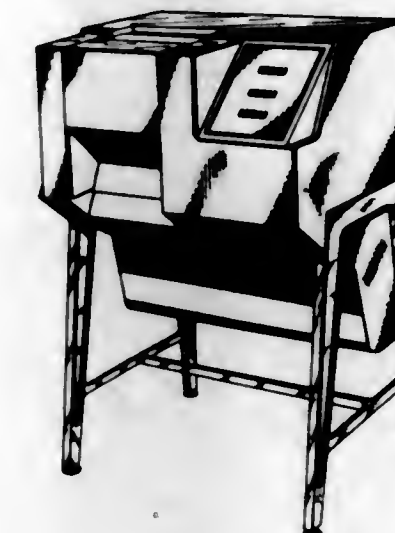


210,985

**PRINTER**

Lewis W. Bennett, Weston, John Francis Eckert, Malden, Joseph Konkel, Lynnfield, and David F. Sweeney, Wellesley, Mass., assignors, by mesne assignments, to Mohawk Data Sciences Corporation, East Herkimer, N.Y., a corporation of New York

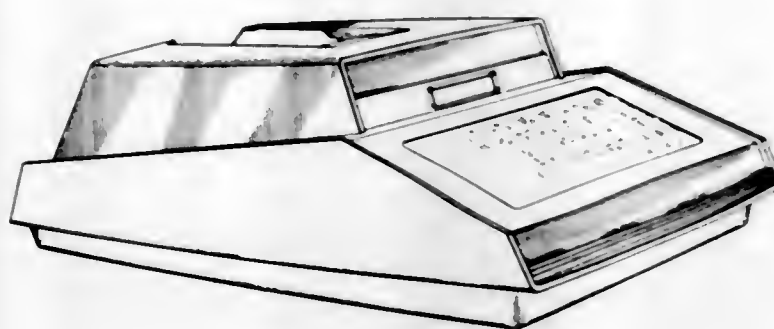
Filed May 9, 1966, Ser. No. 2,214  
Term of patent 14 years  
(Cl. D64-11)





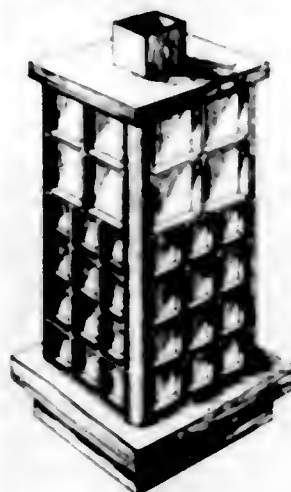
**210,986**  
**CASING FOR A CALCULATOR OR THE LIKE**  
 Salvatore Jack Magri, Los Altos, Calif., assignor to Litton Business Systems, Inc., Orange, N.J., a corporation of New York

Filed Sept. 19, 1967, Ser. No. 8,658  
 Term of patent 14 years  
 (Cl. D64—11)

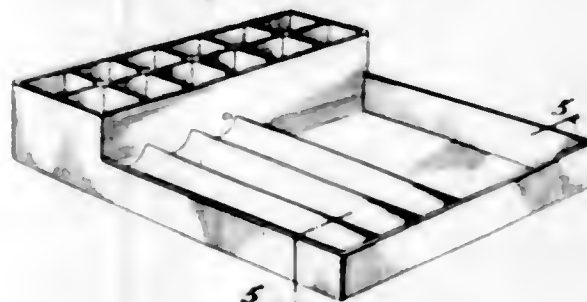


**210,988**  
**JEWELRY DISPLAY STAND**  
 Alfeo Verrecchia, Warwick, R.I., assignor to Gem-Craft, Inc., Providence, R.I., a corporation of Rhode Island

Filed July 10, 1967, Ser. No. 7,747  
 Term of patent 3½ years  
 (Cl. D80—9)



**210,989**  
**COSMETICS ORGANIZER TRAY**  
 Lois A. Huncovsky, 4897 Hidalgo, San Diego, Calif. 92117  
 Filed Nov. 23, 1966, Ser. No. 4,783  
 Term of patent 14 years  
 (Cl. D86—10)



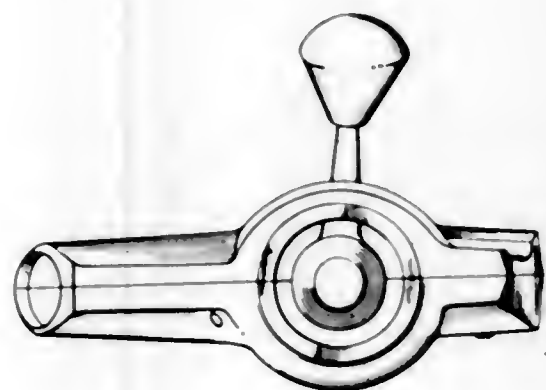
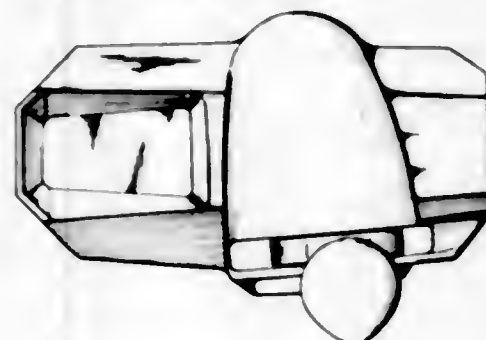
**210,987**  
**PENCIL CASE**  
 Jack Fairchild Fleming, Summit, N.J., assignor to Sterling Plastics Co., Mountainside, N.J., a corporation of New Jersey

Filed June 21, 1967, Ser. No. 7,545  
 Term of patent 7 years  
 (Cl. D74—21)



**210,990**  
**GEAR SHIFTING CONSOLE FOR A BICYCLE**  
 Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio

Filed Mar. 1, 1967, Ser. No. 6,018  
 Term of patent 14 years  
 (Cl. D90—1)



## LIST OF REISSUE PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF MAY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Allied Plastics Co.: See—  
 Crane, Walton R. Re. 26,386.  
 Balch, Joseph C. Soil refrigerating system. Re. 26,387.  
 5-7-68, Cl. 165—40.  
 Cooper, Daniel A., to Cooper Engineering Co. Framework covering arrangement. Re. 26,388, 5-7-68, Cl. 244—133.  
 Cooper Engineering Co.: See—  
 Cooper, Daniel A. Re. 26,388.  
 Crane, Walton R., to Allied Plastics Co. Shipping container. Re. 26,389, 5-7-68, Cl. 229—23.  
 Gilchrist, James R., to Truly-Magic Products, Inc. Liquid and paste/appliator. Re. 26,385, 5-7-68, Cl. 15—210.  
 Materials Research Laboratory, Inc.: See—  
 Ripling, Edward J., and Mostovoy. Re. 26,389.  
 Mostovoy, Sheldon: See—  
 Ripling, Edward J., and Mostovoy. Re. 26,389.  
 Ripling, Edward J., and S. Mostovoy, to Materials Research Laboratory, Inc. Back-up roll construction. Re. 26,389, 5-7-68, Cl. 72—163.  
 Truly-Magic Products, Inc.: See—  
 Gilchrist, James R. Re. 26,385.

## LIST OF DESIGN PATENTEEES

Acker Drill Co., Inc.: See—  
 Blau, Robert R. 210,975.  
 Air Reduction Co., Inc.: See—  
 Tutthill, Roger W., Hutton, and Smith. 210,944.  
 Alpha Wire Corp.: See—  
 Storz, Albert. 210,907.  
 American Hospital Supply Corp.: See—  
 Armentrout, James L., and Vanat. 210,931.  
 American Motors Corp.: See—  
 Teague, Richard A. 210,973.  
 Aneshansley, James T., to Berkey Photo, Inc. Control console for a projection camera or the like. 210,950, 5-7-68, Cl. 126—5.  
 Armentrout, James L., and P. Vanat, to American Hospital Supply Corp. Blister package for a medical instrument. 210,931, 5-7-68, Cl. 19—192.  
 Bennett, Lewis W., J. F. Eckert, J. Konkel, and D. F. Sweeney, to Mohawk Data Sciences Corp. Printer. 210,985, 5-7-68, Cl. D64—11.  
 Berkey Photo, Inc.: See—  
 Aneshansley, James T. 210,950.  
 Berwick Forge & Fabricating Corp.: See—  
 Smith, Ray F. 210,980.  
 Blau, Robert R., to Acker Drill Co., Inc. Carbide insert bit. 210,975, 5-7-68, Cl. D54—4.  
 Blum, Louis, and W. J. Horgan, Jr., to Horgan of Pittsburgh. Ornamental railing. 210,936, 5-7-68, Cl. D13—7.  
 Blumcraft of Pittsburgh: See—  
 Blum, Louis, and Horgan. 210,936.  
 Box, Theodore, Bottle carrier. 210,930, 5-7-68, Cl. D9—179.  
 Carolina Cemetery Services, Inc.: See—  
 Reeson, Kenneth H. 210,943.  
 Clark, Harry T., to White Night Co. Trailer unit for providing lighting. 210,937, 5-7-68, Cl. D14—3.  
 Colson Corp., The: See—  
 Libhart, Anthony C. 210,932.  
 Cook, John A., to Vilas Industries Ltd. Perimeter trim for chalkboard or the like. 210,935, 5-7-68, Cl. D13—6.  
 Cook, John A., to Vilas Industries Ltd. Chalk trough for chalkboards or similar articles. 210,946, 5-7-68, Cl. D25—1.  
 Dickens, William P., to Indiana University Foundation. Football vest. 210,926, 5-7-68, Cl. D2—27.  
 Doster, Karl, and T. Slimes. Fire extinguisher. 210,941, 5-7-68, Cl. D16—2.  
 Eames, Charles, to Herman Miller, Inc. Seat. 210,940, 5-7-68, Cl. D15—8.  
 Ebata, Takemi, and M. Yamashita, to Matsushita Electric Industrial Co., Ltd. Tape recorder. 210,952, 5-7-68, Cl. D26—14.  
 Eckert, John F.: See—  
 Bennett, Lewis W., Eckert, Konkel, and Sweeney. 210,985.  
 Endure-A-Lifetime Products, Inc.: See—  
 Kimmel, Irvine. 210,933.  
 Fleming, Jack F., to Sterling Plastics Co. Pencil case. 210,987, 5-7-68, Cl. D74—21.  
 Gabel, William A. Chess knight. 210,959, 5-7-68, Cl. D34—5.  
 Gabel, William A. Chess rook. 210,960, 5-7-68, Cl. D34—5.  
 Gabel, William A. Chess pawn. 210,961, 5-7-68, Cl. D34—5.  
 Gabel, William A. Chess bishop. 210,962, 5-7-68, Cl. D34—5.  
 Gabel, William A. Chess king. 210,963, 5-7-68, Cl. D34—5.  
 Gabel, William A. Chess queen. 210,964, 5-7-68, Cl. D34—5.  
 Gem-Craft, Inc.: See—  
 Verrecchia, Alfeo. 210,988.  
 Gold, Hurton J.: See—  
 Schwartz, Robert C., and Gold. 210,984.  
 Gold Medal Folding Furniture Co.: See—  
 Schwarz, George M., Jr. 210,939.  
 Grover Musical Products, Inc.: See—  
 Thompson, Josephus B. 210,981.  
 Guth, Gordon T., and B. Kelly, to Sunbeam Corp. Toothbrush charging stand. 210,928, 5-7-68, Cl. D4—16.  
 Hellwell, Milton B., and H. Youngquest, to Pinnacle Products Corp. Rack for holding laundry sorting nets. 210,982, 5-7-68, Cl. D58—2.  
 Herbst, Walter B., and R. M. La Zar, to Sunbeam Corp. Clock. 210,968, 5-7-68, Cl. D42—7.  
 Honeywell Inc.: See—  
 Miller, Ronald C. 210,974.  
 Horgan, William J., Jr.: See—  
 Blum, Louis, and Horgan. 210,936.  
 Howard, Margaret. Toy dog. 210,955, 5-7-68, Cl. D34—2.  
 Huncovsky, Lois A. Cosmetics organizer tray. 210,989, 5-7-68, Cl. D86—10.  
 Hutton, Harry T., Jr.: See—  
 Tutthill, Roger W., Hutton, and Smith. 210,944.  
 Indiana University Foundation: See—  
 Dickens, William P. 210,926.  
 Jacobsen Mfg. Co.: See—  
 Kelly, Gordon D., and Wickler. 210,966.  
 Johnson, Russell W. Underground utilities service pod. 210,934, 5-7-68, Cl. D13—1.  
 Jonas, Gerald L. Building block. 210,942, 5-7-68, Cl. D18—2.  
 Kelly, Burton: See—  
 Guth, Gordon T., and Kelly. 210,928.  
 Kelly, Gordon D., and J. J. Wickler, to Jacobsen Mfg. Co. Lawn mower tractor. 210,966, 5-7-68, Cl. D40—1.  
 Kimmel, Irvine, to Endure-A-Lifetime Products, Inc. Door stop. 210,933, 5-7-68, Cl. D10—7.  
 Klapmeyer, James E. Cleated track for snow vehicles. 210,938, 5-7-68, Cl. D14—24.  
 Konkel, Joseph: See—  
 Bennett, Lewis W., Eckert, Konkel, and Sweeney. 210,985.  
 La Zar, Ralph M.: See—  
 Herbst, Walter B., and La Zar. 210,968.  
 Lee, Patrick J. S. Photographic processing unit. 210,983, 5-7-68, Cl. D61—1.  
 Libhart, Anthony C., to The Colson Corp. Caster brake. 210,932, 5-7-68, Cl. D10—6.  
 Litton Business Systems, Inc.: See—  
 Magri, Salvatore J. 210,986.  
 Lowell, Ross. Lighting fixture. 210,972, 5-7-68, Cl. D48—20.  
 Magri, Salvatore J., to Litton Business Systems, Inc. Casing for a calculator or the like. 210,986, 5-7-68, Cl. D64—11.  
 Maranduzzo, Dario. Christmas ornament or the like. 210,954, 5-7-68, Cl. D29—1.  
 Matsushita Electric Industrial Co., Ltd.: See—  
 Ebata, Takemi, and Yamashita. 210,952.  
 McGoulik, Glenn C. Dental equipment unit. 210,945, 5-7-68, Cl. D24—1.  
 Middlemark, Marvin P. Antenna cable. 210,948, 5-7-68, Cl. D26—1.  
 Middlemark, Marvin P. Indoor television antenna. 210,951, 5-7-68, Cl. D26—14.  
 Miller, Herman, Inc.: See—  
 Eames, Charles. 210,940.  
 Miller, Ronald C., to Honeywell Inc. Face panel for a control instrument. 210,974, 5-7-68, Cl. D52—6.  
 Mohawk Data Sciences Corp.: See—  
 Bennett, Lewis W., Eckert, Konkel, and Sweeney. 210,985.  
 Monark-Crescent Aktiebolag: See—  
 Westborg, Sven M. 210,958.  
 Motiva Ltd.: See—  
 Schwartz, Robert C., and Gold. 210,984.  
 Mulvaney, Robert F., Jr. Brush handle or similar article. 210,929, 5-7-68, Cl. D4—38.  
 Murray Ohio Mfg. Co., The: See—  
 Schreckengost, Viktor. 210,990.  
 Noyes, Lois A., to Springbok Editions, Inc. Jig saw puzzle assembly board. 210,957, 6-7-68, Cl. D34—5.  
 Orlando, Vincent. Playing card. 210,965, 5-7-68, Cl. D34—13.  
 Pinnacle Products Corp.: See—  
 Hellwell, Milton B., and Youngquest. 210,982.  
 Preble, Harry, Jr., to Swingline Inc. Electric stapling machine or similar article. 210,978, 5-7-68, Cl. D54—14.  
 Rasmusson, Ben E. Tray for holding confection forming molds or the like. 210,969, 5-7-68, Cl. D44—1.  
 Rasmusson, Ben E. Confection forming mold. 210,970, 5-7-68, Cl. D44—1.



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- Chain Supply Co.: See—  
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- Chakravarti, Arun K., J. Chattopadhyay, G. G. Sarkar, and A. Lahiri. Upgrading and dewatering of coal. 3,381,888, 5-7-68, Cl. 34-9.
- Chalfin, Bernard D., and R. J. Peterson, to C. & C. Button & Trimming Co., Inc. Trimming machine. 3,381,871, 5-7-68, Cl. 227-118.
- Chamberlin, Robert S., D. C. Stafford, and C. A. McDonald, to Chicago Bridge & Iron Co. Offshore storage apparatus. 3,381,481, 5-7-68, Cl. 61-46.5.
- Chameroy, Jean G., and Y. Wilmart, to Societe Anonyme: Groupement Atomique Alsacienne Atlantique (G.A.A.A.) Radiation detector made from titanium or zirconium. 3,382,390, 5-7-68, Cl. 313-61.
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- Chang, Zung F.: See—  
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- Chapin, John L., Jr., to Novo Industrial Corp. Framed glazings. 3,381,340, 5-7-68, Cl. 18-30.
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- Char-Lynn Co.: See—  
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- Charron, William W., to Ford Motor Co. Inertia sensing carburetor metering control. 3,381,945, 5-7-68, Cl. 261-39.
- Chase-Shawmut Co., The: See—  
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- Chattopadhyay, Jagadish: See—  
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- Chaveneaud, Roger, and G. Janoska, to Societe a Responsabilite Limitee: Societe Lamy d'Etudes et de Recherches "Soler." Rolling contact typewheel printer. 3,381,790, 5-7-68, Cl. 197-51.
- Chemagro Corp.: See—  
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- Chenoweth, David V., to Baker Oil Tools, Inc. Fluid flow regulator. 3,381,708, 5-7-68, Cl. 137-504.
- Chenoweth, David V., to Baker Oil Tools, Inc. Multiple injection packers. 3,381,749, 5-7-68, Cl. 166-55.
- Cherry Electrical Products Corp.: See—  
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- Cherry, Walter L., and Grady. 3,382,332.
- Cherry, Walter L., and D. W. Grady, to Cherry Electrical Products Corp. Multiposition snap-action switch blade. 3,382,332, 5-7-68, Cl. 200-67.
- Cheshier, Hugh S., and P. A. Backman, said Cheshier assor. of 1/2, and said Backman assor. of 1/4, to Robert A. Kelso. Combined folding chair and desk. 3,381,998, 5-7-68, Cl. 297-124.
- Chevron Research Co.: See—  
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- Mehmedbasich, Enver. 3,382,066.
- Sherwood, John W. C., and Yungul. 3,382,428.
- Walstrom, John E. 3,381,940.
- Chicago Bridge & Iron Co.: See—  
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- Childress, Scott J.: See—  
Bell, Stanley C., McCaully, and Childress. 3,382,243.
- Choron, Lucien: See—  
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- Christenson, Roger M., and B. N. McBane, to Pittsburgh Plate Glass Co. Coating composition comprising an acrylic interpolymer, an amine-aldehyde resin, and an alkyd resin. 3,382,294, 5-7-68, Cl. 260-850.
- Christy, Robert R., to Non-Linear Systems, Inc. Display device having selectively illuminated indicia plates. 3,382,495, 5-7-68, Cl. 340-378.
- Chubb, Alexander A., to Scragg, Ernest & Sons, Ltd. Textile processes and machines. 3,381,461, 5-7-68, Cl. 57-34.
- Chupp, John P., and J. D. Early, to Monsanto Co. Gastro-podically effective substituted 5-halo-3-phenylisocyanilides. 3,382,145, 5-7-68, Cl. 167-30.
- Church, Herman S., and D. C. Price, to The Monarch Rubber Co. Manufacture of plate metal parts with threaded stud fasteners. 3,381,362, 5-7-68, Cl. 29-432.2.
- Ciccioli, Luigi, B. D'Alo', P. Moruzzi, and G. Nicotra, to Snia Viscosa Societa Nazionale Industria Applicazioni Viscosa S.p.A. Process for the stretching of polyamide fibres. 3,382,307, 5-7-68, Cl. 264-210.
- Citarel, Louis: See—  
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- Clark, Chester G., to The Udyllite Corp. Conveying apparatus. 3,381,695, 5-7-68, Cl. 134-77.
- Clark, Chester G., L. J. Minbiolo, Jr., and L. J. Phanowaki, to The Udyllite Corp. Conveying apparatus. 3,381,792, 5-7-68, Cl. 198-19.
- Clark, Donald E.: See—  
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- Clark Equipment Co.: See—  
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- Steelman, Melvin W. 3,381,494.
- Clark, Horace W., to The Mead Corp. Process and apparatus for removing liquid from a moving web of paper and the like. 3,381,607, 5-7-68, Cl. 100-37.
- Clark, Harold V., to Ampex Corp. Speed control servo system having rapid reduction of large order speed difference error signals. 3,382,423, 5-7-68, Cl. 316-318.
- Clarke, John F., to Texas Instruments Inc. Ceramic brazing means. 3,382,052, 5-7-68, Cl. 167-194.
- Clary, Joe D., to W. R. Grace & Co. Apparatus for conveying and blending solids. 3,381,944, 5-7-68, Cl. 259-3.
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- Cloze, William J., to Permax Molins Proprietary Ltd. Variable speed drive unit. 3,381,542, 5-7-68, Cl. 74-230.17.
- Clupak, Inc.: See—  
Adams, Charles L., and McFalls. 3,381,528.
- Coad, Brian C., to Texas Instruments Inc. Low melting point composite materials useful for brazing, soldering or the like. 3,382,054, 5-7-68, Cl. 29-195.
- Coanda, George, and A. R. Spaeth, to Pharmaseal Laboratories. Hypodermic needle and protector therefor. 3,381,813, 5-7-68, Cl. 206-63.2.
- Coats, Ernest H.: See—  
Hawes, La Marcus C., Coats, and Cooper. 3,381,758.
- Cockerell, Christopher S., to Hovercraft Development Ltd. Flexible skirts for vehicle for travelling over land and/or water. 3,381,772, 5-7-68, Cl. 180-128.
- Coco, Michael. Hand guard or grip. 3,381,304, 5-7-68, Cl. 2-20.
- Coffman, Wilson R. Water treatment apparatus. 3,381,699, 5-7-68, Cl. 137-101.21.



Cohen, Bernard J., to Anaconda Wire and Cable Co. Weather-tight reel for pipe-type cable. 3,381,812, 5-7-68, Cl. 206-59.

Cohen, Howard R., to Ann Page Mfg. Corp. Combination sheath and scarf. 3,381,309, 5-7-68, Cl. 2-207.

Cohn, Eugene S., P. Snyder, and F. Catallo, to Samco Holding Corp. Method and means for converting tubular knitted fabric to open width. 3,381,397, 5-7-68, Cl. 38-2.

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Suh, John T. 3,382,267.

Collins Radio Co., to See—

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Combustion Engineering Inc., to See—

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Compagnie des Ateliers et Forges de la Loire, to See—

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Compagnie Française Thomson Houston-Hotchkiss Brandt, to See—

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Condo, Albert G., Jr., and D. D. Mynlek, to Atlantic Richfield Co. System for producing liquid-filled packages. 3,381,441, 5-7-68, Cl. 53-24.

Conduction Corp., to See—

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Conner, Harry G., J. A. Hancock, and E. W. Yetter, to E. I. du Pont de Nemours and Co. Undulation counting apparatus. 3,382,368, 5-7-68, Cl. 250-219.

Conner, John P., to Westinghouse Electric Corp. Electric control device and supplemental pole unit. 3,382,469, 5-7-68, Cl. 335-161.

Conrad, Daniel T., to See—

Taylor, Cabres W., Jr., and Conrad. 3,382,295.

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Williams, Billy J., and Lobo. 3,382,269.

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Conway, Patrick H., to Sperry Rand Corp. Wide band voltage controlled multivibrator. 3,382,457, 5-7-68, Cl. 331-113.

Cook, Albert W., to See—

Hawley, Jesse G., Cook, and Runner. 3,382,009.

Cook, Melvin A., to Intermountain Research and Engineering Co., Inc. Thickened aqueous explosive composition containing entrapped gas. 3,382,117, 5-7-68, Cl. 149-39.

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Collapsible boat. 3,381,322, 5-7-68, Cl. 9-2.

Cooley, Peter, to Conduction Corp. Linear frequency modulated radar. 3,382,497, 5-7-68, Cl. 343-172.

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Cooper, Fred W., to See—

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Cope, Paul E., and F. Clement, to The Procter & Gamble Co. Dentifrice package having a laminated film body. 3,381,818, 5-7-68, Cl. 206-84.

Copping, Bruce G., to Geo. J. Meyer Mfg. Co. Package forming and heat shrink banding apparatus. 3,381,443, 5-7-68, Cl. 53-30.

Cornelius, Edward B., J. E. McEvoy, and G. A. Mills, to Air Products and Chemicals, Inc. Cracking catalyst preparation. 3,382,188, 5-7-68, Cl. 252-455.

Corning Glass Works, to See—

Schreiber, Charles L., and Kolb. 3,382,137.

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Corpew, Charles R., to Stromberg-Carlson Corp. Cathode ray tube and simultaneously generating a plurality of shaped electron beams. 3,382,392, 5-7-68, Cl. 313-69.

Cossor, A. G., Ltd., to See—

Duerden, Francis, and Allen. 3,382,322.

Counsellman, Richard R., and R. A. Freeman, to Ling-Temco-Vought, Inc. Optical filter changing mechanism. 3,382,024, 5-7-68, Cl. 350-315.

Cox, Robert P., to Omega Chemicals Corp. Inhibition of volatilization of volatile organic compounds. 3,382,031, 5-7-68, Cl. 21-60.5.

Cox, Robert P., to Omega Chemicals Corp. Inhibition of volatilization of volatile organic compounds. 3,382,032, 5-7-68, Cl. 21-60.5.

Cram, Kenneth H., to E. I. du Pont de Nemours and Co. Liquid-stripper bar. 3,381,506, 5-7-68, Cl. 68-19.

Crawford, Lynn D., to G. I. Hanscom (formerly Magnuson), to G. I. Hanscom, R. Magnuson, and L. J. Duggan, (formerly Fox) as trustees of the estate of R. M. Magnuson. Sorting mechanism for peach halves. 3,381,819, 5-7-68, Cl. 209-73.

Creek, Ronald B., to See—

Gaines, Albert L., Rutledge, and Creek. 3,381,951.

Cripe, Alan R., to United Aircraft Corp. Resiliently mounted axle bearing assembly. 3,382,017, 5-7-68, Cl. 308-238.

Croceans, John S., to Catalysts & Chemicals Inc. Removal of sulfur compounds in steam-gas reforming and shift conversion processes. 3,382,044, 5-7-68, Cl. 23-212.

Crooks, Ralph K., J. M. Hardenbrook, R. D. Lels, J. C. Swain, and D. L. Thomas, to Battelle Development Corp. General purpose underwater manipulating system. 3,381,485, 5-7-68, Cl. 61-69.

Crow, Morgan L., M. D. Kilgore, and H. E. Simpson, to Dresser Industries, Inc. Thermal packer construction. 3,381,969, 5-7-68, Cl. 277-117.

Crown Zellerbach Corp., to See—

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Cuniff, Leo C., and R. Rosenthal, to Beckman Instruments, Inc. Double bridge apparatus for determining electrolytic conductivity. 3,382,430, 5-7-68, Cl. 324-30.

Cunningham, Thomas H. M., to See—

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Curzio, Pericle Q., to Silver S.p.A. and Quadrio Curzio S.p.A. Method of forming a line in a gallery. 3,381,479, 5-7-68, Cl. 61-45.

Curzio, Quadrio, S.p.A., to See—

Curzio, Pericle Q. 3,381,479.

Cushing, Donald S., and T. E. Jenkins, to General Electric Co. Means to achieve close clearance between stationary and moving members. 3,381,620, 5-7-68, Cl. 103-111.

Cuthill, James C., to Imperial Chemical Industries, Ltd. Resinous compositions. 3,382,193, 5-7-68, Cl. 260-2.

Cutter, Paul R., and D. N. Hamilton, to Diamond Shamrock Corp. Chemical composition and method. 3,382,081, 5-7-68, Cl. 106-14.

Cyba, Henryk A., to Universal Oil Products Co. Solid organic substrates stabilized with borates of alkanol amines. 3,382,208, 5-7-68, Cl. 260-45.1.

Czaloun, Anton, to Donau Chemie Aktiengesellschaft. Method of electrolytic extraction of metals. 3,382,163, 5-7-68, Cl. 204-105.

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D'Alò, Bruno, to See—

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Harmon, Marion W., and D'Amico. 3,382,144.

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Daniels, William A. and W. A. Jr. 3,381,317.

Dannhardt, Harry C., and J. E. Ellades, to Chandler Machine Co. Button feeding machines. 3,381,827, 5-7-68, Cl. 214-1.

Darm, William J. Ventilating system. 3,381,747, 5-7-68, Cl. 165-166.

Darrow, Arnold, Lined concrete pipe. 3,381,718, 5-7-68, Cl. 138-141.

Davidson, Mats I. Apparatus for applying ribbons at slits of clothings. 3,381,640, 5-7-68, Cl. 112-147.

Davis Aircraft Products, Inc., to See—

Higuchi, Nori. 3,381,925.

Davis, Augustine, Jr., to Davisbilt Steel Joist, Inc. Nailable steel joist. 3,381,433, 5-7-68, Cl. 52-364.

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Dix, Sydney, Davis, Sklena, and Sutherland. 3,382,342.

Davis, James R. Frequency modulated crystal oscillator. 3,382,462, 5-7-68, Cl. 332-26.

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Davis, Augustine, Jr. 3,381,433.

Davison, Elden R., to P. R. Mallory & Co., Inc. Tuning device. 3,382,431, 5-7-68, Cl. 334-43.

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De Regnaucourt, Robert A., and Brownell. 3,382,007.

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De Courville, Jacqueline B. Sorting apparatus for collecting common address data from an original memory in which unsorted data and addresses are registered. 3,382,486, 5-7-68, Cl. 340-172.5.

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Della Porta, Paolo, C. Pisan, and M. Zucchinielli, to S.A.E.S. Getters S.p.A. Getter assembly having support of low thermal conductivity. 3,381,805, 5-7-68, Cl. 206-4.

Della Vite, Romuald R., to Societe Anonyme dite: Societe Francaise d'Etiquette. Device for preventing the fouling of labelling machines by the label glue. 3,382,130, 5-7-68, Cl. 156-389.

De Mello, Frank A., and G. W. Burgess, to Union Carbide Corp. Food package. 3,382,078, 5-7-68, Cl. 99-171.

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Kusserow, Howard F. 3,381,841.

De Regnaucourt, Robert A., and J. M. Rachford, to The Dayton Steel Foundry Co. One-piece rim clamping device and mounting means therefor. 3,382,006, 5-7-68, Cl. 301-13.

De Regnaucourt, Robert A., and W. E. Brownell, to The Dayton Steel Foundry Co. Rim mounting. 3,382,007, 5-7-68, Cl. 301-13.

Derhammer, Eli. Automatic safety cut-off valve. 3,381,933, 5-7-68, Cl. 251-73.

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Bishop, Thomas D. 3,381,563.

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De Varda, Giuseppe, to Montecatini Edison S.p.A. Method and apparatus for starting up multicell electrolytic furnaces for aluminum production. 3,382,166, 5-7-68, Cl. 204-244.

De Vaughn, Donald H. Sheath for knives. 3,381,807, 5-7-68, Cl. 206-16.

Dewar, John H., to Ford Motor Co. Sealed construction. 3,381,988, 5-7-68, Cl. 287-189.36.

Dewhurst, Ernest J., to Somerville Industries Ltd. Box construction. 3,381,878, 5-7-68, Cl. 229-34.

De Woskin, David N., to Continental Mfg. Co. Dispenser for roll material. 3,382,021, 5-7-68, Cl. 312-39.

Di Addario, Alexander N. Bed clothing. 3,381,321, 5-7-68, Cl. 5-334.

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Diassi, Patrick A., and G. W. Krakower, to E. R. Squibb & Sons, Inc. 4a,8,14-trimethyl-18-nor-5a,8a,14b-androstane-3,11,17-trione and derivatives thereof. 3,382,258, 5-7-68, Cl. 260-397.3.

Die Casters Proprietary Ltd., to See—

Carlson, Arthur R., and Dearle. 3,381,508.

Dilla, Raymond L., to General Electric Co. Air handling device with regenerative filter medium. 3,381,453, 5-7-68, Cl. 55-208.

Dischert, Robert A., to Radio Corp. of America. Counter employing monostable multivibrator with its timing cycle determined and initiated by first two pulses of input clock but then isolated therefrom for remainder of count. 3,382,375, 5-7-68, Cl. 307-225.

Dix, Sydney, D. W. Davis, M. L. Sklena, and R. M. Sutherland, to GTI Corp. Micromodular package and method of sealing same. 3,382,342, 5-7-68, Cl. 219-85.

Dixon, Don P. Automobile air conditioning system. 3,381,492, 5-7-68, Cl. 62-244.

Dixon, Don P. Automobile air conditioning system. 3,381,493, 5-7-68, Cl. 62-244.

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Doering, John P., Jr., to Beckman Instruments, Inc. Combination slip ring and terminal for variable resistance device. 3,382,474, 5-7-68, Cl. 338-174.

Dolan, Francis D., and G. W. Walther, to American-Lincoln Corp. Scrub brush. 3,381,326, 5-7-68, Cl. 15-180.

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Schwartz, Samuel H. 3,381,469.

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Hornlein, Roland, and Domhan. 3,381,631.

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Dominion Foundries and Steel, Ltd., to See—

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Donau Chemie Aktiengesellschaft, to See—

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Dornbush, Herbert W., and W. G. Swolish, to McGraw-Edison Co. Method and apparatus for testing hermetically sealed transformers. 3,381,524, 5-7-68, Cl. 73-45.5.

Dotter, Berton E., Jr., to Automatic Electric Laboratories, Inc. Circuit for stabilizing an oscillator during interruption of synchronizing. 3,382,453, 5-7-68, Cl. 331-14.

Dotto, Gianni A., to P. R. Mallory & Co., Inc. Two-speed synchronous motor. 3,382,382, 5-7-68, Cl. 310-37.

Dotto, Gianni A. Ignition system for an internal combustion engine. 3,382,407, 5-7-68, Cl. 315-209.

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Dowty Technical Developments Ltd., to See—

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Dresser Industries, Inc., to See—

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Dreyfus, Gaspard, to See—

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Drost, Wilfred, and F. M. O'Connor, to Union Carbide Corp. Wet attrition-resistant molecular sieve bodies and their manufacture. 3,382,187, 5-7-68, Cl. 252-455.

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Drum, Edward W., to Ransburg Electro-Coating Corp. Electrostatic coating methods and apparatus for conductive coating materials. 3,382,091, 5-7-68, Cl. 117-93.4.

Drysdale, William R. Crankcase ventilation system. 3,381,673, 5-7-68, Cl. 123-119.

Dudman, Roy L., to Schlumberger Technology Corp. Safety joint. 3,381,979, 5-7-68, Cl. 285-81.

Duerden, Francis, and P. D. Allen, to A. C. Cossor Ltd. Apparatus for electrically identifying one of a number of stations. 3,382,322, 5-7-68, Cl. 179-2.

Duff, T. H. Engines. 3,381,671, 5-7-68, Cl. 123-45.

Duggan, Joseph P. Knockdown-type shipping container having built-in fastening means. 3,381,840, 5-7-68, Cl. 217-65.

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## CLASSIFICATION OF PATENTS

ISSUED MAY 7, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

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|-----------|------------|-----------|-----------|---------|------------|----------|-----------|-----------|-----------|-----------|-----------|
| 2- 2.1    | 3,381,303  | 29- 472.3 | 3,381,364 | 53- 390 | 3,381,449  | 73- 422  | 3,381,537 | 100- 118  | 3,381,609 | 123- 185  | 3,381,677 |
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| 68        | 3,381,305  |           | 3,381,366 | 393     | 3,381,451  | 89.14    | 3,381,539 | 93        | 3,381,611 | 126- 4    | 3,381,678 |
| 69        | 3,381,306  | 569       | 3,381,367 |         | 3,381,452  | 203      | 3,381,540 | 401       | 3,381,612 | 299       | 3,381,679 |
| 94        | 3,381,307  | 573       | 3,381,368 | 55- 208 | 3,381,453  | 207      | 3,381,541 | 102- 70.2 | 3,381,613 | 343.5     | 3,381,680 |
| 182.6     | 3,381,308  | 580       | 3,381,369 | 528     | 3,381,454  | 230.17   | 3,381,542 | 103       | 3,381,614 | 369       | 3,381,681 |
| 207       | 3,381,309  | 600       | 3,381,370 | 56- 19  | 3,381,455  | 409      | 3,381,543 | 103- 2    | 3,381,615 | 128- 2.05 | 3,381,682 |
| 243       | 3,381,310  |           | 3,381,371 | 25.4    | 3,381,456  | 410      | 3,381,509 | 53        | 3,381,616 | 63        | 3,381,683 |
| 270       | 3,381,311  | 627       | 3,381,372 | 44      | 3,381,457  | 461      | 3,381,544 | 103       | 3,381,617 | 68        | 3,381,684 |
| 4- 1      | 3,381,312  | 30- 29.5  | 3,381,373 | 57- 1   | 3,381,458  | 722      | 3,381,545 | 111       | 3,381,620 | 92        | 3,381,685 |
| 2         | 3,381,313  | 40.1      | 3,381,374 | 18.018  | 3,381,459  | 761      | 3,381,546 | 113       | 3,381,618 | 221       | 3,381,686 |
| 57        | 3,381,314  | 43.92     | 3,381,375 | 31      | 3,381,460  | 781      | 3,381,547 |           | 3,381,621 | 276       | 3,381,687 |
| 142       | 3,381,315  | 358       | 3,381,376 | 34      | 3,381,461  | 801      | 3,381,548 | 120       | 3,381,622 | 296       | 3,381,688 |
| 154       | 3,381,316  | 32- 19    | 3,381,377 | 5       | 3,381,462  | 804      | 3,381,549 | 126       | 3,381,619 | 483       | 3,381,689 |
| 185       | 3,381,317  | 27        | 3,381,378 | 58.95   | 3,381,463  | 75- 5    | 3,382,062 | 152       | 3,381,623 | 131- 17   | 3,381,690 |
| 211       | 3,381,318  | 33- 1     | 3,381,379 | 119     | 3,381,464  | 3        | 3,382,063 | 162       | 3,381,624 |           | 3,381,691 |
| 5- 99     | 3,381,319  | 50        | 3,381,380 | 164     | 3,381,465  | 123      | 3,382,064 | 104- 7    | 3,381,625 | 87        | 3,381,692 |
| 317       | 3,381,320  | 64        | 3,381,381 | 58- 16  | 3,381,466  | 126      | 3,382,065 |           | 3,381,626 | 132- 34   | 3,381,693 |
| 334       | 3,381,321  | 104       | 3,381,382 | 28      | 3,381,467  | 208      | 3,382,066 | 23        | 3,381,627 | 133- 1    | 3,381,694 |
| 8- 120    | 3,382,029  | 146       | 3,381,383 | 86      | 3,381,468  |          | 3,382,067 | 162       | 3,381,628 | 134- 7    | 3,382,101 |
|           | 3,382,030  | 174       | 3,381,384 | 60- 23  | 3,381,469  | 77- 5    | 3,381,550 | 105- 218  | 3,381,629 | 77        | 3,381,695 |
| 9- 2      | 3,381,322  |           | 3,381,385 | 39.28   | 3,381,470  | 55       | 3,381,551 | 368       | 3,381,630 | 136- 30   | 3,382,102 |
| 12- 15.1  | 3,381,323  | 179.5     | 3,381,386 | 65      | 3,381,471  | 56       | 3,381,552 | 106- 1    | 3,382,079 | 86        | 3,382,103 |
| 142       | 3,381,324  | 189       | 3,381,387 | 53      | 3,381,472  | 58       | 3,381,553 | 2         | 3,382,080 |           | 3,382,104 |
| 13- 6     | 3,382,310  | 34- 9     | 3,381,388 | 219     | 3,381,473  | 62       | 3,381,554 | 14        | 3,382,081 |           | 3,382,105 |
| 26        | 3,382,311  | 45        | 3,381,389 | 224     | 3,381,474  | 81- 9.51 | 3,381,555 | 40        | 3,382,082 | 120       | 3,382,106 |
| 15- 104   | 3,381,325  | 73        | 3,381,390 | 226     | 3,381,475  | 15.8     | 3,381,556 | 98        | 3,382,083 | 132       | 3,382,107 |
| 180       | 3,381,326  | 105       | 3,381,391 | 254     | 3,381,476  | 82- 5    | 3,381,557 | 284       | 3,382,084 | 226       | 3,382,108 |
| 210       | Re. 26,385 | 35- 10.2  | 3,382,312 | 61- 7   | 3,381,477  | 20       | 3,381,558 | 107- 8    | 3,381,631 | 237       | 3,382,109 |
| 229       | 3,381,334  | 17        | 3,381,392 | 41      | 3,381,478  | 83- 61   | 3,381,559 |           | 3,381,632 | 137- 66   | 3,381,696 |
| 313       | 3,381,335  | 24        | 3,381,393 | 45      | 3,381,479  | 168      | 3,381,560 | 19        | 3,381,633 | 82        | 3,381,697 |
| 314       | 3,381,327  | 31        | 3,381,394 |         | 3,381,480  | 216      | 3,381,561 | 108- 136  | 3,381,634 | 85        | 3,381,698 |
| 327       | 3,381,328  | 35        | 3,381,395 | 46.5    | 3,381,481  | 300      | 3,381,562 | 150       | 3,381,635 | 101.21    | 3,381,699 |
|           | 3,381,329  | 37- 8     | 3,381,396 |         | 3,381,482  | 303      | 3,381,563 | 152       | 3,381,636 | 216       | 3,381,700 |
| 16- 21    | 3,381,330  | 38- 2     | 3,381,397 | 48      | 3,381,484  | 417      | 3,381,564 | 110- 8    | 3,381,637 | 339       | 3,381,701 |
| 42        | 3,381,331  | 40- 10    | 3,381,398 | 49      | 3,381,485  | 84- 439  | 3,381,576 | 112- 114  | 3,381,638 | 340       | 3,381,702 |
| 139       | 3,381,332  | 33        | 3,381,399 | 69      | 3,381,486  | 444      | 3,381,565 | 130       | 3,381,639 | 341       | 3,381,703 |
|           | 3,381,333  | 129       | 3,381,400 | 62- 12  | 3,381,486  | 85- 71   | 3,381,566 | 147       | 3,381,640 | 355.17    | 3,381,704 |
| 18- 8     | 3,381,336  | 132       | 3,381,401 | 117     | 3,381,487  | 75       | 3,381,567 | 218       | 3,381,641 | 28        | 3,381,705 |
| 12        | 3,381,337  | 158       | 3,381,402 | 126     | 3,381,488  | 86- 1    | 3,381,568 | 229       | 3,381,642 | 423       | 3,381,706 |
| 16        | 3,381,338  | 42- 1     | 3,381,403 | 160     | 3,381,489  | 88- 1    | 3,381,569 | 231       | 3,381,643 | 489.5     | 3,381,707 |
| 26        | 3,381,339  | 59        | 3,381,404 | 201     | 3,381,490  | 14       | 3,381,570 | 252       | 3,381,644 | 504       | 3,381,708 |
| 36        | 3,381,340  | 74        | 3,381,405 | 218     | 3,381,491  |          | 3,381,571 | 113- 1    | 3,381,645 | 578       | 3,381,709 |
| 19- 80    | 3,381,341  | 94        | 3,381,406 | 244     | 3,381,492  |          | 3,381,572 | 114- 43.5 | 3,381,646 | 596.13    | 3,381,710 |
| 159       | 3,381,342  | 43- 44.91 | 3,381,407 |         | 3,381,493  | 24       | 3,381,573 | 102       | 3,381,647 | 615       | 3,381,711 |
| 258       | 3,381,343  | 55        | 3,381,408 | 283     | 3,381,494  |          | 3,381,574 | 138       | 3,381,648 | 625.2     | 3,381,712 |
| 21- 60.5  | 3,382,031  | 44- 62    | 3,382,055 | 63- 2   | 3,381,495  |          | 3,381,575 | 169       | 3,381,649 | 138- 39   | 3,381,713 |
|           | 3,382,032  | 47- 17    | 3,382,056 | 64- 6   | 3,381,496  | 90- 6    | 3,381,577 | 115- 1    | 3,381,650 | 97        | 3,381,714 |
| 23- 2     | 3,382,033  | 38        | 3,381,409 | 7       | 3,381,497  | 9        | 3,381,578 | 116- 70   | 3,381,651 | 109       | 3,381,715 |
| 50        | 3,381,041  | 49- 220   | 3,381,411 | 8       | 3,381,498  | 12       | 3,381,579 | 114       | 3,381,652 |           | 3,381,716 |
|           | 3,382,034  |           | 3,381,411 | 66- 48  | 3,381,499  |          | 3,381,580 |           | 3,381,653 | 137       | 3,381,717 |
| 66        | 3,382,035  | 236       | 3,381,412 | 115     | 3,381,500  | 91- 1    | 3,381,581 | 119       | 3,381,654 | 141       | 3,381,718 |
| 106       | 3,382,036  | 253       | 3,381,413 | 134     | 3,381,501  | 47       | 3,381,582 | 124       | 3,381,655 | 139- 68   | 3,381,719 |
|           | 3,382,037  | 281       | 3,381,414 | 192     | 3,381,502  | 56       | 3,381,583 | 129       | 3,381,656 | 122       | 3,381,720 |
| 107       | 3,382,038  | 445       | 3,381,415 | 68- 12  | 3,381,503  | 104      | 3,381,584 | 117- 17   | 3,382,085 | 127       | 3,381,721 |
| 112       | 3,382,039  | 464       | 3,381,416 | 18      | 3,381,504  | 178      | 3,381,585 | 33.5      | 3,382,086 | 310       | 3,381,722 |
| 143       | 3,382,040  | 51- 116   | 3,381,417 | 19      | 3,381,505  | 217      | 3,381,586 | 35        | 3,382,087 | 141- 39   | 3,381,723 |
| 202       | 3,382,042  | 170       | 3,381,418 | 69- 23  | 3,381,506  | 411      | 3,381,588 | 36.1      | 3,382,088 | 143- 6    | 3,381,724 |
| 210       | 3,382,043  | 293       | 3,382,057 | 70- 216 | 3,381,507  | 420      | 3,381,587 | 41        | 3,382,089 | 144- 3    | 3,381,725 |
| 212       | 3,382,044  | 295       | 3,382,058 | 71- 34  | 3,382,059  | 92- 112  | 3,381,589 | 47        | 3,382,090 | 93        | 3,381,726 |
| 213       | 3,382,045  | 332       | 3,381,419 |         | 3,382,060  | 140      | 3,381,590 | 93.4      | 3,382,091 | 212       | 3,381,727 |
| 267       | 3,382,046  | 52- 2     | 3,381,420 | 86      | 3,382,061  | 168      | 3,381,591 | 97        | 3,382,092 | 219       | 3,381,728 |
| 295       | 3,382,047  | 36        | 3,381,421 | 120     | 3,382,062  | 93- 8    | 3,381,592 | 100       | 3,382,093 | 312       | 3,381,729 |
| 316       | 3,382,048  | 66        | 3,381,422 | 72- 146 | 3,381,510  | 37       | 3,381,593 | 138.5     | 3,382,094 | 145- 46   | 3,381,730 |
| 353       | 3,382,049  | 78        | 3,381,423 | 163     | Re. 26,389 | 39.1     | 3,381,594 | 139.5     | 3,382,095 | 146- 56   | 3,381,731 |
| 358       | 3,382,050  | 83        | 3,381,424 | 248     | 3,381,511  | 94- 45   | 3,381,595 |           | 3,382,096 | 148- 6.15 | 3,382,110 |
| 24- 73    | 3,381,344  | 96        | 3,381,425 | 265     | 3,381,512  | 95- 1    | 3,381,596 | 141       | 3,382,097 | 16        | 3,382,111 |
| 25- 41    | 3,381,345  |           | 3,381,426 | 324     | 3,381,513  | 55       | 3,381,597 | 158       | 3,382,098 | 9         | 3,382,112 |
| 28- 1     | 3,381,346  | 98        | 3,381,427 | 335     | 3,381,514  | 59       | 3,381,598 | 215       | 3,382,099 | 175       | 3,382,113 |
| 29- 25.13 | 3,381,347  | 233       | 3,381,428 | 354     | 3,381,515  | 89       | 3,381,599 | 217       | 3,382,100 | 186       | 3,382,114 |
| 33        | 3,381,348  | 250       | 3,381,429 | 73- 1   | 3,381,516  | 96- 27   | 3,382,068 | 118- 2    | 3,381,657 | 187       | 3,382,115 |
| 96        | 3,381,349  | 282       | 3,381,430 |         | 3,381,517  | 33       | 3,382,069 | 19        | 3,381,658 | 149- 19   | 3,382,116 |
| 116       | 3,381,350  | 309       | 3,381,431 | 19      | 3,381,518  | 49       | 3,382,070 |           | 3,381,659 | 39        | 3,382,117 |
| 156.7     | 3,381,351  |           | 3,381,432 | 23.1    | 3,381,519  | 67       | 3,382,071 | 49        | 3,381,660 | 151- 19   | 3,381,732 |
|           | 3,381,352  | 364       | 3,381,433 | 24      | 3,381,520  | 75       | 3,382,072 | 410       | 3,381,661 | 22        | 3,381,733 |
| 159.1     | 3,381,353  | 397       | 3,381,434 | 35      | 3,381,521  | 77       | 3,382,073 | 637       | 3,381,662 | 152- 176  | 3,381,734 |
| 2         | 3,381,354  | 400       | 3,381,435 |         | 3,381,522  | 84       | 3,382,074 | 119- 15   | 3,381,663 | 313       | 3,381,735 |
| 160       | 3,381,355  | 468       | 3,381,436 | 40.5    | 3,381,523  | 104      | 3,382,075 | 17        | 3,381,664 | 362       | 3,381,736 |
| 182.5     | 3,382,051  | 481       | 3,381,438 | 45.5    | 3,381,524  |          | 3,382,076 | 18        | 3,381,665 | 391       | 3,381,737 |
| 194       | 3,382,052  | 497       | 3,381,437 | 67      | 3,381,525  | 114      | 3,382,077 | 51.11     | 3,381,666 | 156- 54   | 3,382,118 |
|           | 3,382,053  | 729       | 3,381,439 | 91      | 3,381,526  | 98- 40   | 3,381,600 | 75        | 3,381,667 | 71        | 3,382,119 |
| 195       | 3,382,054  | 53- 24    | 3,381,440 | 144     | 3,381,527  | 121      | 3,381,601 | 123- 8    | 3,381,668 | 116       | 3,382,120 |
| 200       | 3,381,356  |           | 3,381,441 | 159     | 3,381,528  | 99- 171  | 3,382,078 | 11        | 3,381,669 | 165       | 3,382,121 |
| 203       | 3,381,357  | 28        | 3,381,442 | 189     | 3,381,529  | 239      |           |           |           |           |           |



## CLASSIFICATION OF PATENTS

|         |              |         |             |           |              |         |             |           |             |         |             |
|---------|--------------|---------|-------------|-----------|--------------|---------|-------------|-----------|-------------|---------|-------------|
| 156-372 | : 3,382,129  | 198-204 | : 3,381,800 | 229-1.5   | : 3,381,876  | 252-455 | : 3,382,189 | 260-618   | : 3,382,286 | 308-238 | : 3,382,017 |
| 389     | : 3,382,130  | 213     | : 3,381,801 | 2.5       | : 3,381,873  | 477     | : 3,382,190 | 621       | : 3,382,287 | 245     | : 3,382,018 |
| 505     | : 3,382,131  |         | : 3,381,802 | 7         | : 3,381,874  | 253-1   | : 3,381,936 | 666       | : 3,382,288 | 310-8.2 | : 3,382,381 |
| 515     | : 3,382,132  | 233     | : 3,381,803 | 15        | : 3,381,875  | 254-104 | : 3,381,937 | 680       | : 3,382,289 | 37      | : 3,382,382 |
| 596     | : 3,382,133  |         | : 3,381,804 | 21        | : 3,381,877  | 134.3   | : 3,381,938 | 681.5     | : 3,382,290 | 86      | : 3,382,383 |
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| 161-5   | : 3,382,134  | 50      | : 3,382,331 | 34        | : 3,381,878  | 173     | : 3,381,940 |           | : 3,382,292 | 94      | : 3,382,385 |
| 93      | : 3,382,135  | 67      | : 3,382,332 |           | : 3,381,879  | 259-3   | : 3,381,944 | 838       | : 3,382,293 | 104     | : 3,382,386 |
| 165     | : 3,382,136  | 82      | : 3,382,333 | 36        | : 3,381,880  | 108     | : 3,381,941 | 850       | : 3,382,294 | 219     | : 3,382,387 |
| 185     | : 3,382,137  | 116     | : 3,382,334 | 40        | : 3,381,881  | 133     | : 3,381,942 | 860       | : 3,382,295 | 312-11  | : 3,382,019 |
| 190     | : 3,382,138  | 120     | : 3,382,335 | 41        | : 3,381,882  | 148     | : 3,381,943 | 864       | : 3,382,296 | 31.01   | : 3,382,020 |
| 236     | : 3,382,139  | 122     | : 3,382,336 | 47        | : 3,381,883  | 260-2   | : 3,382,191 | 875       | : 3,382,297 | 39      | : 3,382,021 |
| 162-28  | : 3,382,140  | 139     | : 3,382,337 | 51        | : 3,381,884  |         | : 3,382,192 | 897       | : 3,382,298 | 313-7   | : 3,382,388 |
| 78      | : 3,382,149  | 159     | : 3,382,338 | 53        | : 3,381,885  |         | : 3,382,193 | 929       | : 3,382,299 |         | : 3,382,389 |
| 156     | : 3,382,141  | 160     | : 3,382,339 | 57        | : 3,381,886  | .5      | : 3,382,194 | 944       | : 3,382,300 | 61      | : 3,382,390 |
| 168     | : 3,382,142  | 166     | : 3,382,340 | 62.5      | : 3,381,887  |         | : 3,382,195 | 953       | : 3,382,301 | 62      | : 3,382,391 |
| 303     | : 3,382,143  | 202-141 | : 3,382,156 | 72        | : 3,381,888  | 3       | : 3,382,196 | 261-39    | : 3,381,945 | 69      | : 3,382,392 |
| 164-64  | : 3,381,739  | 197     | : 3,382,157 | 87        | : 3,381,889  | 17.4    | : 3,382,197 | 263-32    | : 3,381,946 | 92      | : 3,382,393 |
| 73      | : 3,381,741  | 236     | : 3,382,158 | 230-69    | : 3,381,890  | 23      | : 3,382,198 | 264-45    | : 3,382,302 | 108     | : 3,382,394 |
| 173     | : 3,381,740  | 204-29  | : 3,382,159 | 152       | : 3,382,199  | 29.4    | : 3,382,200 | 49        | : 3,382,303 | 113     | : 3,382,395 |
| 256     | : 3,381,742  | 35      | : 3,382,160 | 235-61.11 | : 3,382,347  | 31.8    | : 3,382,201 | 70        | : 3,382,304 | 228     | : 3,382,396 |
| 283     | : 3,381,743  | 61      | : 3,382,161 |           | : 3,382,348  | 32.6    | : 3,382,202 | 171       | : 3,382,305 | 230     | : 3,382,397 |
| 295     | : 3,381,744  | 67      | : 3,382,162 | 92        | : 3,382,349  | 33.4    | : 3,382,203 | 178       | : 3,382,306 | 314-69  | : 3,382,398 |
| 303     | : 3,381,745  | 105     | : 3,382,163 |           | : 3,382,350  | 34.8    | : 3,382,204 | 210       | : 3,382,307 | 315-3.5 | : 3,382,399 |
| 165-40  | : Re. 26,387 | 180     | : 3,382,164 | 150.22    | : 3,382,351  | 8       | : 3,382,204 | 249       | : 3,382,308 | 13      | : 3,382,400 |
| 111     | : 3,381,746  | 181     | : 3,382,165 | 151.1     | : 3,382,352  | 37      | : 3,382,205 | 296       | : 3,382,309 | 27      | : 3,382,401 |
| 166     | : 3,381,747  | 244     | : 3,382,166 |           | : 3,382,353  | 40      | : 3,382,206 | 266-4     | : 3,381,947 | 36      | : 3,382,402 |
| 166-14  | : 3,381,748  | 270     | : 3,382,167 | 239-1     | : 3,381,893  | 45.7    | : 3,382,207 | 21        | : 3,381,948 | 65      | : 3,382,403 |
| 55      | : 3,381,749  | 206-4   | : 3,381,805 |           | : 3,381,894  | 75      | : 3,382,209 |           | : 3,381,949 | 77      | : 3,382,404 |
| 64      | : 3,381,750  | 5       | : 3,381,806 | 4         | : 3,381,895  | 9       | : 3,382,208 | 24        | : 3,381,950 | 80      | : 3,382,405 |
| 65      | : 3,381,751  | 16      | : 3,381,807 | 112       | : 3,381,896  | 47      | : 3,382,210 | 36        | : 3,381,951 | 94      | : 3,382,406 |
| 120     | : 3,381,752  | 42      | : 3,381,808 | 127.1     | : 3,381,897  |         | : 3,382,211 | 267-34    | : 3,381,952 | 209     | : 3,382,407 |
| 147     | : 3,381,753  | 46      | : 3,381,809 | 265.11    | : 3,381,898  |         | : 3,382,212 | 269-17    | : 3,381,953 | 362     | : 3,382,408 |
| 170     | : 3,381,754  | 52      | : 3,381,810 | 317       | : 3,381,899  | 57      | : 3,382,213 | 32        | : 3,381,954 | 317-16  | : 3,382,409 |
| 191     | : 3,381,755  | 56      | : 3,381,811 | 323       | : 3,381,900  | 67.5    | : 3,382,214 | 271-4     | : 3,381,955 | 18      | : 3,382,410 |
| 224     | : 3,381,756  | 59      | : 3,381,812 | 240-1     | : 3,382,353  | 77.5    | : 3,382,215 | 68        | : 3,381,956 | 25      | : 3,382,411 |
| 167-22  | : 3,382,144  | 63.2    | : 3,381,813 | 41.38     | : 3,382,354  | 78      | : 3,382,216 | 84        | : 3,381,957 | 58      | : 3,382,412 |
| 30      | : 3,382,145  | .5      | : 3,381,814 | 73        | : 3,382,355  | 79.5    | : 3,382,217 | 272-79    | : 3,381,958 | 99      | : 3,382,413 |
| 33      | : 3,382,146  | 65      | : 3,381,815 | 81        | : 3,382,356  |         | : 3,382,218 | 273-68    | : 3,381,959 | 101     | : 3,382,414 |
| 52      | : 3,382,147  |         | : 3,381,816 | 103       | : 3,382,357  |         | : 3,382,219 | 70        | : 3,381,960 | 104     | : 3,382,415 |
| 53.1    | : 3,382,148  |         | : 3,381,817 | 108       | : 3,382,358  | 88.2    | : 3,382,220 | 90        | : 3,381,961 | 119     | : 3,382,416 |
| 82      | : 3,382,150  |         | : 3,381,818 | 241-44    | : 3,381,901  | 91.1    | : 3,382,221 | 101       | : 3,381,962 | 142     | : 3,382,417 |
| 85      | : 3,382,151  | 208-264 | : 3,382,168 | 46        | : 3,381,902  | 92.8    | : 3,382,222 | 135       | : 3,381,963 | 234     | : 3,382,419 |
| 170-145 | : 3,381,757  | 209-73  | : 3,381,819 | 63        | : 3,381,903  | 94.2    | : 3,382,223 | 274-1     | : 3,381,964 | 237     | : 3,382,418 |
| 172-33  | : 3,381,758  | 403     | : 3,381,820 | 73        | : 3,381,904  |         | : 3,382,224 | 4         | : 3,381,965 | 249     | : 3,382,420 |
| 540     | : 3,381,759  | 210-32  | : 3,382,169 | 152       | : 3,381,905  | 3       | : 3,382,225 | 10        | : 3,381,966 |         | : 3,382,421 |
| 788     | : 3,381,760  | 36      | : 3,382,170 | 242-1.1   | : 3,381,907  | 9       | : 3,382,226 | 13        | : 3,381,967 | 318-18  | : 3,382,422 |
| 173-19  | : 3,381,761  | 62      | : 3,382,171 | 35.5      | : 3,381,908  | 112     | : 3,382,227 | 277-95    | : 3,381,968 | 318     | : 3,382,423 |
| 27      | : 3,381,762  | 116     | : 3,381,821 | 55.13     | : 3,381,910  | 158     | : 3,382,228 | 117       | : 3,381,969 | 331     | : 3,382,424 |
| 91      | : 3,381,763  | 169     | : 3,381,822 | 3         | : 3,381,909  | 209     | : 3,382,229 | 119       | : 3,381,970 | 320-32  | : 3,382,425 |
| 115     | : 3,381,764  | 279     | : 3,381,823 | 56        | : 3,381,911  | 210     | : 3,382,230 | 140       | : 3,381,971 | 321-21  | : 3,382,426 |
| 174-15  | : 3,382,313  | 211-68  | : 3,381,824 | 58.1      | : 3,381,912  | 211.5   | : 3,382,231 | 280-11.13 | : 3,381,972 | 323-61  | : 3,382,427 |
| 34      | : 3,382,314  | 74      | : 3,381,825 | 78.1      | : 3,381,906  |         | : 3,382,232 | 30        | : 3,381,973 | 324-9   | : 3,382,428 |
|         | : 3,382,315  | 212-48  | : 3,381,826 | 6         | : 3,381,913  |         | : 3,382,233 | 81        | : 3,381,974 | 30      | : 3,382,429 |
| 72      | : 3,382,316  | 214-1   | : 3,381,827 | 84.21     | : 3,381,914  | 212     | : 3,382,234 | 240       | : 3,381,975 |         | : 3,382,430 |
| 175-106 | : 3,381,766  | 6       | : 3,381,828 | 107       | : 3,381,915  | 230     | : 3,382,235 | 285-18    | : 3,381,976 | 57      | : 3,382,432 |
| 176-16  | : 3,382,152  |         | : 3,381,829 | 3         | : 3,381,916  | 234     | : 3,382,236 | 26        | : 3,381,977 | 63      | : 3,382,433 |
| 40      | : 3,382,153  |         | : 3,381,830 | 244-4     | : 3,381,917  | 239     | : 3,382,237 | 40        | : 3,381,978 | 64      | : 3,382,434 |
| 73      | : 3,382,154  | 14      | : 3,381,831 | 46        | : 3,381,918  | 1       | : 3,382,238 | 81        | : 3,381,979 | 77      | : 3,382,435 |
| 177-126 | : 3,381,767  | 46      | : 3,381,832 | 49        | : 3,381,919  | 57      | : 3,382,239 | 109       | : 3,381,980 |         | : 3,382,436 |
| 178-5.4 | : 3,382,317  | 392     | : 3,381,833 | 105       | : 3,381,920  | 240     | : 3,382,240 | 149       | : 3,381,981 | 158     | : 3,382,437 |
| 6.6     | : 3,382,318  | 450     | : 3,381,835 | 118       | : 3,381,921  | 243     | : 3,382,241 | 156       | : 3,381,982 | 325-38  | : 3,382,438 |
| 34      | : 3,382,319  | 514     | : 3,381,834 | 133       | : Re. 26,388 | 247     | : 3,382,242 | 321       | : 3,381,983 | 308     | : 3,382,439 |
| 69.5    | : 3,382,320  | 730     | : 3,381,836 | 136       | : 3,381,922  | 1       | : 3,382,243 | 287-20    | : 3,381,984 | 317     | : 3,382,440 |
| 179-1   | : 3,382,321  | 215-40  | : 3,381,837 | 166       | : 3,381,923  | 2       | : 3,382,244 | 92        | : 3,381,985 | 422     | : 3,382,441 |
| 2       | : 3,382,322  | 41      | : 3,381,838 | 205       | : 3,381,924  | 250     | : 3,382,245 | 86        | : 3,381,986 | 470     | : 3,382,442 |
| 22      | : 3,382,323  | 217-1   | : 3,381,839 | 361       | : 3,381,925  | 256.4   | : 3,382,246 | 90        | : 3,381,987 | 328-55  | : 3,382,443 |
|         | : 3,382,324  | 65      | : 3,381,840 | 404       | : 3,381,926  |         | : 3,382,247 | 189.36    | : 3,381,988 | 104     | : 3,382,444 |
| 100.2   | : 3,382,325  | 108     | : 3,381,841 | 429       | : 3,381,927  |         | : 3,382,248 | 289-1.2   | : 3,381,989 | 330-23  | : 3,382,445 |
|         | : 3,382,326  | 219-81  | : 3,382,341 | 455       | : 3,381,928  | 293     | : 3,382,249 | 292-62    | : 3,381,990 | 31      | : 3,382,446 |
| 107     | : 3,382,327  | 85      | : 3,382,342 | 5         | : 3,381,929  | 296     | : 3,382,250 | 87        | : 3,381,991 | 62      | : 3,382,448 |
| 180-14  | : 3,381,768  | 121     | : 3,382,343 | 140       | : 3,381,930  | 327     | : 3,382,251 |           | : 3,381,992 |         | : 3,382,449 |
| 22      | : 3,381,769  | 126     | : 3,382,344 | 250-41.9  | : 3,382,359  | 335     | : 3,382,252 | 216       | : 3,381,993 | 77      | : 3,382,450 |
| 77      | : 3,381,770  | 137     | : 3,382,345 | 49.5      | : 3,382,360  | 340.5   | : 3,382,253 | 296-23    | : 3,381,994 | 147     | : 3,382,451 |
| 105     | : 3,381,771  | 331     | : 3,382,346 | 60        | : 3,382,362  | 346.3   | : 3,382,254 | 35        | : 3,381,995 | 331-3   | : 3,382,452 |
| 128     | : 3,381,772  | 220-2.1 | : 3,381,842 | 83.1      | : 3,382,363  | 348     | : 3,382,255 | 107       | : 3,381,996 | 14      | : 3,382,453 |
| 181-31  | : 3,381,773  | 9       | : 3,381,843 | 6         | : 3,382,364  | 349     | : 3,382,256 | 297-78    | : 3,381,997 | 60      | : 3,382,447 |
| 59      | : 3,381,774  | 31      | : 3,381,844 |           | : 3,382,365  | 397.1   | : 3,382,257 | 124       | : 3,381,998 | 94.5    | : 3,382,454 |
| 182-228 | : 3,381,775  |         | : 3,381,850 |           | : 3,382,366  | 3       | : 3,382,258 | 422       | : 3,382,000 | 111     | : 3,382,455 |
| 184-6   | : 3,381,776  | 40      | : 3,381,845 | 202       | : 3,382,367  | 4       | : 3,382,259 | 453       | : 3,381,999 | 113     | : 3,382,456 |
|         | : 3,381,777  | 44      | : 3,381,846 | 216       | : 3,382,368  | 7       | : 3,382,260 | 462       | : 3,382,001 |         | : 3,382,457 |
| 188-1   | : 3,381,778  |         | : 3,381,847 | 219       | : 3,382,369  | 404.5   | : 3,382,261 | 299-33    | : 3,382,002 |         | : 3,382,458 |
| 79.5    | : 3,381,779  | 54      | : 3,381,848 | 237       | : 3,382,370  | 425     | : 3,382,262 | 34        | : 3,382,003 | 117     | : 3,381,533 |
| 86      | : 3,381,780  |         | : 3,381,849 |           | : 3,382,371  | 429     | : 3,382,263 |           | : 3,382,004 | 156     | : 3,382,459 |
| 90      | : 3,381,781  | 85      | : 3,381,851 | 251-30    | : 3,381,931  | 432     | : 3,382,264 | 92        | : 3,382,005 | 178     | : 3,382,460 |
| 190-51  | : 3,381,782  | 97      | : 3,381,852 | 73        | : 3,381,932  | 437     | : 3,382,265 | 301-13    | : 3,382,006 | 183     | : 3,382,461 |
| 191-12  | : 3,         |         |             |           |              |         |             |           |             |         |             |



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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

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| 1 : 3,381,377  | 6 : 3,381,677 | 6 : 3,382,221 | 9 : 3,381,855 | 17 : 3,381,399 | 17 : 3,382,280 |
| 3,381,476      | 3,381,693     | 3,382,222     | 3,381,860     | 3,381,405      | 3,382,317      |
| 3,381,483      | 3,381,696     | 3,382,234     | 3,381,887     | 3,381,422      | 3,382,319      |
| 3,381,516      | 3,381,699     | 3,382,274     | 3,381,927     | 3,381,423      | 3,382,325      |
| 3,381,537      | 3,381,703     | 3,382,312     | 3,381,430     | 3,382,326      | 3,382,326      |
| 3,381,778      | 3,381,706     | 3,382,328     | 3,381,439     | 3,382,330      | 3,382,330      |
| 3,381,900      | 3,381,713     | 3,382,342     | 3,381,469     | 3,382,332      | 3,382,332      |
| 3,381,953      | 3,381,724     | 3,382,343     | 3,381,481     | 3,382,339      | 3,382,339      |
| 3,382,059      | 3,381,737     | 3,382,379     | 3,381,496     | 3,382,371      | 3,382,371      |
| 3,382,433      | 3,381,739     | 3,382,392     | 3,381,540     | 3,382,393      | 3,382,393      |
| 3,382,434      | 3,381,754     | 3,382,400     | 3,382,436     | 3,382,436      | 3,382,436      |
| 2 : Re. 26,387 | 3,381,796     | 3,382,403     | 3,381,561     | 3,382,470      | 3,382,470      |
| 4 : 3,381,424  | 3,381,807     | 3,382,414     | 3,381,561     | 3,382,489      | 3,382,489      |
| 3,381,604      | 3,381,811     | 3,382,417     | 3,381,576     | 3,382,522      | 3,382,522      |
| 3,381,678      | 3,381,813     | 3,382,419     | 3,382,051     | 3,381,488      | 3,381,488      |
| 3,381,846      | 3,381,819     | 3,382,423     | 3,382,062     | 3,381,613      | 3,381,613      |
| 3,382,401      | 3,381,822     | 3,382,428     | 3,382,080     | 3,381,726      | 3,381,726      |
| 5 : 3,381,823  | 3,381,838     | 3,382,435     | 3,382,149     | 3,381,738      | 3,381,738      |
| 3,382,358      | 3,381,847     | 3,382,440     | 3,382,181     | 3,381,914      | 3,381,914      |
| 6 : Re. 26,386 | 3,381,859     | 3,382,451     | 3,381,433     | 3,381,926      | 3,381,926      |
| Re. 26,388     | 3,381,883     | 3,382,452     | 3,381,680     | 3,381,984      | 3,381,984      |
| 3,381,303      | 3,381,896     | 3,382,453     | 3,381,763     | 3,381,997      | 3,381,997      |
| 3,381,316      | 3,381,898     | 3,382,461     | 3,381,774     | 3,382,043      | 3,382,043      |
| 3,381,318      | 3,381,899     | 3,382,474     | 3,381,795     | 3,382,066      | 3,382,066      |
| 3,381,325      | 3,381,902     | 3,382,478     | 3,381,758     | 3,382,091      | 3,382,091      |
| 3,381,330      | 3,381,909     | 3,382,492     | 3,381,835     | 3,382,098      | 3,382,098      |
| 3,381,332      | 3,381,913     | 3,382,495     | 3,381,870     | 3,382,110      | 3,382,110      |
| 3,381,333      | 3,381,919     | 3,382,501     | 3,381,944     | 3,382,197      | 3,382,197      |
| 3,381,339      | 3,381,924     | 3,381,395     | 3,382,131     | 3,382,227      | 3,382,227      |
| 3,381,376      | 3,381,930     | 3,381,655     | 3,382,316     | 3,382,241      | 3,382,241      |
| 3,381,378      | 3,381,932     | 3,381,701     | 3,382,381     | 3,382,355      | 3,382,355      |
| 3,381,379      | 3,381,940     | 3,381,714     | 3,381,452     | 3,382,431      | 3,382,431      |
| 3,381,382      | 3,381,959     | 3,381,815     | 3,381,593     | 3,382,442      | 3,382,442      |
| 3,381,384      | 3,381,963     | 3,381,841     | 3,381,666     | 3,382,473      | 3,382,473      |
| 3,381,396      | 3,381,965     | 3,381,861     | 3,381,816     | 3,381,905      | 3,381,905      |
| 3,381,420      | 3,381,968     | 3,381,910     | 3,381,956     | 3,381,937      | 3,381,937      |
| 3,381,459      | 3,381,975     | 3,382,366     | 3,382,035     | 3,381,943      | 3,381,943      |
| 3,381,478      | 3,381,978     | 3,381,264     | 3,382,101     | 3,381,964      | 3,381,964      |
| 3,381,495      | 3,381,982     | 3,381,365     | 3,382,425     | 3,381,966      | 3,381,966      |
| 3,381,503      | 3,381,983     | 3,381,366     | 3,382,013     | 3,381,980      | 3,381,980      |
| 3,381,551      | 3,381,992     | 3,381,372     | 3,382,610     | 3,382,124      | 3,382,124      |
| 3,381,579      | 3,381,998     | 3,381,373     | 3,381,727     | 3,382,351      | 3,382,351      |
| 3,381,584      | 3,382,000     | 3,381,432     | 3,381,806     | 3,382,065      | 3,382,065      |
| 3,381,622      | 3,382,014     | 3,381,445     | 3,382,119     | 3,382,084      | 3,382,084      |
| 3,381,623      | 3,382,048     | 3,381,473     | 3,382,311     | 3,382,176      | 3,382,176      |
| 3,381,632      | 3,382,056     | 3,381,482     | 3,381,329     | 3,382,147      | 3,382,147      |
| 3,381,644      | 3,382,115     | 3,381,502     | 3,381,347     | 3,381,962      | 3,381,962      |
| 3,381,647      | 3,382,121     | 3,381,568     | 3,381,358     | 3,382,027      | 3,382,027      |
| 3,381,654      | 3,382,153     | 3,381,717     | 3,381,386     | 3,381,331      | 3,381,331      |
| 3,381,673      | 3,382,172     | 3,381,853     | 3,381,387     | 3,381,389      | 3,381,389      |

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|    | 3,381,600 |    | 3,381,945 |    | 3,382,058  |    | 3,381,966 |    | 3,381,933 |    | 3,382,329 |
|    | 3,381,620 |    | 3,381,954 |    | 3,382,061  |    | 3,381,993 |    | 3,381,936 |    | 3,382,352 |
|    | 3,381,637 |    | 3,381,960 |    | 3,382,063  |    | 3,382,009 |    | 3,381,947 |    | 3,382,356 |
|    | 3,381,679 |    | 3,381,987 |    | 3,382,069  |    | 3,382,019 |    | 3,381,949 |    | 3,382,368 |
|    | 3,381,973 |    | 3,381,988 |    | 3,382,072  |    | 3,382,025 |    | 3,381,957 |    | 3,382,373 |
|    | 3,382,044 |    | 3,381,990 |    | 3,382,078  |    | 3,382,047 |    | 3,381,977 |    | 3,382,384 |
|    | 3,382,045 |    | 3,382,095 |    | 3,382,104  |    | 3,382,068 |    | 3,382,005 |    | 3,382,388 |
|    | 3,382,118 |    | 3,382,159 |    | 3,382,135  |    | 3,382,070 |    | 3,382,006 |    | 3,382,411 |
|    | 3,382,123 |    | 3,382,171 |    | 3,382,136  |    | 3,382,075 |    | 3,382,007 |    | 3,382,412 |
|    | 3,382,395 |    | 3,382,175 |    | 3,382,139  |    | 3,382,076 |    | 3,382,042 |    | 3,382,469 |
| 22 | 3,381,343 |    | 3,382,182 |    | 3,382,155  |    | 3,382,079 |    | 3,382,064 |    | 3,382,477 |
|    | 3,381,465 |    | 3,382,196 |    | 3,382,169  |    | 3,382,083 |    | 3,382,081 |    | 3,382,494 |
|    | 3,381,484 |    | 3,382,230 |    | 3,382,180  |    | 3,382,089 | 44 | 3,382,093 |    | 3,381,346 |
|    | 3,381,534 |    | 3,382,244 |    | 3,382,199  |    | 3,382,102 |    | 3,382,120 |    | 3,381,720 |
|    | 3,381,760 |    | 3,382,247 |    | 3,382,200  |    | 3,382,109 |    | 3,382,125 |    | 3,382,302 |
|    | 3,382,029 |    | 3,382,248 |    | 3,382,202  |    | 3,382,132 |    | 3,382,129 | 45 | 3,381,341 |
|    | 3,382,030 |    | 3,382,333 |    | 3,382,210  |    | 3,382,134 |    | 3,382,137 |    | 3,381,768 |
|    | 3,382,265 |    | 3,382,336 |    | 3,382,215  |    | 3,382,152 |    | 3,382,141 |    | 3,382,138 |
| 24 | 3,381,514 |    | 3,382,398 |    | 3,382,226  |    | 3,382,158 |    | 3,382,165 | 46 | 3,381,635 |
|    | 3,381,517 |    | 3,382,410 |    | 3,382,238  |    | 3,382,161 |    | 3,382,167 | 47 | 3,381,522 |
|    | 3,381,517 |    | 3,382,421 |    | 3,382,242  |    | 3,382,184 |    | 3,382,191 |    | 3,381,697 |
|    | 3,381,675 |    | 3,382,497 |    | 3,382,245  |    | 3,382,187 |    | 3,382,206 |    | 3,381,951 |
|    | 3,381,767 | 27 | 3,381,448 |    | 3,382,253  |    | 3,382,189 |    | 3,382,295 |    | 3,381,974 |
|    | 3,381,771 |    | 3,381,498 |    | 3,382,255  |    | 3,382,204 |    | 3,382,301 |    | 3,382,034 |
|    | 3,381,923 |    | 3,381,564 |    | 3,382,258  |    | 3,382,205 |    | 3,382,357 |    | 3,382,272 |
|    | 3,382,038 |    | 3,381,596 |    | 3,382,260  |    | 3,382,209 |    | 3,382,382 |    | 3,382,296 |
|    | 3,382,082 |    | 3,381,820 |    | 3,382,277  |    | 3,382,228 |    | 3,382,383 |    | 3,382,359 |
|    | 3,382,107 |    | 3,381,907 |    | 3,382,282  |    | 3,382,249 |    | 3,382,407 | 48 | 3,381,327 |
|    | 3,382,236 |    | 3,382,126 |    | 3,382,286  |    | 3,382,256 |    | 3,382,450 |    | 3,381,393 |
|    | 3,382,406 |    | 3,382,252 |    | 3,382,291  |    | 3,382,273 |    | 3,382,456 |    | 3,381,456 |
|    | 3,382,467 |    | 3,382,261 |    | 3,382,293  |    | 3,382,303 | 40 | 3,381,880 |    | 3,381,492 |
|    | 3,382,480 |    | 3,382,285 |    | 3,382,299  |    | 3,382,315 |    | 3,382,179 |    | 3,381,493 |
| 25 | 3,381,312 |    | 3,382,405 |    | 3,382,309  |    | 3,382,318 |    | 3,382,220 |    | 3,381,523 |
|    | 3,381,319 |    | 3,382,448 |    | 3,382,313  |    | 3,382,338 |    | 3,382,224 |    | 3,381,527 |
|    | 3,381,323 |    | 3,382,457 |    | 3,382,334  |    | 3,382,347 |    | 3,382,225 |    | 3,381,532 |
|    | 3,381,324 |    | 3,382,491 |    | 3,382,345  |    | 3,382,348 |    | 3,382,229 |    | 3,381,536 |
|    | 3,381,336 | 29 | 3,381,451 |    | 3,382,375  |    | 3,382,349 |    | 3,382,269 |    | 3,381,671 |
|    | 3,381,345 |    | 3,381,352 |    | 3,382,377  |    | 3,382,353 |    | 3,382,380 |    | 3,381,708 |
|    | 3,381,371 |    | 3,381,414 |    | 3,382,399  |    | 3,382,360 | 41 | 3,381,663 |    | 3,381,718 |
|    | 3,381,401 |    | 3,381,510 |    | 3,382,408  |    | 3,382,361 |    | 3,381,747 |    | 3,381,748 |
|    | 3,381,416 |    | 3,381,538 |    | 3,382,424  |    | 3,382,367 |    | 3,382,462 |    | 3,381,749 |
|    | 3,381,474 |    | 3,381,554 |    | 3,382,429  |    | 3,382,378 | 42 | 3,381,340 |    | 3,381,750 |
|    | 3,381,507 |    | 3,381,574 |    | 3,382,430  |    | 3,382,387 |    | 3,381,349 |    | 3,381,751 |
|    | 3,381,518 |    | 3,381,594 |    | 3,382,444  |    | 3,382,402 |    | 3,381,404 |    | 3,381,752 |
|    | 3,381,557 |    | 3,381,630 |    | 3,382,445  |    | 3,382,404 |    | 3,381,441 |    | 3,381,753 |
|    | 3,381,571 |    | 3,381,667 |    | 3,382,455  |    | 3,382,416 |    | 3,381,486 |    | 3,381,756 |
|    | 3,381,575 |    | 3,381,683 |    | 3,382,471  |    | 3,382,420 |    | 3,381,490 |    | 3,381,766 |
|    | 3,381,660 |    | 3,381,775 |    | 3,382,472  |    | 3,382,438 |    | 3,381,499 |    | 3,381,780 |
|    | 3,381,684 |    | 3,381,858 |    | 3,382,483  |    | 3,382,458 |    | 3,381,500 |    | 3,381,894 |
|    | 3,381,698 |    | 3,381,865 |    | 3,382,490  |    | 3,382,476 |    | 3,381,501 |    | 3,381,939 |
|    | 3,381,721 |    | 3,381,876 | 35 | 3,381,893  |    | 3,382,482 |    | 3,381,524 |    | 3,381,970 |
|    | 3,381,789 |    | 3,381,971 |    | 3,382,008  |    | 3,382,484 |    | 3,381,525 |    | 3,381,976 |
|    | 3,381,837 |    | 3,381,994 | 36 | Re. 26,385 |    | 3,382,485 |    | 3,381,535 |    | 3,381,979 |
|    | 3,381,867 |    | 3,382,021 |    | 3,381,309  |    | 3,382,487 |    | 3,381,544 |    | 3,382,024 |
|    | 3,381,897 |    | 3,382,060 |    | 3,381,310  |    | 3,382,500 | 37 | 3,381,559 |    | 3,382,105 |
|    | 3,381,903 |    | 3,382,142 |    | 3,381,314  |    | 3,381,582 |    | 3,381,582 |    | 3,382,122 |
|    | 3,382,052 |    | 3,382,145 |    | 3,381,315  |    | 3,381,690 |    | 3,381,599 |    | 3,382,270 |
|    | 3,382,054 |    | 3,382,164 |    | 3,381,321  |    | 3,381,691 |    | 3,381,638 |    | 3,382,284 |
|    | 3,382,057 |    | 3,382,178 |    | 3,381,321  |    | 3,381,711 |    | 3,381,686 |    | 3,382,289 |
|    | 3,382,073 | 30 | 3,381,804 |    | 3,381,334  |    | 3,381,711 |    | 3,381,702 |    | 3,382,290 |
|    | 3,382,103 |    | 3,381,529 |    | 3,381,338  |    | 3,381,869 |    | 3,381,704 |    | 3,382,363 |
|    | 3,382,116 | 31 | 3,381,769 |    | 3,381,356  |    | 3,381,942 |    | 3,381,709 |    | 3,382,437 |
|    | 3,382,127 |    | 3,381,810 |    | 3,381,360  |    | 3,382,001 |    | 3,381,724 |    | 3,382,481 |
|    | 3,382,133 |    | 3,381,694 |    | 3,381,367  |    | 3,382,305 |    | 3,381,730 |    | 3,382,481 |
|    | 3,382,157 | 32 | 3,381,657 |    | 3,381,370  |    | 3,381,400 | 38 | 3,381,731 | 49 | 3,381,617 |
|    | 3,382,183 |    | 3,382,335 |    | 3,381,381  |    | 3,381,802 |    | 3,381,743 |    | 3,381,972 |
|    | 3,382,207 | 33 | 3,382,415 |    | 3,381,392  |    | 3,381,999 |    | 3,381,744 | 51 | 3,381,374 |
|    | 3,382,213 |    | 3,382,447 |    | 3,381,397  |    | 3,381,413 |    | 3,381,746 |    | 3,381,390 |
|    | 3,382,214 |    | 3,382,465 |    | 3,381,413  |    | 3,381,426 |    | 3,381,797 |    | 3,381,398 |
|    | 3,382,217 |    | 3,381,320 |    | 3,381,426  |    | 3,381,429 |    | 3,381,836 |    | 3,381,487 |
|    | 3,382,327 | 34 | 3,381,359 |    | 3,381,431  |    | 3,381,432 |    | 3,381,852 |    | 3,381,489 |
|    | 3,382,341 |    | 3,381,369 |    | 3,381,437  |    | 3,381,442 |    | 3,381,874 |    | 3,381,489 |
|    | 3,382,374 |    | 3,381,391 |    | 3,381,477  |    | 3,381,444 |    | 3,381,895 |    | 3,381,491 |
|    | 3,382,427 |    | 3,381,415 |    | 3,381,477  |    | 3,381,455 |    | 3,381,906 |    | 3,381,506 |
|    | 3,382,441 |    | 3,381,446 |    | 3,381,528  |    | 3,381,462 |    | 3,381,916 |    | 3,381,533 |
|    | 3,382,443 |    | 3,381,470 |    | 3,381,566  |    | 3,381,418 |    | 3,381,931 |    | 3,381,569 |
|    | 3,382,460 |    | 3,381,530 |    | 3,381,572  |    | 3,381,438 |    | 3,381,941 |    | 3,381,692 |
|    | 3,382,463 |    | 3,381,562 |    | 3,381,573  |    | 3,381,440 |    | 3,381,946 |    | 3,381,745 |
|    | 3,382,479 |    | 3,381,565 |    | 3,381,577  |    | 3,381,443 |    | 3,381,948 |    | 3,381,952 |
| 26 | 3,381,305 |    | 3,381,606 |    | 3,381,578  |    | 3,381,444 |    | 3,381,969 |    | 3,382,017 |
|    | 3,381,354 |    | 3,381,634 |    | 3,381,611  |    | 3,381,447 |    | 3,381,996 |    | 3,382,086 |
|    | 3,381,363 |    | 3,381,641 |    | 3,381,616  |    | 3,381,449 |    | 3,382,016 |    | 3,382,100 |
|    | 3,381,385 |    | 3,381,643 |    | 3,381,618  |    | 3,381,485 |    | 3,382,023 |    | 3,382,144 |
|    | 3,381,411 |    | 3,381,645 |    | 3,381,656  |    | 3,381,497 |    | 3,382,049 |    | 3,382,426 |
|    | 3,381,421 |    | 3,381,658 |    | 3,381,669  |    | 3,381,513 |    | 3,382,087 |    | 3,382,459 |
|    | 3,381,435 |    | 3,381,665 |    | 3,381,681  |    | 3,381,526 |    | 3,382,090 |    | 3,381,307 |
|    | 3,381,494 |    | 3,381,689 |    | 3,381,687  |    | 3,381,553 |    | 3,382,094 | 53 | 3,381,427 |
|    | 3,381,515 |    | 3,381,705 |    | 3,381,728  |    | 3,381,607 |    | 3,382,096 |    | 3,381,442 |
|    | 3,381,521 |    | 3,381,762 |    | 3,381,781  |    | 3,381,624 |    | 3,382,097 |    | 3,381,595 |
|    | 3,381,539 |    | 3,381,843 |    | 3,381,782  |    | 3,381,629 |    | 3,382,111 |    | 3,381,609 |
|    | 3,381,550 |    | 3,381,863 |    | 3,381,784  |    | 3,381,653 |    | 3,382,150 |    | 3,381,646 |
|    | 3,381,588 |    | 3,381,871 |    | 3,381,785  |    | 3,381,662 |    | 3,382,156 |    | 3,381,850 |
|    | 3,381,591 |    | 3,381,877 |    | 3,381,787  |    | 3,381,670 |    | 3,382,185 |    | 3,381,921 |
|    | 3,381,626 |    | 3,381,881 |    | 3,381,791  |    | 3,381,710 |    | 3,382,186 |    | 3,382,015 |
|    | 3,381,649 |    | 3,381,891 |    | 3,381,808  |    | 3,381,740 |    | 3,382,188 |    | 3,382,140 |
|    | 3,381,651 |    | 3,381,928 |    | 3,381,812  |    | 3,381,741 |    | 3,382,198 |    | 3,382,493 |
|    | 3,381,674 |    | 3,381,989 |    | 3,381,814  |    | 3,381,742 |    | 3,382,211 | 54 | 3,381,380 |
|    | 3,381,695 |    | 3,382,010 |    | 3,381,827  |    | 3,381,757 |    | 3,382,212 |    | 3,381,407 |
|    | 3,381,735 |    | 3,382,020 |    | 3,381,834  |    | 3,381,776 |    | 3,382,237 |    | 3,381,857 |
|    | 3,381,765 |    | 3,382,022 |    | 3,381,844  |    | 3,381,798 |    | 3,382,243 |    | 3,381,961 |
|    | 3,381,783 |    | 3,382,037 |    | 3,381,882  |    | 3,381,817 |    | 3,382,257 |    | 3,382,219 |
|    | 3,381,786 |    | 3,382,039 |    | 3,381,912  |    | 3,381,818 |    | 3,382,271 |    | 3,382,263 |
|    | 3,381,792 |    | 3,382,050 |    | 3,381,917  |    | 3,381,829 |    | 3,382,278 | 55 | 3,381,357 |
|    | 3,381,793 |    | 3,382,053 |    | 3,381,925  |    | 3,381,848 |    | 3,382,288 |    | 3,381,383 |
|    | 3,381,828 |    |           |    | 3,381,929  |    | 3,381,851 |    | 3,382,294 |    | 3,381,419 |
|    | 3,381,915 |    |           |    |            |    | 3,381,866 |    | 3,382,306 |    | 3,381,460 |



|                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| 55 : 3,381,545 | 55 : 3,381,636 | 55 : 3,381,759 | 55 : 3,381,885 | 55 : 3,382,031 | 55 : 3,382,267 |
| 3,381,585      | 3,381,676      | 3,381,764      | 3,381,920      | 3,382,032      | 3,382,304      |
| 3,381,603      | 3,381,733      | 3,381,833      | 3,382,002      | 3,382,143      | 3,382,422      |

## Design Patents

|              |              |              |              |              |              |
|--------------|--------------|--------------|--------------|--------------|--------------|
| 5 : 210,932  | 13 : 210,976 | 20 : 210,937 | 36 : 210,930 | 36 : 210,984 | 42 : 210,979 |
| 6 : 210,929  | 17 : 210,928 | 25 : 210,942 | 210,948      | 39 : 210,981 | 210,980      |
| 210,931      | 210,968      | 210,985      | 210,949      | 210,990      | 210,953      |
| 210,934      | 18 : 210,926 | 26 : 210,973 | 210,950      | 41 : 210,939 | 210,988      |
| 210,940      | 210,960      | 27 : 210,938 | 210,951      | 42 : 210,927 | 210,945      |
| 210,947      | 210,961      | 34 : 210,944 | 210,956      | 210,936      | 210,969      |
| 210,957      | 210,962      | 210,965      | 210,972      | 210,967      | 210,970      |
| 210,986      | 210,963      | 210,977      | 210,978      | 210,974      | 210,971      |
| 210,989      | 210,964      | 210,987      | 210,982      | 210,975      | 210,966      |
| 12 : 210,933 | 19 : 210,959 |              |              |              |              |

# U.S. DEPARTMENT OF COMMERCE

## OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

May 7, 1968

Volume 850

Number 1

## TRADEMARKS

### NOTICES

## Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

**Reg. No. 100,494** (DE LUXE), Sturm and Scheinberg, Arm bands, garters; **Reg. No. 344,719**, same, Ladies' sanitary belts and men's athletic supports; **Reg. No. 773,225**, same, Ladies' and men's garters, boys' and men's suspenders, head bands, shoulder straps for brassieres and slips, components for the repair of girdles and brassieres; **filed Feb. 13, 1968**, D.C., S.D.N.Y., Doc. 68-C-604, *De Luxe Girdlecraft Co., Inc. et al. v. Edco Surgical Supply Co., Inc.*

**Reg. No. 186,822** (WESTON), Weston Electrical Instrument Company, Electrical measuring instruments; **Reg. No. 626,126**, same, Sensitive relays and electrical switch equipment controlled by relays, light sensitive cells, and transformers; **Reg. No. 626,181**, same, Electrical apparatus for testing electron tubes, bimetallic thermometers, light measuring instruments, photographic analysers, electronic amplifiers and controllers,

standard cells, electrical circuit analysers, tachometers and tachometer generators and resistor units; **Reg. No. 778,744** (WESTON AND DESIGN), Daystrom, Inc., Electrical measuring and indicating instruments; electronic counter and timer instruments; instruments and apparatus for determining humidity and the moisture content of materials; thermometers; light-measuring instruments; standard cells; electrical circuit analysers; tachometers, tachometer generators, A.C., D.C. and frequency generators, electrical resistors and potentiometers; electrical apparatus for testing radio and television equipment; and instrument calibrators; **Reg. No. 795,063** (WESTON), Weston Instruments, Inc., Electrical relays, meter relays, electrical switch controlled by relays, light sensitive cells, transformers; electronic amplifiers and controllers; and electrolysis instruments; **Reg. No. 795,170**, same; **Reg. No. 649,664** (WESTON MASTER III), same, Photographic exposure meters; **Reg. No. 835,301** (MASTER V), same, **filed Nov. 6, 1967**, D.C., S.D.N.Y., Doc. 67-C-4347, *Weston Instruments, Inc. v. 47th Street Photo Inc.*

## CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 29, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 17,790  
 Date of oldest new application..... Apr. 4, 1967  
 Date of oldest amended application (filing date)..... Oct. 11, 1963

| C. M. WENDT, Director, Trademark Examining Operation  |  | Oldest Application |          |
|---|--|--------------------|----------|
| TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION  |  | New                | Amended  |
| (I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B..... |  | 4-10-67            | 10-20-65 |
| (II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....                                    |  | 4-25-67            | 10-11-63 |
| (III) P. S. HALL, Classes 19, 21, 23, 26, 31, 34, 35, 36.....   |  | 4-4-67             | 6-30-65  |
| (IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....    |  | 4-5-67             | 1-5-65   |
| Renewals (All Classes).....   |  | 1-29-68            | .....    |
| Sec. 12(c) Publications (All Classes).....  |  | 2-5-68             | .....    |

## For the Quarter January 1, 1968 through March 31, 1968

Applications Filed ..... 7,152  
 Registrations Issued..... 5,416  
 Renewals Issued..... 840  
 Cancellations under Section 8..... 1,238

Applications filed during the month of February 1968—2,340

Registrations Issued ..... 406—No. 848,423 to No. 848,828  
 Renewals Issued ..... 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.



Reg. No. 544,719. (See Reg. No. 169,494.)

Reg. No. 571,798 (ROQUEFORT), The Community of Roquefort, Cheese, filed Jan. 17, 1968, D.C., N.D. Calif. (San Francisco), Doc. 48541, *The Community of Roquefort et al. v. The Pleasanton Hotel*.

Reg. No. 579,709 (JABON DE PATCHULI AND DESIGN), Nidia Botanical Garden, Soap, filed Jan. 5, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65-C-3, *Albert Amateau et ano v. Emanuel Davis*. Order filed for Injunction, Jan. 25, 1968.

Reg. No. 592,331 (MANPOWER), Manpower, Inc., Furnishing of its employees on a contract basis to persons or places of business requiring part-time or temporary help, including stenographers, typists, office and factory workers, salespeople, clerks, car unloaders, warehousemen, kitchen and laundry workers, general laborers and other; Reg. No. 672,305, same, Business service—namely, furnishing of its employees on a contract basis to persons or places of business requiring part-time or temporary help, including stenographers, typists,

office and factory workers, salespeople, clerks, car unloaders, warehousemen, kitchen and laundry workers, general laborers and others; Reg. No. 749,437, same, Newsletter, filed Feb. 13, 1968, D.C., W.D. Tex. (San Antonio), Doc. C68-24-SA, *Manpower, Inc. v. Manpower Vocational Training, Inc., Industrial Skills, Inc. et al.*

Reg. No. 626,126. (See Reg. No. 186,822.)

Reg. No. 626,181. (See Reg. No. 186,822.)

Reg. No. 649,684. (See Reg. No. 186,822.)

Reg. No. 672,305. (See Reg. No. 592,331.)

Reg. No. 749,437. (See Reg. No. 592,331.)

Reg. No. 773,225. (See Reg. No. 169,494.)

Reg. No. 778,744. (See Reg. No. 186,822.)

Reg. No. 795,063. (See Reg. No. 186,822.)

Reg. No. 795,170. (See Reg. No. 186,822.)

Reg. No. 833,301. (See Reg. No. 186,822.)

## MARKS PUBLISHED FOR OPPOSITION

### SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 204,340. SABA Schwarzwälder Apparate-Bau-Anstalt August Schwer Sohne G.m.b.H., Villingen, Black Forest, Germany. Filed Oct. 20, 1964.



The drawing is lined for the color blue. Owner of German Reg. No. 688,119, dated Mar. 1, 1956; and U.S. Reg. Nos. 593,849 and 612,501.

#### Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Transmitters and Receivers, Television Sets, Radio Receivers, Transmitters, Amplifiers for High- and Low-Frequencies, Combination Loudspeakers, Microphones, Head Phones, Condensers, Telephone Sets, as Well as Parts Thereof; Inductors; Cord Drives for Indicating Devices—Namely, Frequency or Channel Selector Scales of Radio-Television Sets, Box-Radios, Insulations for Conduits, and Cables (Int. Cl. 9).

#### Class 26—Measuring and Scientific Appliances

For Radar Receivers and Transmitters, as Well as Parts Thereof; and Radio Direction Finders (Int. Cl. 9).

#### Class 36—Musical Instruments and Supplies

For Wire and Magnetic Tape Recorders (Int. Cl. 9).

SN 242,550. Barton Corporation, Towanda, Ill. Filed Apr. 4, 1966.

**BARTON**

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Road Construction Machinery—Namely, Concrete Curing Machines, Spray Devices, Saws, Pin Pullers, Form Trucks, and Saw Blades (Int. Cl. 7).

#### Class 34—Heating, Lighting, and Ventilating Apparatus

For Road Construction Machinery—Namely, Portable Heating Kettles (Int. Cl. 11).

First use May 1955.

SN 243,614. Warner Electric Company, Inc., Chicago, Ill. Filed Apr. 18, 1966.

**WARNER**

#### Class 4—Abrasives and Polishing Materials

For Metal Polishing Compounds (Int. Cl. 3).  
First use at least as early as 1938.

#### Class 6—Chemicals and Chemical Compositions

For Electroplating Solutions (Int. Cl. 1).  
First use at least as early as 1938.

#### Class 21—Electrical Apparatus, Machines, and Supplies

For Electroplating and Metallizing Equipment (Int. Cl. 9).  
First use at least as early as 1938.

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Rubber Stamp Vulcanizing Presses and Plastic Laminating Presses (Int. Cl. 7).  
First use 1949.

SN 245,364. The Frank Lloyd Wright Foundation, Scottsdale, Ariz. Filed May 10, 1966.

**TALIESIN**

#### Class 100—Miscellaneous

For Advice and Consultation Services in the Architectural Field, and Preparation of Architectural and Artistic Designs (Int. Cl. 42).

First use on or before Dec. 31, 1911.

#### Class 107—Education and Entertainment

For Educational Services—Namely, Instruction in Architecture, and Preparation of Musical and Dance Compositions (Int. Cl. 41).

First use on or before Oct. 25, 1932.

SN 257,734. Bruhn & Company, Inc., Indianapolis, Ind. Filed Nov. 2, 1966.



#### Class 4—Abrasives and Polishing Materials

For Polish and Cleaner for Floors, Walls, Woodwork, and the Like (Int. Cl. 3).  
First use at least as early as July 1939.

#### Class 6—Chemicals and Chemical Compositions

For Disinfectants, Deodorants, Insecticides, Weed Killers, and Enzyme Mixtures for Sewage Treatment (Int. Cl. 5).  
First use at least as early as June 1960.

#### Class 15—Oils and Greases

For Mold Release Agents for Plastic Foams and Resins (Int. Cl. 1).  
First use at least as early as July 1957.

#### Class 16—Protective and Decorative Coatings

For Permanent Seal and Finish for Terrazzo and Mosaic Floors (Int. Cl. 2).  
First use at least as early as September 1956.

#### Class 52—Detergents and Soaps

For Cleaning Compounds for Walls, Floors, Woodwork, Toilet Bowls, Urinals, and the Like (Int. Cl. 3).  
First use at least as early as October 1935.



SN 259,045. Gesellschaft fur Internationale Patent-Verwertung m.b.H., Frankfurt am Main, Germany. Filed Nov. 21, 1966.

## GESIPA

Owner of German Reg. No. 759,795, dated Oct. 1, 1960.

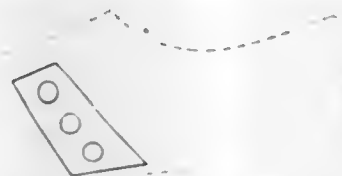
### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Rivets (Int. Cl. 6).

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Riveting Machines (Int. Cl. 7).

SN 260,158. A. R. Hyde & Sons Company, Cambridge, Mass. Filed Dec. 6, 1966.



The mark consists of three holes formed in a strip of material stitched or otherwise attached to the vamp of the shoe extending upwardly from the instep towards the top center of the vamp with the strips being stitched on either or both sides of the shoe.

### Class 22—Games, Toys, and Sporting Goods

For Athletic Shoes, and More Particularly Shoes of the Following Types: Football, Baseball, Track, Bowling, Boxing, Skating, Wrestling, Golf, Soccer, Softball, Bicycle, and Sculling Crew (Int. Cl. 25).

### Class 39—Clothing

For Athletic Shoes, and More Particularly Shoes of the Following Types: Basketball, Gym, Handball, Sneakers, and Tennis (Int. Cl. 25).

First use at least as early as September 1957.

SN 261,345. Herter's Inc., Waseca, Minn. Filed Dec. 23, 1966.

## HUDSON BAY

Owner of Reg. Nos. 714,396 and 719,746.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Ice Augers (Int. Cl. 8).

### Class 32—Furniture and Upholstery

For Furniture Comprising Wooden Chests With Drawers and Tables (Int. Cl. 20).

### Class 34—Heating, Lighting, and Ventilating Apparatus

For Kerosene Lamps (Gaseous Conduction) (Int. Cl. 11).

### Class 46—Foods and Ingredients of Foods

For Malt Extract and Essence in Syrupy State, and Prepared Pancake Mix in Sealed Containers (Int. Cls. 30 and 31). First use July 1, 1965.

SN 263,132. Vik Supplies Limited, Stafford, England. Filed Jan. 23, 1967.

## VIK

Owner of British Reg. Nos. B686,700, dated Feb. 24, 1950, and B902,109, dated Nov. 25, 1966.

### Class 1—Raw or Partly Prepared Materials

For Resins, Plastics, and Stiffening Materials in Sheet Form for Use in the Boot and Shoe Industry (Int. Cl. 1).

### Class 5—Adhesives

For Adhesives for Use in Connection With the Boot, Shoe, and Leather Industries (Int. Cl. 1).

SN 263,537. The Cincinnati Milling Machine Co., Cincinnati, Ohio. Filed Jan. 30, 1967.



The drawing is lined for the color red, but no claim is made to color.

### Class 21—Electrical Apparatus, Machines, and Supplies

For Readout Instrument To Indicate Position of a Machine Tool Slide Member (Int. Cl. 9).

First use prior to December 1964.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hydraulic Motors for Machine Tools, Hydraulic Tracers for Machine Tools, and Valves for Machine Tools (Int. Cl. 7). First use prior to May 1959.

### Class 26—Measuring and Scientific Appliances

For Pneumatic Gages and Equipment To Convert Numerical Input Data Into Signals for the Actuation of Mechanisms (Int. Cl. 9).

First use prior to September 1961.

SN 264,128. General Refractories Company, Philadelphia, Pa. Filed Feb. 7, 1967.



Owner of Reg. No. 714,048.

### Class 100—Miscellaneous

For Problem Consultation Services Rendered to the Refractories Industry in the Fields of Design, Construction, Material Formulation, Maintenance and Repair (Int. Cl. 42).

### Class 103—Construction and Repair

For General Repair and Maintenance Service for the Refractories Industry (Int. Cl. 37).

First use Nov. 30, 1966.

SN 266,708. John H. Breck, Inc., Springfield, Mass. Filed Mar. 15, 1967.

## BEAUTIFUL HAIR BRECK

Applicant disclaims the term "Beautiful Hair" separate and apart from the mark as shown, reserving unto itself all common law rights now existing or hereinafter arising in the said term. Owner of Reg. Nos. 529,328, 574,403, and others.

### Class 18—Medicines and Pharmaceutical Preparations

For Dandruff Treatment Preparations (Int. Cl. 5). First use October 1957.

### Class 51—Cosmetics and Toilet Preparations

For Hair and Scalp Products—Namely, Cream Rinses, Conditioners, and Preparations for Hair Dressing, Hair Setting, Hair Spraying, Hair Coloring, and Hair Waving (Int. Cl. 3). First use April 1949.

### Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3). First use May 1931.

SN 267,482. Ashland Oil & Refining Company, Ashland, Ky. Filed Mar. 24, 1967.



The vertical shading represents the color red, the horizontal shading represents the color blue, and the cross-hatched shading represents a combination of the blue superimposed on the red. Owner of Reg. Nos. 700,385, 820,565, and others.

### Class 6—Chemicals and Chemical Compositions

For Rust and Corrosion Inhibitors, and Radiator Antifreeze (Int. Cls. 2 and 1).

### Class 15—Oils and Greases

For Motor and Industrial Greases, Transmission Fluids, and Liquid and Gaseous Fuels (Int. Cls. 4 and 1).

First use at least as early as Apr. 10, 1963.

SN 268,842. Radiator Specialty Company, Charlotte, N.C. Filed Apr. 11, 1967.



### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Compass Saw Handles; Compass Saw Blades; Hack Saw Frame; Hack Saw Blades; Augers; Hammers and Hatchets; Brick Chisels; and Wrecking Bars (Int. Cl. 8).

### Class 26—Measuring and Scientific Appliances

For Levels and Steel Measuring Tapes (Int. Cl. 9). First use at least as early as 1946.

SN 270,414. The Quiltex Co., Inc., New York, N.Y. Filed May 1, 1967.

## DOWNLON

### Class 32—Furniture and Upholstery

For Baby Pillows (Int. Cl. 20).

### Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Blankets (Int. Cl. 24).

First use Apr. 5, 1967.

SN 272,237. United Aircraft Corporation, East Hartford, Conn. Filed May 24, 1967.



### Class 19—Vehicles

For Aircraft Propellers and Accessories Therefor and Parts Thereof, Air Conditioning Systems for Aircraft and Space Craft and Parts Thereof, Air-Cycle Refrigeration Units for Aircraft and Space Craft and Parts Thereof (Int. Cls. 11 and 12).

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Air Inlet Controls for Aircraft Engines and Parts Thereof, Fuel Controls for Gas Turbine Engines and Parts Thereof, and Starters for Gas Turbine Engines and Parts Thereof (Int. Cl. 7).

First use as early as Dec. 5, 1963.

SN 275,340. The Pollak Steel Company, Evendale, Cincinnati, Ohio. Filed July 5, 1967.

## POSCO

### Class 12—Construction Materials

For Metal Reinforcing Rod for Reinforcing Concrete (Int. Cl. 6).

### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Metal Sign Posts and Fence Posts (Int. Cl. 6).

First use Apr. 18, 1919.

SN 280,127. Textron Inc., Providence, R.I. Filed Sept. 12, 1967.

## HOMELITE

Owner of Reg. Nos. 151,508, 770,727, and others.

### Class 2—Receptacles

For Portable Fuel Containers (Int. Cl. 6). First use Dec. 9, 1957.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Files (Int. Cl. 8). First use at least as early as May 10, 1966.

### Class 39—Clothing

For Protective Head Coverings (Int. Cl. 9). First use at least as early as Mar. 7, 1962.



## SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.  
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

### Class 1—Raw or Partly Prepared Materials

SN 258,160. Seaboard Seed Company, Bristol, Ill. Filed Nov. 7, 1966.

#### HIGHLAND GREEN

Applicant disclaims the word "Green" apart from the mark as shown.

Owner of Reg. No. 590,477.

For Grass Seed (Int. Cl. 31).

First use during or prior to 1958.

SN 261,064. Rexall Drug and Chemical Company, Los Angeles, Calif., assignee of Fiberfil, Inc., Evansville, Ind. Filed Dec. 19, 1966.

#### ACRYLACON

Owner of Reg. Nos. 746,788 and 758,998.

For Chopped Glass-Fiber Roving or Strand Impregnated With Less Than 35 Percent Styrene Acrylonitrile Polymer for Mixture With Additional Thermoplastic Resin To Form a Glass-Reinforced Injection Molding Compound (Int. Cl. 1).

First use Dec. 1, 1966.

SN 267,903. Armour and Company, Chicago, Ill. Filed Mar. 30, 1967.

#### BONSHE

For Upper Leather (Int. Cl. 18).

First use on or prior to July 22, 1966.

SN 269,880. The General Tire & Rubber Company, Akron, Ohio. Filed Apr. 24, 1967.

#### GENITE

For Fiberglass Reinforced Plastic Materials (Int. Cl. 1).

First use June 28, 1966.

SN 270,066. Kem-Wove Industries, Inc., Charlotte, N.C. Filed Apr. 26, 1967.

#### KEM-WOVE

For Batting and Non-Woven Fabrics for General Use in the Industrial Arts (Int. Cl. 24).

First use Feb. 13, 1962.

SN 270,071. Mico Incorporated, Bloomington, Ill. Filed Apr. 26, 1967.



For Soybean Seed (Int. Cl. 31).

First use Apr. 10, 1967.

SN 271,787. Freeman Chemical Corporation, Port Washington, Wis. Filed May 18, 1967.

#### NUPOL

For Thermosetting Acrylic Resin Compositions (Int. Cl. 1).

First use Mar. 29, 1967.

SN 272,175. Ducommun Incorporated, Santa Fe Springs, Calif. Filed May 23, 1967.

#### RPG

For Pyrolytic Graphite (Int. Cl. 1).

First use Apr. 28, 1967.

SN 273,686. Rexall Drug and Chemical Company, d.b.a. Fiberfil, Los Angeles, Calif. Filed June 12, 1967.

#### NYLODE

Owner of Reg. Nos. 715,604 and 758,613.

For Thermoplastic Molding Resin Pellets (Int. Cl. 1).

First use May 15, 1967.

SN 274,640. Milwaukee Chaplet and Supply Corporation, West Allis, Wis. Filed June 23, 1967.

#### MILCHAP

For Resin Coated Sand (Int. Cl. 1).

First use February 1959.

SN 275,020. Phillips Petroleum Company, Bartlesville, Okla., assignee of Alamo Industries, Inc., Bartlesville, Okla. Filed June 29, 1967.

#### MARVESS

Owner of Reg. No. 811,168.

For Broom Fiber and Brush Bristle (Int. Cl. 21).

First use Nov. 14, 1966, on brush bristle.

SN 290,687. The Dino-Flex Corporation, New York, N.Y. Filed Feb. 9, 1968.



For Plastic Sheets Prepared To Accept Decoration (Int. Cl. 17).

First use July 1966.

### Class 2—Receptacles

SN 265,843. L.M. Plastics Company, Incorporated, Minneapolis, Minn. Filed Mar. 2, 1967.



Applicant disclaims the word "Pots" and the representation of the pot apart from the mark as shown.

For Expandable Polystyrene Flower or Plant Pot Used as Containers for Growing Plants (Int. Cl. 21).

First use Oct. 1, 1965.

MAY 7, 1968

U. S. PATENT OFFICE

TM 7

SN 274,133. The Powell Pressed Steel Company, Hubbard, Ohio. Filed June 19, 1967.

#### ECONO-MATIC

For Portable Containers for Manufactured Parts and the Like (Int. Cl. 6).

First use June 1, 1967.

SN 274,134. The Powell Pressed Steel Company, Hubbard, Ohio. Filed June 19, 1967.

#### UNI-MATIC

For Portable Containers for Manufactured Parts and the Like (Int. Cl. 6).

First use June 1, 1967.

SN 274,135. The Powell Pressed Steel Company, Hubbard, Ohio. Filed June 19, 1967.

#### INTER-MATIC

For Portable Containers for Manufactured Parts and the Like (Int. Cl. 6).

First use June 1, 1967.

SN 274,136. The Powell Pressed Steel Company, Hubbard, Ohio. Filed June 19, 1967.

#### VISU-MATIC

For Portable Containers for Manufactured Parts and the Like (Int. Cl. 6).

First use June 1, 1967.

SN 274,137. The Powell Pressed Steel Company, Hubbard, Ohio. Filed June 19, 1967.

#### HOPPER MATIC

For Portable Containers for Manufactured Parts and the Like (Int. Cl. 6).

First use June 1, 1967.

SN 274,748. Jet Forwarding Inc., Torrance, Calif. Filed June 26, 1967.

#### VANJET

For Type of Container To Be Used in the Van and Storage Industries (Int. Cl. 12).

First use February 1967.

SN 274,760. The Ohio Corrugating Company, Warren, Ohio. Filed June 26, 1967.

#### OHIO

For Shipping and Storage Containers, Particularly of Metal (Int. Cl. 6).

First use on or about Jan. 29, 1932.

SN 277,340. Brown Company, Kalamazoo, Mich. Filed Aug. 2, 1967.

#### SAF-T-POST

Owner of Reg. Nos. 673,323, 718,060, and 814,393.

For Receptacles—Namely, Egg Cartons (Int. Cl. 16).

First use Mar. 1, 1967.

#### PRESS-O-HOLD

Owner of Canadian Reg. No. 152,198, dated July 21, 1967.

For Holders for Wax-Coated Paper Cartons (Int. Cl. 21).

SN 288,471. Nasco Industries, Inc., Fort Atkinson, Wis. Filed Jan. 10, 1968.

#### WHIRL-PAK

For Milk Sampling Bags (Int. Cl. 20).

First use July 1959.

### Class 4—Abrasives and Polishing Materials

SN 240,097. H. Larry Posner, d.b.a. Dan Lynn Industries, Chicago, Ill., assignee of Illinois Upholsterer's Supply Co. Inc., Chicago, Ill. Filed Mar. 3, 1966.

#### ITS-MAGIC

For Cleaning Pads Formed of Synthetic Plastic Fibers and Containing a Detergent Therewithin (Int. Cl. 21).

First use Jan. 4, 1966.

SN 240,240. Armour and Company, Chicago, Ill. Filed Mar. 7, 1966.



Applicant disclaims the representation of the automobile apart from the trademark. Owner of Reg. No. 812,353.

For Auto Polish (Int. Cl. 3).

First use on or prior to Sept. 16, 1965.

SN 264,742. ITT Wakefield Corporation, Detroit, Mich. Filed Feb. 15, 1967.



For Abrasive Grinding Wheels (Int. Cl. 7).

First use 1954.

SN 266,802. Textize Chemicals, Inc., Greenville, S.C. Filed Mar. 15, 1967.

#### VISION

For Polymer Emulsion Floor Polish, for Use on All Floors (Int. Cl. 3).

First use Feb. 20, 1967.

SN 278,922. Textron Inc., Rochester, N.Y. Filed Aug. 23, 1967.

#### SHURIUM

Owner of Reg. Nos. 321,012, 798,531, and others.

For Polishing Compound Used in the Finishing of Lenses (Int. Cl. 3).

First use July 24, 1967.



**Class 5—Adhesives**

SN 254,480. United Shoe Machinery Corporation, Boston, Mass. Filed Sept. 14, 1966.

**THERMOGRIP**

Owner of Reg. Nos. 554,563 and 646,428.  
For Heat-Activatable Polymeric Adhesive Compositions (Int. Cl. 1).  
First use Oct. 15, 1948.

SN 276,234. Globe Glass Manufacturing Company, Elk Grove Village, Ill. Filed July 18, 1967.

**COLD-TUF**

For Adhesives for Use in Making Laminates (Int. Cl. 1).  
First use June 16, 1967.

**Class 6—Chemicals and Chemical Compositions**

SN 259,662. Midas-International Corporation, Chicago, Ill. Filed Nov. 29, 1966.

**FROLIC**

For Hydraulic Brake Fluids (Int. Cl. 1).  
First use Aug. 22, 1966.

SN 262,963. Omni Tech, Inc., Santa Monica, Calif. Filed Jan. 20, 1967.

**CHOLESTEX**

For Chemical Laboratory Test Kits Containing Reagents and Standards for Determination of Serum Cholesterol (Int. Cl. 1).  
First use Feb. 5, 1961.

SN 264,294. Azoplate Corporation, Murray Hill, N.J. Filed Feb. 9, 1967.

**AZ**

For Photo Resists, Developers for Photo Resists, Thinners, Touch-Up Solutions, Dyes, and Resist Removers To Be Used in Combination With Photo Resists (Int. Cls. 1 and 2).  
First use Dec. 20, 1962.

SN 264,823. Rhein-Chemie Gesellschaft mit beschränkter Haftung, Heidelberg, Germany. Filed Feb. 16, 1967.

**FAKTOGEL**

Owner of German Reg. No. 619,612, dated Aug. 14, 1942.  
For Chemicals and Chemical Compositions for the Processing and Manufacture of Natural and Synthetic Rubber and of Rubber Reclaims of Natural and Synthetic Rubber—Name-ly, Vulcanizing Agents, Accelerators, Antioxidants, Antiozonants, Dispersing Agents, Rubber Extenders, Softeners, Stiffeners, Tackifiers, Extruding Agents, and Plasticizers (Int. Cl. 1).  
First use Sept. 8, 1959; in commerce December 1966.

SN 266,805. Texize Chemicals, Inc., Greenville, S.C. Filed Mar. 15, 1967.

**CENTEX**

For Disinfectant-Fungicide-Deodorant for Industrial Use (Int. Cl. 5).  
First use Feb. 20, 1967.

SN 272,848. Omni Tech, Inc., Santa Monica, Calif. Filed June 1, 1967.

**FERRI-TEX**

For Chemical Laboratory Test Kits Containing Reagents and Standard for Photometric Determination of Serum Iron (Int. Cl. 1).  
First use Feb. 5, 1961.

SN 272,849. Omni Tech, Inc., Santa Monica, Calif. Filed June 1, 1967.

**GAMM-ULIN**

For Chemical Laboratory Test Kits Containing Reagents for Photometric Quantitative Determination of Serum Gamma Globulin (Int. Cl. 1).  
First use Jan. 24, 1962.  
Subj. to Intf. with SN 271,137.

SN 272,850. Omni Tech, Inc., Santa Monica, Calif. Filed June 1, 1967.

**TRANS-ZYME**

For Chemical Laboratory Test Kits Containing Reagents for Photometric Determination of SGO and SGP transaminase (Int. Cl. 1).  
First use Feb. 5, 1961.

SN 276,188. Geigy Chemical Corporation, Ardsley, N.Y. Filed July 17, 1967.

**REACTOFIX**

Owner of Reg. No. 700,764.  
For Dyestuffs (Int. Cl. 2).  
First use June 15, 1967.

SN 276,668. JFL, Inc., Dallas, Tex. Filed July 24, 1967.



The drawing is lined for the color red. The applicant disclaims the word "Formula" apart from the mark as shown.  
Owner of Reg. No. 837,735.

For Liquid Chemical Composition To Be Sprayed on and/or Applied to Cotton To Enhance the Quality and Retain the Staple of the Cotton and To Provide Greater Ginning Efficiency by Reducing Friction and Thereby Reducing Static Electricity (Int. Cl. 1).  
First use on or about July 1, 1966.

SN 276,766. Ruet Company, Inc., Brooklyn, N.Y. Filed July 25, 1967.



For Combination of Chemical Substances for Making Sea-water Out of Sweet Water (Int. Cl. 1).  
First use June 16, 1966.

SN 276,955. Sep-Ko Chemicals, Inc., Minneapolis, Minn. Filed July 27, 1967.

**MONO-ZENE**

For Liquid Odor Controlling Chemicals (Int. Cl. 5).  
First use June 1, 1965.

SN 276,959. A. E. Staley Manufacturing Company, Decatur, Ill. Filed July 27, 1967.

**STALEYDEX**

Owner of Reg. Nos. 753,575, 753,576, and 758,810.  
For Dextrose for Industrial Purposes (Int. Cl. 1).  
First use July 20, 1965.

SN 277,090. The Upjohn Company, Kalamazoo, Mich. Filed July 28, 1967.

**BACTICIN**

Owner of Reg. No. 652,656.  
For Bactericide for Use on Trees (Int. Cl. 5).  
First use Jan. 30, 1967.

SN 277,154. Eastman Kodak Company, Rochester, N.Y. Filed July 31, 1967.

**DACOMATIC**

Owner of Reg. No. 717,869.  
For Photographic Processing Chemicals (Int. Cl. 1).  
First use Mar. 8, 1967.

SN 277,164. W. R. Grace & Co., New York, N.Y. Filed July 31, 1967.

**SEPOL**

For Emulsion Breaker for Industrial Waste Material (Int. Cl. 1).  
First use June 23, 1967.

SN 277,236. Borg-Warner Corporation, Chicago, Ill. Filed July 27, 1967.

**MUD-SWEEP**

For Chemical Preflush Preparation To Increase Bonding Strength When Cementing Oil Wells (Int. Cl. 1).  
First use May 31, 1966.

SN 290,363. American Home Products Corporation, New York, N.Y. Filed Feb. 6, 1968.

**NEAT**

Owner of Reg. Nos. 153,744 and 571,549.  
For Fabric Finish (Int. Cl. 1).  
First use Oct. 5, 1967.

SN 291,014. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Feb. 14, 1968.

**VERIFY**

For Extended Range Diagnostic Plasma for Laboratory Use (Int. Cl. 1).  
First use June 30, 1967.

**Class 7—Cordage**

SN 264,966. Milton Ross Metals Co., Inc., Southampton, Pa. Filed Feb. 17, 1967.



For Flexible Plastic Self-Locking Straps (Int. Cl. 20).  
First use Feb. 1, 1967.

**Class 8—Smokers' Articles, Not Including Tobacco Products**

SN 276,229. Dalam Products Limited, Billingshurst, Sussex, England. Filed July 18, 1967.

**STELLA**

Owner of British Reg. No. 777,842, dated May 20, 1958.  
For Cigarette Paper and Packets of Cigarette Papers (Int. Cl. 34).

**Class 9—Explosives, Firearms, Equipments, and Projectiles**

SN 239,344. Trojan Fireworks Co., Norwalk, Calif. Filed Feb. 21, 1966.



The drawing is lined for blue and red. Applicant disclaims the word "Fireworks" apart from the mark as shown.  
For Fireworks (Int. Cl. 13).  
First use April 1965.

**Class 12—Construction Materials**

SN 252,542. The Celotex Corporation, Tampa, Fla. Filed Aug. 17, 1966.



The drawing is lined for the colors green and orange.  
For Gypsum Products, and More Particularly Gypsum Wallboard and Gypsum Sheathing (Int. Cl. 19).  
First use Apr. 12, 1961.



SN 253,520. The Flintkote Company, New York, N.Y. Filed Aug. 31, 1966.

**TRED-TOP**

For Asphalt Emulsions for Sealing and Resurfacing Pavement Surfaces (Int. Cl. 19).  
First use Sept. 6, 1955.

SN 263,177. W. R. Grace & Co., Cambridge, Mass. Filed Jan. 24, 1967.

**HEA2**

For Liquid Chemical Composition Which Functions Both as a Grinding Aid and Pack Set Inhibitor for Cement, Such as Portland Cement (Int. Cl. 1).  
First use Mar. 26, 1963.

SN 269,809. U.S. Grout Corporation, Old Greenwich, Conn. Filed Apr. 21, 1967.



For Cementitious Products—Namely, Grout Concrete Patch and Aggregate (Int. Cl. 19).  
First use Jan. 23, 1967.

SN 270,360. Daryl Industries, Inc., Miami, Fla. Filed May 1, 1967.

**DARYL FAB-ALUM**

For Aluminum Foyers (Int. Cl. 6).  
First use on or about Feb. 8, 1967.

SN 273,840. Allied Compositions Co., Inc., Maspeth, N.Y. Filed June 14, 1967.

**GROUT-ON**

For Permanent Flexible Water Resistant Ceramic Tile Grout (Int. Cl. 19).  
First use Sept. 17, 1959.

SN 274,631. K-Lath Corporation, Monrovia, Calif. Filed June 23, 1967.

**POLYHOUSE**

For Pre-Fabricated Structures (Int. Cl. 19).  
First use May 26, 1967.

SN 276,454. Jarow Products, Inc., Chicago, Ill. Filed July 20, 1967.

**JARROWOOD**

For Plastic Extrusions Used for Interior Construction Trim (Int. Cl. 19).  
First use May 19, 1967.

SN 277,012. Baldwin-Ehret-Hill, Inc., Trenton, N.J. Filed July 28, 1967.

**HANSOPAN**

Owner of Reg. No. 688,168.  
For Acoustical Ceiling Tile Units Made of Sheetmetal or Aluminum (Int. Cl. 6).  
First use Dec. 5, 1958.

SN 277,614. Architectural Steel Corporation, Cambridge, Mass. Filed Aug. 7, 1967.

**WALL-BOND**

Owner of Reg. No. 719,515.  
For Metal Flashing (Int. Cl. 6).  
First use July 26, 1967.

SN 278,655. American Cyanamid Company, Wayne, N.J. Filed Aug. 21, 1967.

**WASCO**

Owner of Reg. Nos. 335,851, 783,457, and others.  
For Skylights (Int. Cl. 19).  
First use July 18, 1967.

**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

SN 269,188. Hills-McCanna Company, Carpentersville, Ill. Filed Apr. 14, 1967.

**HILLS-MCCANNA-SAUNDERS**

Applicant disclaims the word "Saunders," apart from the mark as shown. Owner of Reg. Nos. 621,642, 749,307, 813,298, and others.  
For Diaphragm Valves (Int. Cl. 6).  
First use in or about May 1965.

SN 270,428. The Joseph H. Stinson Company, Fremont, Ohio. Filed May 1, 1967.

**JONNY TRAP**

For Trap for Toilets, Sinks, Tubs, and the Like (Int. Cl. 6).  
First use Mar. 18, 1967.

SN 272,586. Chemplast Inc., Wayne, N.J. Filed May 29, 1967.

**ELAST-O-FLUOR**

For Seals Sold as a Component of Valves, Fittings, and Connectors (Int. Cl. 17).  
First use Dec. 29, 1966.

SN 275,855. Life Valve Company, Bristol, Pa. Filed July 12, 1967.

**LIFE**

For Foot Valve for Wells (Int. Cl. 6).  
First use Feb. 1, 1962.

SN 276,106. ES/Products, Inc., New Rochelle, N.Y. Filed July 17, 1967.



For Nalls (Int. Cl. 6).  
First use June 27, 1967.

SN 276,186. Thermoplastics Corporation, Charlotte, N.C. Filed July 17, 1967.



For Plastic Pipes (Int. Cl. 17).  
First use Jan. 25, 1967.

SN 290,045. "Automatic" Sprinkler Corporation of America, Cleveland, Ohio. Filed Feb. 1, 1968.



The drawing is lined for the color red. Owner of Reg. No. 712,747.  
For Automatic Sprinkler Systems, and Parts Thereof, for Fire Protection (Int. Cl. 11).  
First use Apr. 15, 1960.

SN 290,046. "Automatic" Sprinkler Corporation of America, Cleveland, Ohio. Filed Feb. 1, 1968.



The drawing includes horizontal lines which comprise part of the mark. Owner of Reg. No. 712,747.  
For Automatic Sprinkler Systems, and Parts Thereof, for Fire Protection (Int. Cl. 11).  
First use Apr. 15, 1960.

SN 290,047. "Automatic" Sprinkler Corporation of America, Cleveland, Ohio. Filed Feb. 1, 1968.



The drawing includes horizontal shade lines which comprise part of the mark. Owner of Reg. No. 712,747.  
For Automatic Sprinkler Systems, and Parts Thereof, for Fire Protection (Int. Cl. 11).  
First use Apr. 15, 1960.

**Class 14—Metals and Metal Castings and Forgings**

SN 244,346. Nippon Kokan Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan. Filed Apr. 26, 1966.



Owner of Japanese Reg. No. 571,484, dated May 1, 1961.  
For Sheared Plate, Light Plate, Hot Rolled Sheets, Cold Rolled Sheets, Surface Treated Sheets, Bars, Sections, Ingots, Slabs, and Billets, All Made of Iron and Steel, and Iron Alloys (Int. Cl. 6).

**SCHICK**

For Forgings (Int. Cl. 6).  
First use January 1953.

SN 279,952. Latrobe Steel Company, Latrobe, Pa. Filed Sept. 8, 1967.

**PYROFORM**

For Alloy Castings, Bars, Billets, and Rough and Finished Dies (Int. Cl. 6).  
First use June 1, 1967.

**Class 15—Oils and Greases**

SN 267,705. Witco Chemical Company, Inc., New York, N.Y. Filed Mar. 27, 1967.

**HYKEN**

For Hydraulic Oils (Int. Cl. 4).  
First use December 1962.

SN 274,098. Service Industries (Trust), Philadelphia, Pa. Filed June 16, 1967.



For Penetrating and Lubricating Oils (Int. Cl. 4).  
First use May 2, 1967.

SN 277,280. Hangsterfer's Laboratories, Inc., Mantua, N.J. Filed Aug. 1, 1967.

**CRYSTAL CUT**

Without relinquishing any of its common law rights, applicant disclaims the word "Cut" apart from the mark as shown.  
For Synthetic and Semi-Synthetic Cutting and Grinding Fluid Used in Metal Manufacturing (Int. Cl. 1).  
First use March 1967.

SN 281,607. Monroe Chemical Co., Inc., Hilton, N.Y. Filed Oct. 2, 1967.

**PRIME-CUT**

For Cutting and Grinding Oil (Int. Cl. 4).  
First use Aug. 15, 1967.

**Class 16—Protective and Decorative Coatings**

SN 249,500. Century Brick Corporation of America, Erie, Pa. Filed July 5, 1966.



Owner of Reg. No. 723,456.  
For Sealing and Waterproofing Coating Materials Containing Silicone for Plaster-Like Outside Surfaces on Buildings and the Like (Int. Cl. 2).  
First use Jan. 3, 1966.



SN 250,317. The Valspar Corporation, Rockford, Ill. Filed July 14, 1966.



The drawing is lined for green, but no claim is made as to color.

For Heavy-Duty Paint-Like Industrial Coating—Namely, Aluminum and Graphite Paints; Rust Preventative Metal, Wood, Roof and Masonry Prime Coatings; Floor Finishes; Epoxy Enamel Coatings; and Oil Base and Water Base Paints and Primers for Interior Decorative Use (Int. Cl. 2).

First use on or about Oct. 1, 1965.

SN 252,899. Shell Oil Company, Wilmington, Del. Filed Aug. 22, 1966.

### SHELLPAX

For Wax Composition for Coating and Sealing Cartons, Containers, and Flexible Packages (Int. Cl. 4).

First use July 7, 1966.

SN 264,874. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Feb. 16, 1967.

### ANTREX

Owner of Reg. No. 197,360.

For Paint Primer, Particularly Adapted To Be Applied to Rusty, Hand-Cleaned Steel (Int. Cl. 2).

First use Oct. 11, 1966.

SN 268,697. Caldow Paint Company, Oakland, Calif. Filed Apr. 10, 1967.



The word "Ceem-Less" is disclaimed apart from the mark as shown.

For Protective and Decorative Floor and Wall Covering in the Nature of a Synthetic Resin Coating or Paint (Int. Cl. 2).

First use Mar. 1, 1967.

SN 270,825. The Valspar Corporation, Rockford, Ill. Filed May 5, 1967.

### AK-SAR-BEN

For Exterior House Paint, Interior Wall Paint, Enamel, Varnish, Floor Finishes, Wood Stain, and Paint Thinner (Int. Cl. 2).

First use at least as of December 1932.

SN 279,147. London Chemical Company, Inc., Melrose Park, Ill. Filed Aug. 28, 1967.

### LONCOTE

For Metal Coating Resins (Int. Cl. 2).

First use in 1956.

SN 287,124. Specialty Coatings & Chemicals, Inc., North Hollywood, Calif. Filed Dec. 18, 1967.

### Special-T

For Industrial and Architectural Paints, Lacquers, Enamels, Primers, Undercoats and Varnishes; Surface Sealers for Wood, Concrete, Leather, and Masonry; Coloring and Clear Coatings for Fabrics and Materials—Namely, Vinyl, Leather, Nylon, Nangahyde, Artificial Leather, Glass, Plastics, and Carpets; Epoxy Coatings for Wood and Metal; Thinners, Solvents and Blenders for Paints and Plastic Coating Materials; Wood Stains; Color Tinting Concentrates for Addition to and Mixing With Paints and Plastic Coating Materials; Vinyl Patching Compound for Coating Pliable Fabric Materials—Namely, Vinyl, Leather, and Nangahyde So as To Protectively and Decoratively Cover and Repair Holes, Tears, and Burns (Int. Cls. 2 and 17).

First use at least as early as October 1965.

### Class 17—Tobacco Products

SN 259,227. Dixon & Hamilton Tobacco Suppliers, Inc., Winston, N.C. Filed Nov. 22, 1966.

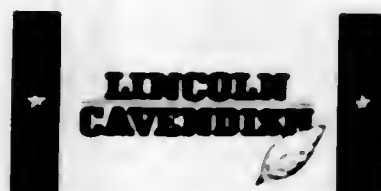
### LINCOLN CAVENDISH

"Lincoln Cavendish" is a fictitious name. Owner of Reg. Nos. 734,441 and 734,442.

For Pipe Tobacco (Int. Cl. 34).

First use Oct. 31, 1966.

SN 260,145. Dixon & Hamilton Tobacco Suppliers, Inc., Winston, N.C. Filed Dec. 6, 1966.



"Lincoln Cavendish" is a fictitious name. Owner of Reg. Nos. 734,441 and 734,442.

For Pipe Tobacco (Int. Cl. 34).

First use Oct. 31, 1966.

SN 264,557. Liggett & Myers Tobacco Company, New York, N.Y. Filed Feb. 13, 1967.



The drawing is lined for the colors green and gold. Owner of Reg. Nos. 582,520, 594,798, and 741,520.

For Cigarettes (Int. Cl. 34).

First use Jan. 13, 1967; February 1953 as to the feature "L & M."

SN 270,077. Juan Santalla Paredes, Coral Gables, Fla. Filed Apr. 26, 1967.



For Cigars and Cigarettes (Int. Cl. 34).

First use Feb. 10, 1967.

SN 270,748. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed May 5, 1967.

### EL CID

For Cigars (Int. Cl. 34).

First use Feb. 1, 1967.

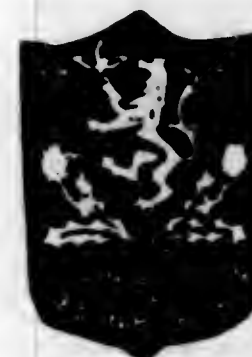
SN 270,751. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed May 5, 1967.

### BRAVADOS

For Cigars (Int. Cl. 34).

First use Jan. 13, 1967.

SN 286,603. John Cotton Limited, Edinburgh, Scotland. Filed Dec. 11, 1967.



"John Cotton" is a fictitious name. For Cigarettes (Int. Cl. 34). First use 1957; in commerce Sept. 11, 1967.

SN 290,570. The American Tobacco Company, New York, N.Y. Filed Feb. 8, 1968.

### FOREST

For Cigarettes (Int. Cl. 34).

First use Feb. 5, 1968.

### Class 18—Medicines and Pharmaceutical Preparations

SN 257,718. Merck & Co., Inc., Rahway, N.J. Filed Nov. 1, 1966.

### DUOFASE

For Suspensions or Solutions Especially Prepared To Provide for the Timed Release of Therapeutically Active Ingredients Within the Body (Int. Cl. 5).

First use Sept. 19, 1966.

SN 260,763. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 14, 1966.

### TAFSP

For Antibiotic Preparation for Veterinary Use (Int. Cl. 5). First use Oct. 5, 1966.

SN 265,384. American Home Products Corporation, New York, N.Y. Filed Feb. 24, 1967.

### CONTINUM

For Analgesic Preparation (Int. Cl. 5).

First use Feb. 8, 1967.

SN 265,385. American Home Products Corporation, New York, N.Y. Filed Feb. 24, 1967.

### CONTINUUM

For Analgesic Preparation (Int. Cl. 5).

First use Feb. 8, 1967.

SN 265,386. American Home Products Corporation, New York, N.Y. Filed Feb. 24, 1967.

### CONTINUIN

For Analgesic Preparation (Int. Cl. 5).

First use Feb. 8, 1967.

SN 265,656. Sanna, Inc., Madison, Wis. Filed Feb. 28, 1967.

### HAF & HAF PLUS

For Preparation for the Alleviation of Gastric Disturbances (Int. Cl. 5).

First use Feb. 13, 1967.

SN 265,915. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 3, 1967.

### FERAMYCIN

Owner of Reg. No. 577,504.

For Antibiotic Preparation for Human Use (Int. Cl. 5).

First use Jan. 4, 1967.

SN 266,253. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 8, 1967.

### THERAMYCIN

Owner of Reg. No. 577,504.

For Antibiotic Preparation (Int. Cl. 5).

First use Dec. 22, 1966.

SN 267,595. Arco Pharmaceuticals, Inc., Plainview, N.Y. Filed Mar. 27, 1967.

### UNIGESIC

For Medicinal Capsules for Relief From Pain (Int. Cl. 5). First use May 3, 1966.

SN 267,596. Arco Pharmaceuticals, Inc., Plainview, N.Y. Filed Mar. 27, 1967.

### CODEXIN

For Medicinal Capsules for the Control of the Appetite and Weight (Int. Cl. 5). First use Oct. 30, 1962.



SN 268,270. Sidney Garfield, d.b.a. Sydmar Products, San Francisco, Calif. Filed Apr. 4, 1967.

## EYE OPENERS

For Preparation in Tablet Form To Ward Off Drowsiness (Int. Cl. 5).  
First use Feb. 10, 1967.

SN 271,137. The Dow Chemical Company, Midland, Mich. Filed May 10, 1967.

## GAMULIN

For Immune Serum Globulin (Int. Cl. 5).  
First use Feb. 13, 1958.  
Subj. to Intf. with SN 272,849.

SN 272,281. The Kendall Company, Walpole, Mass. Filed May 24, 1967.

## OSTEO-PHOS

For Pharmaceutical Preparation Containing Dibasic Calcium Phosphate (Int. Cl. 5).  
First use Jan. 4, 1966.

SN 272,347. Bristol-Myers Company, New York, N.Y. Filed May 25, 1967.

## UNIRX

For Unit Dose Antibiotic System (Int. Cl. 5).  
First use Mar. 27, 1967.

SN 272,348. Bristol-Myers Company, New York, N.Y. Filed May 25, 1967.

## UNIREX

For Unit Dose Antibiotic System (Int. Cl. 5).  
First use Nov. 10, 1966.

SN 272,465. Harry Benet, d.b.a. Dara Products, Norwood, Ohio. Filed May 26, 1967.

## DERC

For Tablets Used for Dermatological Skin Conditions (Int. Cl. 5).  
First use on or about Jan. 1, 1951.

SN 273,505. The Kendall Company, Walpole, Mass. Filed June 9, 1967.

## INPHOS

For Injectable Sodium and Potassium Phosphates (Int. Cl. 5).  
First use Jan. 4, 1966.

SN 273,622. Eastern Shore Laboratories, Inc., Laurel, Del. Filed June 12, 1967.

## MULTI AID

For Scientifically Formulated Combination of Antibiotics and Vitamins for the Treatment and Prevention of Certain Diseases in Animals, and for Providing Supplemental Nutrients While Animals Are Eating Less Feed (Int. Cl. 5).  
First use July 15, 1966.

SN 289,859. Diamond Shamrock Corporation, d.b.a. Nopco Chemical Company, Cleveland, Ohio. Filed Jan. 30, 1968.

## NOPCOFORM

Owner of Reg. Nos. 349,176 and 718,133.  
For Compositions Containing Vitamin, Mineral, and Fermentation Products, With and Without Antibiotic, for Animal and Poultry Feed (Int. Cl. 5).  
First use Jan. 18, 1966.

SN 290,141. Johnson & Johnson, New Brunswick, N.J. Filed Feb. 2, 1968.



For Antiseptic Preparations (Int. Cl. 5).  
First use Dec. 7, 1965.

SN 290,145. Ortho Pharmaceutical Corporation, d.b.a. Ortho Diagnostics, Raritan, N.J. Filed Feb. 2, 1968.



For Rh Immunoglobulin (Int. Cl. 5).  
First use Jan. 16, 1968.

SN 290,438. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 5, 1968.

## SURGE

For Mouthwash and Gargle (Int. Cl. 5).  
First use Sept. 5, 1967.

## Class 19—Vehicles

SN 251,045. Alfred S. Bloomington, Los Angeles, Calif. Filed July 26, 1966.

## Alpha JET

The word "Jet" is disclaimed apart from the mark as shown.  
For Motorized Surfboards, Small Boats, and Paddleboards (Int. Cl. 12).  
First use on or about July 10, 1966.

SN 261,056. FMC Corporation, San Jose, Calif. Filed Dec. 19, 1966.



No registration rights are claimed for the word "Feed" apart from the mark as shown.  
For Bulk Feed Transport Vehicles (Int. Cl. 12).  
First use June 23, 1966.

SN 270,346. Alfred S. Bloomington, Los Angeles, Calif. Filed May 1, 1967.

## SURFMOBILE

For Powered Watercraft Goods—Namely, Surfboards, Paddleboards, Small Pleasure Boats, Small Sailboats, and the Like, and Their Component Parts (Int. Cl. 12).  
First use on or about Apr. 24, 1967.

SN 271,502. Alfred Montano, Jr., d.b.a. Santa Clara Fiberglass Products, Santa Clara, Calif. Filed May 15, 1967.

## PROTECT-O-TOP

For Fiberglass Tops for Pick-Up Trucks (Int. Cl. 12).  
First use Apr. 1, 1962.

SN 271,581. Ampico Corporation, Concord, Calif. Filed May 16, 1967.

## 2 SHAY

For Wheeled Auxiliary Carriers for Motorcycles (Int. Cl. 12).  
First use Feb. 9, 1967.

SN 274,246. Schwinn Bicycle Company, Chicago, Ill. Filed June 19, 1967.

## MINI-TWINN

Owner of Reg. No. 772,714.  
For Tandem Bicycles (Int. Cl. 12).  
First use June 12, 1967.

SN 275,438. Farm Chemicals of Oregon, Inc., d.b.a. Pacific Basin Trading Company, Athena, Oreg. Filed July 6, 1967.

## HODAKA

For Motorcycles and Engines Thereof (Int. Cl. 12).  
First use on or about June 18, 1964.

SN 275,882. Travel Queen Coaches, Inc., Riverside, Calif. Filed July 12, 1967.

## PRINCESS

For Campers and Portable Housing Units Adapted To Be Removably Mounted on a Transport Vehicle for Use Thereon or Independently Thereof (Int. Cl. 12).  
First use Jan. 4, 1960.

SN 276,123. General Motors Corporation, Detroit, Mich. Filed July 17, 1967.

## INDURA

For Automobile Bumpers (Int. Cl. 12).  
First use June 22, 1967.

SN 276,675. Mel-Mar Industries, Inc., Milwaukie, Oreg. Filed July 24, 1967.

## MEL-MAR

For Pickup Campers and Canopies (Int. Cl. 12).  
First use Sept. 30, 1964.

SN 278,179. Amsted Industries Incorporated, Chicago, Ill. Filed Aug. 14, 1967.

## SLACK-FREE

Owner of Reg. No. 773,858.  
For Fifth Wheel Coupling Units for Tractor-Trailers (Int. Cl. 12).  
First use June 15, 1962.

SN 278,868. Burns Aero Seat Company, Inc., Burbank, Calif. Filed Aug. 23, 1967.

## AIREST

For Seats for Vehicles, Such as Airplanes (Int. Cl. 12).  
First use at least as early as January 1963.

SN 284,537. Evans Foundation, Salina, Kans. Filed Nov. 13, 1967.

## EL DORADO

Owner of Reg. No. 723,005.  
For Pickup Coach Campers (Int. Cl. 12).  
First use Nov. 4, 1960.

SN 290,452. Nutting Truck and Caster Company, Faribault, Minn. Filed Feb. 7, 1968.



For Two-Wheel Hand Trucks, Platform Trucks, and Industrial Trailers (Int. Cl. 12).  
First use Jan. 18, 1968.

## Class 21—Electrical Apparatus, Machines, and Supplies

SN 235,893. Crown Radio Corporation, Taito-ku, Tokyo, Japan. Filed Jan. 6, 1966.

## QUEENTIX

For Radio Receiving Sets, Television Sets, Microphones, Flashlights, Flashlight Batteries; and Transmitter-Receivers—Namely, Transceivers (Int. Cls. 9 and 11).  
First use Feb. 3, 1965; in commerce July 5, 1965.

SN 242,696. Z & T Importing Co., Inc., Los Angeles, Calif. Filed Apr. 4, 1966.

## LLOYD'S

Owner of Reg. No. 756,751.  
For Electric Table Lamps (Int. Cl. 11).  
First use May 14, 1965.

SN 248,602. Dohrmann Instruments Company, San Carlos, Calif. Filed June 21, 1966.



## AMPTRONIC

For Driver Circuit for Power Proportioning Electronic Temperature Controller (Int. Cl. 9).  
First use Feb. 18, 1966.



SN 250,313. Sweinhart Electric Co., Inc., Los Angeles, Calif. Filed July 14, 1966.



Without relinquishing any common law rights therein, the term "Power" is disclaimed apart from the mark as shown. For Electric Storage Batteries (Int. Cl. 9). First use at least as early as June 13, 1966.

SN 256,598. Ritchie Manufacturing Company, Conrad, Iowa. Filed Oct. 17, 1966.

## HOT ROD

For Pipeline Heater Comprising an Electrical Heating Element of Calrod Material for Use in Heating Pipes of Live-stock Waterers and the Like (Int. Cl. 11). First use Oct. 4, 1966.

SN 257,165. Dazey Products Company, Kansas City, Mo. Filed Oct. 25, 1966.

## BROILAIRE

For Electric Broilers (Int. Cl. 11). First use Oct. 7, 1966.

SN 257,289. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 26, 1966.

DURACREST

Owner of Reg. No. 811,624 and others. For Electric Stand Mixers, Electric Blenders; Parts for Electric Vacuum Cleaners—Namely, Replacement Hose, Plastic Cleaning Tool Attachments, and Replacement Drive Belts; and Electric Broller 'n Bakers (Int. Cls. 7, 9, 11 and 17). First use January 1962 on electric stand mixers.

SN 258,522. The Filtron Company, Inc., Flushing, N.Y. Filed Nov. 14, 1966.

## DURANOL

For Synthetic Oil Impregnant Contained Within Radio Frequency Interference Filters (Int. Cl. 9). First use March 1964.

SN 260,948. Murata Manufacturing Co., Ltd., Otokuni-gun, Kyoto-fu, Japan. Filed Dec. 16, 1966.

## CERAMO-C

For Capacitors (Int. Cl. 9). First use Mar. 10, 1957; in commerce Mar. 18, 1957.

SN 262,129. Components, Inc., Biddeford, Maine. Filed Jan. 9, 1967.

## MILITAN

For Electrical Capacitors (Int. Cl. 9). First use Dec. 14, 1966.

SN 263,638. Craft, Inc., Mount Hope, Kans. Filed Jan. 31, 1967.

## PESTOSTATIC

For Duster Mechanisms Having Electrical Means for Putting Electrostatic Charges on Powdered Materials for Eradicating Insects and Dispensing Same in Powdered Form (Int. Cl. 9).

First use on or about May 3, 1966.

SN 264,926. Fedtro, Inc., Rockville Centre, N.Y. Filed Feb. 17, 1967.

## LIGHTHOUSE SAFETY SIGNALS

The words "Safety Signals" are disclaimed apart from the mark as shown.

For Safety Signal Lights for Use in Connection With Automobiles and Trucks (Int. Cl. 11).

First use Jan. 30, 1967.

SN 267,487. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka Prefecture, Japan. Filed Mar. 23, 1967.

## TAPE-A-VISION

For Video Tape Recorders (Int. Cl. 9).

First use Feb. 21, 1966; in commerce Feb. 21, 1966. Subj. to Intf. with SN 257,807.

SN 271,795. Hatco Corporation, Milwaukee, Wis. Filed May 18, 1967.

## GLO-RAY

For Infrared Food Warmers (Int. Cl. 11). First use Apr. 14, 1967.

SN 272,450. Roberts Electrical Company Limited, Hyfleet, Surrey, England. Filed May 26, 1967.

## HUMEX

Owner of British Reg. Nos. 688,531, dated Apr. 25, 1959, and 830,899, 830,901, 830,902, 830,903, and 830,904, dated Feb. 16, 1962.

For Electrical Apparatus—Namely, Electrical Soil Sterilizer Units, Electrical Plant Propagating Units, Electrical Valves Controlling Mist Spraying, Electrical Fan Heaters, Electrically Powered Humidifiers, and Tubular Electrical Heaters (Int. Cl. 11).

SN 276,111. Elox Inc., Troy, Mich., assignee of Elox Corporation, Troy, Mich. Filed July 17, 1967.

## ELO-DEP

Owner of Reg. No. 804,582.

For Electrodes for Spark Discharge Depositing Apparatus (Int. Cl. 9).

First use on or about Feb. 14, 1967.

SN 276,450. International Electro-Magnetics, Inc., Palatine, Ill. Filed July 20, 1967.

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The drawing is lined for the colors red and grey. For Magnetic Transducers or Heads (Int. Cl. 9). First use Apr. 13, 1961.

SN 276,374. Nichlmen Co., Inc., New York, N.Y. Filed July 21, 1967.

## BANDMASTER

For Radios and Transceivers (Int. Cl. 9). First use Mar. 30, 1964.

SN 277,362. The Edwin F. Guth Company, St. Louis, Mo. Filed Aug. 2, 1967.

## DUO LINER

For Electric Lighting Fixtures (Int. Cl. 11). First use July 19, 1967.

SN 279,687. Silvray-Litecraft Corporation, Passaic, N.J. Filed Sept. 5, 1967.

THRU-WAY

For Electrical Lighting Fixtures (Int. Cl. 11). First use Mar. 10, 1967.

SN 280,607. Litton Precision Products, Inc., Beverly Hills, Calif. Filed Sept. 18, 1967.

## PRESTAC

For Self-Punching Terminals, Terminal Posts, and Insulating Bushings, Each of Which May Be Attached to Electrical and Electronic Apparatus Both Mechanically and Electrically in One Operation (Int. Cl. 9). First use Sept. 5, 1967.

SN 282,226. Waters Manufacturing, Inc., Wayland, Mass. Filed Oct. 10, 1967.

## BAND-ADDER

For Radio Antenna (Int. Cl. 9). First use Aug. 23, 1967.

SN 287,254. Jansen Electronics Manufacturing, Inc., St. Paul, Minn. Filed Dec. 20, 1967.

## SPEAK-EASY

For Attache Case With Self-Contained Public Address System (Int. Cl. 9). First use May 27, 1965.

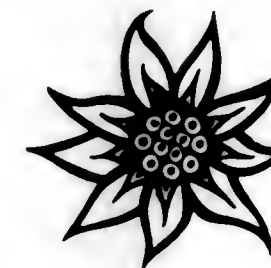
## Class 22—Games, Toys, and Sporting Goods

SN 285,783. Corfi-Organizacoes Industriais Texteis Manuel de Oliveira Violas, S.A.R.L., Lisbon, Portugal. Filed Oct. 5, 1966.

Loft

For Fishing Nets, Guard Nets for Fishing, Trawl nets, and Sports Nets (Int. Cls. 22 and 28). First use Jan. 5, 1955; in commerce Jan. 5, 1955.

SN 259,788. Alp Sport, Inc., Boulder, Colo. Filed Dec. 1, 1966.



The mark as shown is not intended to identify any particular bloom or flower.

For Hiking and Camping Equipment—Namely, Sleeping Bags, Pads for Sleeping Bags, Covers for Sleeping Bags, Liners for Sleeping Bags, Tents, Rainflaps for Tents, Frost Liners for Tents, Snow Flaps for Tents, and Containers for the Foregoing (Int. Cls. 20 and 22). First use Feb. 13, 1963.

SN 261,548. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 27, 1966.

## GRIP-TITE POCKET

Applicant makes no claims to exclusive right in the word "Pocket" for the goods recited. For Baseball Gloves (Int. Cl. 28). First use in 1953.

SN 264,523. Dink, Inc., Fresno, Calif. Filed Feb. 13, 1967.

## DINK

For Toy Playing Equipment Used in a Game Involving the Striking of a Substantially Cylindrical Axially Finned Playing Object With a Playing Stick (Int. Cl. 28). First use July 15, 1966.

SN 265,829. Henry Koorland, St. Petersburg, Fla. Filed Mar. 2, 1967.



For Golf Putters, Golf Clubs, Golf Balls, Golf Gloves, Golf Carts, Golf Markers, Golf Tees, Golf Bags, and Golf Club and Putter Head Covers (Int. Cl. 28). First use Feb. 15, 1959.

SN 270,010. A. G. Spalding & Bros. Inc., Chicopee, Mass. Filed Apr. 25, 1967.

## ENCORE!

For Tennis Balls (Int. Cl. 28). First use March 1966.

SN 273,588. Jim Bagley Balt Company, Inc., Winter Haven, Fla. Filed June 12, 1967.

"Spring Lizard"

For Artificial Fish Bait (Int. Cl. 28). First use 1957.



SN 274,019. Nippon Gakki Co., Ltd., Hamamatsu Shizuoka Prefecture, Japan. Filed June 2, 1967.

## ALL-ROUND

For Snow Skis (Int. Cl. 28).  
First use at least as early as September 1962; in commerce at least as early as September 1962.

SN 274,613. Geodesic Structures, Inc., Spokane, Wash. Filed June 23, 1967.



For Toy Construction Kits Comprising Structural Members and Flexible Connectors (Int. Cl. 28).  
First use Feb. 13, 1959.

SN 274,938. Bel-Air Pools, Inc., Southfield, Mich. Filed June 28, 1967.

## MARQUIS

For Pool Tables, Billiard Tables, Tennis Tables; and Pool, Billiard, and Tennis Table Accessory Equipment (Int. Cl. 28).  
First use Sept. 1, 1965.

SN 274,940. Bel-Air Pools, Inc., Southfield, Mich. Filed June 28, 1967.

## VIKING

For Pool Tables, Billiard Tables, Tennis Tables; and Pool, Billiard, and Tennis Table Accessory Equipment (Int. Cl. 28).  
First use Sept. 1, 1965.

SN 274,943. Bel-Air Pools, Inc., Southfield, Mich. Filed June 28, 1967.

## PRESIDENTIAL

For Pool Tables, Billiard Tables, Tennis Tables; and Pool, Billiard, and Tennis Table Accessory Equipment (Int. Cl. 28).  
First use Sept. 1, 1965.

SN 276,570. Minisoccer (Washington) Ltd. Incorporated, Alexandria, Va. Filed July 21, 1967.

## MINISOCCKER

For Coin-Operated Amusement Device (Int. Cl. 9).  
First use Nov. 15, 1965.

SN 276,697. Shooting Equipment, Inc., Chicago, Ill. Filed July 24, 1967.

## DEAD-LEAD

For Shooting Ranges and Parts Thereof, Targets, Bullet Deflectors and Bullet Back-Stops (Int. Cl. 28).  
First use October 1963.

SN 276,700. Shooting Equipment, Inc., Chicago, Ill. Filed July 24, 1967.

## MINIDUEL

For Shooting Ranges and Parts Thereof, Targets, and Devices and Systems for Controlling Positioning and Movement of Targets or Other Components (Int. Cl. 28).  
First use April 1966.

SN 276,701. Shooting Equipment, Inc., Chicago, Ill. Filed July 24, 1967.

## MONODUEL

For Shooting Ranges and Parts Thereof, Targets, and Devices and Systems for Controlling, Positioning and Movement of Targets or Other Components (Int. Cl. 28).  
First use April 1966.

SN 283,470. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Oct. 26, 1967.



For Children's Toys—Namely, Masks (Int. Cl. 28).  
First use Sept. 18, 1967.

SN 286,911. Die Casting Machine Tools Limited, London, England. Filed Dec. 14, 1967.



For Toy Model Road and Rail Vehicles (Int. Cl. 28).  
First use January 1965; in commerce May 1966.

SN 290,692. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Feb. 9, 1968.

## REGATTA

For Apparatus Sold as a Unit for Playing a Game (Int. Cl. 28).  
First use Nov. 21, 1967.

SN 291,231. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 16, 1968.

## TUBSY

For Doll Set Including Doll, Toy Tub, Dressing Table Top, and Doll Accessories (Int. Cl. 28).  
First use May 11, 1967.

## Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 234,420. Hess Oil & Chemical Corporation, Perth Amboy, N.J. Filed Dec. 13, 1965.

## REDI-FLO

Owner of Reg. No. 832,088.  
For Storage Tanks, Fuel Pumps, Pipe Lines, and Meters, Sold and Utilized as Complete Units for Delivering Fuel Oil to a Building or Buildings and Recording the Quantity of Oil Delivered to Each Consumer (Int. Cl. 7).  
First use July 28, 1965.

SN 242,704. Bankers & Merchants, Inc., Chicago, Ill. Filed Apr. 5, 1966.



For Marking Stamps (Int. Cl. 16).  
First use Feb. 1, 1966.

SN 243,029. Spraymaton, Inc., Little Falls, N.J. Filed Apr. 8, 1966.

## THERMOPULSE

For Hot Melt System for Spray-Coating Compositions Featuring a Pump, Tank, Heating Apparatus, Hose, Application Head, and Appropriate Controls Therefor, All Sold as a Unit (Int. Cl. 7).  
First use at least as early as Feb. 26, 1965.

SN 247,580. Challenge-Cook Bros., Incorporated, Los Angeles, Calif. Filed June 8, 1966.

## TILTER

For Paving Concrete Transit Mixers (Int. Cl. 7).  
First use Feb. 17, 1961.

SN 248,862. Reltool Corporation, Toledo, Ohio. Filed June 23, 1966.



The representation of a drill in the design of the mark as shown on the drawing is disclaimed.

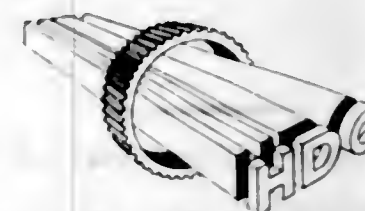
For Twist Drills, Masonry Drills, Boring Bits, Drill Blanks, and Other Machine Tool Drills (Int. Cl. 7).  
First use Feb. 1, 1958.

SN 252,611. Consolidated Metco, Incorporated, Portland, Oreg. Filed July 18, 1966.



For Truck Parts and Accessories—Namely, Mufflers and Exhaust System Components, and Centrifugal-Type Fuel-Water Separators (Int. Cl. 12).  
First use June 6, 1966.

SN 252,850. Hastings Dynamold Corporation, Hastings, Nebr. Filed Aug. 22, 1966.



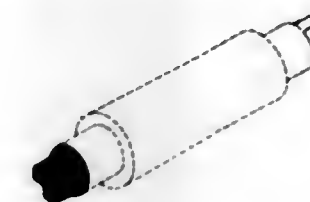
For Machines Incorporating Vibrators To Form or Cast Concrete Slabs and Other Pre-Stressed Concrete Products (Int. Cl. 7).  
First use on or about Nov. 11, 1964.

SN 252,851. Hastings Dynamold Corporation, Hastings, Nebr. Filed Aug. 22, 1966.

## HASTY DYNAMOLD

For Machines Incorporating Vibrators To Form or Cast Concrete Slabs and Other Pre-Stressed Concrete Products (Int. Cl. 7).  
First use on or about Sept. 2, 1965.

SN 254,358. United Engineering and Foundry Company, Pittsburgh, Pa. Filed Sept. 13, 1966.



The drawing is lined for yellow and green. The representation of the goods is disclaimed.

For Metal Rolls for Use in Rolling Mills for Metal, Paper, Plastic, and Rubber (Int. Cl. 7).  
First use July 29, 1966.

SN 254,688. Interlake Steel Corporation, Chicago, Ill. Filed Sept. 19, 1966.

## INTERLAKE

For Strapping Tools and Accessories—Namely, Coil Holders for Supporting Coils of Metal Strapping, Strap Stretchers for Drawing Straps Taut Around Objects Being Bound, Strap Sealers for Applying Metal Seals to Overlapping Strap Ends and Deforming the Seals and Strap Ends To Form Interlocking Joints, Combined Strap Stretchers and Sealers, and Snips for Shearing Metal Strapping; Metal Cutting Tools for Cutting Angle Plates; and Stapling Machines (Int. Cls. 7 and 8).  
First use at least as early as Feb. 3, 1966.

SN 256,729. Edbro Limited, Bolton, England. Filed Oct. 19, 1966.



For Body Lifting and Tipping Mechanism for Incorporating Into Motor Vehicles (Int. Cl. 12).  
First use 1942; in commerce 1942.

SN 257,283. Geo. M. Martin Company, Emeryville, Calif. Filed Oct. 26, 1966.

## MARTIN

For Paper Mill and Packaging Machinery—Namely, Stackers, Roll Stands, Rotary Die Cutters, Counter Ejectors, Right Angle Deliveries, and Power Conveyors (Int. Cl. 7).  
First use Jan. 14, 1958.



SN 258,559. Edw. Livingston & Sons, Inc., Kansas City, Mo. Filed Nov. 14, 1966.

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For Automatic Coin-Operated Car Wash Installations (Int. Cl. 9).  
First use Apr. 10, 1966.

SN 260,445. New Jersey Machine Corporation, Hoboken, N.J. Filed Dec. 9, 1966.

## SIDEWINDER

For Machines for Applying Labels to the Containers for Products (Int. Cl. 7).  
First use on or about Oct. 21, 1966.

SN 261,338. Vertrod Corporation, Brooklyn, N.Y. Filed Dec. 22, 1966.

## VERTROD

Owner of Reg. No. 426,029.  
For Heat Sealing Machines for Joining Sheets or Members Which Include Thermoplastic or Heat Responsive Materials (Int. Cl. 7).  
First use January 1946.

SN 265,480. Auto-Lawn Inc., Matawan, N.J. Filed Feb. 27, 1967.

## AUTO-LAWN

For Lawn Treating Vehicle Including a Fertilizer Spreader, a Scarifier, a Seeder, and a Roller (Int. Cl. 7).  
First use Feb. 1, 1967.

SN 267,519. Gatto Machinery Development Corp., Farmingdale, N.Y. Filed Mar. 24, 1967.

## CAT-A-PULLER

Owner of Reg. No. 822,790.  
For Plastics Extrusion Handling Machinery (Int. Cl. 7).  
First use in or about January 1962.

SN 267,697. Viking Drill and Tool Co., Inc., d.b.a. North American-Viking Drill Corporation, St. Paul, Minn. Filed Mar. 27, 1967.



VIKING DRILLS

Applicant disclaims the word "Drills." Owner of Reg. Nos. 703,895 and 806,343.  
For Twist Drills, Masonry Drills, Boring Bits, Drill Blanks, and Other Machine Tool Drills (Int. Cl. 7).  
First use Nov. 2, 1966.

SN 271,884. Vacowash Division, Inc., West Hollywood, Fla. Filed May 16, 1967.

## VACOWASH

For Coin-Operated, Self-Service Car Wash, Wax, and Vacuum Machines (Int. Cl. 9).  
First use Jan. 17, 1966.

SN 272,008. Bimba Manufacturing Company, Monee, Ill. Filed May 22, 1967.

## FREE THREAD

For Piston Rod Incorporated as a Component Part of a Fluid Power Cylinder (Int. Cl. 7).  
First use Feb. 2, 1967.

SN 273,964. Landis Tool Company (Delaware corporation), Waynesboro, Pa., assignee of Landis Tool Company (Pennsylvania corporation), Waynesboro, Pa. Filed June 15, 1967.

## MICROFEED

Owner of Reg. No. 702,885.  
For Machines for Grinding Metal (Int. Cl. 7).  
First use Apr. 18, 1967.

SN 274,607. Gustave Fischel, d.b.a. Monitor Electronics, North Hollywood, Calif. Filed June 23, 1967.

## SECUR-O-TRON

For Cash Registers (Int. Cl. 9).  
First use Apr. 15, 1966.

SN 274,967. Gill Drilling Equipment Co., Inc., North Branford, Conn. Filed June 28, 1967.

## BEETLE

For Drilling Machine Vehicle for Use in Well Drilling, Quarrying, Mining, Blast Hole and Construction Operations (Int. Cl. 7).  
First use June 24, 1958.

SN 274,971. Ingersoll-Rand Company, New York, N.Y. Filed June 28, 1967.

## AXI-VAC

For Vacuum Pumps (Int. Cl. 7).  
First use May 19, 1967.

SN 275,301. Portland Iron Works, Portland, Oreg. Filed July 3, 1967.

## MULTIMATIC

For Ripsaw Machine (Int. Cl. 7).  
First use April 1963.

SN 275,664. R. Hoe & Co., New York, N.Y. Filed July 10, 1967.

## INK-O-MATIC

For Inking Mechanism for Printing Machines (Int. Cl. 7).  
First use June 23, 1967.

SN 275,787. Rheon Jidoki Kabushiki Kaisha, d.b.a. Rheon Automatic Machinery Co., Limited, Utsunomiya, Tochigi, Japan. Filed July 11, 1967.

## RHEON

Owner of Japanese Reg. No. 726,692, dated Dec. 12, 1966.  
For Machines for the Manufacture of Bread and Confections (Int. Cl. 7).

SN 276,008. Howard W. Douglass, Jr., d.b.a. Douglass Muffler Manufacturing Co., Bell Gardens, Calif. Filed July 14, 1967.

## MISSILE

For Automobile Mufflers (Int. Cl. 12).  
First use June 13, 1967.

SN 276,439. General Fire Extinguisher Corporation, Northbrook, Ill. Filed July 20, 1967.

## PRO-LINE

For Portable Fire Extinguishers (Int. Cl. 9).  
First use on or before Dec. 31, 1962.

SN 276,572. National Silver Company, New York, N.Y. Filed July 21, 1967.

## POWER-CUT

For Battery-Operated Hand Saws for Home Use for Cutting Fabrics, Pattern Papers, and the Like Materials (Int. Cl. 7).  
First use Oct. 3, 1966.

SN 276,750. Guild Carbide Products, Inc., West Springfield, Mass. Filed July 25, 1967.

## CAMDEX

For Cutting Tool Inserts (Int. Cl. 7).  
First use June 27, 1967.

SN 278,493. Illinois Tool Works Inc., Chicago, Ill. Filed Aug. 17, 1967.

## TIGER-MIL

For Milling Cutters (Int. Cl. 7).  
First use June 19, 1967.

SN 287,615. Eversharp, Inc., Milford, Conn. Filed Dec. 27, 1967.

## KRONACHROME

Owner of Reg. Nos. 702,520, 817,744, and others.  
For Safety Razors, Safety Razor Blades, and Dispensers Therefor (Int. Cl. 8).  
First use Dec. 19, 1967.

SN 288,910. Eversharp, Inc., Milford, Conn. Filed Jan. 16, 1968.

## PLASMACHROME

For Safety Razors, Safety Razor Blades, and Dispensers Therefor (Int. Cl. 8).  
First use Nov. 30, 1967.

SN 288,911. Eversharp, Inc., Milford, Conn. Filed Jan. 16, 1968.

## KRONAKROME

Owner of Reg. Nos. 702,520, 817,744, and others.  
For Safety Razors, Safety Razor Blades, and Dispensers Therefor (Int. Cl. 8).  
First use Nov. 30, 1967.

SN 288,914. Eversharp, Inc., Milford, Conn. Filed Jan. 16, 1968.

## KROME FLASH

Applicant disclaims the term "Krome" apart from the mark as shown.  
For Safety Razors, Safety Razor Blades, and Dispensers Therefor (Int. Cl. 8).  
First use Nov. 30, 1967.

SN 288,915. Eversharp, Inc., Milford, Conn. Filed Jan. 16, 1968.

## KROMATOM

Owner of Reg. Nos. 702,520, 817,744, and others.  
For Safety Razors, Safety Razor Blades, and Dispensers Therefor (Int. Cl. 8).  
First use Nov. 30, 1967.

SN 289,155. R. Hoe & Co. Inc., New York, N.Y. Filed Jan. 19, 1968.

## COLOR-MAGIC

Owner of Reg. No. 717,164.  
For Printing Machinery (Int. Cl. 7).  
First use Aug. 23, 1967.

SN 290,799. H & H Engineering Company, Denver, Colo. Filed Feb. 12, 1968.

## UNI-FLEX

For Tube Bending Mandrels (Int. Cl. 7).  
First use in or about 1961.

## Class 24—Laundry Appliances and Machines

SN 288,377. Standard Packaging Corporation, New York, N.Y. Filed Jan. 8, 1968.



Owner of Reg. No. 595,308 and others.  
For Laundry Appliances for Household Use—Namely, Clothes Dryers (Int. Cl. 7).  
First use at least as early as Apr. 12, 1967; Sept. 17, 1953, as to "Stanpak."



## Class 26—Measuring and Scientific Appliances

SN 231,893. Dainippon Screen Manufacturing Company, Limited, Kamikyo-ku, Kyoto, Japan. Filed Nov. 1, 1965.



Priority claimed under Sec. 44(d) on Japanese application filed July 19, 1965; Reg. No. 742,454, dated May 17, 1967. The mark is comprised of the letter "S" in a circle.

For Photocomposing Machines—Namely, Step and Repeat Machines; Proof Press for Relief Printing and Offset Printing; Vacuum Printing Frames; and Plate Coating Machines of the Whirler Type (Int. Cl. 9).

SN 258,532. General Dynamics Corporation, San Diego, Calif. Filed Nov. 14, 1966.

## NU-SHIELD

For Nuclear Radiation Shielding Material Having Radiation Absorbing Particles Dispersed in a Flexible Matrix (Int. Cl. 9).

First use Apr. 18, 1966.

SN 260,940. Kontur Contact Lens Co., Inc., Richmond, Calif. Filed Dec. 16, 1966.

## MANDELL N/J

For Contact Lenses (Int. Cl. 9).

First use Dec. 12, 1966.

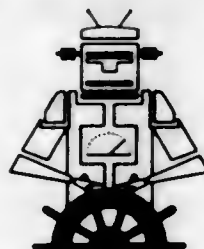
SN 261,290. Fluidlogics Corporation, New York, N.Y. Filed Dec. 22, 1966.

## FLUIDLOGICS

For Fluid Flow Equipment—Namely, Test Apparatus, Fluid Circuitry Modules and Building Blocks, Manifolds and Connectors, and Sensor and Interface Devices (Int. Cl. 9).

First use Nov. 9, 1966.

SN 270,633. Ware Marine Products, Inc., Miami, Fla. Filed May 3, 1967.



For Automatic Pilot for Ships and Boats, and Parts Thereof (Int. Cl. 9).

First use Dec. 12, 1966.

SN 272,254. Clarkson Industries, Inc., New York, N.Y., by merger from Belson Corporation, New York, N.Y. Filed May 24, 1967.

## TEMP-SENS

For Temperature Limiting Switch To Actuate an Alarm or Shut Down Equipment To Prevent Overheating (Int. Cl. 9).

First use October 1962.

SN 274,700. H. W. Andersen Products, Inc., Oyster Bay, N.Y. Filed June 26, 1967.

## STERITEST

For Biological Control Unit for Laboratory or Hospital Use, Containing a Culture Medium and Color Change Indicator To Indicate Sterility Upon Incubation (Int. Cl. 9).

First use Apr. 11, 1966.

SN 276,362. Spectra-Physics, Inc., Mountain View, Calif. Filed July 19, 1967.

## GEODOLITE

For Laser Distance Measuring Instruments (Int. Cl. 9).

First use Mar. 7, 1967.

SN 276,522. Associated Electrical Industries Limited, London, England. Filed July 21, 1967.



Owner of U.S. Reg. No. 715,030.

For Electron Microscopes and Mass Spectrometers, and Parts of the Aforesaid Goods (Int. Cl. 9).

First use Jan. 1, 1965; in commerce Jan. 1, 1966.

SN 280,276. Uptime Corporation, Golden, Colo. Filed Sept. 13, 1967.

## UPTIME

For Apparatus for Processing Business Cards—Namely, Card Reading Apparatus, Card Punch Apparatus, and Component Parts Thereof (Int. Cl. 9).

First use on or before Nov. 15, 1965.

SN 282,620. Pachmayr Gun Works, Inc., Los Angeles, Calif. Filed Oct. 16, 1967.

## LO-SWING

For Mounts for Attaching Telescope Sights to Guns, and Parts of Such Mounts (Int. Cl. 13).

First use 1946.

## Class 27—Horological Instruments

SN 274,998. M. K. Summers and Raymond Goodman (joint owners), Brownstown, Ind. Filed June 28, 1967.



For Clocks (Int. Cl. 14).

First use Mar. 17, 1967.

SN 282,882. Bulova Watch Company, Inc., Flushing, N.Y. Filed Oct. 19, 1967.

## BUCCANEER

For Watches and Parts Thereof (Int. Cl. 14).

First use Oct. 3, 1967.

## Class 28—Jewelry and Precious-Metal Ware

SN 277,122. E. H. Ashley & Company, Inc., Providence, R.I. Filed July 31, 1967.

## CAPTIVE OPAL

The term "Opal" is disclaimed separate and apart from the mark as shown.

For Ornamental Opal Stones for Use in Jewelry Products (Int. Cl. 14).

First use on or about Apr. 10, 1964.

SN 280,058. House of Fischer, New Brunswick, N.J. Filed Sept. 11, 1967.



The name "Tobee" is fictitious.

For Men's and Ladies' Rings (Int. Cl. 14).

First use Jan. 17, 1966.

SN 282,927. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Silvermiths, Greenfield, Mass. Filed Oct. 19, 1967.

## RAPALLO

For Sterling Silver Flatware (Int. Cl. 8).

First use Oct. 17, 1967.

## Class 31—Filters and Refrigerators

SN 255,133. Struthers Thermo-Flood Corporation, Tulsa, Okla. Filed Sept. 26, 1966.

## THERMO-SOFTENER

For Modular and Individual Transportable Water Treatment Plants for Pre-Treatment of Water To Make Steam for Recovery of Mineral Products (Int. Cl. 11).

First use on or about Aug. 31, 1966.

SN 258,720. Purolator Products, Inc., Rahway, N.J. Filed Nov. 15, 1966.

## PER

For Filters, Elements, and Parts Thereof, for the Purification of Oil, Water, Fuel, Air, and Other Fluids (Int. Cl. 11).

First use at least by Mar. 1, 1946.

SN 258,901. Dyna-Tech Products, Inc., Cincinnati, Ohio. Filed Nov. 17, 1966.

## FILTER KLING

Applicant disclaims exclusive right to the term "Filter," apart from the mark as shown.

For Filters for Air or Other Gases for Heating, Ventilating, and Air Conditioning (Int. Cl. 11).

First use on or about Oct. 27, 1966.

SN 265,754. Vulcan-Hart Corporation, Baltimore, Md. Filed Mar. 1, 1967.



Owner of Reg. Nos. 63,250, 675,526, and others. For Refrigerators, Freezers, and Walk-In Coolers for Commercial Use (Int. Cl. 11).

First use September 1964.

SN 268,146. Borg-Warner Corporation, Chicago, Ill. Filed Apr. 3, 1967.

## RECOLDMATIC

Owner of Reg. Nos. 442,910, 651,470, and others. For Apparatus for Defrosting Refrigeration Systems (Int. Cl. 11).

First use latter part of 1961.

SN 271,563. Industrie A. Zanussi, Pordenone, Italy. Filed Mar. 14, 1967.

## TROPIC-SYSTEM

Owner of Italian Reg. No. 139,581, dated Nov. 15, 1958. For Refrigerators (Int. Cl. 11).

SN 272,919. Continental Water Treatment Corporation, Mobile, Ala. Filed June 2, 1967.

## SONIC-FLO

For Water Treatment Equipment—Namely, Mechanical Filters, Iron Removal Filters, Sediment Removal Filters, Corrosion Control (pH) Filters, Activated Carbon Filters, Demineralizers, Water Softeners, and Antipollution Filters (Int. Cl. 11).

First use on or about May 15, 1966.

SN 273,817. Walker Manufacturing Company, Racine, Wis. Filed June 13, 1967.

## VIGIL

For Air, Oil, and Gasoline Filters (Int. Cl. 11).

First use May 11, 1967.

## Class 32—Furniture and Upholstery

SN 249,867. National Furniture Manufacturing Co., Inc., Evansville, Ind. Filed July 8, 1966.



For Seat and Back Cushions for Upholstered Furniture (Int. Cl. 20).

First use during June 1963.

SN 258,112. Hauck Industries, Incorporated, Dickinson, N. Dak., by change of name from Hauck Millwork, Inc., N. Dak. Filed Nov. 7, 1966.

## HAUCK

For Cabinets Made of Wood and/or Plastics Laminate (Int. Cl. 20).

First use November 1956.

SN 264,182. Art-Lloyd Metal Products Corp., Brooklyn, N.Y. Filed Feb. 8, 1967.



The parallel horizontal close lining on the drawing is intended merely to reproduce corresponding such lines shown in background on the specimens, namely, in corresponding parallel horizontal depressions in the nameplate specimens.

For Office Furniture Including All Kinds of Office Desks, Chairs, Conference Tables, Bookcases, Filing Cabinets, Storage Cabinets, Transfer Files, Combined Filing and Storage Cabinets, Combined Desk, Storage and Filing Cabinets, and Credenzas (Int. Cl. 20).

First use at least as early as January 1962; at least as early as June 1954 as to "Modern Steelcraft."



SN 266,564. National Guard Products, Inc., Memphis, Tenn. Filed Mar. 13, 1967.



For Bed Spring Supports (Int. Cl. 20).  
First use January 1951.

SN 273,083. The Lane Company, Inc., Altavista, Va. Filed June 5, 1967.

## RENDEZVOUS

For Case Goods, Tables, Chairs, and Bedroom Furniture (Int. Cl. 20).  
First use Feb. 1, 1967.

SN 285,501. Pagebar, Inc., Miami, Fla. Filed Nov. 24, 1967.

## HANDY-CAN

For Cupboards (Int. Cl. 20).  
First use at least as early as Dec. 8, 1966.

## Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 258,884. Big Dutchman, Inc., Zeeland, Mich. Filed Nov. 17, 1966.

## EVAP-O-VENT

For Livestock Environmental Ventilating Equipment—Namely, Ventilating Fans, Evaporative Coolers, and Control Panels Therefor, Normally Sold in Unit Groupings (Int. Cl. 11).  
First use Sept. 1, 1966.

SN 259,128. M.K. Products, Inc., Santa Ana, Calif. Filed Nov. 21, 1966.



For Electric Welding Equipment and Control Therefor, Sold as a Unit (Int. Cl. 9).  
First use Aug. 31, 1966.

SN 261,933. Litecontrol Corporation, Watertown, Mass. Filed Jan. 4, 1967.

## SUN/TEC

For Electric Radiant Panel Space Heaters (Int. Cl. 11).  
First use May 5, 1966.

SN 264,356. Edwin L. Wiegand Company, Pittsburgh, Pa. Filed Feb. 9, 1967.

## WALL GUARD

For Space Heating Equipment, Particularly Baseboard-Type Heaters (Int. Cl. 11).  
First use on or about Jan. 17, 1966.

SN 264,502. The Atlanta Stove Works, Inc., Atlanta, Ga. Filed Feb. 13, 1967.

## CUE-GRILL

For Outdoor Bar-B-Que Grills (Int. Cl. 11).  
First use Oct. 1, 1966.

SN 267,542. Nordson Corporation, Amherst, Ohio. Filed Mar. 24, 1967.

## BEDE

For Paint Heaters and Parts Therefor (Int. Cl. 11).  
First use on or about Jan. 1, 1947.

SN 269,126. The Taylor-Winfield Corporation, Warren, Ohio. Filed Apr. 13, 1967.

## PREP LAP

The word "Lap" is disclaimed apart from the mark as shown.

For Welding Machine, for Joining Metal Sheet and Strip (Int. Cl. 7).  
First use July 21, 1964.

SN 271,862. Welding Equipment & Supply Co., Detroit, Mich. Filed May 18, 1967.

## EUREKA-SHIELD

Owner of Reg. Nos. 536,082, 791,819, and others.  
For Liquid Anti-Spatter and Nozzle Shield for Welding Gun Nozzles, Electrode Holders, and Contact Tips (Int. Cl. 9).  
First use Apr. 25, 1967.

SN 273,728. Air Products and Chemicals, Inc., Allentown, Pa. Filed June 13, 1967.

## CYCLE-SURGE

For Arc Welding Power Generators (Int. Cl. 7).  
First use on or about Apr. 25, 1967.

SN 274,495. Cobalide (Industrial) Pty. Limited, Alexandria, New South Wales, Australia. Filed June 22, 1967.

## COBALARC

Owner of Australian Reg. No. A92,133, dated July 29, 1947.  
For Welding Electrodes and Rods (Int. Cl. 9).

SN 275,146. Samuel Jackson Manufacturing Corporation, Lubbock, Tex. Filed June 30, 1967.



For Humidifiers for Processing Cotton in a Cotton Gin (Int. Cl. 11).  
First use Mar. 9, 1962.

SN 275,242. Cook Machinery Co., Inc., Dallas, Tex. Filed July 3, 1967.

## CHAR-COOK

For Electric Broilers (Int. Cl. 11).  
First use at least as early as June 2, 1967.

SN 275,700. Standard Oil Company of California, San Francisco, Calif. Filed July 10, 1967.

## CHEVRON

Owner of Reg. No. 815,843.  
For Oil-Fired, Warm-Air Furnaces, and Oil-Fired Boilers for Hot Water and Steam Heating Systems (Int. Cl. 11).  
First use Mar. 28, 1967.

SN 275,701. Standard Oil Company of California, San Francisco, Calif. Filed July 10, 1967.



Owner of Reg. No. 807,521.  
For Oil-Fired, Warm-Air Furnaces, and Oil-Fired Boilers for Hot Water and Steam Heating Systems (Int. Cl. 11).  
First use Mar. 28, 1967.

SN 275,947. Kool-O-Matic Corporation, Niles, Mich. Filed July 13, 1967.

## CUPOLA-MATIC

For Power Attic Ventilators (Int. Cl. 11).  
First use June 6, 1967.

## Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 252,896. Rockwell-Standard Corporation, Pittsburgh, Pa. Filed Aug. 22, 1966.

## RSC

For Vehicle Brake Linings (Int. Cl. 12).  
First use about May 27, 1966.

SN 272,963. Sammy Tanner Distributing Co., Inc., Wilmington, Calif. Filed June 2, 1967.

## ASCOT

For Motorcycle Tires (Int. Cl. 12).  
First use Mar. 20, 1967.

SN 274,730. The Firestone Tire & Rubber Company, Akron, Ohio. Filed June 26, 1967.

## SAF-T-LOK

For Inner Tires To Be Inserted in Automobile Tires (Int. Cl. 12).  
First use Nov. 25, 1966.

SN 277,136. Bell Nu-Tread Plant, Inc., Buffalo, N.Y. Filed July 31, 1967.

## TRANSIT

For Non-Metallic Vehicle Tires (Int. Cl. 12).  
First use Feb. 11, 1966.

## Class 36 — Musical Instruments and Supplies

SN 266,620. Twin Circle Publishing Co., Inc., New York, N.Y. Filed Mar. 14, 1967.

## TWIN T CIRCLE

Owner of Reg. Nos. 839,611, 839,612, and 839,995.  
For Magnetic Sound Recording Tape for Transmission to Radio Stations (Int. Cl. 9).  
First use Feb. 16, 1967.

SN 277,762. Amway Corporation, Ada, Mich. Filed Aug. 8, 1967.

## AMWAY

Owner of Reg. Nos. 707,656, 777,704, and others.  
For Ukeleles (Int. Cl. 15).  
First use on or about June 27, 1967.

SN 277,763. Amway Corporation, Ada, Mich. Filed Aug. 8, 1967.



Owner of Reg. Nos. 707,656, 777,704, and others.  
For Ukeleles (Int. Cl. 15).  
First use on or about June 27, 1967.

## Class 37 — Paper and Stationery

SN 250,822. The Colonial Press, Inc., Chamblee, Ga. Filed July 22, 1966.



For Skin and Blister Packaging Board, Both Coated and Uncoated With Heat Sealing Adhesives (Int. Cl. 16).  
First use May 18, 1965.

SN 251,222. Walter Lennartz, Rothsachwalge, near Dachau, Germany. Filed July 28, 1966.

## PERMA

Owner of German Reg. No. 630,602, dated Nov. 26, 1952.  
For File Folders—Namely, Suspended Pocket File Folders, File Pockets, and Protective Covering Cases, and Envelopes, All Made From a Plastic Material. (Int. Cl. 16).  
First use Jan. 11, 1966; in commerce Jan. 11, 1966.

SN 258,255. Scott Paper Company, Delaware County, Pa. Filed Nov. 8, 1966.

## WALDORF

Owner of Reg. No. 548,353.  
For Paper Towels and Paper Napkins (Int. Cl. 16).  
First use on or about Jan. 11, 1965.



SN 258,837. The Workman Manufacturing Company, Chicago, Ill. Filed Nov. 14, 1966.

## WORKMAN

Owner of Reg. No. 655,516.  
For Business Forms—Namely, Continuous, Computer, Snap-Out, Peg-Board, Single Bound, and Loose-Leaf Forms, Checks, Reproduction Masters, Blank Books, Memo Books, and Notebooks (Int. Cl. 16).  
First use Dec. 15, 1923.

SN 261,815. Eaton Allen Corp., Brooklyn, N.Y. Filed Jan. 3, 1967.

## KO-REC-COLORS

Owner of Reg. Nos. 724,626, 736,991, and 801,347.  
For Coated Colored Pressure-Actuated Correction Paper for Making Corrections of Typed Errors on Colored Paper Stock (Int. Cl. 16).  
First use at least as early as 1962.

SN 266,934. David B. Sigismund, d.b.a. Sigma Mining Company, Grand Junction, Colo. Filed Mar. 16, 1967.

## THE COMPTROLLER

For Accounting System Consisting of Account Cards and Sheets in Looseleaf Form (Int. Cl. 16).  
First use on or about Dec. 1, 1966.

SN 269,475. Wesco Industries, Inc., Westwood, N.J. Filed Apr. 18, 1967.

## PageSavers

For Vinyl Plastic Self Sticking Pressure Sensitive Loose Leaf Reinforcements (Int. Cl. 16).  
First use Mar. 28, 1967.

SN 273,426. Sperry Rand Corporation, New York, N.Y. Filed June 8, 1967.

## VERI-CHEK

For Check File Guides for Separating Groups of Checks in Check Carrying Trays (Int. Cl. 16).  
First use Feb. 19, 1967.

SN 274,515. Hammermill Paper Company, Erie, Pa. Filed June 22, 1967.

## HAMMERMILL MATTE

The word "Matte" is disclaimed.  
For Offset Paper (Int. Cl. 16).  
First use Mar. 21, 1967.

SN 275,170. Pic-Mount Corporation, Long Island City, N.Y. Filed June 30, 1967.

## PIC-MOUNT

For Mounting Devices for Photographs and the Like (Int. Cl. 16).  
First use January 1950.

SN 275,290. The Northwest Paper Company, Cloquet, Minn. Filed July 3, 1967.

## NORTH STAR

For Uncoated Papers (Int. Cl. 16).  
First use April 1920.

SN 276,552. Groveton Papers Company, Groveton, N.H. Filed July 21, 1967.



The lining on the drawing merely represents the lining shown on the specimens and does not represent color. The portrait shown on drawing does not represent a living individual.

For Envelopes (Int. Cl. 16).  
First use Dec. 1, 1965.

SN 276,945. Noland Paper Company, Inc., Buena Park, Calif. Filed July 27, 1967.



The mark consists of a stylized letter "N."  
For Envelopes, Writing Paper, Printing Paper, and Duplication Papers (Int. Cl. 16).  
First use March 1964.

SN 277,145. The Central Ohio Paper Company, Columbus, Ohio. Filed July 31, 1967.

## REPUBLIC

For Printing and Writing Papers and Envelopes (Int. Cl. 16).  
First use 1903.

SN 277,555. Hammermill Paper Company, Erie, Pa. Filed Aug. 4, 1967.

## HAMMERMILL ACCOLADE MATTE

The word "Matte" is disclaimed.  
For Paper for Printing, Duplicating, and Office Use. (Int. Cl. 16).  
First use June 14, 1967.

SN 278,791. A. W. Faber-Castell Pencil Co., Inc., Newark, N.J. Filed Aug. 22, 1967.

## NORMA

For Ball Point Pens and Mechanical Pencils (Int. Cl. 16).  
First use May 8, 1967.



MAY 7, 1968

U. S. PATENT OFFICE

TM 27

SN 278,824. Riverside Paper Corporation, Appleton, Wis. Filed Aug. 22, 1967.



**TRU-RAY**

Owner of Reg. Nos. 589,606 and 637,186.  
For Gummed Poster and Gummed Construction Paper, Art Paper and Creped Paper (Int. Cl. 16).  
First use Apr. 19, 1967.

**Class 38 — Prints and Publications**

SN 249,848. Dictaphone Corporation, Bridgeport, Conn. Filed July 8, 1966.



For Secretarial Instruction Publications—Namely, Legal Secretarial Practice and Form Books Including Instructions for Using Dictating Machine Equipment (Int. Cl. 16).  
First use October 1965.

SN 261,211. Glendinning Companies, Inc., Westport, Conn. Filed Dec. 21, 1966.

**RACE & SPACE**

For Promotional Printed Game Materials of the Public Participation Type for Distribution by Retail Outlets for Playing a Promotional Game To Stimulate the Sale of Their Goods and Services (Int. Cl. 16).  
First use Oct. 6, 1966.

SN 266,378. United Business Service Company, Boston, Mass. Filed Mar. 9, 1967.

**UNITED**

Owner of Reg. Nos. 688,338 and 727,781.  
For Economic Service Publication—Namely, Business and Investment Report Issued Each Week (Int. Cl. 16).  
First use Apr. 22, 1921.

SN 268,756. The National Cash Register Company, Dayton, Ohio. Filed Apr. 10, 1967.

**ACCOUNTANTS  
COMMUNIQUE**

For Monthly Newsletter Containing Topics of Interest to Professional Accountants and Their Clients (Int. Cl. 16).  
First use on or about Feb. 10, 1967.

SN 270,516. Tactype Inc., New York, N.Y. Filed May 2, 1967.

**T | A | C | T | Y | P | E**

For Dry Transfer Lettering, Number, and Design Sheets for the Graphic Arts Industry (Int. Cl. 16).  
First use Nov. 29, 1966.

SN 270,922. J & H International Corporation, Chicago, Ill. Filed May 8, 1967.

**WIZARD**

For Game or Contest Cards for Promotional Use by Others To Encourage, Facilitate and Stimulate the Sale of Their Goods and/or Services (Int. Cl. 16).  
First use May 2, 1967.

SN 272,304. The Pillsbury Company, Minneapolis, Minn. Filed May 24, 1967.

**P** pillsbury publications

Applicant disclaims the word "Publications" separate and apart from the mark as shown.  
For Cook Books (Int. Cl. 16).  
First use Apr. 14, 1967.

SN 273,085. Linn Camera Shop, Inc., Lansing, Mich. Filed June 5, 1967.

*Linprints*

For Photographic Prints (Int. Cl. 16).  
First use November 1927.

SN 273,142. Watt Publishing Company, Mount Morris, Ill. Filed June 5, 1967.

**Farm  
Supplier**

Owner of Reg. No. 724,286.  
For Trade Magazine (Int. Cl. 16).  
First use May 29, 1967.

SN 274,505. Equitable Life Insurance Company, Washington, D.C. Filed June 22, 1967.

**EQUILIFE**

For Publication, More Especially an Employee Magazine (Int. Cl. 16).  
First use May 1, 1967.



SN 281,751. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Oct. 4, 1967.

For Printed Pamphlets and Transparencies Useful for Teaching Health Education in Schools (Int. Cl. 16).  
First use Mar. 17, 1967.

### Class 39—Clothing

SN 241,852. A. S. Beck Shoe Corporation, New York, N.Y. Filed Mar. 25, 1966.

**BECK BOOTIQUE**

Owner of Reg. Nos. 365,306, 693,556, and others.  
For Shoes (Int. Cl. 25).  
First use Jan. 26, 1966.

SN 252,067. Blades of Dover Street Limited, London, England. Filed Aug. 10, 1966.

**BLADES**

For Ties, Shirts, Trousers, Dressing Gowns, Top Coats, Jackets, Belts, Socks, Sweaters, Handkerchiefs, and Suits (Int. Cl. 25).  
First use Nov. 23, 1962.

SN 255,134. Taj-Tajerle, Ltd., New York, N.Y. Filed Sept. 26, 1966.

Owner of Reg. No. 733,823.  
For Men's and Women's Wearing Apparel—Namely, Hats, Stoles, Scarves, Dresses, Blouses, Shifts, Caftans, Slacks, Suits, Shoes, Slippers, Apparel Belts, Gloves, Swim Suits, Neckties, Shirts, Shorts, Vests, Cumberbunds, and Jackets (Int. Cl. 25).  
First use Dec. 16, 1965.

SN 258,305. The Green Shoe Manufacturing Company, Boston, Mass. Filed Nov. 9, 1966.

**MINNI**

For Shoes for Misses, Girls, Children, and Infants (Int. Cl. 25).  
First use Oct. 6, 1966.

SN 260,455. Scotch Craft, Inc., Newark, N.J. Filed Dec. 9, 1966.

For Men's Women's, and Teen-Agers' Sportswear—Namely, Sweaters, Parkas, Jackets, Skirts, Coats, Dresses, Hats, and Scarfs (Int. Cl. 25).  
First use May 23, 1966.

SN 261,809. Alex Colman, Inc., Los Angeles, Calif. Filed Jan. 3, 1967.

**STRATO  
KNIT**

The word "Knit" is disclaimed apart from the mark as shown.  
For Women's Pants (Int. Cl. 25).  
First use Mar. 15, 1966.

SN 263,694. Bernard E. Powers, Fitchburg, Mass. Filed Jan. 31, 1967.

**COPPER CORNER**

For Women's Shorts, Slacks, Skirts, Suits, Dresses, Jackets, and Hats (Int. Cl. 25).  
First use Jan. 23, 1967.

SN 263,795. Haymaker Sports, Inc., New York, N.Y. Filed Feb. 2, 1967.

**THE SWING SHIFT**

The word "Shift" is disclaimed apart from the mark as shown.  
For Dresses (Int. Cl. 25).  
First use Nov. 9, 1966.

SN 264,256. Sportiva, Limited, Long Island City, N.Y. Filed Feb. 8, 1967.

For Women's Knitted Sportswear—Namely, Pants Sets, Skirt Sets, Dresses, Pants and T-Tops (Int. Cl. 25).  
First use June 1964.

SN 264,397. ESB Incorporated, Philadelphia, Pa., assignee of The Electric Storage Battery Company, Philadelphia, Pa. Filed Feb. 10, 1967.

For Safety Caps (Int. Cl. 9).  
First use Dec. 8, 1966.

SN 266,296. Arkwright Mfg. Inc., New York, N.Y. Filed Mar. 9, 1967.

For Ladies', Misses' and Children's Knitted Outerwear—Namely, Sweaters, Cardigans, and Dresses (Int. Cl. 25).  
First use Mar. 1, 1966.

SN 266,416. Fashions Limited, Inc., Greensboro, N.C. Filed Mar. 10, 1967.

For Women's and Children's Skirts, Blouses, Dresses, and Suits (Int. Cl. 25).  
First use on or about Nov. 1, 1965.

SN 266,991. C. W. Anderson Hosiery Company, Clinton, S.C. Filed Mar. 17, 1967.

**TALL STEMS**

For Ladies' Hosiery (Int. Cl. 25).  
First use Feb. 15, 1967.

SN 268,467. Atomic Uniforms Corp., New York, N.Y. Filed Apr. 6, 1967.

The drawing is lined for gold and red. The name "Tina Carol" is fanciful. The words "Uniforms by" are disclaimed apart from the mark as shown.  
For Uniforms (Int. Cl. 25).  
First use Jan. 20, 1967.

SN 268,486. M. Fine & Sons Manufacturing Company, Inc., New York, N.Y. Filed Apr. 6, 1967.

**BAR-F**

For Men's Trousers (Int. Cl. 25).  
First use at least as early as Feb. 16, 1967.

SN 268,995. A. Schreter & Sons Co., Inc., Baltimore, Md. Filed Apr. 12, 1967.

**BUTTON DOWN**

For Neckties (Int. Cl. 25).  
First use January 1954.

SN 269,741. M. J. Constant, d.b.a. Jack Constant Hosiery, Milwaukee, Wis. Filed Apr. 21, 1967.

**Constant**

For Hosiery (Int. Cl. 25).  
First use Mar. 14, 1965.

SN 269,742. M. J. Constant, d.b.a. Jack Constant Hosiery, Milwaukee, Wis. Filed Apr. 21, 1967.

**Miss Secretary**

For Hosiery (Int. Cl. 25).  
First use Mar. 14, 1965.

SN 269,743. M. J. Constant, d.b.a. Jack Constant Hosiery, Milwaukee, Wis. Filed Apr. 21, 1967.

**Sheeramic**

For Hosiery (Int. Cl. 25).  
First use Mar. 14, 1965.

SN 270,711. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed May 4, 1967.

**CROWN  
Juilliard**

Owner of Reg. No. 502,513.  
For Men's Suits (Int. Cl. 25).  
First use on or about Apr. 13, 1967.

SN 270,776. M. Fine & Sons Manufacturing Company, Inc., New York, N.Y. Filed May 5, 1967.

**5 BROTHER**

For Jackets, Playsuits, Boys' Blouses, Boys' Shirts, Pajamas, Flannel Shirts, Sport Shirts, Dress Shirts, Work Shirts, Work Pants, Walking Shorts, Overalls, Overall Coats, and Underwear of Knitted and Textile Fabric for Men, Women, and Children (Int. Cl. 25).  
First use at least as early as July 1, 1925.



SN 272,334. McCrory Corporation, New York, N.Y. Filed May 25, 1967. SN 287,487. Melville Shoe Corporation, New York, N.Y. Filed Dec. 26, 1967.

## SHIRTMAKER

For Dresses (Int. Cl. 25).  
First use April 1926.

SN 276,138. The Jaeger Company Limited, London, England. Filed July 17, 1967.

## YOUNG JAEGER

Applicant makes no claim to the exclusive right to the word "Young" apart from the mark as shown. Owner of British Reg. No. 894,068, dated May 3, 1966; and U.S. Reg. Nos. 89,201, 268,493, and 551,911.

For Coats, Suits, Dresses, Slacks, Skirts, Jumpers, Cardigans, Blouses, Hats, Scarves, Stockings and Socks (for Wear), Bathing Costumes, Underwear and Belts (for Wear) (Int. Cl. 25).

SN 278,526. Philtex Manufacturing Company, Philadelphia, Pa. Filed Aug. 17, 1967.

## SEA PANTS LTD.

The word "Pants" is disclaimed apart from the mark as shown.

For Swimwear (Int. Cl. 25).  
First use July 25, 1967.

SN 280,108. Suburban Shoe Stores, Inc., Cambridge, Mass. Filed Sept. 11, 1967.

## HARVARD SQUARE

For Women's Shoes (Int. Cl. 25).  
First use Aug. 7, 1966.

SN 281,774. Damon Creations, Inc., New York, N.Y. Filed Oct. 4, 1967.

## DAMON INTERNATIONAL

Owner of Reg. Nos. 717,628 and 840,056.

For Women's Dresses, Blouses, and Skirts; Men's and Women's Jackets, Shirts, Sweaters, Neckties, Belts, Beachwear—Namely, Bathing Suits and Trunks, Casual Jackets, Shorts, Raincoats, Suits, Sport Jackets, Slacks, and Handkerchiefs (Int. Cl. 25).

First use July 1, 1967.

SN 282,696. General Nitewear Corp., d.b.a. Kerwood, New York, N.Y. Filed Oct. 17, 1967.

## CAMPAJAMA

For Pajamas (Int. Cl. 25).  
First use Oct. 12, 1967.

SN 284,648. Garland Corporation, Brockton, Mass. Filed Nov. 13, 1967.

## GARLAND MAKES ALL THE DIFFERENTS

Owner of Reg. No. 529,088.

For Women's Clothing—Namely, Skirts and Suits, Pants, Shirts, Jackets, Sweaters, Hose, Skirt-and-Jacket Coordinates, Shirts, Jumpers, Blazers, Hats, and Scarves (Int. Cl. 25).  
First use at least as early as Oct. 25, 1967.

## THE PLAYROOM

Owner of Reg. No. 783,269.  
For Women's and Misses' Shoes (Int. Cl. 25).  
First use Dec. 12, 1967.

SN 289,858. Converse Rubber Corporation, Malden, Mass. Filed Jan. 30, 1968.

## NO-BITE

For Hunting Boots (Int. Cl. 25).  
First use Apr. 1, 1948.

SN 289,860. Insko Shoe Corporation, Glenside, Pa. Filed Jan. 30, 1968.

## INSKO

For Children's Shoes (Int. Cl. 25).  
First use August 1960.

## Class 40—Fancy Goods, Furnishings, and Notions

SN 274,277. Yardley of London, Inc., Totowa, N.J. Filed June 19, 1967.

## PUT-ONS

For Eyelashes (Int. Cl. 26).  
First use June 12, 1967.

SN 288,811. B. B. Greenberg Co., Cranston, R.I. Filed Jan. 15, 1968.

*Rapallo*

Owner of Reg. No. 822,832.  
For Barrettes, Bobby Pins, Hair Clips, Hat Pins, Hair Combs, and Head Bands (Int. Cls. 21 and 26).  
First use on or about Aug. 17, 1966.

## Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 280,250. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Sept. 13, 1967.

## THERM-A-GARD

For Aluminum Coated Asbestos Fabrics (Int. Cl. 24).  
First use Aug. 11, 1967.

SN 283,954. General Felt Industries, Inc., Chicago, Ill. Filed Nov. 2, 1967.

## SPRINGFOAM

Owner of Reg. No. 304,480.  
For Rug Cushions and Carpet Lining (Int. Cl. 27).  
First use in or about June 1960.

## Class 44—Dental, Medical, and Surgical Appliances

SN 257,751. American Medical and Surgical Research Corp., Wellesley Hills, Mass. Filed Nov. 2, 1966.

## SILON

For Medical Grade Silicon Products and Surgical Appliances—Namely, Tracheostomy Tubes, Endotracheal Tubes, Cut-Down Tubing, Catheters, Stretch Sheeting, Shunt Tubing, and Drains (Int. Cl. 10).  
First use on or about May 1, 1965.

SN 270,609. Richards Manufacturing Company, Memphis, Tenn. Filed May 3, 1967.

*Trac-a-derm*

For Medical Traction Strips (Int. Cl. 5).  
First use Mar. 29, 1967.

SN 275,531. Walter Kausch Enterprises, Inc., Detroit, Mich. Filed July 7, 1967.

## REALIFE

Owner of Reg. No. 723,156.  
For Artificial Breast Form for a Mastectomy (Int. Cl. 10).  
First use May 8, 1967.

## Class 45—Soft Drinks and Carbonated Waters

SN 264,896. Boiling Spring Holding Corporation, New York, N.Y. Filed Feb. 17, 1967.

## DEER PARK

For Spring Water (Int. Cl. 32).  
First use in or about 1887.

SN 273,403. Michael G. Kaufman, d.b.a. Intra Continental Export Co., New York, N.Y. Filed June 8, 1967.

*JUPIÑA*

For Carbonated Soft Drinks (Int. Cl. 32).  
First use July 15, 1966.  
Subj. to Intf. with SN 271,119.

SN 278,578. A. J. Canfield Co., Chicago, Ill. Filed Aug. 18, 1967.

*Swiss CREME*

Applicant disclaims the word "Creme" apart from the mark as shown. Owner of Reg. No. 740,272.  
For Soft Drink Beverages (Int. Cl. 32).  
First use Apr. 27, 1967.

SN 281,596. Marlan Company, Chicago, Ill. Filed Oct. 2, 1967.

## ICY-KOOL

For Base for Making a Commercial Slush Drink Dispensed From a Commercial Slush Machine (Int. Cl. 32).  
First use July 5, 1967.

SN 281,597. Marlan Company, Chicago, Ill. Filed Oct. 2, 1967.

## TROPI-TREET

For Base for Making a Commercial Slush Drink Dispensed From a Commercial Slush Machine (Int. Cl. 32).  
First use July 5, 1967.

SN 284,136. Eng-Skell Company, San Francisco, Calif. Filed Nov. 7, 1967.

*Thirsty Nip*

For Fruit Flavored Syrup Concentrates for Preparation of Soft Drinks (Int. Cl. 32).  
First use as early as Dec. 1, 1940.

## Class 46—Foods and Ingredients of Foods

SN 236,283. Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. Filed Jan. 12, 1966.

## ANGEL STEAKS

For Frozen Formed Chicken-Breast Cutlets (Int. Cl. 29).  
First use Oct. 1, 1965.

SN 247,238. Massola Bros. Biscuit Co., Inc., d.b.a. Massola Biscuit Co., Brooklyn, N.Y. Filed June 3, 1966.

*COOKYLAND*

For Cookies and Biscuits (Int. Cl. 30).  
First use Jan. 1, 1966.

SN 249,488. Armour and Company, Chicago, Ill. Filed July 5, 1966.

## THE NEVER-CHIP-A-CHIP CHIP DIP

The term "Chip Dip" is disclaimed apart from the mark as shown.  
For Cheese and Onion Flavored Food Dip (Int. Cl. 29).  
First use on or prior to May 20, 1966.

SN 252,859. Kvarn Ab Tre Kronor, d.b.a. Kvarnen-Tre Kronor, Stockholm, Sweden. Filed Aug. 22, 1966.

## NIBL-RYE

For Crisp Rye Bread (Int. Cl. 30).  
First use Nov. 1, 1965; in commerce Nov. 1, 1966.



SN 252,860. Kvarn Ab Tre Kronor, d.b.a. Kvarnen-Tre Kronor, Stockholm, Sweden. Filed Aug. 22, 1966.

SN 266,123. Wilsey-Bennett Co., San Francisco, Calif. Filed Mar. 6, 1967.



**NIBL-RYE**

For Crisp Rye Bread (Int. Cl. 30).  
First use Nov. 1, 1965; in commerce Nov. 1, 1965.

SN 261,286. Dellwood Dalry Co., Inc., Yonkers, N.Y. Filed Dec. 22, 1966.



The words "Physical Fitness Formula" are disclaimed apart from the mark as shown.

For Fluid Milk (Int. Cl. 29).  
First use June 22, 1966.

SN 261,757. Schluderberg-Kurdle Company, Inc., Baltimore, Md. Filed Dec. 30, 1966.

**EARLY JOY**

For Bacon, Ham, Pork, and Prepared Meat Products (Int. Cl. 29).  
First use Apr. 1, 1935.

SN 263,805. Anderson, Clayton & Co., Dallas, Tex. Filed Feb. 2, 1967.

**LITE**

Owner of Reg. Nos. 643,411 and 727,294.  
For Margarine (Int. Cl. 29).  
First use Dec. 27, 1966.

SN 265,342. Joseph Shair, d.b.a. Mark T. Wendell, Boston, Mass. Filed Feb. 23, 1967.



**HU-KWA**

For Tea (Int. Cl. 30).  
First use 1925; January 1909 as to the representation of the double eagle.

SN 265,344. Joseph Shair, d.b.a. Mark T. Wendell, Boston, Mass. Filed Feb. 23, 1967.

**HU-KWA**

For Tea (Int. Cl. 30).  
First use 1925.

**CHEF'S  
PRIDE**

For Margarine (Int. Cl. 29).  
First use June 4, 1964.

SN 267,078. Triumph Meat Packers, Ltd., Nykobing, Falster, Denmark. Filed Mar. 17, 1967.

**ROYAL DUTCHY**

For Canned Meats—Namely, Canned Pork, Ham, and Veal (Int. Cl. 29).  
First use in about 1964; in commerce in about 1964.

SN 274,542. Ralston Purina Company, St. Louis, Mo. Filed June 22, 1967.



The characterization of the human figure is fanciful. The drawing is lined for red, blue, yellow and brown but no claim is made to color.

For Dry Breakfast Cereal (Int. Cl. 30).  
First use June 1966.

SN 274,679. Ward Foods, Inc., New York, N.Y. Filed June 23, 1967.

**GOLDEN**

For Coffee (Int. Cl. 30).  
First use Oct. 14, 1903.

SN 275,671. S. S. Kresge Company, Detroit, Mich. Filed July 10, 1967.



For Sugar and Snack Food Products—Namely, Corn Curls, Snack Chips of a Vegetable Nature and Carmel Corn With Peanuts (Int. Cl. 30).  
First use on or before Apr. 19, 1967.

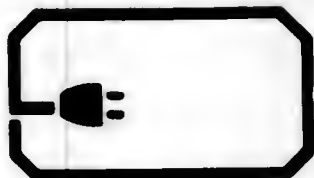


MAY 7, 1968

U. S. PATENT OFFICE

TM 33

SN 276,864. Hills Bros. Coffee, Inc., San Francisco, Calif.  
Filed July 24, 1967.



For Coffee (Int. Cl. 30).  
First use Apr. 14, 1967.

SN 276,958. A. E. Staley Manufacturing Company, Decatur, Ill. Filed July 27, 1967.

**STALEYDEX**

Owner of Reg. Nos. 753,575, 753,804, and 788,810.  
For Dextrose for Food Purposes (Int. Cl. 30).  
First use July 20, 1965.

SN 277,204. Osborne Grocery Company, Denton, Tex. Filed July 31, 1967.

**VALU FARE**

For Food, To-Wit, Fresh Milk (Int. Cl. 29).  
First use May 5, 1967.

SN 277,317. United Fruit Company, Boston, Mass. Filed Aug. 1, 1967.

**ALLRA**

For Frozen Green Beans (Int. Cl. 29).  
First use 1959.

SN 278,214. Heublein, Inc., Hartford, Conn. Filed Aug. 14, 1967.

**SMALL FRY**

For Meat and Fish Sauces (Int. Cl. 30).  
First use July 26, 1967.

SN 278,215. Heublein, Inc., Hartford, Conn. Filed Aug. 14, 1967.

**KID STUFF**

For Meat and Fish Sauces (Int. Cl. 30).  
First use July 26, 1967.

SN 278,216. Heublein, Inc., Hartford, Conn. Filed Aug. 14, 1967.

**TATE MATE**

For Meat and Fish Sauces (Int. Cl. 30).  
First use July 26, 1967.

SN 278,218. Heublein, Inc., Hartford, Conn. Filed Aug. 14, 1967.

**GLOP**

For Meat and Fish Sauces (Int. Cl. 30).  
First use July 26, 1967.

SN 278,479. Euphrates Bakery, Inc., Watertown, Mass. Filed Aug. 17, 1967.

**CHIZZA**

For Baked Crust Having a Cheese Sauce (Int. Cl. 30).  
First use at least as early as July 24, 1967.

TM 850 O.G.—2

SN 279,047. Beck Vanilla Products Co., East St. Louis, Ill. Filed Aug. 25, 1967.

**KOLA-KRISP**

For Flavoring for Cereal and the Like as Used by Manufacturers of Breakfast Cereals (Int. Cl. 30).  
First use July 28, 1967.

SN 280,063. Hunt-Wesson Foods, Inc., d.b.a. Winters Canning Co., Fullerton, Calif. Filed Sept. 11, 1967.

**SUNBLEND**

Owner of Reg. No. 332,356.  
For Canned Fruits and Canned Vegetables—Namely, Apricots, Peaches, and Potatoes (Int. Cl. 29).  
First use July 9, 1935.

SN 280,071. Laddie Boy Dog Foods, Inc., Philadelphia, Pa. Filed Sept. 11, 1967.

**LADDIE BOY**

Owner of Reg. No. 239,084.  
For Food for Animals—Namely, Dog Foods and Cat Foods (Int. Cl. 31).  
First use Sept. 8, 1927.

SN 282,962. Star-Kist Foods, Inc., Terminal Island, Calif. Filed Oct. 20, 1967.



Owner of Reg. No. 334,190.  
For Canned Fish (Int. Cl. 29).  
First use Feb. 14, 1935.

SN 285,801. The Procter & Gamble Company, Cincinnati, Ohio. Filed Nov. 29, 1967.

**EPIC**

For Coffee (Int. Cl. 30).  
First use Oct. 26, 1967.

SN 285,804. Unox Naamlooze Vennootschap, Oss, Netherlands. Filed Nov. 29, 1967.

**SMAC**

Owner of U.S. Reg. No. 782,539; and Dutch Reg. No. 111,068, dated Jan. 3, 1952.  
For Canned Meats (Int. Cl. 29).

SN 286,424. Forbes Candles, Inc., Virginia Beach, Va. Filed Dec. 7, 1967.



For Candles (Int. Cl. 30).  
First use Sept. 21, 1930.

SN 289,228. Lever Brothers Company, New York, N.Y. Filed Jan. 18, 1968.

**DIET IMPERIAL**

Applicant disclaims any rights in the word "Diet" apart from the mark as shown. Owner of Reg. No. 111,458.  
For Table Syrup (Int. Cl. 30).  
First use Jan. 11, 1968.



SN 290,686. Crawford Farms, Inc., Bakersfield, Calif. Filed Feb. 9, 1968.

*Winner's Circle*

For Fresh Vegetables (Int. Cl. 31).  
First use Jan. 9, 1968.

SN 291,235. Ocean Garden Products, Inc., San Diego, Calif. Filed Feb. 16, 1968.

## OCEAN GARDEN

Owner of Reg. Nos. 354,746, 827,638, and others.  
For Canned Tuna (Int. Cl. 29).  
First use Feb. 6, 1968.

## Class 47 — Wines

SN 291,126. United Vintners, Inc., d.b.a. Signature Vintners, and The Signature Wine Company, San Francisco, Calif. Filed Feb. 15, 1968.

*SIGNATURE*

Owner of Reg. Nos. 359,559 and 617,971.  
For Wines and Champagne (Int. Cl. 33).  
First use Nov. 8, 1937.

## Class 49 — Distilled Alcoholic Liquors

SN 271,907. Barton Distilling Company, Chicago, Ill. Filed May 19, 1967.

## CHAIRMAN'S CHOICE

For Scotch Whisky (Int. Cl. 33).  
First use Apr. 13, 1967.

SN 272,297. Old Boone Distillery Co., d.b.a. Rosewood Distillery Co., Louisville, Ky. Filed May 24, 1967.



Applicant makes no claim to the words "Very Rare Bourbon" apart from the mark as shown. Owner of Reg. No. 840,968.

For Whiskey (Int. Cl. 33).  
First use Apr. 20, 1967.

SN 279,771. Tomatin Distillers Company Limited, London, England. Filed Aug. 7, 1967.

## ANCIENT CLAN

Owner of British Reg. No. 888,161, dated Dec. 14, 1965.  
For Whisky (Int. Cl. 33).

## Class 50 — Merchandise Not Otherwise Classified

SN 253,123. The Crystal Gem Co., Cologne, Minn. Filed Aug. 25, 1966.

## CRYSTAL GEMS

For Decorative Aggregates for Forming Translucent Colored Panels, Layers or Beds, and Being Useful in Aquariums and Terrariums (Int. Cl. 20).  
First use August 1963.

SN 263,180. Guardian Better-Pak Corp., Brooklyn, N.Y. Filed Jan. 24, 1967.



The representation of the hanger is disclaimed apart from the mark as shown.  
For Wire Garment Hangers (Int. Cl. 26).  
First use Dec. 6, 1965.

SN 263,600. Owens-Illinois, Inc., Toledo, Ohio. Filed Jan. 30, 1967.

## SENTRY GUARD

Owner of Reg. No. 789,782.  
For Seals for Bottles and Jars (Int. Cl. 6).  
First use Nov. 10, 1965.

SN 270,423. Thomas W. Snouse, d.b.a. Party Starters, Saratoga, Calif. Filed May 1, 1967.

## PARTYSTARTERS

For Party Novelty Items in the Nature of Self-Adhesive Labels for Wear at Parties and Other Social Gatherings (Int. Cl. 16).  
First use Dec. 16, 1966.

SN 278,752. U.S. Plywood-Champlain Papers Inc., Hamilton, Ohio. Filed Aug. 21, 1967.

## MINI-SEAL

For Closures for Containers—Namely, Non-Carbonated Beverage Bottle Caps and Milk Bottle Caps (Int. Cl. 20).  
First use Dec. 16, 1965.

SN 280,751. N/P Company, Inc., Temple City, Calif. Filed Sept. 20, 1967.

## VI/LAM

For Clear Plastic Sheets, Displays, and Nameplates Made From the Same (Int. Cls. 17 and 20).  
First use Mar. 24, 1961.

## Class 51 — Cosmetics and Toilet Preparations

SN 255,409. Beauticontrol, Inc., Dallas, Tex. Filed Sept. 29, 1966.

## BEAUTI-CONTROL

For Skin Cleansing Cream, Night Cream, Facial Masque, Skin Freshener, Lipstick, Eye Makeup, Eye Brow Pencil, Mascara, Body Lotion, and Bubble Bath (Int. Cl. 3).  
First use June 3, 1966.

SN 259,039. Yardley of London, Inc., Totowa, N.J. Filed Nov. 18, 1966.

## DIMMPL

For Pressed Face Powder (Int. Cl. 3).  
First use Nov. 9, 1966.

SN 265,156. Candygram, Inc., d.b.a. Perfume-By-Wire, Beverly Hills, Calif. Filed Feb. 21, 1967.

## JILI

For Perfumes (Int. Cl. 3).  
First use Sept. 26, 1966.

SN 270,554. Clairol Incorporated, New York, N.Y. Filed May 3, 1967.

## SUMMER BLONDE

Applicant disclaims the word "Blonde" apart from the mark as shown. Owner of Reg. No. 816,260.  
For Hair Straightener and Conditioner, Setting Gel, and Styling Lotion (Int. Cl. 3).  
First use Dec. 19, 1966.

SN 270,555. Clairol Incorporated, New York, N.Y. Filed May 3, 1967.

## SUMMER BLONDE NATURALLY SET

Applicant disclaims the words "Blonde, Naturally and Set" apart from the mark as shown. Owner of Reg. No. 816,260.  
For Setting Lotion and Styling Lotion (Int. Cl. 3).  
First use Dec. 19, 1966.

SN 270,879. Victor J. Bergeron, d.b.a. Trader Vic, San Francisco, Calif. Filed May 8, 1967.

## TRADER VIC'S

For Spray Cologne for Linens (Int. Cl. 3).  
First use Feb. 1, 1967.

SN 272,225. Swirl, Inc., Rocky Mount, N.C. Filed May 23, 1967.

## SWIRL

For Non-Antiseptic Mouth Cleansing Preparation (Int. Cl. 3).  
First use May 17, 1967.

SN 272,226. Swirl, Inc., Rocky Mount, N.C. Filed May 23, 1967.

## WHEN YOU CAN'T BRUSH, SWIRL

For Non-Antiseptic Mouth Cleansing Preparation (Int. Cl. 3).  
First use May 17, 1967.

SN 272,968. Viviane Woodard Corporation, Panorama, Calif. Filed June 2, 1967.

## SHEER PERFECTION

For Makeup for Legs and Body (Int. Cl. 3).  
First use May 1967.

SN 273,259. Clairol Incorporated, New York, N.Y. Filed June 7, 1967.

## BLONDE HAPPINESS

Applicant disclaims the word "Blonde" apart from the mark as shown. Owner of Reg. No. 827,984.  
For Hairlightener (Int. Cl. 3).  
First use Mar. 14, 1967.

SN 273,298. Milburn Laboratories Corp., Chicago, Ill. Filed June 7, 1967.

## LOVALS

For Bath Oils (Int. Cl. 3).  
First use Apr. 10, 1967.

SN 274,048. Clairol Incorporated, New York, N.Y. Filed June 16, 1967.

## SKYLIT BLONDE

Applicant disclaims the right to the exclusive use of the word "Blonde" apart from the mark as shown.  
For Hair Tinting, Dyeing and Coloring Preparation (Int. Cl. 3).  
First use Dec. 19, 1966.

SN 274,278. Yardley of London, Inc., Totowa, N.J. Filed June 19, 1967.

## PUT-ONS

For Mascara (Int. Cl. 3).  
First use June 12, 1967.

SN 274,394. Avon Products, Inc., New York, N.Y. Filed June 21, 1967.

## SNOW GLOW

For Eye Shadow, Face Powder, Nail Polish, and Lipstick (Int. Cl. 3).  
First use June 8, 1967.

SN 274,395. Avon Products, Inc., New York, N.Y. Filed June 21, 1967.

## BURST OF BEAUTY

For Lipstick, Rouge, Nail Polish, and Face Powder (Int. Cl. 3).  
First use June 8, 1967.

SN 274,714. Cosmetics Manufacturing Company, d.b.a. Cosmetco, Long Beach, Calif. Filed June 26, 1967.

*Russian  
Sable*

For Eau de Cologne (Int. Cl. 3).  
First use June 13, 1967.



SN 274,930. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

## POTENTIAL

For Men's Toiletries—Namely, After Shave Lotion, After Shave Spray, Cologne, Talc, Personal Deodorant, and Cream Hair Dress (Int. Cls. 3 and 5).  
First use June 8, 1967.

SN 274,993. Sears, Roebuck and Co., Chicago, Ill. Filed June 28, 1967.

## UP-BEAT

For Lipstick, Face and Body Powder, Mascara, Eye Liner, Eye Shadow and Brush, Eye Brow Pencil and Personal Deodorant (Int. Cls. 3 and 5).  
First use on or about Mar. 29, 1967.

SN 275,230. Clairol Incorporated, New York, N.Y. Filed July 3, 1967.

## COLORSEAL

For Haircolor Rinse (Int. Cl. 3).  
First use Apr. 5, 1967.

SN 275,345. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed July 5, 1967.

## YVES SAINT LAURENT

"Yves Saint Laurent" identifies a living individual whose consent is of record. Owner of Reg. No. 767,211.  
For Perfume, Toilet Water, Bath Oil, and Dusting Powder (Int. Cl. 3).  
First use at least as early as Mar. 24, 1965.

SN 275,988. Aerosol Techniques Research Center, Inc., Milford, Conn. Filed July 14, 1967.

## UP BEAT

For Hair Spray (Int. Cl. 3).  
First use May 1, 1967.  
Subj. to Intf with SN 274,993.

SN 277,345. Clairol Incorporated, New York, N.Y. Filed Aug. 2, 1967.

## HAPPINESS

Owner of Reg. No. 827,984.  
For Hair Tinting, Dyeing, and Coloring Preparation (Int. Cl. 3).  
First use June 27, 1967.

SN 287,635. Clairol Incorporated, New York, N.Y. Filed Dec. 27, 1967.

## SUDDEN SUMMER

For Hair Tonic (Int. Cl. 3).  
First use Nov. 29, 1967.

SN 289,745. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 29, 1968.

## HOOR AFTER HOUR

Owner of Reg. No. 815,592.  
For Deodorant Talcum Powder (Int. Cl. 5).  
First use June 9, 1967.

SN 291,012. Texas Pharmacal Company, San Antonio, Tex. Filed Feb. 14, 1968.

## ALLERCREME

Owner of Reg. Nos. 793,044 and 820,020.  
For Anti-Perspirant Deodorant (Int. Cl. 3).  
First use Nov. 15, 1967.

## Class 52—Detergents and Soaps

SN 269,650. The Drackett Company, Cincinnati, Ohio. Filed Apr. 20, 1967.

## WINDEX KB

Owner of Reg. Nos. 300,651, 531,055, and 729,748.  
For All-Purpose Household Cleaner (Int. Cl. 3).  
First use Mar. 27, 1967.

SN 271,548. Tiger Distributing Company, Inc., d.b.a. Tiger Manufacturing Co., Kent, Wash. Filed May 15, 1967.

## TIGER

For Bio-Degradable Cleaning Concentrate for General Household and Industrial Use (Int. Cl. 3).  
First use June 1964.  
Subj. to Intf with SN 273,325.

SN 272,392. Neo-Products Company, Houston, Tex. Filed May 25, 1967.

## KRUD KUTTER

For General Purpose Degreaser, Industrial Cleaner, and Solvent (Int. Cl. 1).  
First use about November 1966.

SN 274,928. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

## STAND-BY

For Hair Shampoo (Int. Cl. 3).  
First use June 19, 1967.

SN 274,931. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

## POTENTIAL

For Toilet Soap and Hair Shampoo (Int. Cl. 3).  
First use June 8, 1967.

SN 279,042. Armour and Company, Chicago, Ill. Filed Aug. 25, 1967.

## BRIARWOOD

For Bath and Toilet Soap (Int. Cl. 3).  
First use on or prior to May 6, 1967.

SN 279,716. Colgate-Palmolive Company, New York, N.Y. Filed Sept. 6, 1967.

## HOOR AFTER HOUR

Owner of Reg. No. 815,592.  
For Toilet Soap (Int. Cl. 3).  
First use Aug. 4, 1967.

## SERVICE MARKS

### Class 100—Miscellaneous

SN 261,301. The Horn & Hardart Company, New York, N.Y. Filed Dec. 22, 1966.

## OUT-O-MAT

For Take-Out Restaurant Services (Int. Cl. 42).  
First use Oct. 10, 1966.

SN 263,940. Price Candy Company, Kansas City, Mo. Filed Feb. 3, 1967.

## THE BUTTONWOOD TREE

For Restaurant Services (Int. Cl. 42).  
First use Aug. 8, 1966.

SN 265,614. Emile M. Croci, d.b.a. Kings Park Inn, Silver Hill, Md. Filed Feb. 28, 1967.

## KINGS PARK INN

No claim is made to the word "Inn" apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use Nov. 19, 1966.

SN 265,785. Bratwurst House, Inc., St. Cloud, Minn. Filed Mar. 2, 1967.



Applicant disclaims the representation of sausages apart from the remainder of the design.  
For Restaurant Services (Int. Cl. 42).  
First use January 1966.

SN 272,603. Flagg Ranch, Inc., Moran, Wyo. Filed May 29, 1967.



For Western Style Tourist Motel and Restaurant Services (Int. Cl. 42).  
First use on or about May 1, 1964.

SN 272,738. Edward F. Murray, Jr., Cheyenne, Wyo. Filed May 31, 1967.



For Restaurant Services (Int. Cl. 42).  
First use November 1966.

### Class 101—Advertising and Business

SN 230,343. American Dairy Queen Corporation, Minneapolis, Minn. Filed Oct. 18, 1965.

## DQ

For Preparing Advertising and Promotional Material for Semi-Frozen Ice Cream and Ice Milk Store Operators (Int. Cl. 35).  
First use Aug. 1, 1955.

SN 249,274. Public Relations International, Ltd., Tulsa, Okla. Filed June 30, 1966.



The drawing is lined for red, but no claim is made to color as a feature of the mark.  
For Public Relations and Advertising Services (Int. Cl. 35).  
First use December 1965.

SN 260,033. Dun & Bradstreet, Inc., New York, N.Y. Filed Dec. 5, 1966.

## DUN & BRADSTREET

Owner of Reg. Nos. 509,756, 828,011, and others.  
For Furnishing Credit Rating Reports, Marketing Reports, Sales Reports, and Financial Reports, Including: Collecting and Reporting Credit, Sales, Financial, and Personnel Information, Credit and Financial Analysis, Commercial Collections, Marketing and Research, and Economic Studies and Services (Int. Cl. 35).  
First use in or about 1933.

SN 261,519. Royal Welcome, Inc., Libertyville, Ill. Filed Dec. 27, 1966.

## ROYAL WELCOME

For Promoting the Sale of Goods and Services of Others by Making Personal Visits Welcoming to the Community Newcomers During Which Gifts From Participating Merchants Are Distributed Together With a Discrete Advertising Message From Each (Int. Cl. 35).  
First use Nov. 1, 1966.

SN 264,374. Aviation, Inc., Whippany, Hanover Township, N.J. Filed Feb. 10, 1967.

## AIR-LIST-ADS

For Brokerage Services in the Field of Used Aircraft (Int. Cl. 35).  
First use prior to June 1964.

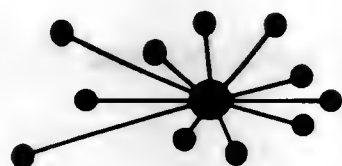
SN 265,102. Professional Data Systems, Inc., Atlantic City, N.J. Filed Feb. 20, 1967.

## DATA-BILL

For Computerized Billing Service (Int. Cl. 35).  
First use Jan. 2, 1967.



SN 270,005. Remote Computing Corporation, Los Angeles, Calif. Filed Apr. 25, 1967.



For Computer Time Brokerage Services (Int. Cl. 35).  
First use Dec. 14, 1966.

SN 270,031. The Shrimp Boats, Inc., Macon, Ga. Filed Apr. 26, 1967.



The drawing is lined for the colors red and blue.  
For Technical Assistance in the Establishment and Operation of Restaurants for Others (Int. Cl. 35).  
First use during 1958.

SN 273,830. Ceko Marketing Consulting & Research, Inc., d.b.a. CMCR, Inc., San Francisco, Calif. Filed June 14, 1967.

### COMPASS

For Conducting Marketing Planning and Studies With Respect to the Sale, Purchase, and Use of Merchandise, Including Audits and Consumer Surveys and the Rendering of Reports Thereon (Int. Cl. 35).  
First use March 1965.

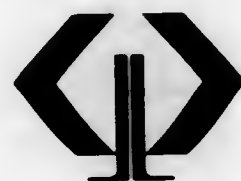
SN 275,792. Secretarial Services, Inc., Washington, D.C. Filed July 11, 1967.



For Secretarial Services for Others (Int. Cl. 35).  
First use May 15, 1967.

### Class 102 — Insurance and Financial

SN 256,644. Canadian Imperial Bank of Commerce, Toronto, Ontario, Canada. Filed Oct. 18, 1966.



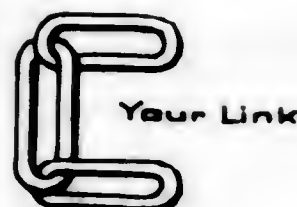
For Commercial Banking Services (Int. Cl. 36).  
First use May 2, 1966; in commerce May 2, 1966.

SN 263,192. National Agents Service Company, Inc., Chicago, Ill. Filed Jan. 24, 1967.



For Insurance Services—Namely, the Budgeting and Financing of Premiums (Int. Cl. 36).  
First use Oct. 27, 1966.

SN 263,451. Lowell C. Camps, d.b.a. Lowell C. Camps Agency, New York, N.Y. Filed Jan. 27, 1967.



For Insurance Agency Services (Int. Cl. 36).  
First use Dec. 1, 1966.

SN 269,055. Avis Rent-A-Car System, Inc., Garden City, N.Y. Filed Apr. 13, 1967.

### MONEY CARD

Applicant disclaims the word "Card" apart from the mark as shown.  
For Credit Card Services (Int. Cl. 36).  
First use Nov. 14, 1966.

### Class 103 — Construction and Repair

SN 238,821. Your Valet, Inc., Denver, Colo. Filed Feb. 14, 1966.



Without waiving common law or statutory rights, no claim is made to the term "The Quality Way" apart from the mark as shown.

For Laundry and Dry Cleaning Services (Int. Cl. 37).  
First use Nov. 23, 1965.

SN 253,951. Joseph R. Bates, d.b.a. The British Clockmaker, Newfame, Vt. Filed Sept. 7, 1966.



The British Clockmaker

The word "Clockmaker" is disclaimed apart from the mark as shown.  
For Repairing and Restoring Clocks (Int. Cl. 37).  
First use July 1, 1964.

SN 265,481. B & L Sales Associates, Boston, Mass. Filed Feb. 27, 1967.

### COME ON STRONG

For Interior Decorative Services (Int. Cl. 37).  
First use at least as early as about 1962.

SN 268,517. McDowell-Wellman Engineering Company, Cleveland, Ohio. Filed Apr. 6, 1967.

### D-LM

For Construction and Engineering of Plants and Processes for Others for Making Iron and Steel and for Preparing Coal, Iron Ore and Limestone for Use in Iron and Steel Making (Int. Cl. 37).  
First use at least as early as 1960.

SN 277,171. Hudgins & Company, Inc., Atlanta, Ga. Filed July 31, 1967.



The drawing is lined for the colors red and yellow.  
For Demolition Services (Int. Cl. 37).  
First use June 11, 1965.

### Class 105 — Transportation and Storage

SN 252,503. Viajes Sol, S.A., Madrid, Spain. Filed Aug. 16, 1966.

### MARISCAL TOURS

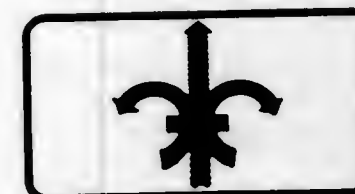
Priority claimed under Sec. 44(d) on Spanish application filed June 16, 1966; Reg. No. 507,030, dated Jan. 8, 1968. Applicant disclaims the word "Tours" apart from its service mark as shown. The Spanish word "Mariscal," in English, means "marshal."  
For Travel Agency Services (Int. Cl. 39).

SN 261,045. Clark Transfer, Inc., Philadelphia, Pa. Filed Dec. 19, 1966.

### LET'S GET THE SHOW ON THE ROAD

For Transporting Goods by Motor Vehicle in Interstate Commerce (Int. Cl. 39).  
First use June 30, 1966.

SN 265,434. Port of Louisville Terminal, Inc., Jeffersonville, Ind. Filed Feb. 24, 1967.



The wording "River-Rail-Truck" is disclaimed apart from the mark as shown. The drawing is lined for the color green.  
For Receiving, Storage, and Forwarding of Freight by Truck, Rail, and Motor (Int. Cl. 39).  
First use Mar. 1, 1966.



For Air Passenger and Freight Transportation Services (Int. Cl. 39).  
First use Feb. 27, 1967.

### Class 107 — Education and Entertainment

SN 252,427. Story Book Forest, Inc., Ligonier, Pa. Filed Aug. 15, 1966.

### STORY BOOK FOREST

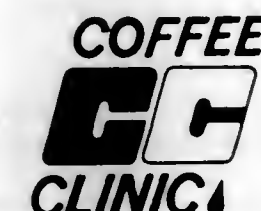
For Public Amusement, Educational, and Entertainment Services—Namely, Amusement Rides, Fairy Tale Exhibits With Living Characters Based on Classical Fairy Tales and Natural History Backgrounds (Int. Cl. 41).  
First use June 1956.

SN 254,446. Great Southwest Corporation, Arlington, Tex. Filed Sept. 14, 1966.

### SIX FLAGS

For Operating of Amusement Parks Which Include Various Indoor and Outdoor Entertainment and Recreational Facilities (Int. Cl. 41).  
First use Oct. 1, 1960.

SN 255,800. Samuel L. Greenspan, Inc., New York, N.Y. Filed Oct. 5, 1966.



The words "Coffee Clinic" are disclaimed apart from the mark as shown.  
For Dissemination of Information Relative to the Preparation of Coffee on Behalf of Sponsors at Trade Shows (Int. Cl. 41).  
First use Apr. 4, 1966.

SN 259,156. Bob Rabin, Bronx, N.Y. Filed Nov. 21, 1966.

### THE CAPITALISTS

For Series of Television Type Dramatizations for Public Education and Entertainment (Int. Cl. 41).  
First use June 21, 1965.



SN 259,157. Bob Rabin, Bronx, N.Y. Filed Nov. 21, 1966.

SN 271,956. National Radio Institute, Washington, D.C. Filed May 19, 1967.

*THE BOARD of DIRECTORS*

For Series of Television Type Dramatizations for Public Education and Entertainment (Int. Cl. 41).  
First use June 21, 1965.



SN 261,087. James La Rocca, Brooklyn, N.Y. Filed Dec. 19, 1966.

**THE TORN SOULS**

For Musical Entertainment Rendered by a Rock and Roll Band (Int. Cl. 41).  
First use May 1965.

For Providing Home Study Courses in Electronics, Communications and All Related Fields of Study (Int. Cl. 41).  
First use Aug. 1, 1961.

SN 275,843. Edu-Center, Inc., New York, N.Y. Filed July 12, 1967.

**EDU-CENTER**

For Audio-Visual Teaching of Touch Typing (Int. Cl. 41).  
First use Mar. 21, 1967.

SN 267,470. United States of America Standards Institute, Incorporated, New York, N.Y. Filed Mar. 17, 1967.

**USA**  
STANDARDS INSTITUTE

No claim of exclusive right is made to the letters "USA."  
For Promoting Scientific and Educational Knowledge of Approved Standards and Providing a Clearinghouse for Information on Said Standardization Activities in the United States and Foreign Countries (Int. Cl. 41).  
First use Sept. 1, 1966.

SN 275,844. Edu-Center, Inc., New York, N.Y. Filed July 12, 1967.



For Audio-Visual Teaching of Touch Typing (Int. Cl. 41).  
First use Mar. 21, 1967.

**COLLECTIVE MEMBERSHIP MARKS****Class 200**

SN 263,910. The Greater Washington Food Wholesalers Association, Inc., Alexandria, Va. Filed Feb. 3, 1967.



The drawing is lined for the color blue. No claim of exclusive right is made to the wording "Better Foods . . . Better Living . . . Complete Food Purveyors . . . Greater Washington Food Wholesalers Association, Inc." apart from its use in the instant mark.

For Indicating Membership in Applicant.  
First use Mar. 31, 1964.

## TRADEMARK REGISTRATIONS ISSUED

### PRINCIPAL REGISTER

**Class 1—Raw or Partly Prepared Materials**

848,423. HY-POR. Air Reduction Company, Incorporated. SN 231,971. Pub. 7-4-67. Filed 11-2-65.

848,424. CLAYCRETE. Sculpting Products Inc. SN 257,107. Pub. 2-20-68. Filed 10-25-66.

848,425. SCULPTAMOLD. Sculpting Products Inc. SN 257,108. Pub. 2-20-68. Filed 10-25-66.

848,426. SERVITHANE. Neil B. Riekse, d.b.a. Service Tool Sales. SN 265,106. Pub. 2-20-68. Filed 2-20-67.

848,427. E-Z BOND. E-Z Machine Corp. SN 267,134. Pub. 2-20-68. Filed 3-20-67.

848,428. SUPERCCELL AO-2. International Paper Company. SN 267,431. Pub. 2-20-68. Filed 3-23-67.

848,429. WHIPLASH. Armour and Company. SN 267,905. Pub. 2-20-68. Filed 3-30-67.

848,430. STER-I-CEL. Paxton Processing Co., Inc. SN 268,327. Pub. 2-20-68. Filed 4-4-67.

848,431. FASKURE AND DESIGN. Aurora Metal Company. SN 268,648. Pub. 2-20-68. Filed 4-10-67.

848,432. VISTALON. Standard Oil Company. SN 268,773. Pub. 2-20-68. Filed 4-10-67.

848,433. BJS'. Martinsburg Forest Products, Inc. SN 268,973. Pub. 2-20-68. Filed 4-12-67.

848,434. BOMAK. Armour and Company. SN 269,953. Pub. 2-20-68. Filed 4-13-67.

848,435. MARQUIS. Armour and Company. SN 269,954. Pub. 2-20-68. Filed 4-13-67.

848,436. AEROTRU. American Cyanamid Company. SN 269,274. Pub. 2-20-68. Filed 4-17-67.

848,437. MOCK-UP. American Poly-Plastics Laboratories, Inc., d.b.a. General Laboratories Division. SN 285,787. Pub. 2-20-68. Filed 11-20-67.

848,438. VYCRON. Beaunit Corporation. SN 285,788. Pub. 2-20-68. Filed 11-29-67.

**Class 2—Receptacles**

848,439. JIFFY-GRO. Geo. J. Ball, Inc., d.b.a. Jiffy-Pot Company of America. SN 241,018. Pub. 7-18-67. Filed 3-15-66.

848,440. WIMBI ETC. AND DESIGN. Waverly Screw &amp; Hardware, Inc., assignee, by mesne assignment, of Wimbi Products Corporation. MULTIPLE CLASS (Classes 2, 13, and 21). SN 241,110. Pub. 2-20-68. Filed 3-15-66.

848,441. BEST WORLD. Best Quality Plastics, Inc. MULTIPLE CLASS (Classes 2 and 50). SN 247,313. Pub. 2-20-68. Filed 6-6-66.

848,442. COULTER COUNTER. Coulter Electronics, Inc. SN 260,731. Pub. 2-20-68. Filed 12-14-66.

848,443. NN NO-NAIL BOXES AND DESIGN. No-Nail Boxes Limited. SN 261,994. Pub. 2-20-68. Filed 1-5-67.

848,444. LION. Lion Packaging Products Co., Inc. SN 264,559. Pub. 2-20-68. Filed 2-13-67.

848,445. LION AND DESIGN. Lion Packaging Products Co., Inc. SN 264,560. Pub. 2-20-68. Filed 2-13-67.

848,446. REDGUARD. The Cornellus Company. SN 269,295. Pub. 2-20-68. Filed 4-17-67.

848,447. VCA. Valve Corporation of America. SN 269,709. Pub. 2-20-68. Filed 4-20-67.

848,448. MAGNETAX. Raymond Swing, d.b.a. Raymond Swing Associates. SN 269,790. Pub. 2-20-68. Filed 4-12-67.

848,449. POLY-KOOP. General American Transportation Corporation. SN 270,374. Pub. 2-20-68. Filed 5-1-67.

**Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks**

848,450. CM. Countess Mara, Inc. MULTIPLE CLASS (Classes 3, 28, 39, 51, and 52). SN 261,262. Pub. 2-20-68. Filed 12-22-66.

**Class 4—Abrasives and Polishing Materials**

848,451. CHORE SPONGE AND DESIGN. General Cable Corporation. SN 249,635. Pub. 2-20-68. Filed 7-6-66.

848,452. CHORE GIRL AND DESIGN. General Cable Corporation. SN 249,636. Pub. 2-20-68. Filed 7-6-66.

848,453. GOLDEN FLEECE AND DESIGN. General Cable Corporation. SN 249,637. Pub. 2-20-68. Filed 7-6-66.

848,454. THE FURNITURE FACIAL. Kozak Auto Drywash, Inc. SN 250,978. Pub. 2-20-68. Filed 7-25-66.

848,455. CONTINENTAL SIX. International Products and Services, Inc. SN 268,497. Pub. 2-20-68. Filed 4-6-67.

848,456. CRETE-NU. Western Zone Sales Company. SN 270,634. Pub. 2-20-68. Filed 5-3-67.

848,457. SUPERBA. Harry E. Cohen, d.b.a. Homemakers Club. SN 270,864. Pub. 2-20-68. Filed 5-8-67.

**Class 5—Adhesives**

848,458. FLEX-O-FIX. Pyroll Company, Inc. SN 270,810. Pub. 2-20-68. Filed 5-5-67.

848,459. WILTAP. Wilton Corporation. SN 270,995. Pub. 2-20-68. Filed 5-8-67.

**Class 6—Chemicals and Chemical Compositions**

848,460. KALI-CHEMIE AND DESIGN. Kali-Chemie Aktiengesellschaft. MULTIPLE CLASS (Classes 6, 10, and 18). SN 224,203. Pub. 2-13-68. Filed 7-26-65.

848,461. INJECTROL. Halliburton Company. MULTIPLE CLASS (Classes 6 and 103). SN 258,340. Pub. 2-20-68. Filed 11-10-66.

848,462. PARSTAR. VWR United Corporation. MULTIPLE CLASS (Classes 6 and 46). SN 261,696. Pub. 2-20-68. Filed 12-30-66.

848,463. OPACOAT. Colorcon, Inc. SN 265,800. Pub. 2-20-68. Filed 3-2-67.

848,464. OPASPRAY. Colorcon, Inc. SN 265,802. Pub. 2-20-68. Filed 3-2-67.

848,465. PLEASCENT. The Drackett Company. SN 267,408. Pub. 2-20-68. Filed 3-23-67.

848,466. JAMAICAN WATERFALL. Avon Products, Inc. SN 273,021. Pub. 2-20-68. Filed 6-5-67.

848,467. HOUDRY. Air Products and Chemicals, Inc. SN 284,339. Pub. 2-20-68. Filed 11-8-67.

848,468. FLATTER. Faultless Starch Company. SN 284,459. Pub. 2-20-68. Filed 11-9-67.



**Class 7 — Cordage**

- 848,469. DIAMOND BRAND. George L. Soreghen, d.b.a. Diamond Whip Co. SN 278,614. Pub. 2-20-68. Filed 8-18-67.
- 848,470. DIAMOND BRAND PRODUCTS AND DESIGN. George L. Soreghen, d.b.a. Diamond Whip Co. SN 278,616. Pub. 2-20-68. Filed 8-18-67.

**Class 9 — Explosives, Firearms, Equipments, and Projectiles**

- 848,471. TRI-TEST. James L. Wade, d.b.a. Wade Tri-Test Munitions Company. SN 267,700. Pub. 2-20-68. Filed 3-27-67.
- 848,472. ZEPHYR. Stoeger Arms Corporation. SN 269,940. Pub. 2-20-68. Filed 4-24-67.
- 848,473. NATIONWIDE. Entertainment Associates, Inc. SN 271,242. Pub. 2-20-68. Filed 5-11-67.

**Class 10 — Fertilizers**

- 848,460. (See Class 6 for this trademark.)
- 848,474. BRING THE FLOOR OF THE FOREST TO YOUR SOIL. The Mead Corporation. SN 269,768. Pub. 2-20-68. Filed 4-21-67.

**Class 11 — Inks and Inking Materials**

- 848,475. DELICA. Fukut & Company, Ltd. SN 265,894. Pub. 2-20-68. Filed 3-3-67.

**Class 12 — Construction Materials**

- 848,476. EVON. Evon Industries, Inc. SN 249,315. Pub. 2-20-68. Filed 6-30-66.
- 848,477. REPUBLIC. Armstrong Paint & Varnish Works, Inc. SN 256,421. Pub. 2-20-68. Filed 10-14-66.
- 848,478. SPLASH-COTE. Mark Tool Company, Inc. SN 260,167. Pub. 2-20-68. Filed 12-6-66.
- 848,479. THERM-O-KOTE NO. 75. Lub-O-Seal Company, Inc. SN 268,750. Pub. 2-20-68. Filed 4-10-67.
- 848,480. "MONO-POLE." Telrex, Inc. SN 270,166. Pub. 2-20-68. Filed 4-27-67.

**Class 13 — Hardware and Plumbing and Steam-Fitting Supplies**

- 848,440. (See Class 2 for this trademark.)
- 848,481. SMI AND DESIGN. Societa Metallurgica Italiana. MULTIPLE CLASS (Classes 13 and 23). SN 230,926. Pub. 2-20-68. Filed 10-21-65.
- 848,482. CASANET. Trefleries Leon Bekaert, PVBA. SN 239,466. Pub. 2-20-68. Filed 2-23-66.
- 848,483. LO-TO-FLO. Black, Sivalis & Bryson, Inc. SN 250,633. Pub. 2-20-68. Filed 7-20-66.
- 848,484. ANSOFLEX. Penn-Western Electric Corporation, assignee of Penn-Union Electric Corporation. SN 250,678. Pub. 2-20-68. Filed 7-20-66.
- 848,485. RB-90. Black, Sivalis & Bryson, Inc. SN 264,508. Pub. 2-20-68. Filed 2-13-67.

- 848,486. HARDWARE COORDINATES. Bliss & Laughlin Industries Incorporated. SN 268,007. Pub. 2-20-68. Filed 3-31-67.
- 848,487. ETHYL. Ethyl Corporation. SN 269,873. Pub. 2-20-68. Filed 4-24-67.
- 848,488. SPRINGSKREWS AND DESIGN. A.P.M. Corporation. SN 270,207. Pub. 2-20-68. Filed 4-28-67.
- 848,489. AMERICAN DUALIFE. American Cast Iron Pipe Company. SN 272,684. Pub. 2-20-68. Filed 5-31-67.

**Class 14 — Metals and Metal Castings and Forgings**

- 848,490. INFILTRON. Chas. Pfizer & Co., Inc. SN 285,505. Pub. 2-20-68. Filed 11-24-67.

**Class 15 — Oils and Greases**

- 848,491. FERRO SLICK. Robert L. Lens, d.b.a. Lens Manufacturing Co. SN 250,098. Pub. 2-20-68. Filed 7-12-66.

**Class 16 — Protective and Decorative Coatings**

- 848,492. POLY-GLAZE. The Selig Chemical Industries, Inc. SN 236,153. Pub. 2-20-68. Filed 1-10-66.
- 848,493. MOPACOTE. Mobile Paint Mfg. Co., Inc. SN 254,794. Pub. 2-20-68. Filed 9-20-66.
- 848,494. XP-700A RUST GRIP. United States Rust Control Corporation. SN 257,213. Pub. 2-20-68. Filed 10-25-66.
- 848,495. XP-500. United States Rust Control Corporation. SN 257,218. Pub. 2-20-68. Filed 10-25-66.
- 848,496. VYN-TOP. Cal Corporation. SN 262,123. Pub. 2-20-68. Filed 1-9-67.
- 848,497. BRENT-WOOD AND DESIGN. Nu-Brite Chemical Company, Inc. SN 267,654. Pub. 2-20-68. Filed 3-27-67.
- 848,498. BLACO-THIN. Baron Blakeslee, Inc. SN 279,859. Pub. 2-20-68. Filed 9-8-67.

**Class 17 — Tobacco Products**

- 848,499. BIG NINE. The Pinkerton Tobacco Co. SN 276,858. Pub. 2-20-68. Filed 7-26-67.
- 848,500. AU NATUREL. Bayuk Cigars Incorporated. SN 280,541. Pub. 2-20-68. Filed 9-18-67.
- 848,501. WARWICK. P. Lorillard Company. SN 280,793. Pub. 2-20-68. Filed 9-20-67.
- 848,502. SPA. P. Lorillard Company. SN 280,794. Pub. 2-20-68. Filed 9-20-67.
- 848,503. DEFENDER. P. Lorillard Company. SN 280,796. Pub. 2-20-68. Filed 9-20-67.
- 848,504. TIME OUT. P. Lorillard Company. SN 280,797. Pub. 2-20-68. Filed 9-20-67.
- 848,505. ASPEN. P. Lorillard Company. SN 280,798. Pub. 2-20-68. Filed 9-20-67.
- 848,506. BRASS RAIL. R. J. Reynolds Tobacco Company. SN 282,133. Pub. 2-20-68. Filed 10-9-67.

**Class 18 — Medicines and Pharmaceutical Preparations**

- 848,460. (See Class 6 for this trademark.)

- 848,507. BRAVO. Arnaldo L. Vargas, d.b.a. Tropical Pharmaceutical Lab. SN 283,660. Pub. 2-20-68. Filed 11-30-65.
- 848,508. VERNASE. Taisho Pharmaceutical Co., Ltd. SN 251,661. Pub. 2-20-68. Filed 8-3-66.
- 848,509. ERVOL. Witco Chemical Company, Inc. SN 252,439. Pub. 2-20-68. Filed 8-15-66.
- 848,510. LACPININ-BALSAM. Wolo A.G. (Wolo Ltd.). SN 253,465. Pub. 2-20-68. Filed 8-30-66.
- 848,511. BIDCAPS. Bristol-Myers Company. SN 257,762. Pub. 2-20-68. Filed 11-2-66.
- 848,512. PROSERUM. The Dow Chemical Company. SN 268,166. Pub. 2-20-68. Filed 4-3-67.
- 848,513. TORELLE. The Dow Chemical Company. SN 270,235. Pub. 2-20-68. Filed 4-28-67.
- 848,514. REXAMYCIN. Rexall Drug and Chemical Company, d.b.a. Rexall Drug Company. SN 270,271. Pub. 2-20-68. Filed 4-28-67.
- 848,515. BREON. Breon Laboratories Inc. SN 270,349. Pub. 2-20-68. Filed 5-1-67.
- 848,516. MONISTAT. Ortho Pharmaceutical Corporation. SN 270,700. Pub. 2-20-68. Filed 5-4-67.
- 848,517. PRAXITEN. American Home Products Corporation. SN 284,862. Pub. 2-20-68. Filed 11-15-67.

**Class 19 — Vehicles**

- 848,518. MAGSTAR I AND DESIGN. Kelsey-Hayes Company. SN 237,978. Pub. 2-20-68. Filed 2-3-66.
- 848,519. PARKMASTER. Toro Manufacturing Corporation. SN 243,500. Pub. 2-20-68. Filed 4-14-66.
- 848,520. ALOHA AND DESIGN. Aloha Trailer Co. SN 251,868. Pub. 2-20-68. Filed 8-8-66.
- 848,521. DP. Diversified Products Corporation. MULTIPLE CLASS (Classes 19, 22, 32, and 38). SN 254,211. Pub. 2-20-68. Filed 9-12-66.
- 848,522. POWER FOLD. Load King Trailer Company. SN 266,432. Pub. 2-20-68. Filed 3-10-67.
- 848,523. VERSA CAMP AND DESIGN. Versa\*Camp, Inc. SN 267,206. Pub. 2-20-68. Filed 3-20-67.
- 848,524. CUNIAL. Lips N.V. SN 268,746. Pub. 2-20-68. Filed 4-10-67.
- 848,525. SMITH CRAFT. Smith Brothers. SN 272,639. Pub. 2-20-68. Filed 5-29-67.

**Class 21 — Electrical Apparatus, Machines, and Supplies**

- 848,440. (See Class 2 for this trademark.)
- 848,526. DURELCO. Dura Electric Lamp Co. SN 208,176. Pub. 2-22-66. Filed 12-15-64.
- 848,527. GIBSON ELECTRIC AND DESIGN. Talon, Inc. SN 222,222. Pub. 7-11-67. Filed 6-28-65.
- 848,528. FANCIFUL DESIGN. Munch International A/S. MULTIPLE CLASS (Classes 21 and 23). SN 250,291. Pub. 2-20-68. Filed 7-14-66.
- 848,529. T. H. W. Tuttle & Company. SN 250,786. Pub. 10-31-67. Filed 7-21-66.
- 848,530. VIKING AND DESIGN. Viking Industries, Inc. SN 250,880. Pub. 10-17-67. Filed 7-22-66.
- 848,531. SPACE MAKER. Allis-Chalmers Manufacturing Company. SN 252,063. Pub. 2-20-68. Filed 8-10-66.
- 848,532. ELECTROTORQUE. Harnischfeger Corporation. SN 253,755. Pub. 2-20-68. Filed 9-2-66.
- 848,533. M AND DESIGN. Mepco, Inc. SN 257,975. Pub. 2-20-68. Filed 11-4-66.
- 848,534. HVP. Hudson National, Inc., d.b.a. Hudson Vitamin Products. MULTIPLE CLASS (Classes 21, 23, and 29). SN 259,784. Pub. 2-20-68. Filed 12-1-66.
- 848,535. SANI-HEAT. Waste King Corporation. SN 260,112. Pub. 2-20-68. Filed 12-5-66.

- 848,536. CHAMPION. International Telephone and Telegraph Corporation, by change of name and assignment from ITT Champion Inc. SN 266,044. Pub. 12-26-67. Filed 3-6-67.
- 848,537. M35. Quartz Radiation Corp. SN 266,688. Pub. 2-20-68. Filed 3-14-67.
- 848,538. SPEED FLEX. The Tappan Company. SN 267,687. Pub. 2-20-68. Filed 3-27-67.
- 848,539. DIAMOND DESIGN. The Budd Company. SN 267,803. Pub. 2-20-68. Filed 3-29-67.
- 848,540. SPINFIN. LPF Plastics Corporation. SN 270,068. Pub. 2-20-68. Filed 4-26-67.
- 848,541. ANNOUNC-A-MAT. On-Guard Corporation of America. SN 270,074. Pub. 2-20-68. Filed 4-26-67.
- 848,542. LITTLE ROYAL. The J. B. Williams Company, Inc. SN 270,304. Pub. 2-20-68. Filed 4-28-67.
- 848,543. RED HEAD. Margaret E. Muns, d.b.a. Prints Electric Company. SN 270,606. Pub. 2-20-68. Filed 5-3-67.
- 848,544. FALCON. The Firestone Tire & Rubber Company. SN 271,245. Pub. 2-20-68. Filed 5-11-67.
- 848,545. POWER-FOAM. Carol Wire & Cable Corp. SN 271,919. Pub. 2-20-68. Filed 5-19-67.
- 848,546. ULTRAFOAM. Carol Wire & Cable Corp. SN 271,920. Pub. 2-20-68. Filed 5-19-67.
- 848,547. STOW-AWAY. Dasey Products Company. SN 272,026. Pub. 2-20-68. Filed 5-22-67.
- 848,548. MINI-TENNA. Antenna Designs, Inc. SN 272,252. Pub. 2-20-68. Filed 5-24-67.
- 848,549. DYNALUX. Tyco Laboratories, Inc. SN 272,762. Pub. 2-20-68. Filed 5-31-67.
- 848,550. ACLA. Beacon Electric Manufacturing Co., d.b.a. American Christmas Lighting Associates. SN 273,591. Pub. 2-20-68. Filed 6-12-67.
- 848,551. CHANGELIER. The Ruby Lighting Corporation. SN 273,692. Pub. 2-20-68. Filed 6-12-67.
- 848,552. DYNA-VAC. Westinghouse Electric Corporation. SN 273,708. Pub. 2-20-68. Filed 6-12-67.
- 848,553. "GRIP-STICK." Anzac Industries, Inc. SN 273,844. Pub. 2-20-68. Filed 6-14-67.
- 848,554. PLUG-O-MATIC. Fedtro, Inc. SN 284,864. Pub. 2-20-68. Filed 11-15-67.

**Class 22 — Games, Toys, and Sporting Goods**

- 848,521. (See Class 19 for this trademark.)
- 848,555. MOON MCDARE. The A. C. Gilbert Company. SN 253,217. Pub. 2-20-68. Filed 8-26-66.
- 848,556. ULTRA-LITE. Michael Tomic, assignee of Sports-ways, Inc. SN 254,732. Pub. 2-20-68. Filed 9-19-66.
- 848,557. SPRINGBOK PUZZLE COLLECTION AND DESIGN. Springbok Editions, Inc. SN 257,993. Pub. 2-20-68. Filed 11-4-66.
- 848,558. MR. PIERRE. De Luxe Topper Corporation. SN 264,655. Pub. 2-20-68. Filed 2-14-67.
- 848,559. TT AND DESIGN. True Temper Corporation. SN 265,447. Pub. 2-20-68. Filed 2-24-67.
- 848,560. SLENDER CYCLE AND DESIGN. T. J. Thomas Co., Inc. SN 265,932. Pub. 2-20-68. Filed 3-3-67.
- 848,561. DUNLOP 65. Dunlop Tire and Rubber Corporation. SN 267,736. Pub. 2-20-68. Filed 3-28-67.
- 848,562. MISCELLANEOUS DESIGN. Wilson Sporting Goods Co., assignee of Wilson Sporting Goods Co. SN 271,865. Pub. 2-20-68. Filed 5-18-67.
- 848,563. BELLBALL. Harvey Ronald Saunders. SN 277,711. Pub. 2-20-68. Filed 8-7-67.

**Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof**

- 848,481. (See Class 13 for this trademark.)



- 848,528. (See Class 21 for this trademark.)  
 848,534. (See Class 21 for this trademark.)  
 848,564. GARRETT. Garrett Enumclaw Co. SN 190,713. Pub. 10-20-64. Filed 4-9-64.  
 848,565. TIP TOP. Premium Corporation of America, Inc. SN 244,737. Pub. 2-20-68. Filed 5-2-66.  
 848,566. SAXOLIFT. Fichtel & Sachs Aktiengesellschaft. SN 246,766. Pub. 2-20-68. Filed 5-27-66.  
 848,567. I-A INC. AND DESIGN. Industrial-Automotive, Inc. MULTIPLE CLASS (Classes 23 and 32). SN 248,280. Pub. 2-20-68. Filed 6-17-66.  
 848,568. CARGOMASTER. Guilbert, Incorporated. SN 253,218. Pub. 2-20-68. Filed 8-26-66.  
 848,569. CHEMPRO. Sealol, Inc. SN 253,343. Pub. 2-20-68. Filed 8-29-66.  
 848,570. GAMMA. Bristol Siddeley Engines Limited. SN 255,592. Pub. 2-20-68. Filed 10-3-66.  
 848,571. PPI. Production Products, Inc. SN 256,308. Pub. 2-20-68. Filed 10-12-66.  
 848,572. PORT-A-WINDER. Connecticut Scientific Center, Inc. SN 262,478. Pub. 2-20-68. Filed 1-13-67.  
 848,573. EATONEX. Eaton Yale & Towne Inc. SN 264,310. Pub. 2-20-68. Filed 2-9-67.  
 848,574. ATM AND DESIGN. American Technical Machinery Corp. SN 267,229. Pub. 2-20-68. Filed 3-21-67.  
 848,575. UNDER-TAKER. Contender Corporation. SN 268,384. Pub. 2-20-68. Filed 4-5-67.  
 848,576. ITM. Industrial Tools Manufacturing Corp. SN 268,739. Pub. 2-20-68. Filed 4-10-67.  
 848,577. BON AIR AND DESIGN. Metaframe Corporation. SN 268,754. Pub. 2-20-68. Filed 4-10-67.  
 848,578. TUR-QUOIS. Pendleton Tool Industries, Inc. SN 268,759. Pub. 2-20-68. Filed 4-10-67.  
 848,579. TOBAMAT. The Chandler & Price Company. SN 269,058. Pub. 2-20-68. Filed 4-13-67.  
 848,580. GUARDEX. Purex Corporation, Ltd. SN 269,687. Pub. 2-20-68. Filed 4-20-67.  
 848,581. UPMOBILE AND DESIGN. Mobile Industrial Equipment Corp. SN 269,912. Pub. 2-20-68. Filed 4-24-67.  
 848,582. INDIO. Onelda Ltd. SN 269,919. Pub. 2-20-68. Filed 4-24-67.  
 848,583. ELGIN. Standard Sewing Equipment Corp. SN 269,938. Pub. 2-20-68. Filed 4-24-67.  
 848,584. TECUMSEH AND DESIGN. Tecumseh Products Company. SN 269,942. Pub. 2-20-68. Filed 4-24-67.  
 848,585. LOG HOG. Anderson-Dunham, Inc. SN 270,211. Pub. 2-20-68. Filed 4-28-67.  
 848,586. MULTIPAK. Pentronix, Inc. SN 270,267. Pub. 2-20-68. Filed 4-28-67.  
 848,587. AUTOSAN. Vulcan-Hart Corporation. SN 270,631. Pub. 2-20-68. Filed 5-3-67.  
 848,588. WOOD-PICKER. Hydraulic Machinery Company, Inc. SN 272,672. Pub. 2-20-68. Filed 5-31-67.  
 848,589. BUTTERWORTH AND DESIGN. Universal American Corporation. SN 275,582. Pub. 2-20-68. Filed 7-10-67.  
 848,590. UNI DIAL. Riccar America Company. SN 277,414. Pub. 2-20-68. Filed 8-3-67.  
 848,591. ROBO. Robo-Wash, Inc. SN 283,361. Pub. 2-20-68. Filed 10-25-67.  
 848,592. PPG INDUSTRIES AND DESIGN. Pittsburgh Plate Glass Company. SN 285,376. Pub. 2-20-68. Filed 11-22-67.

## Class 24 — Laundry Appliances and Machines

- 848,593. Q AND DESIGN. Quality Products of America, Inc. SN 248,526. Pub. 2-20-68. Filed 6-20-66.

## Class 26 — Measuring and Scientific Appliances

- 848,594. MODU-LINE. Bailey Meter Company. SN 267,703. Pub. 4-12-66. Filed 12-8-64.  
 848,595. MISCELLANEOUS DESIGN. Speedring Corporation. SN 226,172. Pub. 9-6-66. Filed 8-20-65.  
 848,596. STILLITRON. Gerald Harry Stillit. SN 239,821. Pub. 2-20-68. Filed 10-6-67.  
 848,597. ECCO AND DESIGN. Equipment Controls Company. SN 245,395. Pub. 5-23-67. Filed 5-11-66.  
 848,598. AYRES. Ayres Corporation. SN 247,101. Pub. 2-20-68. Filed 6-2-66.  
 848,599. ORBITRON AND DESIGN. Kenneth C. DeGross, d.b.a. DeGross Orbitron Co. SN 248,982. Pub. 10-3-67. Filed 6-27-66.  
 848,600. SLIM SENTRY. Ball Brothers Research Corporation. SN 250,341. Pub. 2-20-68. Filed 7-15-66.  
 848,601. PRESSURE SENTRY. Ball Brothers Research Corporation. SN 250,342. Pub. 2-20-68. Filed 7-15-66.  
 848,602. TEMPERATURE SENTRY. Ball Brothers Research Corporation. SN 250,343. Pub. 2-20-68. Filed 7-15-66.  
 848,603. DACTYLOCHROME TOUCH-A-COLOR. C. A. Curran. SN 250,455. Pub. 2-20-68. Filed 7-18-66.  
 848,604. MISCELLANEOUS DESIGN. Twin City Testing Corporation. SN 251,164. Pub. 2-20-68. Filed 7-27-66.  
 848,605. ORGALENS. Verreries de Goetsenbruck, Walter, Berger & Cie, S.A. SN 251,165. Pub. 2-20-68. Filed 7-27-66.  
 848,606. SCIENTIFIC ADVANCES, INC. AND DESIGN. Scientific Advances, Inc. SN 251,244. Pub. 2-20-68. Filed 7-28-66.  
 848,607. DATASKRIPT. Kollsman Instrument Corporation. SN 251,822. Pub. 2-20-68. Filed 8-5-66.  
 848,608. SKI BOY (DESIGN). Anger International, Inc. SN 252,236. Pub. 2-20-68. Filed 8-15-66.  
 848,609. PLOTAMATIC. Bolt Beranek and Newman Inc. SN 254,230. Pub. 2-20-68. Filed 9-12-66.  
 848,610. KIMTEC AND DESIGN. Kimtec, Incorporated. SN 257,636. Pub. 2-20-68. Filed 10-31-66.  
 848,611. PREP-DISC. Canal Industrial Corporation. SN 261,804. Pub. 2-20-68. Filed 1-3-67.  
 848,612. WHIRLOZONE. Matheson Scientific, Inc. SN 264,431. Pub. 2-20-68. Filed 2-10-67.  
 848,613. MTS AND DESIGN. MTS Systems Corporation. SN 264,944. Pub. 2-20-68. Filed 2-17-67.  
 848,614. INFORMATIC. Current Controls Corporation. SN 268,292. Pub. 2-20-68. Filed 4-4-67.  
 848,615. PUPIBIFOCAL. The Plastic Contact Lens Company. SN 270,080. Pub. 2-20-68. Filed 4-26-67.  
 848,616. EKTAGRAPHIC. Eastman Kodak Company. SN 271,783. Pub. 2-20-68. Filed 5-18-67.  
 848,617. QUIET-TRIM. Newport Instrument Corporation. SN 272,200. Pub. 2-20-68. Filed 5-23-67.  
 848,618. POLY/SAFE. United States Safety Service Co. SN 272,873. Pub. 2-20-68. Filed 6-1-67.  
 848,619. SAF-I-CHIPPER. United States Safety Service Co. SN 272,874. Pub. 2-20-68. Filed 6-1-67.  
 848,620. MINI-TAPE. Facit-Odhner, Inc. SN 285,790. Pub. 2-20-68. Filed 11-20-67.

## Class 27 — Horological Instruments

- 848,621. SHEFFIELD NEVER A DULL MOMENT. Sheffield Watch of New York, Inc., by change of name from Sheffield Watch, Inc. SN 258,595. Pub. 2-20-68. Filed 11-14-66.  
 848,622. CLYDESDALE. Bulova Watch Company, Inc. SN 271,220. Pub. 2-20-68. Filed 5-11-67.

## Class 28 — Jewelry and Precious-Metal Ware Class 33 — Glassware

- 848,450. (See Class 3 for this trademark.)  
 848,623. VAIL AND DESIGN. Vail Associates, Inc., assignee of Vail Associates, Ltd. SN 212,076. Pub. 2-20-68. Filed 2-15-65.  
 848,624. EMBLEM (DESIGN). Vail Associates, Inc., assignee of Vail Associates, Ltd. SN 212,070. Pub. 2-20-68. Filed 2-15-65.  
 848,625. GOTHAM. Gotham Wedding Ring Co., Inc. SN 272,273. Pub. 2-20-68. Filed 5-24-67.  
 848,626. S AND DESIGN. Renard A. Pelloni. SN 274,125. Pub. 2-20-68. Filed 6-16-67.  
 848,627. HIGH RIDGE. Textron Inc. SN 274,354. Pub. 2-20-68. Filed 6-20-67.  
 848,628. S & D AND DESIGN. Steele and Dolphin Limited. SN 274,467. Pub. 2-20-68. Filed 6-21-67.  
 848,629. WINSTON. Harry Winston, Inc. SN 274,801. Pub. 2-20-68. Filed 6-26-67.  
 848,630. GOTHAM GOLD. Gotham Wedding Ring Co., Inc. SN 275,048. Pub. 2-20-68. Filed 6-29-67.

## Class 29 — Brooms, Brushes, and Dusters

- 848,534. (See Class 21 for this trademark.)

## Class 30 — Crockery, Earthenware, and Porcelain

- 848,631. HOLLYDAY. National Potteries Corporation. SN 251,148. Pub. 2-20-68. Filed 7-27-66.

## Class 31 — Filters and Refrigerators

- 848,632. MIJIT MART. Michael J. Paolercio, Jr., d.b.a. M. J. P. Construction/Investment Co. SN 253,240. Pub. 2-20-68. Filed 8-26-66.  
 848,633. WIND-SOC. Microtron Corporation. SN 265,839. Pub. 2-20-68. Filed 3-2-67.

## Class 32 — Furniture and Upholstery

- 848,521. (See Class 19 for this trademark.)  
 848,567. (See Class 23 for this trademark.)  
 848,634. THE "FUTURA" LINE AND DESIGN. Wrought Iron Chair Corp. SN 247,282. Pub. 2-20-68. Filed 6-3-66.  
 848,635. GEMINI. Mitchell Manufacturing Company. SN 268,208. Pub. 10-24-67. Filed 4-3-67.  
 848,636. EPHRAIM JAMES. Cotton Belt, Inc. SN 269,403. Pub. 2-20-68. Filed 4-18-67.  
 848,637. HELPS AND DESIGN. Helps Co. SN 275,522. Pub. 2-20-68. Filed 7-7-67.  
 848,638. DREXELAIRE. Drexel Enterprises, Inc. SN 276,549. Pub. 2-20-68. Filed 7-21-67.  
 848,639. BURRIS AND DESIGN. Burris Manufacturing Company, Incorporated. SN 276,815. Pub. 2-20-68. Filed 7-26-67.  
 848,640. BIANCO AND DESIGN. Bianco Manufacturing Company. SN 277,138. Pub. 2-20-68. Filed 7-31-67.  
 848,641. CLARITY AND DESIGN. Binswanger Glass Co. SN 277,426. Pub. 2-20-68. Filed 8-3-67.  
 848,642. TIP-AWAY. American Athletic Equipment Co. SN 278,564. Pub. 2-20-68. Filed 8-18-67.

- 848,643. DESIREE. Riekes Crisa Corporation. SN 254,187. Pub. 2-20-68. Filed 9-9-66.  
 848,644. MYSTIQUE GOLD. Riekes Crisa Corporation. SN 254,188. Pub. 2-20-68. Filed 9-9-66.  
 848,645. MYSTIQUE PLATINUM. Riekes Crisa Corporation. SN 254,805. Pub. 2-20-68. Filed 9-20-66.  
 848,646. FANTASY IN WOOD. Riekes Crisa Corporation. SN 266,691. Pub. 2-20-68. Filed 3-14-67.

## Class 34 — Heating, Lighting, and Ventilating Apparatus

- 848,647. SEELYE ETC. AND DESIGN. Seelye Plastic-Fab, Inc. SN 249,585. Pub. 2-20-68. Filed 7-5-66.  
 848,648. INDAC. Billman-Regulator Aktiebolag. SN 251,878. Pub. 2-20-68. Filed 8-8-66.  
 848,649. GARRETT AND DESIGN. The Garrett Corporation. SN 252,842. Pub. 2-20-68. Filed 8-22-66.  
 848,650. BI-AEROFOIL. Buffalo Forge Company. SN 254,915. Pub. 2-20-68. Filed 9-22-66.  
 848,651. CRESTLINE. Federal Steel Corporation. SN 258,991. Pub. 2-20-68. Filed 11-18-66.  
 848,652. HYDRO FLAME. Hydro Flame Corporation. SN 261,844. Pub. 2-20-68. Filed 1-3-67.  
 848,653. GEMINI. Loren Cook Company. SN 265,906. Pub. 2-20-68. Filed 3-3-67.  
 848,654. VALKYRIE. Western Engineering & Mfg. Co. SN 265,938. Pub. 2-20-68. Filed 3-3-67.  
 848,655. QUIET-FLOW. Industrial Acoustics Company, Inc. SN 266,156. Pub. 2-20-68. Filed 3-7-67.

## Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 848,656. RADIAL MILER. The Goodyear Tire & Rubber Company. SN 266,326. Pub. 2-20-68. Filed 3-9-67.  
 848,657. FOUR SEASONS. The Firestone Tire & Rubber Company. SN 269,068. Pub. 2-20-68. Filed 4-13-67.  
 848,658. PERMALON. The Goodyear Tire & Rubber Company. SN 269,533. Pub. 2-20-68. Filed 4-19-67.  
 848,659. CORNELL XWT. The Pep Boys, Manny, Moe & Jack. SN 269,999. Pub. 2-20-68. Filed 4-25-67.  
 848,660. LIFECORD. The Goodyear Tire & Rubber Company. SN 270,673. Pub. 2-20-68. Filed 5-4-67.  
 848,661. INTERCEPTOR AND DESIGN. Eliminator Tire & Rubber Co., Inc. SN 271,140. Pub. 2-20-68. Filed 5-10-67.  
 848,662. POWER FALCON. The Firestone Tire & Rubber Company. SN 271,142. Pub. 2-20-68. Filed 5-10-67.  
 848,663. ENFORCER AND DESIGN. Eliminator Tire & Rubber Co., Inc. SN 271,457. Pub. 2-20-68. Filed 5-15-67.

## Class 36 — Musical Instruments and Supplies

- 848,664. CHET ATKINS. The Fred Gretsch Company, Inc., by assignment and change of name from The Fred. Gretsch Mfg. Co. SN 246,678. Pub. 2-20-68. Filed 5-26-66.  
 848,665. TONECREST AND DESIGN. Metro Wholesale Corporation. SN 257,301. Pub. 2-20-68. Filed 10-26-66.  
 848,666. DURALIFE. Radio Corporation of America. SN 260,767. Pub. 2-20-68. Filed 12-14-66.  
 848,667. PROJECT 3 AND DESIGN. The Total Sound, Inc. SN 264,358. Pub. 2-20-68. Filed 2-7-67.



**Class 37—Paper and Stationery**

- 848,668. SANEEN AND DESIGN. Facelle Company Limited. MULTIPLE CLASS (Classes 37 and 39). SN 260,244. Pub. 2-20-68. Filed 12-7-66.
- 848,669. SCENT-SATION. Scent-Sation, Inc. SN 270,286. Pub. 2-20-68. Filed 4-28-67.
- 848,670. FRONSCO. Bruno A. Puszyński, d.b.a. Frontier Products. SN 273,207. Pub. 2-20-68. Filed 7-6-67.

**Class 38—Prints and Publications**

- 848,521. (See Class 19 for this trademark.)
- 848,671. WORLD NEWS IN FOCUS. The Christian Science Publishing Society. SN 201,099. Pub. 2-20-68. Filed 9-2-64.
- 848,672. FOCUS. The Christian Science Publishing Society. SN 208,038. Pub. 2-20-68. Filed 12-14-64.
- 848,673. STILLITRON. Gerald Barry Stillit. SN 239,822. Pub. 2-20-68. Filed 1-3-68.
- 848,674. JOURNAL OF MATERIALS. American Society for Testing and Materials. SN 245,281. Pub. 2-20-68. Filed 5-10-66.
- 848,675. MISCELLANEOUS DESIGN. Wisconsin Rapids Tribune Co. SN 251,676. Pub. 2-20-68. Filed 8-3-66.
- 848,676. CULINARY ALMANAC. Hallmark Cards, Incorporated. SN 260,856. Pub. 2-20-68. Filed 12-15-66.
- 848,677. OCEANOLOGY INTERNATIONAL. Industrial Research, Inc. SN 263,066. Pub. 2-20-68. Filed 1-23-67.
- 848,678. RIVERSIDE REVIEW RMH AND DESIGN. The White Cross Hospital Association of Ohio. SN 263,143. Pub. 2-20-68. Filed 1-23-67.
- 848,679. DIGEST AND DESIGN. Diamond International Corporation. SN 266,202. Pub. 2-20-68. Filed 3-8-67.
- 848,680. EML AND DESIGN. Gulfco Corporation, d.b.a. Educational Media Laboratories. SN 270,199. Pub. 2-20-68. Filed 4-28-67.
- 848,681. MOTORGRAM. Bodine Electric Company. SN 278,780. Pub. 2-20-68. Filed 8-22-67.

**Class 39—Clothing**

- 848,450. (See Class 3 for this trademark.)
- 848,668. (See Class 37 for this trademark.)
- 848,682. COWPUNCHERS. Goldstone Bros. SN 22,534. Pub. 1-28-58. Filed 1-14-57.
- 848,683. GALÓCHA MODERNA. Kay Rubber Corp., assignee of Golacha Moderna, Inc. SN 114,607. Pub. 2-20-68. Filed 2-28-61.
- 848,684. LA SPORT. La Sport, Inc. SN 196,534. Pub. 2-8-66. Filed 6-26-64.
- 848,685. DOUBLE-O-SEVEN. Eon Productions Limited, assignee of Trimount Clothing Co., Inc. SN 217,580. Pub. 5-31-66. Filed 4-28-65.
- 848,686. 007 AND DESIGN. Eon Productions Limited, assignee of Adler Pants Co., Inc. SN 217,686. Pub. 5-31-66. Filed 4-30-65.
- 848,687. JAMES WELLS. J. C. Penney Company. SN 231,480. Pub. 2-20-68. Filed 10-23-65.
- 848,688. JIMMY WELLS. J. C. Penney Company. SN 231,482. Pub. 2-20-68. Filed 10-23-65.
- 848,689. SQUALL COAT. The Villager, Inc. SN 251,670. Pub. 2-20-68. Filed 8-3-66.
- 848,690. IRENE LEE. Samuel Kassow Co., Inc. SN 255,331. Pub. 2-20-68. Filed 9-28-66.
- 848,691. JOHN ROBERTS DESIGNED BY PICARIELLO AND DESIGN. Picariello & Singer, Inc. SN 255,453. Pub. 2-20-68. Filed 9-29-66.

- 848,692. JOHN KENT. The Harris Company. SN 255,977. Pub. 2-20-68. Filed 10-7-66.
- 848,693. LITTLE TOPSY'S. Little Topsy's, Inc. SN 257,061. Pub. 2-20-68. Filed 10-24-66.
- 848,694. SNAPPI KNIT. Snappi Knits, Ltd. SN 257,098. Pub. 2-20-68. Filed 10-24-66.
- 848,695. ANDER ALL. Anderson Brothers, Inc., by change of name from Anderson Brothers Consolidated Companies, Inc. SN 260,810. Pub. 10-31-67. Filed 12-15-66.
- 848,696. SAY HI SAY LOW. Bobbie Brooks, Incorporated. SN 263,447. Pub. 2-20-68. Filed 1-27-67.
- 848,697. S SEMIRAMIS NEW YORK AND DESIGN. Semiramis, Ltd. SN 263,782. Pub. 2-20-68. Filed 2-1-67.
- 848,698. GOTHAM CITY. Chadbourn Gotham, Inc. SN 263,817. Pub. 2-20-68. Filed 2-2-67.
- 848,699. HUMMINGBIRD. Chadbourn Gotham, Inc. SN 265,160. Pub. 2-20-68. Filed 2-21-67.
- 848,700. THE WIZARD OF AH'S. Exmoor Knitwear Co., Inc. SN 265,868. Pub. 2-20-68. Filed 3-3-67.
- 848,701. GARLAND. Garland Corporation. SN 266,530. Pub. 2-20-68. Filed 3-13-67.
- 848,702. MISS ROBIN. Robert Hall Clothes, d.b.a. Robert Hall Clothes. SN 266,536. Pub. 2-20-68. Filed 3-13-67.
- 848,703. BASKETMASTER. H. Hacking Co. Ltd. SN 266,614. Pub. 2-20-68. Filed 3-2-67.
- 848,704. RI (DESIGN). Ramer Industries, Inc. SN 267,061. Pub. 2-20-68. Filed 3-17-67.
- 848,705. HOLLYWOOD VASSARETTE MATCHMAKERS AND DESIGN. Munsingwear, Inc. SN 268,607. Pub. 2-20-68. Filed 4-7-67.
- 848,706. VALLEY FORGE. Curlee Clothing Company. SN 269,747. Pub. 2-20-68. Filed 4-21-67.
- 848,707. DIAMOND CUT. Diamond Cut Lingerie Proprietary Limited. SN 269,866. Pub. 2-20-68. Filed 4-24-67.
- 848,708. ACTIVE AGE. Interco Incorporated. SN 269,899. Pub. 2-20-68. Filed 4-24-67.
- 848,709. PAT PAGE. Petrie Stores Corporation. SN 269,925. Pub. 2-20-68. Filed 4-24-67.
- 848,710. BICYCLE. The Grove Company. SN 270,350. Pub. 2-20-68. Filed 5-1-67.
- 848,711. NECESSITY OF LIFE FASHIONS. Smoler Bros., Inc. SN 271,651. Pub. 2-20-68. Filed 5-16-67.
- 848,712. OGGS. Rubber Corporation of Pennsylvania. SN 271,841. Pub. 2-20-68. Filed 5-18-67.
- 848,713. ML MAC-LYN AND DESIGN. Princess Peggy, Inc. SN 273,102. Pub. 2-20-68. Filed 6-5-67.
- 848,714. LUCKY LAD. Charles Greenberg & Sons, Inc. SN 274,618. Pub. 2-20-68. Filed 6-23-67.
- 848,715. KIMLON. Kimberly-Clark Corporation. SN 274,876. Pub. 2-20-68. Filed 6-27-67.
- 848,716. OSKAR. Oskar Titze. SN 274,903. Pub. 2-20-68. Filed 6-27-67.
- 848,717. PEEK-O-YELLOW. Kayser-Roth Corporation. SN 277,183. Pub. 2-20-68. Filed 7-31-67.
- 848,718. SANDRA LEE. Levy Bros. Frocks, Inc. SN 280,132. Pub. 2-20-68. Filed 9-12-67.
- 848,719. INTERWOVEN. Kayser-Roth Corporation. SN 281,160. Pub. 2-20-68. Filed 9-26-67.
- 848,720. DELICACY. Maidenform, Inc. SN 285,498. Pub. 2-20-68. Filed 11-24-67.
- 848,721. PREPS BY YANKEE. Smith Shoe Corporation. SN 285,629. Pub. 2-20-68. Filed 11-27-67.
- 848,722. DEBUTEENS BY YANKEE. Smith Shoe Corporation. SN 285,630. Pub. 2-20-68. Filed 11-27-67.
- 848,723. DEBUTEENS BY PIED PIPER. Smith Shoe Corporation. SN 285,631. Pub. 2-20-68. Filed 11-27-67.
- 848,724. PREPS BY PIED PIPER. Smith Shoe Corporation. SN 285,632. Pub. 2-20-68. Filed 11-27-67.
- 848,725. YANKEE. Smith Shoe Corporation. SN 285,633. Pub. 2-20-68. Filed 11-27-67.

**Class 40—Fancy Goods, Furnishings, and Notions**

- 848,726. TEMPO. Stanley Comb Products Corp. SN 234,310. Pub. 5-9-67. Filed 12-9-65.

**Class 41—Canes, Parasols, and Umbrellas**

- 848,727. CHARM. Telesco Brophy Limited. SN 259,602. Pub. 2-20-68. Filed 11-28-66.

**Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

- 848,728. STYLEHOME. William Volker & Company of Missouri, Inc. SN 261,769. Pub. 2-20-68. Filed 1-3-67.
- 848,729. COMORO. F'Con Mills, Inc. SN 263,365. Pub. 2-20-68. Filed 1-26-67.
- 848,730. FOR THE REST OF YOUR LIFE. Pendleton Woolen Mills. SN 274,338. Pub. 2-20-68. Filed 6-20-67.
- 848,731. LEVIT T M A R K. Levittmark Incorporated. SN 275,149. Pub. 2-20-68. Filed 6-30-67.
- 848,732. DURA-SEAL AND DESIGN. Best Coat & Apron Mfg. Co., Inc. SN 285,882. Pub. 2-20-68. Filed 11-30-67.
- 848,733. PORTSIDE. Deering Milliken, Inc. SN 285,972. Pub. 2-20-68. Filed 12-1-67.
- 848,734. BOWSPRIT. Deering Milliken, Inc. SN 285,973. Pub. 2-20-68. Filed 12-1-67.
- 848,735. OFFSHORE. Deering Milliken, Inc. SN 285,974. Pub. 2-20-68. Filed 12-1-67.
- 848,736. MARQUINETTE. Deering Milliken, Inc. SN 285,975. Pub. 2-20-68. Filed 12-1-67.

**Class 44—Dental, Medical, and Surgical Appliances**

- 848,737. POWERLOUNGE. The Weber Dental Manufacturing Company. SN 230,013. Pub. 5-10-66. Filed 10-12-65.
- 848,738. SHIELD. American Hospital Supply Corporation, assignee of Convertors Incorporated. SN 245,813. Pub. 4-18-67. Filed 5-17-66.
- 848,739. DR NILS OF SWEDEN. Dr. Nils of Sweden. SN 264,657. Pub. 2-20-68. Filed 2-14-67.
- 848,740. IRM. The Dentists' Supply Company of New York. SN 272,475. Pub. 2-20-68. Filed 5-26-67.

**Class 45—Soft Drinks and Carbonated Waters**

- 848,741. KING KOOLER JR. AND DESIGN. Piggly Wiggly Operators' Warehouse, Inc. SN 272,628. Pub. 2-20-68. Filed 5-29-67.

**Class 46—Foods and Ingredients of Foods**

- 848,462. (See Class 6 for this trademark.)
- 848,742. HAPPY CLOWN AND DESIGN. Hunt Oil Company, d.b.a. HLH Products. SN 240,442. Pub. 9-6-66. Filed 3-8-66.

- 848,743. FARM STAND. Jewel Companies, Inc., by change of name from Jewel Tea Co., Inc. SN 243,140. Pub. 2-20-68. Filed 4-11-66.

- 848,744. GRISWOLD. Griswold Coffee Company. SN 252,781. Pub. 2-20-68. Filed 8-1-66.

- 848,745. B-4. SCM Corporation, assignee of The Olden Company, d.b.a. Durkee Famous Foods. SN 263,268. Pub. 2-20-68. Filed 1-25-67.

- 848,746. Q.E.D. Corn Products Company. SN 272,170. Pub. 2-20-68. Filed 5-23-67.

- 848,747. KANGA MOO. Thomas J. Lipton, Inc. SN 282,810. Pub. 2-20-68. Filed 10-18-67.

**Class 47—Wines**

- 848,748. SAVINI. Foremost-McKesson, Inc., by merger and change of name from McKesson & Robbins, Incorporated. SN 272,516. Pub. 2-20-68. Filed 5-26-67.

**Class 50—Merchandise Not Otherwise Classified**

- 848,441. (See Class 2 for this trademark.)
- 848,749. JIFFY GROWER. Geo. J. Ball, Inc., d.b.a. Jiffy-Pot Company of America. SN 241,021. Pub. 7-11-67. Filed 3-15-66.
- 848,750. AQUA-MATIC. Sternco Industries, Inc. SN 263,962. Pub. 2-20-68. Filed 2-3-67.
- 848,751. CLINGSIGN AND DESIGN. Clingsign, Inc. SN 268,704. Pub. 2-20-68. Filed 4-10-67.
- 848,752. RAINBOW MULTI-VISION. Aaron E. Gandy, d.b.a. Rainbow Multi-Vision Aquarium. SN 270,484. Pub. 2-20-68. Filed 5-2-67.
- 848,753. HANDI-RITE. John Thul, d.b.a. Arizona Precision Sheet Metal Specialists. SN 274,264. Pub. 2-20-68. Filed 6-19-67.
- 848,754. F AND DESIGN. Fürstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur. SN 274,733. Pub. 2-20-68. Filed 6-26-67.

**Class 51—Cosmetics and Toilet Preparations**

- 848,450. (See Class 3 for this trademark.)
- 848,755. COCO. Chanel Industries, Inc. SN 237,534. Pub. 9-19-67. Filed 1-28-66.
- 848,756. CASINO ROYALE. Daggett and Ramsdell International Corporation. SN 243,647. Pub. 2-28-67. Filed 4-18-66.
- 848,757. MARGRET ASTOR. Margarete Astor AG. SN 246,010. Pub. 11-21-67. Filed 5-11-66.
- 848,758. CONTROL/PLUS. Helene Curtis Industries, Inc. SN 250,941. Pub. 4-4-67. Filed 7-25-66.
- 848,759. PRETTY SLICK. Richard Hudnut. SN 254,390. Pub. 2-20-68. Filed 9-13-66.
- 848,760. ROVING EYES. Bonne Bell, Inc. SN 254,662. Pub. 2-20-68. Filed 9-19-66.
- 848,761. SUNLIT BLONDE. Clairol Incorporated. SN 258,057. Pub. 2-20-68. Filed 11-7-66.
- 848,762. O-FURO. Faberge, Inc. SN 267,025. Pub. 2-20-68. Filed 3-17-67.
- 848,763. BENGAL LANCER. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company. SN 267,849. Pub. 2-20-68. Filed 3-29-67.



- 848,764. YOUNG HAIR NCT. Revlon, Inc. SN 268,426. Pub. 2-20-68. Filed 4-5-67.  
 848,765. DARCEL. Mercantile Stores Company, Inc. SN 285,171. Pub. 2-20-68. Filed 11-20-67.  
 848,766. HIDE N' GO SHEER. Chesebrough-Pond's Inc. SN 285,969. Pub. 2-20-68. Filed 12-1-67.

### Class 52 — Detergents and Soaps

- 848,450. (See Class 3 for this trademark.)  
 848,767. SEXAUER. J. A. Sexauer Mfg. Co., Inc. SN 257,199. Pub. 2-20-68. Filed 10-25-66.  
 848,768. UFO. UFO Lubricants, Inc. SN 262,357. Pub. 2-20-68. Filed 1-11-67.  
 848,769. GERMASEPTIC. West Chemical Products, Inc. SN 264,120. Pub. 2-20-68. Filed 2-6-67.  
 848,770. POW-R-SPRAY. New Jersey Chemical Company, Inc. SN 265,551. Pub. 2-20-68. Filed 2-27-67.  
 848,771. TRADITION. Wyandotte Chemicals Corporation. SN 267,571. Pub. 2-20-68. Filed 3-24-67.  
 848,772. ABRA-CADABRA! Fast Chemical Products Corp. SN 267,934. Pub. 2-20-68. Filed 3-30-67.  
 848,773. ACCUTROL. Sterling Drug Inc. SN 269,121. Pub. 2-20-68. Filed 4-13-67.  
 848,774. CONPACT. Sterling Drug Inc. SN 269,122. Pub. 2-20-68. Filed 4-13-67.  
 848,775. T.D. Chem-Star & Supply, Inc. SN 269,287. Pub. 2-20-68. Filed 4-17-67.  
 848,776. SOLV-KLEER. H. Kohnstamm & Co., Inc. SN 269,539. Pub. 2-20-68. Filed 4-19-67.  
 848,777. SOLV-O-LUBE. H. Kohnstamm & Co., Inc. SN 269,542. Pub. 2-20-68. Filed 4-19-67.  
 848,778. SOLV-DET. H. Kohnstamm & Co., Inc. SN 269,543. Pub. 2-20-68. Filed 4-19-67.  
 848,779. SOLV-SYN. H. Kohnstamm & Co., Inc. SN 269,544. Pub. 2-20-68. Filed 4-19-67.  
 848,780. CAMPEX. Cincinnati Industrial Packaging Corp. SN 273,038. Pub. 2-20-68. Filed 6-5-67.  
 848,781. FDS. Alberto-Culver Company. SN 283,387. Pub. 2-20-68. Filed 10-26-67.  
 848,782. T-RIF. Sunshine Chemical Corporation. SN 285,706. Pub. 2-20-68. Filed 11-28-67.  
 848,783. SWEET HEART AND DESIGN. Purex Corporation, Ltd. SN 286,310. Pub. 2-20-68. Filed 12-6-67.

### Service Marks

### Class 100 — Miscellaneous

- 848,784. J. F. PRITCHARD & CO. AND DESIGN. J. F. Pritchard and Company. MULTIPLE CLASS (Classes 100 and 103). SN 249,795. Pub. 2-20-68. Filed 7-7-66.  
 848,785. TRISKELION (DESIGN). Stone & Webster, Incorporated. MULTIPLE CLASS (Classes 100, 101, 102, and 103). SN 251,034. Pub. 2-20-68. Filed 7-26-66.  
 848,786. NATIONAL AIR CONSERVATION COMMISSION AND DESIGN. National Tuberculosis Association, d.b.a. National Air Conservation Commission. SN 262,187. Pub. 2-20-68. Filed 1-9-67.  
 848,787. PRESCRIPTION FOR EXTRA PROFIT. Terra Chemicals International, Inc. SN 264,614. Pub. 2-20-68. Filed 2-13-67.  
 848,788. QUARTERBACK CLUB. Quarterback Sports Federation, Inc. SN 268,613. Pub. 2-20-68. Filed 4-7-67.  
 848,789. EXTENDICARE. Extendicare, Inc., by change of name from Heritage House of America, Inc. SN 280,161. Pub. 2-20-68. Filed 9-12-67.

- 848,790. EC (DESIGN). Extendicare, Inc., by change of name from Heritage House of America, Inc. SN 280,162. Pub. 2-20-68. Filed 9-12-67.  
 848,791. EXTENDICARE AND EC DESIGN. Extendicare, Inc., by change of name from Heritage House of America, Inc. SN 280,163. Pub. 2-20-68. Filed 9-12-67.

### Class 101 — Advertising and Business

- 848,785. (See Class 100 for this trademark.)  
 848,792. GOOD YEAR THE SAFETY MINDED COMPANY AND DESIGN. The Goodyear Tire & Rubber Company. SN 251,621. Pub. 2-20-68. Filed 8-3-66.  
 848,793. B AND DESIGN. Brainpower U.S.A., Incorporated. SN 261,193. Pub. 2-20-68. Filed 12-21-66.  
 848,794. MISCELLANEOUS DESIGN. Shea/Rustin, Inc. SN 265,112. Pub. 2-20-68. Filed 2-20-67.  
 848,795. FANCIFUL REPRESENTATION OF THE LETTERS "CR." Computer Research, Inc. SN 265,177. Pub. 2-20-68. Filed 2-21-67.  
 848,796. MR. WIGGS AND DESIGN. Sandusky Distributing Company. SN 269,570. Pub. 2-20-68. Filed 4-19-67.  
 848,797. GOLFBAG. William H. Torgis. SN 284,069. Pub. 2-20-68. Filed 11-3-67.

### Class 102 — Insurance and Financial

- 848,785. (See Class 100 for this trademark.)  
 848,798. "SENIOR AMERICAN." Senior American Life Insurance Company. SN 263,616. Pub. 2-20-68. Filed 1-30-67.

### Class 103 — Construction and Repair

- 848,461. (See Class 6 for this trademark.)  
 848,784. (See Class 100 for this trademark.)  
 848,785. (See Class 100 for this trademark.)  
 848,799. GOOD YEAR THE SAFETY MINDED COMPANY AND DESIGN. The Goodyear Tire & Rubber Company. SN 251,622. Pub. 2-20-68. Filed 8-3-66.  
 848,800. GRAVER. Union Tank Car Company. SN 254,339. Pub. 2-20-68. Filed 9-12-66.  
 848,801. SUNASCO. Sunset International Petroleum Corporation. SN 257,104. Pub. 2-20-68. Filed 10-24-66.

### Class 107 — Education and Entertainment

- 848,802. SALESMASTERS NATIONAL. Paul A. McAdam, d.b.a. Salesmasters National. SN 267,221. Pub. 2-20-68. Filed 3-21-67.

### Collective Membership Marks

### Class 200

- 848,803. DESIGN OF MAN CARRYING TORCH. Contact Lens Society of America, Inc. SN 269,519. Pub. 2-20-68. Filed 4-19-67.  
 848,804. CAE ETC. AND DESIGN. American Society of Association Executives. SN 281,515. Pub. 2-20-68. Filed 10-2-67.

- 848,805. YOURS, SPORT N.B.P.A. NATIONAL BASKETBALL PLAYERS ASSOCIATION. National Basketball Players Association. SN 283,844. Pub. 2-20-68. Filed 11-1-67.

- 848,807. K. Rabbi I. Harold Sharfman, d.b.a. Kosher Overseers Associates of America. SN 220,163. Pub. 2-20-68. Filed 6-1-65.

### Certification Marks

### Class A — Goods

- 848,806. REGISTERED BUILDER AND DESIGN. The National Association of Home Builders of the United States, assignee of Madison Builders Association. SN 203,777. Pub. 10-10-65. Filed 10-12-64.

### Class B — Services

- 848,808. REGISTERED BUILDER AND DESIGN. The National Association of Home Builders of the United States, assignee of Madison Builders Association. SN 203,778. Pub. 10-10-65. Filed 10-12-64.

## SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

### Class 1 — Raw or Partly Prepared Materials Class 21 — Electrical Apparatus, Machines, and Supplies

- 848,809. Barcolene Company, Boston, Mass. SN 257,818. Filed P.R. 11-3-66; Am. S.R. 3-6-68.

### BLAZE

For Instant Charcoal Lighter (Int. Cl. 4).  
 First use Sept. 26, 1966.

- 848,810. Jet Black Mink Supreme, Inc., Portland, Oreg. SN 265,070. Filed P.R. 2-20-67; Am. S.R. 3-8-68.

### JET BLACK MINK SUPREME

For Mink Pelts (Int. Cl. 18).  
 First use Jan. 23, 1967.

### Class 2 — Receptacles

- 848,811. Raburn Products, Inc., Wheeling, Ill. SN 244,028. Filed P.R. 4-21-66; Am. S.R. 2-21-68.



For Liquid-Collecting Tray for Use With Racks of Cups or Glasses Which Are Being Rinsed (Int. Cl. 21).  
 First use Mar. 25, 1966.

- 848,812. Continental Can Company, Inc., New York, N.Y. SN 256,926. Filed P.R. 10-21-66; Am. S.R. 3-1-68. Owner of Reg. No. 428,569.

### GOLDENLINED

For Metal Cans (Int. Cl. 6).  
 First use on or about Mar. 8, 1945.

### TOUCHDIAL

For Intercommunication Equipment (Int. Cl. 9).  
 First use Apr. 1, 1965.

### Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 848,814. Superior Packaging Equipment Corp., East Rutherford, N.J. SN 255,243. Filed P.R. 9-27-66; Am. S.R. 2-16-68.

### SUPERIOR

For Packaging Machinery—Namely, Machines To Fold and Secure Cartons (Int. Cl. 7).  
 First use Sept. 28, 1963.

### Class 26 — Measuring and Scientific Appliances

- 848,815. Julian Robert Aymar, Brooklyn, N.Y. SN 248,409. Filed P.R. 6-20-66; Am. S.R. 3-15-68.

### TURRET FLASH

For Flashbulb Holders for Photographic Cameras (Int. Cl. 9).  
 First use Apr. 28, 1966.

- 848,816. Kleer-Vu Industries, Inc., New York, N.Y. SN 274,572. Filed P.R. 6-23-67; Am. S.R. 12-13-67.

### OP-30 REPEATER

For Aperture Card Copy Maker (Int. Cl. 16).  
 First use Dec. 10, 1966.



**Class 34 — Heating, Lighting, and Ventilating Apparatus**

848,817. The Torit Corporation, St. Paul, Minn. SN 258,429. Filed P.R. 11-10-66; Am. S.R. 2-16-68.

**SWING-ARC**

For Fume Exhausters (Int. Cl. 11).  
First use March 1966.

**Class 37 — Paper and Stationery**

848,818. International Paper Company, New York, N.Y. SN 261,849. Filed P.R. 1-3-67; Am. S.R. 1-29-68.

**TUFNET**

For Coverings for Open Top Railroad Cars and Trucks, Backing Materials for Rugs and Carpets, and Baling Materials for Cotton All Made From Paper (Int. Cl. 16).  
First use Nov. 30, 1966.

**Class 38 — Prints and Publications**

848,819. The Progress Lithographing Company, Cincinnati, Ohio. SN 259,580. Filed P.R. 11-28-66; Am. S.R. 1-22-68.

**CHAIN STORE DISPLAYS**

For Printed Continuous Paper Rolls Used for Advertising Displays, Printed Reinforced Pennants Used for Advertising Displays, and Printed Single-Face Corrugated Paper Used for Advertising Displays (Int. Cl. 16).  
First use Nov. 15, 1966.

848,820. American Society for Metals, Novelty, Ohio. SN 265,781. Filed P.R. 3-2-67; Am. S.R. 3-1-68.  
Owner of Reg. No. 747,381.

**THE MAGAZINE OF MATERIALS AND PROCESS ENGINEERING**

For Monthly Magazine for Applicant's Members and for Engineers, Designers, Processors, Manufacturers, and Others Concerned With Engineering Materials (Int. Cl. 16).  
First use November 1961.

**Class 39 — Clothing**

848,821. Grieco Bros., Inc., Lawrence, Mass. SN 225,757. Filed P.R. 8-16-65; Am. S.R. 2-19-68.

Skye Homespun



For Men's Suits, Sports Jackets, and Trousers (Int. Cl. 25).  
First use Feb. 15, 1963.

848,822. New York Merchandise Company, Inc., New York, N.Y. SN 255,996. Filed P.R. 10-7-66; Am. S.R. 2-29-68.

**SEE-THRU**

For Raincoats, Rain Hats, and Boots (Int. Cl. 25).  
First use Sept. 8, 1966.

848,823. Ward Green Company, New York, N.Y. SN 263,498. Filed P.R. 1-27-67; Am. S.R. 1-22-68.

**CONTRACTS-U**

For Girdles (Int. Cl. 25).  
First use Jan. 10, 1967.

**Class 44 — Dental, Medical, and Surgical Appliances**

848,824. The Songrand Corporation, Kansas City, Mo. SN 263,297. Filed P.R. 1-25-67; Am. S.R. 2-21-68.

**STRAIT 'N STYLE**

For Electrically Heated Combs (Int. Cl. 21).  
First use on or about Dec. 15, 1966.

**Class 46 — Foods and Ingredients of Foods**

848,825. Fritzsche Brothers, Inc., New York, N.Y. SN 246,463. Filed P.R. 5-24-66; Am. S.R. 3-4-68.

**BAKERESIN**

For Spice Flavor Concentrate for Food for Manufacturing and Professional Use Only in the Baking Industry and Its Related Branches (Int. Cl. 30).  
First use May 10, 1966.

848,826. Donald L. Hickey, d.b.a. Capital Ice Cream Company, Tonganoxie, Kans. SN 265,822. Filed P.R. 3-2-67; Am. S.R. 2-29-68.

Hickey  
Stick

For Ice Cream Bar Confection on a Stick With a Chocolate and Nut Coating (Int. Cl. 30).  
First use March 1965.

**Class 51 — Cosmetics and Toilet Preparations Class 52 — Detergents and Soaps**

848,827. Redken Laboratories, Inc., Van Nuys, Calif. SN 276,069. Filed P.R. 7-17-67; Am. S.R. 3-6-68.

Shape  
Set

For Hair Cutting and Setting Lotion (Int. Cl. 3).  
First use Feb. 10, 1967.

848,828. Bristol-Myers Company, New York, N.Y. SN 268,020. Filed P.R. 3-31-67; Am. S.R. 3-12-68.  
Owner of Reg. Nos. 838,131 and 838,133.

**MR. HYDE**

For Men's Shampoo (Int. Cl. 3).  
First use Aug. 8, 1966.

**TRADEMARK REGISTRATIONS RENEWED**

|   |   |
|---|---|
| 67,726. LAPERLA. Cl. 46 (Int. Cl. 29). 2-18-68.                         | 437,264. SULFASTERAN. Cl. 18 (Int. Cl. 5). 3-9-48.                        |
| 68,285. B.S.A. Cl. 9 (Int. Cl. 13). 3-24-68.                            | 437,426. WONDER-WEAR. Cl. 42 (Int. Cl. 24). 3-23-48.                      |
| 141,033. PERFECTION. Cl. 34 (Int. Cl. 11). 3-29-21.                     | 437,433. NUKEMITE. Cl. 16 (Int. Cl. 2). 3-23-48.                          |
| 207,268. KELLOGG'S CORN FLAKES. Cl. 46 (Int. Cl. 30). 12-22-25.         | 437,606. SANO. Cl. 8 (Int. Cl. 34). 3-30-48.                              |
| 232,160. CANNONETTE. Cl. 39 (Int. Cl. 25). 9-6-27.                      | 437,629. UTI. Cl. 28 (Int. Cl. 14). 3-30-48.                              |
| 237,681. VENTURA. Cl. 34 (Int. Cl. 11). 1-17-28.                        | 437,701. E AND DESIGN. Cl. 14 (Int. Cl. 6). 3-30-58.                      |
| 238,318. VENTURA. Cl. 21 (Int. Cl. 11). 2-7-28.                         | 437,892. POUR-O-VAC. Cl. 50 (Int. Cls. 17 and 20). 4-6-48.                |
| 238,883. NEOKRATIN. Cl. 18 (Int. Cl. 5). 2-14-28.                       | 438,277. PLASTISILK. Cl. 44 (Int. Cl. 10). 4-13-48.                       |
| 239,775. NATIONAL RACING PROGRAM. Cl. 38 (Int. Cl. 16). 3-13-28.        | 438,278. PLASTILINEN. Cl. 44 (Int. Cl. 10). 4-13-48.                      |
| 240,109. "CELANESE." Cl. 16 (Int. Cls. 2 and 3). 3-20-28.               | 438,279. PLASTICOTTON. Cl. 44 (Int. Cl. 10). 4-13-48.                     |
| 240,242. SCOTCH. Cl. 46 (Int. Cl. 30). 3-20-28.                         | 438,379. MANIPHASE MULTIPLEX. Cl. 26 (Int. Cl. 9). 4-20-48.               |
| 240,421. "FANCHON" AND FLOWER DESIGN. Cl. 51 (Int. Cl. 30). 3-27-28.    | 438,515. BUENA VISTA. Cl. 47 (Int. Cl. 33). 4-27-48.                      |
| 240,440. MERCEDES. Cl. 36 (Int. Cl. 15). 3-27-28.                       | 438,545. OVA. Cl. 17 (Int. Cl. 34). 4-27-48.                              |
| 240,681. "CELANESE." Cl. 1 (Int. Cl. 1). 4-3-28.                        | 438,546. OCA. Cl. 17 (Int. Cl. 34). 4-27-48.                              |
| 240,753. REPRESENTATION OF DESERT SCENE. Cl. 46 (Int. Cl. 30). 4-10-28. | 438,765. SPANISH PRISON. Cl. 23 (Int. Cls. 9 and 11). 5-11-48.            |
| 240,755. "ROXY" AND DESIGN. Cl. 39 (Int. Cl. 25). 4-10-28.              | 439,056. SKIS. Cl. 17 (Int. Cl. 34). 6-1-48.                              |
| 241,209. CHA IN DEX. Cl. 37 (Int. Cl. 16). 4-17-28.                     | 439,105. WHIPPOLENE. Cl. 46 (Int. Cl. 1). 6-1-48.                         |
| 241,626. "80" AND DESIGN. Cl. 12 (Int. Cl. 19). 5-1-28.                 | 439,111. MAGICLOSE. Cl. 13 (Int. Cl. 11). 6-1-48.                         |
| 241,934. GLYCO-THYMOLINE. Cl. 18 (Int. Cl. 5). 5-8-28.                  | 439,154. MAMA'S. Cl. 46 (Int. Cl. 30). 6-8-48.                            |
| 242,164. HAMMERSINE. Cl. 37 (Int. Cl. 16). 5-15-28.                     | 439,158. DANCEHEEN. Cl. 42 (Int. Cl. 24). 6-8-48.                         |
| 242,842. "PARK LANE" AND DESIGN. Cl. 39 (Int. Cl. 25). 6-5-28.          | 439,318. OZIUM. Cl. 6 (Int. Cl. 5). 6-15-48.                              |
| 243,396. KING CLIP. Cl. 13 (Int. Cl. 6). 6-19-28.                       | 439,348. GARDINEER. Cl. 23 (Int. Cl. 8). 6-22-48.                         |
| 245,021. MARY ANN'S. Cl. 26 (Int. Cl. 9). 8-7-28.                       | 439,434. BEACON. Cl. 4 (Int. Cl. 3). 6-29-48.                             |
| 245,239. SEPTISOL. Cl. 52 (Int. Cl. 3). 8-7-28.                         | 439,448. NATIONAL. Cl. 19 (Int. Cl. 12). 6-29-48.                         |
| 245,265. HIL-PAK. Cl. 46 (Int. Cl. 31). 8-7-28.                         | 439,544. SPIDER HAIR ORNAMENTS AND DESIGN. Cl. 40 (Int. Cl. 26). 7-6-48.  |
| 245,277. MARY ANN'S. Cl. 13 (Int. Cl. 21). 8-7-28.                      | 439,579. CHIN CH'U AND DESIGN. Cl. 46 (Int. Cl. 30). 7-6-48.              |
| 245,538. ROYAL. Cl. 1 (Int. Cl. 31). 8-14-28.                           | 440,156. AUER STRIDE JUVENILES AND DESIGN. Cl. 39 (Int. Cl. 25). 8-17-48. |
| 245,894. BLOX-ODOR. Cl. 6 (Int. Cl. 5). 8-28-28.                        | 440,283. SUPER CYCLE. Cl. 21 (Int. Cl. 7). 8-24-48.                       |
| 435,007. BRIGHT DISGUISE. Cl. 51 (Int. Cl. 3). 12-9-47.                 | 440,358. BRISTRAND. Cl. 1 (Int. Cl. 22). 8-24-48.                         |
| 435,240. ARTGUM. Cl. 37 (Int. Cl. 16). 12-16-47.                        | 500,243. RAPID SHAVE. Cl. 52 (Int. Cl. 3). 5-11-48.                       |
| 435,490. OFF-STAGE. Cl. 51 (Int. Cl. 3). 12-30-47.                      | 500,460. FAIRFAX COUNTY. Cl. 49 (Int. Cl. 33). 6-1-48.                    |
| 435,739. SKIPPER. Cl. 52 (Int. Cl. 3). 1-6-48.                          | 500,549. PLYALOY. Cl. 12 (Int. Cl. 19). 6-1-48.                           |
| 435,847. TAKME. Cl. 46 (Int. Cl. 29). 1-13-48.                          | 500,723. KARBAM. Cl. 6 (Int. Cl. 5). 6-29-48.                             |
| 435,852. SEA HAVEN. Cl. 46 (Int. Cl. 29). 1-13-48.                      | 500,926. WEAR RIGHT. Cl. 39 (Int. Cl. 25). 7-6-48.                        |
| 435,922. OLD HILL SIDE. Cl. 17 (Int. Cl. 34). 1-13-48.                  | 500,990. DISCOVERY. Cl. 37 (Int. Cl. 16). 7-13-48.                        |
| 436,411. STYLED BY FABRIL AND DESIGN. Cl. 39 (Int. Cl. 25). 2-10-48.    | 500,991. WORKWELL. Cl. 37 (Int. Cl. 16). 7-13-48.                         |
| 436,974. FERODO. Cl. 35 (Int. Cl. 12). 3-2-48.                          | 500,992. WYTEK. Cl. 37 (Int. Cl. 16). 7-13-48.                            |
| 437,165. TEA-BISK. Cl. 46 (Int. Cl. 30). 3-9-48.                        | 501,016. ALBATROSS. Cl. 44 (Int. Cl. 10). 7-13-48.                        |
| 437,188. KOACAST. Cl. 12 (Int. Cl. 19). 3-9-48.                         | 501,092. SENIOR SCHOLASTIC. Cl. 38 (Int. Cl. 16). 7-30-48.                |
| 437,246. STEVE CANYON. Cl. 38 (Int. Cl. 16). 3-9-48.                    | 501,097. LICENSEAL. Cl. 38 (Int. Cl. 16). 7-30-48.                        |

**TRADEMARK REGISTRATIONS CANCELED****Section 8**

The following registrations issued Mar. 20, 1962

|   |   |
|---|---|
| 728,710. WONDERWHITE. Cl. 1.                  | 728,717. PILOT LITE. Cl. 1.             |
| 728,711. PHOTO-GENETIC. Cl. 1.                | 728,721. FIBREFLEX. Cl. 1.              |
| 728,714. AUSTIN BLACK ACHROMITE. Cl. 1.       | 728,726. PRINCESS. Cl. 1.               |
| 728,715. GOLDEN GREENHOUSE AND DESIGN. Cl. 1. | 728,728. SHINE-O-MATIC. Cl. 4.          |
|   | 728,729. GARD'N-WISE AND DESIGN. Cl. 6. |
|   | 728,730. AMERICAN AND DESIGN. Cl. 6.    |
|   | 728,736. BIRTS AND DESIGN. Cl. 6.       |
|   | 728,744. VICTAD. Cl. 6.                 |



- 728,747. DELTA AND DESIGN. Cl. 6.  
 728,751. FLY STRIPE. Cl. 6.  
 728,753. CONTROLWAX. Cl. 6.  
 728,755. ALBUZYME. Cl. 6.  
 728,758. ENZ. Cl. 6.  
 728,761. SNO-SHO. Cl. 6.  
 728,764. PLENETYPE. Cl. 11.  
 728,766. AMERETTA. Cl. 12.  
 728,773. ROSS. Cl. 13.  
 728,774. DOCTOR JAMES AND DESIGN. Cl. 18.  
 728,783. POM. Cl. 18.  
 728,785. NIHYDRA. Cl. 18.  
 728,795. ACIDAMOL. Cl. 18.  
 728,796. CLAIR-NASAL. Cl. 18.  
 728,797. VITAFFEINE. Cl. 18.  
 728,799. PHENO-MINRAL. Cl. 18.  
 728,804. RED II AND DESIGN. Cl. 21.  
 728,809. MARBA DICE. Cl. 22.  
 728,812. CARICATURE OF A RETURN TOP PLAYER. Cl. 22.  
 728,817. DAY-FLYER. Cl. 22.  
 728,818. SNARK II. Cl. 22.  
 728,819. SNARK III. Cl. 22.  
 728,822. MAGNUM. Cl. 22.  
 728,825. FIGURE-N. Cl. 22.  
 728,827. AIR EMPIRE. Cl. 22.  
 728,830. REX CHIEF. Cl. 22.  
 728,831. REX ROCKET. Cl. 22.  
 728,832. REX MISSILE. Cl. 22.  
 728,837. FINE-EDGE. Cl. 23.  
 728,840. DUET. Cl. 26.  
 728,843. H AND DESIGN. Cl. 26.  
 728,847. JOLLY ROCKET AND DESIGN. Cl. 37.  
 728,850. RITE MARKER AND DESIGN. Cl. 37.  
 728,851. TICONDEROGA ENGLISH FINISH. Cl. 37.  
 728,858. SOUND-N-SIGHT. Cl. 38.  
 728,859. CARICATURE AND BANNER DESIGN. Cl. 38.  
 728,863. HAIKU CARDS THE POETRY OF THE ORIENT AND DESIGN. Cl. 38.  
 728,866. SOLID STATE JOURNAL ETC. AND DESIGN. Cl. 38.  
 728,867. AFM DEFENSE MARKET/PLANNING REPORT AND DESIGN. Cl. 38.  
 728,868. NATION'S TOP HOMEMAKERS. Cl. 38.

- 728,871. GOLFMASTER. Cl. 38.  
 728,878. THE BUSINESS STATESMAN. Cl. 38.  
 728,882. ALASSIO. Cl. 39.  
 728,885. WALKIN-STYLE. Cl. 39.  
 728,890. VELONYL. Cl. 42.  
 728,897. IT'S BIN CHECKED AND DESIGN. Cl. 46.  
 728,901. CHAMBOURCY AND DESIGN. Cl. 46.  
 728,906. MAROON'S. Cl. 46.  
 728,909. DAFFODIL FARM BAKERY AND DESIGN. Cl. 46.  
 728,910. DAFFODIL FARM BAKERY. Cl. 46.  
 728,911. TEMESCAL. Cl. 46.  
 728,913. FANCIFUL REPRESENTATION OF A CHIEF HOLDING A ROLLING PIN. Cl. 46.  
 728,914. FANCIFUL REPRESENTATION OF A CHIEF HOLDING A SPOON. Cl. 46.  
 728,915. HUNT'S AND DESIGN. Cl. 46.  
 728,916. HUNT'S AND DESIGN. Cl. 46.  
 728,918. SOUP-R-TRIM. Cl. 46.  
 728,921. KING KULLEN AND DESIGN. Cl. 46.  
 728,934. PARTY-PINK. Cl. 46.  
 728,937. REJUVATE. Cl. 46.  
 728,953. BIRTS AND DESIGN. Cl. 51.  
 728,966. BILD-A-GLAZE. Cl. 52.  
 728,969. FOG-STIK. Cl. 52.  
 728,973. ACT-GEL ETC. AND DESIGN. Cl. 52.  
 728,982. POWER-LIFT. Cl. 103.  
 728,983. REPRESENTATION OF A BEAVER WITH OVERALLS AND HARD HAT. Cl. 103.  
 728,990. LIFEWAYS INC. AND DESIGN. Cl. 107.  
 728,991. TAU KAPPA EPSILON. Cl. 200.  
 728,994. ENVOY-LOPE. Cl. 3.  
 728,996. KLENK'S. Cl. 5.  
 728,997. ADJUST-O-FLAME. Cl. 8.  
 729,000. RIPPLEKNIT. Cl. 39.  
 729,001. FLEX-ACTION. Cl. 39.  
 729,002. "CATSEYE." Cl. 40.  
 729,003. "SEAWAVE." Cl. 40.

## Section 18

- 503,823. TASTREAT. Cl. 43. 11-9-48.  
 524,571. CHOCOLATE MINIKINS. Cl. 46. 4-25-50.  
 737,919. LINGUATAPES. Cl. 36. 9-18-62.  
 740,652. TUNE-MASTER. Cl. 36. 11-13-62.

## TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

- 69,714. SNOWDRIFT. Cl. 46. 1-30-08. The Southern Cotton Oil Company. Hunt-Wesson Foods, Inc., Fullerton, Calif. Amended: In the certificate, line 9, in the drawing, heading and in the statement, column 2, lines 5 and 6, "cotton seed oils" is deleted and vegetable oil shortening for baking and frying is inserted.  
 249,236. SILVER SLICE. Cl. 46. 11-13-28. Florida Fruit Canners, Inc. Ben Hill Griffin, Inc., Frostproof, Fla. Amended to appear:

*Silver Slice*

- 436,886. FOREMUL. Cl. 6. 3-2-48. Jacques Wolf & Co. Diamond Shamrock Corporation, Cleveland Ohio. Amended to appear:

**FOREMUL**

- 742,536. MACCO. Cls. 5 and 12. 12-25-62. The Macco Chemical Company. SCM Corporation, Cleveland, Ohio. Amended to appear:

**MACCO**

- 516,092. DUE HYDROPEZ. Cl. 23. 10-4-66. Peltzer & Ehlers Kommanditgesellschaft, Krefeld, Germany. Corrected: In the heading, "193,099" should be deleted and 174,776 should be inserted.

- 530,847. ZEROX. Cl. 6. 6-27-67. Fisons Industrial Chemicals Limited, now by change of name from Whiffen & Sons Limited, Loughborough, England. Corrected: In the statement, column 1, before line 1, *Fisons Industrial Chemicals Limited, now by change of name from* should be inserted.

- 531,425. SLEEPY LAGOON. Cl. 32. 7-4-67. Sleepy Lagoon Limited, Salford, England. Corrected: In the statement, column 2, line 1 "and" should be deleted and after "headboards", *mattresses and bedding (not being bed clothing)* should be inserted.

- 542,351. NATIONAL AND DESIGN. Cl. 21. 1-16-68. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka, Japan. Corrected: In the statement, column 2, line 2, after "guns" units but not electronic flash tubes per se and flash bulbs per se should be inserted.

- 544,063. CANON. Cl. 26. 2-13-68. Canon Camera Kabushiki Kaisha, Ohta-ku, Tokyo, Japan. Corrected: In the statement, column 2, line 4, "reording" should be deleted and recording should be inserted.

- 544,351. EPOXON. Cl. 6. 2-20-68. Epoxon Corporation, San Francisco, Calif. Corrected: In the statement, column 2, line 2, "end" should be releted and and should be inserted.

## TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

- 170,642. CON-O-LITE AND DESIGN. Cl. 2. Con-O-Lite Corporation. 7-17-23. New Cert. Sec. 7(c) to Con-O-Lite Corporation, Lynchburg, Va.  
 549,572. DUKE. Cl. 21. Advance Stores Company, Incorporated. 10-16-51. New Cert. Sec. 7(c) to The Kelly-Springfield Tire Company, Cumberland, Md.  
 612,313. THRIFT-LITE AND DESIGN. Cl. 50. Chicago Thrift-Etching Corporation. 9-13-55. New Cert. Sec. 7(c) to Chicago Etching Corporation, Chicago, Ill.  
 637,624. KIP. Cl. 18. Kip Inc. 11-27-56. New Cert. Sec. 7(c) to Brunswick Drug Company, Vernon, Calif.  
 763,031. WIGHTMAN CUP. Cl. 22. Bancroft Racket Company. 1-14-64. New Cert. Sec. 7(c) to United States Lawn Tennis Association, New York, N.Y.  
 778,459. FEDERATION CUP. Cl. 22. Bancroft Racket Company. 10-13-64. New Cert. Sec. 7(c) to United States Lawn Tennis Association, New York, N.Y.

## REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

## Class 1—Raw or Partly Prepared Materials Class 12—Construction Materials

- 101,367. Dec. 8, 1914. E. W. Conklin & Son, Inc., Binghamton, N.Y. Pub. by Stanford Seed Company, Buffalo, N.Y.  
 439,606. July 6, 1948. Metal Office Furniture Company, Grand Rapids, Mich. Pub. by Steelcase, Inc., Grand Rapids, Mich.

**IMPERIAL**

For Grass, Field, and Agricultural Seeds.



For Cabinets Built Into Doors Such as Used in Hotel Rooms.

## Class 4—Abrasives and Polishing Materials

- 137,701. Nov. 30, 1920. Simons Manufacturing Company, Chicago, Ill. Pub. by Simons Company, Chicago, Ill.

**SIMONIZ**

For Paste for Cleaning and Polishing Automobile Bodies, Furniture, and the Like.

## Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 440,722. Sept. 21, 1948. Piping Specialties, Inc., New York, N.Y. Pub. by registrant.



For Pipe Hangers.

## Class 11—Inks and Inking Materials

- 436,540. Feb. 10, 1948. Sun Chemical Corporation, New York, N.Y. Pub. by registrant.



For Printing Inks (Int. Cl. 2).

## Class 18—Medicines and Pharmaceutical Preparations

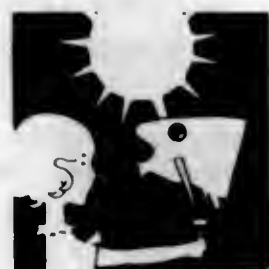
- 113,986. Nov. 14, 1916. Dr. B. J. Kendall Company, Enosburg Falls, Vt. Pub. by The Kendall Company, Boston, Mass.



For Liniment for the Treatment of Spavin, etc.



231,602. Aug. 23, 1927. Peter Moller A/S, Oslo, Norway. 436,306. Feb. 3, 1948. Motosacoche Societe Anonyme, Geneva, Switzerland. Pub. by registrant.



For Cod-Liver Oil.

### Class 21—Electrical Apparatus, Machines, and Supplies

307,295. Oct. 24, 1933. Scintilla Aktiengesellschaft, Soleure, Switzerland. Pub. by Ronco Corporation, Blue Bell, Pa.

**„VERTEX“**

For Magnetos for Internal Combustion Engines.

326,573. July 30, 1935. Ampli-Phone Products Co., Inc., Chicago, Ill. Pub. by Dictograph Products, Inc., Danbury, Conn.



For Inter-Communicating Telephone Systems.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

238,340. Feb. 7, 1928. Andale Engineering Company, Philadelphia, Pa. Pub. by Andale Company, Lansdale, Pa.

**ANDALE**

For Heat Exchangers, Particularly Air Coolers Such as Used in Connection With Compressed Air in Refineries, and Other Such Named Goods (Int. Cl. 11).

436,072. Jan. 20, 1948. Robert H. Clark, d.b.a. Robert H. Clark Company, Beverley Hills, Calif. Pub. by The Alliance Manufacturing Company, Inc., Alliance, Ohio.

**Genie**

For Can Openers (Int. Cl. 8).

**MAG**

For Internal Combustion Engines for Stationary Use and for Automobiles, etc. (Int. Cls. 7 and 12).

438,846. May 11, 1948. The Challenge Machinery Company, Grand Haven, Mich. Pub. by registrant.

**CHALLENGE**

For Paper Drilling Machines, etc.

438,847. May 11, 1948. The Challenge Machinery Company, Grand Haven, Mich. Pub. by registrant.

**DIAMOND**

For Paper Cutting Machines Operating by Shearing Action.

### Class 38—Prints and Publications

234,274. Oct. 18, 1927. Halre Publishing Company, Inc., New York, N.Y. Pub. by registrant.

**THE CORSET AND UNDERWEAR REVIEW**

For Monthly Magazine (Int. Cl. 16).

### Class 39—Clothing

69,201. May 26, 1908. Dr. Jaeger's Sanitary Woolen System Co., New York, N.Y. Pub. by The Jaeger Company Limited, London, England.

**JAEGER**

For Woolen Knit Outer Garments, Underwear, Hose, Undershirts, Outside Shirts, Undershirts, Sweaters, Night-Dresses, and Shirt-Waists (Int. Cl. 25).

327,997. Sept. 10, 1935. Goldring Merchandising Corporation, New York, N.Y. Pub. by Goldring Inc., New York, N.Y.

**Ronley**

For Women's Coats.

435,836. Jan. 13, 1948. M. Rosen & Company, assignor to Argo Knitting Mills, Inc., Schuylkill Haven, Pa. Pub. by American Argo Corporation, Schuylkill Haven, Pa.

**Argo Knit**

For Ladies' and Children's Knitted Panties and Vests, Made of Cotton, Wool, etc. (Int. Cl. 25).

439,159. June 8, 1948. Lawson Products, Inc., Pawtucket, R.I. Pub. by registrant.

**Lawsonit**

For Girdles (Int. Cl. 25).

### Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

435,199. Dec. 16, 1947. Hartford Textile Corporation, New York, N.Y. Pub. by registrant.

**Beuta-film**

For Thin Vinyl-Type Plastic Film, etc. (Int. Cl. 17).

### Class 43—Thread and Yarn

437,275. Mar. 9, 1948. The Linen Thread Co., Inc., New York, N.Y. Pub. by Indian Head Inc., New York, N.Y.

**LITTLEWAY**

For Thread (Int. Cl. 23).

### Class 45—Soft Drinks and Carbonated Waters

376,676. Apr. 2, 1940. The W. T. Wagner's Sons Company, Cincinnati, Ohio. Pub. by Vernors Inc., Chicago, Ill.

**Lift**

For Charged Nonalcoholic Carbonated Beverage.



# INDEX OF REGISTRANTS

MAY 7, 1968

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- A.P.M. Corp., Englewood, N.J. 848,488, pub. 2-20-68. Cl. 13  
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 Connecticut Consolidated Industries, Inc.  
 Adler Pants Co., Inc.: See—  
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 Advanced Health Products: See—  
 Brown, Max J.  
 Air Products and Chemicals, Inc., Allentown, Pa. 848,467,  
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 67, Cl. 1.  
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 Alliance Mfg. Co., Inc.: See—  
 Clark, Robert H.  
 Allis-Chalmers Mfg. Co., Milwaukee, Wis. 848,531, pub.  
 2-20-68, Cl. 21.  
 Alltex Products Co.: See—  
 Simon, Irving.  
 Aloha Trailer Co., Beaverton, Oreg. 848,520, pub. 2-20-68.  
 Cl. 19.  
 Amercoat Corp.: See—  
 Nukem Products Corp.  
 American Argo Corp.: See—  
 Rosen, M., & Co.  
 American Athletic Equipment Co., Jefferson, Iowa. 848,642,  
 pub. 2-20-68, Cl. 32.  
 American Aviation Publications, Inc., Washington D.C. 728-  
 807, can. Cl. 38.  
 American Blower Co., Detroit, Mich., to American Standard  
 Inc., New York, N.Y. 237,681, ren. 5-7-68, Cl. 34.  
 American Blower Co., Detroit, Mich., to American Standard  
 Inc., New York, N.Y. 238,318, ren. 5-7-68, Cl. 21.  
 American Bredde Corp., New York, N.Y., to Bredde-Food  
 Products Corp., Inc., Kansas City, Kan. 439,105, ren. 5-7-  
 68, Cl. 46.  
 American Cast Iron Pipe Co., Birmingham, Ala. 848,489, pub.  
 2-20-68, Cl. 13.  
 American Chemical Corp., Los Angeles, Calif. 728,730, can.  
 Cl. 6.  
 American Christmas Lighting Associates: See—  
 Beacon Electric Mfg. Co.  
 American Cyanamid Co., Wayne, N.Y. 848,436, pub. 2-20-68.  
 Cl. 1.  
 American Home Products Corp.: See—  
 Katzinger, Edward, Co.  
 American Home Products Corp., New York, N.Y. 848,517, pub.  
 2-20-68, Cl. 18.  
 American Hospital Supply Corp., Evanston, Ill., from Con-  
 verters Inc., Newark, N.J. 848,738, pub. 4-18-67, Cl. 44.  
 American-Marietta Co., Chicago, Ill. 728,766, can. Cl. 12.  
 American National Growers Corp.: See—  
 Blue Goose Growers, Inc.  
 American Poly-Plastics Laboratories, Inc., d.b.a. General  
 Laboratories Division, Arlington, Mass. 848,437, pub.  
 2-20-68, Cl. 1.  
 American Radiator & Standard Sanitary Corp., New York,  
 N.Y. 728,982, can. Cl. 103.  
 American Research Laboratories: See—  
 Anthes, Jacob.  
 American Society of Association Executives, Washington,  
 D.C. 848,804, pub. 2-20-68, Cl. 200.  
 American Society for Metals, Novelty, Ohio. 848,820, Cl. 38.  
 American Society for Testing and Materials, Philadelphia,  
 Pa. 848,674, pub. 2-20-68, Cl. 38.  
 American Standard Inc.: See—  
 American Blower Co.  
 American Technical Machinery Corp., Mount Vernon, N.Y.  
 848,574, pub. 2-20-68, Cl. 23.  
 Amphiphone Products Co., Inc., Chicago, Ill., by Dictograph  
 Products, Inc., Danbury, Conn. 326,573, 12(c) pub. 5-7-68.  
 Cl. 21.  
 Andale Co.: See—  
 Andale Engineering Co.  
 Andale Engineering Co., Philadelphia, Pa., by Andale Co.,  
 Lansdale, Pa. 238,340, 12(c) pub. 5-7-68, Cl. 23.  
 Anderson Brothers Consolidated Companies, Inc.: See—  
 Anderson Brothers, Inc.  
 Anderson Brothers, Inc., from Anderson Brothers Consoli-  
 dated Companies, Inc., Danville, Va. 848,695, pub. 10-31-  
 67, Cl. 39.  
 Anderson-Dunham, Inc., Minden, La. 848,585, pub. 2-20-68.  
 Cl. 23.  
 Anger International, Inc., New York, N.Y. 848,608, pub.  
 2-20-68, Cl. 26.  
 Antenna Designs, Inc., Burlington, Iowa. 848,548, pub. 2-20-  
 68, Cl. 21.  
 Anthes Jacob, d.b.a. American Research Laboratories, Fort  
 Atkinson, Wis. 740,652 can. Cl. 36.  
 Anzac Industries, Inc., Cleveland, Ohio. 848,553, pub. 2-20-  
 68, Cl. 21.  
 Arizona Precision Sheet Metal Specialists: See—  
 Thul, John.  
 Armour and Co., Chicago, Ill. 848,429, pub. 2-20-68, Cl. 1.  
 Armour and Co., Chicago, Ill. 848,434-5, pub. 2-20-68, Cl. 1.  
 Armstrong Daily, Inc., The: See—  
 Racing Intelligence Corp.  
 Armstrong Paint & Varnish Works, Inc., Chicago, Ill. 848-  
 477, pub. 2-20-68, Cl. 12.  
 Astor, Margarete, AG., Mainz, Germany. 848,757, pub.  
 11-21-67, Cl. 51.  
 Atkluson Milling Co., Minneapolis, Minn. 728,897, can.  
 Cl. 46.  
 Auerbach Shoe Co., Boston, Mass. 440,156, ren. 5-7-68.  
 Cl. 39.  
 Aulabaugh Bros., Brosius, to Aulabaugh Bros., Inc., Han-  
 cock, W. Va. 435,847, ren. 5-7-68, Cl. 46.  
 Aulabaugh Bros., Inc.: See—  
 Aulabaugh Bros.  
 Aurora Metal Co., Aurora, Ill. 848,431, pub. 2-20-68, Cl. 1.  
 Avalon Hill Co., The, Baltimore, Md. 728,827, can. Cl. 22.  
 Avon Products, Inc., New York, N.Y. 848,466, pub. 2-20-68.  
 Cl. 6.  
 Aymar, Julian R., Brooklyn, N.Y. 848,815, Cl. 26.  
 Ayres Corp., Wilmington, Calif. 848,598, pub. 2-20-68, Cl.  
 26.  
 Babcock & Wilcox Co., The, New York, N.Y. 241,626, ren.  
 5-7-68, Cl. 12.  
 Babcock & Wilcox Co., The, New York, N.Y. 437,188, ren.  
 5-7-68, Cl. 12.  
 Bach, Vincent, Corp., New York, N.Y., to Vincent Bach Corp.,  
 Elkhart, Ind. 240,440, ren. 5-7-68, Cl. 36.  
 Bailey Meter Co., Wickliffe, Ohio. 848,594, pub. 4-12-66, Cl.  
 26.  
 Ball Brothers Research Corp., Boulder, Colo. 848,600-2, pub.  
 2-20-68, Cl. 26.  
 Ball, Geo. J., Inc., d.b.a. Jiffy-Pot Co. of America, West Chi-  
 cago, Ill. 848,439, pub. 7-18-67, Cl. 2.  
 Ball, Geo. J., Inc., d.b.a. Jiffy-Pot Co. of America, West Chi-  
 cago, Ill. 848,740, pub. 7-11-67, Cl. 50.  
 Bancroft Racket Co., to United States Lawn Tennis Assn.,  
 New York, N.Y. 763,031, new cert. Cl. 22.  
 Bancroft Racket Co., to United States Lawn Tennis Assn.,  
 New York, N.Y. 778,459, new cert. Cl. 22.  
 Barcelone Co., Boston, Mass. 848,809, Cl. 1.  
 Barnstead Still & Sterilizer Co., Inc., Boston, Mass., to Ritter  
 Pfandler Corp., Rochester, N.Y. 438,765, ren. 5-7-68, Cl.  
 23.  
 Baron Blakeslee, Inc., Chicago, Ill. 848,498, pub. 2-20-68.  
 Cl. 16.  
 Bayuk Cigars Inc., Philadelphia, Pa. 848,500, pub. 2-20-68.  
 Cl. 17.  
 Beacon Co., The, Boston, Mass., to Sterling Drug Inc., New  
 York, N.Y. 439,434, ren. 5-7-68, Cl. 4.  
 Beacon Electric Mfg. Co., d.b.a. American Christmas Light-  
 ing Associates, Boston, Mass. 848,550, pub. 2-20-68, Cl.  
 21.  
 Beaunit Corp., New York, N.Y. 848,438, pub. 2-20-68, Cl. 1.  
 Bergmann, Marco, Co., to Marco Bergmann Co., Inc., New  
 York, N.Y. 439,544, ren. 5-7-68, Cl. 40.  
 Bergmann, Marco, Co., Inc.: See—  
 Bergmann, Marco, Co.  
 Best Coat & Apron Mfg. Co., Inc., New York, N.Y. 848,732,  
 pub. 2-20-68, Cl. 42.  
 Best Quality Plastics, Inc., Denver, Colo. 848,441, pub. 2-20-  
 68, Multiple Class (Classes 2 and 50).  
 Bianco Mfg. Co., St. Louis, Mo. 848,640, pub. 2-20-68, Cl.  
 32.  
 Billman-Regulator Aktiebolag, Huddinge, Sweden. 848,648,  
 pub. 2-20-68, Cl. 34.  
 Blinswanger Glass Co., Richmond, Va. 848,641, pub. 2-20-68.  
 Cl. 32.  
 Birmingham Small Arms Co. Ltd., The, Birmingham, England.  
 68 285, ren. 5-7-68, Cl. 9.  
 Birs Betelligungs- und Verwaltungsgesellschaft AG, Basel,  
 Switzerland. 728,736, can. Cl. 6.  
 Birs Betelligungs- und Verwaltungsgesellschaft AG, Basel,  
 Switzerland. 728,953, can. Cl. 51.  
 Black, Sivals & Bryson, Inc., Kansas City, Mo. 848,483, pub.  
 2-20-68, Cl. 13.  
 Black, Sivals & Bryson, Inc., Kansas City, Mo. 848,485, pub.  
 2-20-68, Cl. 13.  
 Bliss & Laughlin Industries Inc., Oak Brook, Ill. 848,486, pub.  
 2-20-68, Cl. 13.  
 Blue Goose Growers, Inc., from American National Growers  
 Corp., Fullerton, Calif. 728,911, can. Cl. 46.  
 Bodine Electric Co., Chicago, Ill. 848,681, pub. 2-20-68, Cl.  
 38.  
 Bolt Beranek & Newman Inc., Cambridge, Mass. 848,609, pub.  
 2-20-68, Cl. 26.  
 Bond Stores, Inc.: See—  
 Goodlow Corp.  
 Bonne Bell, Inc., Lakewood, Ohio. 848,760, pub. 2-20-68, Cl.  
 51.  
 Bowman, A. Smith, Distillery: See—  
 Bowman, Abram S.  
 Bowman, A. Smith, Distillery, Inc.: See—  
 Bowman, Abram S.  
 Bowman, Abram S., d.b.a. A. Smith Bowman Distillery, assor.  
 to A. Smith Bowman, E. De Long Bowman, and A. Smith  
 Bowman, Jr., d.b.a. A. Smith Bowman Distillery, to  
 A. Smith Bowman Distillery, Inc., Sunset Hills, Va. 500-  
 460, ren. 5-7-68, Cl. 49.



Brainpower U.S.A., Inc., Los Angeles, Calif. 848,793, pub. 2-20-68. Cl. 101.  
 Breddo-Food Products Corp., Inc.: See—  
 American Breddo Corp.  
 Breon Laboratories Inc., New York, N.Y. 848,515, pub. 2-20-68. Cl. 18.  
 Brigadoon Hosiery Mills, Inc., New York, N.Y. 729,000, cane. Cl. 39.  
 Brillo Mfg. Co., Inc., Brooklyn, N.Y. 728,728, cane. Cl. 4.  
 Bristol-Myers Co., New York, N.Y. 848,311, pub. 2-20-68. Cl. 18.  
 Bristol-Myers Co., New York, N.Y. 848,828, Cl. 52.  
 Bristol-Siddeley Engines Ltd., Bristol, England. 848,570, pub. 2-20-68. Cl. 23.  
 Brooks, Bobbie, Inc., Cleveland, Ohio. 848,696, pub. 2-20-68. Cl. 39.  
 Brown, Max J., d.b.a. Advanced Health Products, Venice, Calif. 728,937, cane. Cl. 46.  
 Bruning, Charles, Co., Inc., Mount Prospect, Ill. 728,840, cane. Cl. 26.  
 Brunswick Drug Co.: See—  
 Kip Inc.  
 Budd Co., The, Philadelphia, Pa. 848,539, pub. 2-20-68. Cl. 21.  
 Buena Vista Winery, Inc.: See—  
 Inglenook Vineyard Co.  
 Buffalo Forge Co., Buffalo, N.Y. 848,650, pub. 2-20-68. Cl. 34.  
 Bulova Watch Co., Inc., Flushing, N.Y. 848,622, pub. 2-20-68. Cl. 27.  
 Burpee, W. Atlee, Co., Philadelphia, Pa. 728,715, cane. Cl. 1.  
 Burris Mfg. Co., Inc., Lincoln, N.C. 848,639, pub. 2-20-68. Cl. 32.  
 Cal Corp., Ferndale, Mich. 848,496, pub. 2-20-68. Cl. 16.  
 Canal Industrial Corp., Rockville, Md. 848,611, pub. 2-20-68. Cl. 26.  
 Candy Lane, Inc., Los Angeles, Calif. 524,571, cane. Cl. 46.  
 Cannon Mills Co.: See—  
 Cannon Mills, Inc.  
 Cannon Mills, Inc., New York, N.Y., to Cannon Mills Co., Kannapolis, N.C. 232,160, ren. 5-7-68. Cl. 39.  
 Canon Camera Kabushiki Kaisha, to Ohta-ku, Tokyo, Japan. 844,063, cor. Cl. 26.  
 Capital Ice Cream Co.: See—  
 Hickey, Donald L.  
 Caribonum Ltd., London, England. 728,764, cane. Cl. 11.  
 Carol Wire & Cable Corp., Pawtucket, R.I. 848,545-6, pub. 2-20-68. Cl. 21.  
 Celanese Corp.: See—  
 Celanese Corp. of America.  
 Celanese Corp. of America, to Celanese Corp., New York, N.Y. 240,109, ren. 5-7-68. Cl. 16.  
 Celanese Corp. of America, to Celanese Corp., New York, N.Y. 240,681, ren. 5-7-68. Cl. 1.  
 Cladbourne Gotham, Inc., Charlotte, N.C. 848,698-9, pub. 2-20-68. Cl. 39.  
 Challenge Machinery Co., The, Grand Haven, Mich. 438,846-7, 12(c) pub. 5-7-68. Cl. 23.  
 Chandler & Price Co., The, Cleveland, Ohio. 848,579, pub. 2-20-68. Cl. 23.  
 Chanel Industries, Inc., New York, N.Y. 848,753, pub. 9-19-67. Cl. 51.  
 Chem-Star & Supply, Inc., Snyder, Tex. 848,775, pub. 2-20-68. Cl. 52.  
 Chesebrough-Pond's Inc., New York, N.Y. 848,766, pub. 2-20-68. Cl. 51.  
 Chicago Etching Corp.: See—  
 Chicago Thrift-Etching Corp.  
 Chicago Pneumatic Tool Co., New York, N.Y. 440,283, ren. 5-7-68. Cl. 21.  
 Chicago Thrift-Etching Corp., to Chicago Etching Corp., Chicago, Ill. 612,313, new cert. 7(c), Cl. 50.  
 Christian Science Publishing Society, The, Self-Perpetuating Trusteeship, Boston, Mass. 848,671-2, pub. 2-20-68. Cl. 38.  
 Cincinnati Industrial Packaging Corp., Cincinnati, Ohio. 848,780, pub. 2-20-68. Cl. 52.  
 Clairol Inc., New York, N.Y. 848,761, pub. 2-20-68. Cl. 51.  
 Clark, Robert H., d.b.a. Robert H. Clark Co., Beverly Hills, Calif., by The Alliance Mfg. Co. Inc., Alliance, Ohio. 436,072, 12(c) pub. 5-7-68. Cl. 23.  
 Clark, Robert H. Co.: See—  
 Clark, Robert H.  
 Cleveland Metal Products Co., The, to Hupp Corp., Cleveland, Ohio. 141,033, ren. 5-7-68. Cl. 34.  
 Clingsign, Inc., Beaumont, Tex. 848,751, pub. 2-20-68. Cl. 50.  
 Cohen, Harry E., d.b.a. Homemakers Club, Atlantic City, N.J. 848,457, pub. 2-20-68. Cl. 4.  
 Colgate-Palmolive Co.: See—  
 Colgate-Palmolive-Peet Co.  
 Colgate-Palmolive-Peet Co., The.  
 Colgate-Palmolive-Peet Co., Jersey City, N.J., to Colgate-Palmolive Co., New York, N.Y. 500,243, ren. 5-7-68. Cl. 52.  
 Colorcon, Inc., West Point, Pa. 848,463-4, pub. 2-20-68. Cl. 6.  
 Computer Research, Inc., Pittsburgh, Pa. 848,795, pub. 2-20-68. Cl. 101.  
 Conklin, E. W. & Son, Inc., Binghamton, by Stanford Seed Co., Buffalo, N.Y. 101,367, 12(c) pub. 5-7-68. Cl. 1.  
 Connecticut Consolidated Industries, Inc., d.b.a. Action Systems Co., Meriden, Conn. 848,813, Cl. 21.  
 Connecticut Scientific Center, Inc., New Haven, Conn. 848,572, pub. 2-20-68. Cl. 23.  
 Con-O-Lite Corp., to Con-O-Lite Corp., Lynchburg, Va. 170,642, new cert. 7(c) 5-7-68. Cl. 2.  
 Contact Lens Society of America, Inc., Albany, N.Y. 848,803, pub. 2-20-68. Cl. 200.  
 Contender Corp., Woodland, Calif. 848,575, pub. 2-20-68. Cl. 23.  
 Continental Baking Co., Rye, N.Y. 728,909-10, cane. Cl. 46.  
 Continental Can Co., Inc., New York, N.Y. 848,812, Cl. 2.  
 Convertors Inc.: See—  
 American Hospital Supply Corp.  
 Cook, Loren, Co., Berea, Ohio. 848,653, pub. 2-20-68. Cl. 34.  
 Corn Products Co., New York, N.Y. 848,746, pub. 2-20-68. Cl. 46.  
 Cornelius Co., The, Anoka, Minn. 848,446, pub. 2-20-68. Cl. 2.  
 Cotton Belt, Inc., Pinetops, N.C. 848,636, pub. 2-20-68. Cl. 32.  
 Coty, Inc., to Marie Earle Corp., New York, N.Y. 435,007, ren. 5-7-68. Cl. 51.  
 Coty, Inc., to Marie Earle Corp., New York, N.Y. 435,490, ren. 5-7-68. Cl. 51.  
 Coulter Electronics, Inc., Hialeah, Fla. 848,442, pub. 2-20-68. Cl. 2.  
 Countess Mara, Inc., New York, N.Y. 848,450, pub. 2-20-68. Multiple Classes (Classes 3, 28 and 32).  
 Crane Co., New York, N.Y. 439,111, ren. 5-7-68. Cl. 13.  
 Curlee Clothing Co., St. Louis, Mo. 848,706, pub. 2-20-68. Cl. 39.  
 Curran, C. A., Chicago, Ill. 848,603, pub. 2-20-68. Cl. 26.  
 Current Controls Corp., Hialeah, Fla. 848,614, pub. 2-20-68. Cl. 26.  
 Curtis, Helene, Industries, Inc., Chicago, Ill. 848,758, pub. 4-4-67. Cl. 51.  
 Daggett & Ramsdell International Corp., New York, N.Y. 848,756, pub. 2-28-67. Cl. 51.  
 Dan River Mills, Inc.: See—  
 Riverside & Dan River Cotton Mills, Inc.  
 Dazey Products Co., Kansas City, Mo. 848,547, pub. 2-20-68. Cl. 21.  
 De Luxe Topper Corp., Elizabeth, N.J. 848,538, pub. 2-20-68. Cl. 22.  
 Deering Milliken, Inc., New York, N.Y. 848,733-6, 2-20-68. Cl. 42.  
 DeGross, Kenneth C., d.b.a. DeGross Orb-Tron Co., South Bend, Ind. 848,599, pub. 10-3-67. Cl. 26.  
 DeGross Orb-Tron Co.: See—  
 DeGross, Kenneth C.  
 Dentists' Supply Co. of New York, The, York, Pa. 848,740, pub. 2-20-68. Cl. 44.  
 Diamond International Corp., New York, N.Y. 848,679, pub. 2-20-68. Cl. 38.  
 Diamond Cut Lingerie Proprietary Ltd., Victoria, Australia. 848,707, pub. 2-20-68. Cl. 39.  
 Diamond Whip Co.: See—  
 Sorehen, George L.  
 Diograph Products, Inc.: See—  
 Ampli-Phone Products Co., Inc.  
 Dietzen, Eugene, Co., Chicago, Ill. 438,379, ren. 5-7-68. Cl. 26.  
 Diversified Products Corp., Opelika, Ala. 848,521, pub. 2-20-68. Multiple Class (Classes 19, 22, 32, and 38).  
 Dr. Jaeger's Sanitary Woolen System Co., New York, N.Y., by The Jaeger Co. Ltd., London, England. 69,201, 12(c) pub. 5-7-68. Cl. 39.  
 Doctor James Industries, Inc., Camp Hill, Pa. 728,774, cane. Cl. 18.  
 Dr. Kutlak & Co. Arzneimittel-fabrik: See—  
 Petrusapothek, Dr. August Kutlak.  
 Dr. Nils of Sweden, Goteborg C., Sweden. 848,739, pub. 2-20-68. Cl. 44.  
 Dow Chemical Co., The, Midland, Mich. 848,512-3, pub. 2-20-68. Cl. 18.  
 Drackett Co., The, Cincinnati, Ohio. 848,463, pub. 2-20-68. Cl. 6.  
 Drexel Enterprises, Inc., Drexel, N.C. 848,638, pub. 2-20-68. Cl. 32.  
 Duncan, Donald F., Inc., Chicago, Ill. 728,812, cane. Cl. 22.  
 Dunlop Tire & Rubber Corp., Buffalo, N.Y. 848,561, pub. 2-20-68. Cl. 22.  
 Dura Electric Lamp Co., Newark, N.J. 848,526, pub. 2-22-66. Cl. 21.  
 Duradex Co., The, New York, N.Y., to Duradex Inc., Clifton, N.J. 241,209, ren. 5-7-68. Cl. 37.  
 Duradex Inc.: See—  
 Duradex Co., The.  
 Durkee Famous Foods: See—  
 SCM Corp.  
 E-Z Machine Corp., Hicksville, N.Y. 848,427, pub. 2-20-68. Cl. 1.  
 Earle, Marie, Corp.: See—  
 Coty, Inc.  
 East, Richard L., Modesto, Calif. 728,809, cane. Cl. 22.  
 Eastern Co., The: See—  
 Eastern Malleable Iron Co., The.  
 Eastern Malleable Iron Co., The, Naugatuck, Conn., to The Eastern Co., Cleveland, Ohio. 437,701, ren. 5-7-68. Cl. 14.  
 Eastman Kodak Co., Rochester, N.Y. 848,616, pub. 2-20-68. Cl. 26.  
 Eaton Yale & Towne Inc., Cleveland, Ohio. 848,573, pub. 2-20-68. Cl. 23.  
 E'Con Mills, Inc., Chattanooga, Tenn. 848,729, pub. 2-20-68. Cl. 42.  
 Educational Media Laboratories: See—  
 Gulfeo Corp.  
 Edu-Tek, Inc., St. Louis, Mo. 737,919, cane. Cl. 36.  
 Eliminator Tire & Rubber Co., Inc., Thompsonville, Conn. 848,661, pub. 2-20-68. Cl. 35.  
 Eliminator Tire & Rubber Co., Inc., Thompsonville, Conn. 848,663, pub. 2-20-68. Cl. 35.  
 Entertainment Associates, Inc., Saginaw, Mich. 848,473, pub. 2-20-68. Cl. 9.  
 Eon Productions Ltd., London, England, from Trimount Clothing Co., Inc., Boston, Mass. 848,655-6, pub. 5-31-66. Cl. 39.  
 Epoxon Corp., San Francisco, Calif. 844,351, cor. Cl. 6.  
 Equipment Controls Co., Doraville, Ga. 848,597, pub. 5-23-67. Cl. 26.

Etablissements Uti, Paris, France. 437,629, ren. 5-7-68. Cl. 28.  
 Ethicon, Inc.: See—  
 Johnson & Johnson.  
 Ethyl Corp., Richmond, Va. 848,487, pub. 2-20-68. Cl. 13.  
 Evon Industries, Inc., Newark, N.J. 848,476, pub. 2-20-68. Cl. 12.  
 Exmoor Knitwear Co., Inc., Haverstraw, N.Y. 848,700, pub. 2-20-68. Cl. 39.  
 Extendicare, Inc., from Heritage House of America, Inc., Louisville, Ky. 848,789-91, pub. 2-20-68. Cl. 100.  
 P.A. Products Co., Chicago, Ill. 728,759-7, cane. Cl. 18.  
 Faber-Castell, A. W. Pencil Co., Inc.: See—  
 Rosenthal Co., The.  
 Faber, Inc., New York, N.Y. 848,762, pub. 2-20-68. Cl. 51.  
 Fabli Mfg. Corp., New York, N.Y. 436,411, ren. 5-7-68. Cl. 39.  
 Facelle Co. Ltd., Toronto, Ontario, Canada. 848,668, pub. 2-20-68. Multiple class (Classes 37 and 39).  
 Facit-Odhner, Inc., Secaucus, N.J. 848,620, pub. 2-20-68. Cl. 26.  
 Farmers Friend Mineral Co.: See—  
 Meyer, O. W.  
 Fast Chemical Products Corp., Yonkers, N.Y. 848,772, pub. 2-20-68. Cl. 52.  
 Faultless Starch Co., Kansas City, Mo. 848,468, pub. 2-20-68. Cl. 6.  
 Federal Steel Corp., Raritan, N.J. 848,651, pub. 2-20-68. Cl. 34.  
 Federated Department Stores, Inc., New York, N.Y. 728,865, cane. Cl. 39.  
 Fedtro, Inc., Rockville Centre, N.Y. 848,554, pub. 2-20-68. Cl. 21.  
 Ferodo Ltd.: See—  
 Kearsbey & Mattison Co.  
 Fichtel & Sack, Aktiengesellschaft, Postfach, Germany. 848,566, pub. 2-20-68. Cl. 23.  
 Field Enterprises, Inc., to Field Enterprises, Inc., Chicago, Ill. 437,246, ren. 5-7-68. Cl. 38.  
 Firestone Tire & Rubber Co., The, Akron, Ohio. 848,544, pub. 2-20-68. Cl. 21.  
 Firestone Tire & Rubber Co., The, Akron, Ohio. 848,637, pub. 2-20-68. Cl. 35.  
 Firestone Tire & Rubber Co., The, Akron, Ohio. 848,662, pub. 2-20-68. Cl. 35.  
 Fisons Industrial Chemicals Ltd., now by change of name from Whiffen & Sons Ltd., Loughborough, England. 830,847, cor. Cl. 6.  
 Fleming-Hall Tobacco Co., Inc., to United States Tobacco Co., New York, N.Y. 437,606, ren. 5-7-68. Cl. 8.  
 Fleming-Hall Tobacco Co., Inc., to United States Tobacco Co., New York, N.Y. 439,056, ren. 5-7-68. Cl. 17.  
 Florida Fruit Cannery, Inc., to Ben Hill Griffin, Inc., Frostproof, Fla. 249,236, Am. 7(d), Cl. 46.  
 Fly Stripe Co.: See—  
 Simel, John M.  
 Food Fair Stores, Inc., Philadelphia, Pa. 728,837, cane. Cl. 23.  
 Foremost-McKesson, Inc., from McKesson & Robbins, Inc., New York, N.Y. 848,748, pub. 2-20-68. Cl. 47.  
 Fritzsche Brothers, Inc., New York. 848,825, Cl. 46.  
 Frontier Products: See—  
 Puszyński, Bruno A.  
 Fukui & Co., Ltd., Osaka, Japan. 848,475, pub. 2-20-68. Cl. 11.  
 Furstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur, Furstenberg (Weser), Germany. 848,754, pub. 2-20-68. Cl. 50.  
 Galocha Moderna Inc.: See—  
 Kay Rubber Corp.  
 Gandy, Aaron E., d.b.a. Rainbow Multi-Vision Aquarium, Midland, Tex. 848,752, pub. 2-20-68. Cl. 50.  
 Garland Corp., Brockton, Mass. 848,701, pub. 2-20-68. Cl. 39.  
 Garrett Corp., The, Los Angeles, Calif. 848,649, pub. 2-20-68. Cl. 34.  
 Garrett Enumclaw Co., Enumclaw, Wash. 848,564, pub. 10-20-64. Cl. 23.  
 Gaspeula Sulphite Co., Ltd., Quebec, Canada. 728,710, cane. Cl. 1.  
 Gelgy Chemical Corp.: See—  
 Gelgy Co., Inc.  
 Gelgy Co., Inc., New York, N.Y., to Gelgy Chemical Corp., Ardsley, N.Y. 437,264, ren. 5-7-68. Cl. 18.  
 General American Transportation Corp., Chicago, Ill. 848,449, pub. 2-20-68. Cl. 2.  
 General Cable Corp., New York, N.Y. 848,451-3, pub. 2-20-68. Cl. 4.  
 General Laboratories Division: See—  
 American Poly-Plastics Laboratories, Inc.  
 General Mills, Inc., Minneapolis, Minn. 728,913-4, cane. Cl. 46.  
 Gilbert, A. C. Co., The, New Haven, Conn. 848,555, pub. 2-20-68. Cl. 22.  
 Glidden Co., The: See—  
 SCM Corp.  
 Goldring Inc.: See—  
 Goldring Merchandising Corp.  
 Goldring Merchandising Corp., by Goldring Inc., New York, N.Y. 327,997, 12(c) pub. 5-7-68. Cl. 39.  
 Goldstone Bros., San Francisco, Calif. 848,682, pub. 1-28-58. Cl. 39.  
 Goodlow Corp., to Bond Stores, Inc., New York, N.Y. 242,842, ren. 5-7-68. Cl. 39.  
 Goodrear Tire & Rubber Co., The, Akron, Ohio. 848,656, pub. 2-20-68. Cl. 35.  
 Goodrear Tire & Rubber Co., The, Akron, Ohio. 848,658, pub. 2-20-68. Cl. 35.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 848,660, pub. 2-20-68. Cl. 35.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 848,792, pub. 2-20-68. Cl. 101.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 848,799, pub. 2-20-68. Cl. 103.  
 Gotham Wedding Ring Co., Inc., New York, N.Y. 848,625, pub. 2-20-68. Cl. 28.  
 Gotham Wedding Ring Co., Inc., New York, N.Y. 848,630, pub. 2-20-68. Cl. 28.  
 Grace, W. R. & Co.: See—  
 Tudy-Patrick Seed Co.  
 Vestal Chemical Co.  
 Granitize Products Co.: See—  
 Granitize Products, Inc.  
 Granitize Products, Inc., d.b.a. Granitize Products Co., Lynwood, Calif. 728,966, cane. Cl. 32.  
 Green, Ward, Co., New York, N.Y. 848,623, Cl. 39.  
 Greenberg, Charles, & Sons, Inc., New York, N.Y. 848,714, pub. 2-20-68. Cl. 39.  
 Gretsch, Fred, Co., Inc., The, New York, from The Fred Gretsch Mfg. Co., Brooklyn, N.Y. 848,664, pub. 2-20-68. Cl. 36.  
 Gretsch, Fred, Mfg. Co., The: See—  
 Gretsch, Fred, Co., Inc., The.  
 Grieco Bros., Inc., Lawrence, Mass. 848,821, Cl. 39.  
 Griswold Coffee Co., Minneapolis, Minn. 848,744, pub. 2-20-68. Cl. 46.  
 Grove Co., The, St. Louis, Mo. 848,710, pub. 2-20-68. Cl. 39.  
 Guilbert, Inc., Philadelphia, Pa. 848,568, pub. 2-20-68. Cl. 23.  
 Gulfo Corp., d.b.a. Educational Media Laboratories, Dallas, Tex. 848,680, pub. 2-20-68. Cl. 38.  
 Gunite Foundries Corp.: See—  
 Kelsey-Hayes Co.  
 HLH Products: See—  
 Hunt Oil Co.  
 Hacking, H. Co., Ltd., Vancouver, British Columbia, Canada. 848,703, pub. 2-20-68. Cl. 39.  
 Haire Publishing Co., Inc., New York, N.Y. 234,274, 12(c) pub. 5-7-68. Cl. 38.  
 Hall, Robert, Clothes: See—  
 Hall, Robert, Clothes, Inc.  
 Hall, Robert, Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. 848,702, pub. 2-20-68. Cl. 39.  
 Halliburton Co., Duncan, Okla. 848,461, pub. 2-20-68. Multiple Classes (Classes 6 and 103).  
 Hallmark Cards, Inc., Kansas City, Mo. 728,863, cane. Cl. 38.  
 Hallmark Cards, Inc., Kansas City, Mo. 848,676, pub. 2-20-68. Cl. 38.  
 Hamersley Mfg. Co., The, to Hamersley Paper Mills, Inc., Garfield, N.J. 242,164, ren. 5-7-68. Cl. 37.  
 Hamersley Paper Mills, Inc.: See—  
 Hamersley Mfg. Co., The.  
 Harnischfeger Corp., West Milwaukee, Wis. 848,532, pub. 2-20-68. Cl. 21.  
 Harris Co., The, San Bernardino, Calif. 848,692, pub. 2-20-68. Cl. 39.  
 Hartford Textile Corp., New York, N.Y. 435,199, 12(c) pub. 5-7-68. Cl. 42.  
 Helps Co., Minneapolis, Minn. 848,637, pub. 2-20-68. Cl. 32.  
 Henri's Food Products Co., Inc., Milwaukee, Wis. 728,934, cane. Cl. 46.  
 Heritage House of America, Inc.: See—  
 Extendicare, Inc.  
 Hickey, Donald L., d.b.a. Capital Ice Cream Co., Tonganoxie, Kans. 848,826, Cl. 46.  
 Hills Brothers Co., The, to National Biscuit Co., New York, N.Y. 240,753, ren. 5-7-68. Cl. 46.  
 Hillside Packing Assn., Lindsay, Calif. 245,265, ren. 5-7-68. Cl. 46.  
 Hilliard Chemical Co., to Hilliard Enterprises, Inc., St. Joseph, Mo. 245,894, ren. 5-7-68. Cl. 6.  
 Hilliard Enterprises, Inc.: See—  
 Hilliard Chemical Co.  
 Hindle Transformer Co. Inc., Flemington, N.J. 728,804, cane. Cl. 21.  
 Homemakers Club: See—  
 Cohen, Harry E.  
 Horizon House-Solid State, Inc., Brookline, Mass. 728,866, cane. Cl. 38.  
 Howard Paper Mills, Inc., Dayton, Ohio, to St. Regis Paper Co., New York, N.Y. 500,990-2, ren. 5-7-68. Cl. 37.  
 Hudnut, Richard, Morris Plains, N.J. 848,759, pub. 2-20-68. Cl. 51.  
 Hudson National, Inc., d.b.a. Hudson Vitamin Products, New York, N.Y. 848,534, pub. 2-20-68. Multiple Class (Classes 21, 23, and 29).  
 Hudson Vitamin Products: See—  
 Hudson National, Inc.  
 Hunt Foods, Inc.: See—  
 Hunt Foods and Industries, Inc.  
 Hunt Foods and Industries, Inc., d.b.a. Hunt Foods, Inc., Fullerton, Calif. 728,915-16, cane. Cl. 46.  
 Hunt Oil Co., d.b.a. HLH Products, Dallas, Tex. 848,742, pub. 9-6-66. Cl. 46.  
 Hupp Corp.: See—  
 Cleveland Metal Products Co., The.  
 Hurletron, Inc., Danville, Ill. 728,843, cane. Cl. 26.  
 Hydraulic Machinery Co., Inc., Butler, Wis. 848,588, pub. 2-20-68. Cl. 23.  
 Hydro Flame Corp., Salt Lake City, Utah. 848,652, pub. 2-20-68. Cl. 34.  
 Hygrade Food Products Corp.: See—  
 Kingan & Co., Ltd.  
 ITT Champion Inc.: See—  
 International Telephone and Telegraph Corp.  
 Indian Head Inc.: See—  
 Linen Thread Co., Inc., The.  
 Industrial Acoustics Co., Inc., Bronx, N.Y. 848,655, pub. 2-20-68. Cl. 34.  
 Industrial-Automotive, Inc., Newark, Ohio. 848,567, pub. 2-20-68. Multiple Class (Classes 23 and 32).



Industrial Research, Inc., Beverly Shores, Ind. 848,677, pub. 2-20-68. Cl. 38.  
 Industrial Tools Mfg. Corp., Pico Rivera, Calif. 848,576, pub. 2-20-68. Cl. 23.  
 Inglenook Vineyard Co., assor. to Buena Vista Vineyards, Rutherford, to Buena Vista Winery, Inc., Sonoma, Calif. 438,515, ren. 5-7-68. Cl. 47.  
 Interco Inc., St. Louis, Mo. 848,708, pub. 2-20-68. Cl. 39.  
 International Paper Co., New York, N.Y. 728,551, can. Cl. 37.  
 International Paper Co., New York, N.Y. 848,428, pub. 2-20-68. Cl. 1.  
 International Paper Co., New York, N.Y. 848,818, Cl. 37.  
 International Products and Services, Inc., Cleveland, Ohio. 848,455, pub. 2-20-68. Cl. 4.  
 International Telephone and Telegraph Corp., New York, N.Y., from ITP Champion Inc., Lynn, Mass. 848,536, pub. 12-26-67. Cl. 21.  
 Irwin, Neisler, & Co., Decatur, Ill. 728,783, can. Cl. 18.  
 Jaeger Co. Ltd., The: See—  
 Dr. Jaeger's Sanitary Woolen System Co.  
 Jet Black Ink Supreme, Inc., Portland, Ore. 848,810, Cl. 1.  
 Jewel Companies, Inc., from Jewel Tea Co., Inc., Melrose Park, Ill. 848,743, pub. 2-20-68. Cl. 46.  
 Jewel Tea Co., Inc.: See—  
 Jewel Companies, Inc.  
 Jiffy-Pot Co.: See—  
 Ball, Geo. J., Inc.  
 Jiffy-Pot Co. of America: See—  
 Ball, Geo. J., Inc.  
 Johnson & Johnson, New Brunswick, N.J., to Ethicon, Inc., Somerville, N.J. 438,277-9, ren. 5-7-68. Cl. 44.  
 Jointline Products Co. Ltd., Lincoln, England. 728,721, can. Cl. 1.  
 Jolly Gulp, Inc.: See—  
 Jolly Products, Inc.  
 Jolly Products, Inc., from Jolly Gulp, Inc., Chicago, Ill. 728,847, can. Cl. 37.  
 Kaakinen Fish Co., to Washington Crab Producers, Inc., Westport, Wash. 435,852, ren. 5-7-68. Cl. 46.  
 Kall-Chemie Aktiengesellschaft, Hannover, Germany. 848,460, pub. 2-20-68. Multiple Class (Classes 6, 10, and 18).  
 Kassow, Samuel, Co., Inc., Jenkintown, Pa. 848,690, pub. 2-20-68. Cl. 39.  
 Katzinger, Edward, Co., Chicago, Ill., to American Home Products Corp., New York, N.Y. 245,021, ren. 5-7-68. Cl. 26.  
 Katzinger, Edward, Co., Chicago, Ill., to American Home Products Corp., New York, N.Y. 245,277, ren. 5-7-68. Cl. 13.  
 Kay Rubber Corp., New York, N.Y., from Galocha Moderna Inc., Philadelphia, Pa. 848,683, pub. 2-20-68. Cl. 39.  
 Kayser-Roth Corp., New York, N.Y. 848,717, pub. 2-20-68. Cl. 39.  
 Kayser-Roth Corp., New York, N.Y. 848,719, pub. 2-20-68. Cl. 39.  
 Keasbey & Mattison Co., Ambler, Pa., to Ferodo Ltd., Stockport, England. 436,974, ren. 5-7-68. Cl. 35.  
 Kellogg Co., Battle Creek, Mich. 207,268, ren. 5-7-68. Cl. 46.  
 Kelly-Springfield Tire Co., The: See—  
 Advance Stores Co., Inc.  
 Kelsey-Hayes Co., Detroit, Mich., from Gunite Foundries Corp., Rockford, Ill. 728,859, can. Cl. 38.  
 Kelsey-Hayes Co., Romulus, Mich. 848,518, pub. 2-20-68. Cl. 19.  
 Kem Associates, New York, N.Y. 729,002-3, can. Cl. 40.  
 Kendall, B. J., Co., Dr. Enosburg Falls, by The Kendall Co., Boston, Mass. 113,986, 12(c) pub. 5-7-68. Cl. 18.  
 Kendall Co., The: See—  
 Kendall, B. J., Co., Dr.  
 Kimberly-Clark Corp., Neenah, Wis. 848,715, pub. 2-20-68. Cl. 39.  
 Kimtec, Inc., Houston, Tex. 848,610, pub. 2-20-68. Cl. 26.  
 King Kullen Grocery Co., Inc., Jamaica, N.Y. 728,921, can. Cl. 46.  
 Kingan & Co., Ltd., Indianapolis, Ind., to Hygrade Food Products Corp., Detroit, Mich. 67,726, ren. 5-7-68. Cl. 46.  
 Klep Inc., to Brunswick Drug Co. 637,624, new cert. 7(c) 5-7-68. Cl. 18.  
 Kleer-Vu Industries, Inc., New York, N.Y. 848,816, Cl. 26.  
 Klenk Epoxy Corp., Detroit, Mich. 728,996, can. Cl. 5.  
 Klinkerbocker Biologicals, Inc., New York, N.Y. 728,755, can. Cl. 5.  
 Kohnstamm, H. & Co., Inc., New York, N.Y. 848,776-9, pub. 2-20-68. Cl. 52.  
 Kollman Instrument Corp., Elmhurst, N.Y. 848,607, pub. 2-20-68. Cl. 26.  
 Koshier Overseers Associates of America: See—  
 Sharfman, I. Harold, Rabbi.  
 Kozak Auto Drywash, Inc., Batavia, N.Y. 848,454, pub. 2-20-68. Cl. 4.  
 Kress & Owen Co., New York, N.Y., to Kress & Owen Co., Middletown, N.J. 241,934, ren. 5-7-68. Cl. 18.  
 Kress & Owen Co.: See—  
 Kress & Owen Co.  
 LPF Plastic Corp., Kansas City, Mo. 848,540, pub. 2-20-68. Cl. 21.  
 Lander Co., Inc.: See—  
 Lander Co. Inc., The.  
 Lander Co. Inc., The, to Lander Co., Inc., New York, N.Y. 435,739, ren. 5-7-68. Cl. 52.  
 Lane, Ltd., New York, N.Y., to Reemtsma Cigarettenfabriken G.m.b.H., Hamburg, Germany. 438,545-6, ren. 5-7-68. Cl. 17.  
 Lasport, Inc., Asbury Park, N.J. 848,684, pub. 2-8-68. Cl. 39.  
 Lawson Products, Inc., Pawtucket, R.I. 439,159, 12(c) pub. Cl. 39.  
 Leather's Best, Inc., New York, N.Y. 728,726, can. Cl. 1.  
 Lee, T. Kong, d.b.a. Lee's Agency, San Francisco, Calif. 439,579, ren. 5-7-68. Cl. 46.  
 Lee's Agency: See—  
 Lee, T. Kong.

Lenz Mfg. Co.: See—  
 Lenz, Robert L.  
 Lenz, Robert L., d.b.a. Lenz Mfg., Castro Valley, Calif. 848,491, pub. 2-20-68. Cl. 15.  
 Lestoll Products, Inc., Holyoke, Mass. 728,761, can. Cl. 6.  
 Levittmark Inc., Lake Success, N.Y. 848,731, pub. 2-20-68. Cl. 42.  
 Levy Bros. Flocks, Inc., New York, N.Y. 848,718, pub. 2-20-68. Cl. 39.  
 Lifeways, Inc., Detroit, Mich. 728,990, can. Cl. 107.  
 Linck, O. E., Co., Inc., Clifton, N.J. 728,738, can. Cl. 6.  
 Linen Thread Co., Inc., The, by Indian Head Inc., New York, N.Y. 437,275, 12(c) pub. 5-7-68. Cl. 43.  
 Lion Packaging Products Co., Inc., Hicksville, N.Y. 848,444-5, pub. 2-20-68. Cl. 2.  
 Lips N. V., Ltd., Drunen, Netherlands. 848,524, pub. 2-20-68. Cl. 19.  
 Lipton, Thomas J., Inc., Englewood Cliffs, N.J. 848,747, pub. 2-20-68. Cl. 46.  
 Little Topsy's, Inc., New York, N.Y. 848,693, pub. 2-20-68. Cl. 39.  
 Load King Trailer Co., Elk Point, S. Dak. 848,522, pub. 2-20-68. Cl. 19.  
 Lorillard, P., Co., New York, N.Y. 848,501-5, pub. 2-20-68. Cl. 17.  
 Lub-O-Seal Co., Inc., Houston, Tex. 848,479, pub. 2-20-68. Cl. 12.  
 Lunkenheimer Co., The, to The Lunkenheimer Co., Cincinnati, Ohio. 243,396, ren. 5-7-68. Cl. 13.  
 M.J.P. Construction/Investment Co.: See—  
 Paolierio, Michael J., Jr.  
 MTS Systems Corp., Minneapolis, Minn. 848,613, pub. 2-20-68. Cl. 26.  
 MacAlaster Bicknell Co., Cambridge, Mass., to The Macbtek Co., Wilmington, Mass. 437,892, ren. 5-7-68. Cl. 50.  
 Macbick Co., The: See—  
 MacAlaster Bicknell Co.  
 Macco Chemical Co., The, to SCM Corp., Cleveland, Ohio. 742,436, amd. 5-7-68. Multiple Class (Classes 5 and 12).  
 Madison Builders Assn.: See—  
 National Assn. of Home Builders of the United States, The.  
 National Association of Home Builders of the United States, The.  
 Magoo Products, Inc., Santa Fe Springs, Calif., from William E. Sievers, Long Beach, Calif. 728,747, can. Cl. 6.  
 Maidenform, Inc., New York, N.Y. 848,720, pub. 2-20-68. Cl. 39.  
 Major Leather Goods Mfg., Co., Chicago, Ill. 728,994, can. Cl. 3.  
 Mama Cookie Bakeries, Inc., Chicago, Ill. 439,154, ren. 5-7-68. Cl. 46.  
 Mangelsdorf, Ed. F. & Bro., Inc., St. Louis, Mo. 728,711, can. Cl. 1.  
 Maple Leaf Milling Co., Ltd., to Maple Leaf Mills Ltd., Toronto, Ontario, Canada. 437,165, ren. 5-7-68. Cl. 46.  
 Maple Leaf Mills Ltd.: See—  
 Maple Leaf Milling Co., Ltd.  
 Marcy Corp., New York, N.Y. 728,997, can. Cl. 8.  
 Mark Tool Co., Inc., Lafayette, La. 848,478, pub. 2-20-68. Cl. 12.  
 Maroon Bros., Peoria, Ill. 728,906, can. Cl. 46.  
 Martin Fabrics Corp., New York, N.Y. 728,890, can. Cl. 42.  
 Martinsburg Forest Products, Inc., Martinsburg, W. Va. 848,433, pub. 2-20-68. Cl. 1.  
 Matheson Scientific, Inc., Elk Grove Village, Ill. 848,612, pub. 2-20-68. Cl. 26.  
 Matsushita Electric Industrial Co., Ltd., to Kadomashi, Osaka, Japan. 842,351, cor. Cl. 21.  
 McAdam, Paul A., d.b.a. Salesmasters National, Phoenix, Ariz. 848,802, pub. 2-20-68. Cl. 107.  
 McKesson & Robbins, Inc.: See—  
 Foremost-McKesson, Inc.  
 Mead Corp., The, Dayton, Ohio. 848,474, pub. 2-20-68. Cl. 10.  
 Mepco, Inc., Morristown, N.J. 848,533, pub. 2-20-68. Cl. 21.  
 Mercantile Stores Co., Inc., New York, N.Y. 848,765, pub. 2-20-68. Cl. 51.  
 Metaframe Corp., Maywood, N.J. 848,577, pub. 2-20-68. Cl. 23.  
 Metal Office Furniture Co., by Steelcase, Inc., Grand Rapids, Mich. 439,606, 12(c) pub. 5-7-68. Cl. 12.  
 Metro Wholesale Corp., New York, N.Y. 848,665, pub. 2-20-68. Cl. 36.  
 Meyer, O. W., d.b.a. Farmers Friend Mineral Co., Napoleon, Ohio. 728,799, can. Cl. 18.  
 Meyerco Corp., The, Carol Stream (Wheaton), Ill. 501,097, ren. 5-7-68. Cl. 38.  
 Microtron Corp., Charlotte, N.C. 848,633, pub. 2-20-68. Cl. 31.  
 Milk Foods Inc., U.S.A., Monterey, Calif. 728,918, can. Cl. 46.  
 Mitchell Mfg. Co., Milwaukee, Wis. 848,635, pub. 10-24-67. Cl. 32.  
 Mobile Industrial Equipment Corp., Philadelphia, Pa. 848,581, pub. 2-20-68. Cl. 23.  
 Mobile Paint Mfg. Co., Inc., Mobile, Ala. 848,493, pub. 2-20-68. Cl. 16.  
 Moller Peter, A/S, Oslo, Norway. 231,602, 12(c) pub. 5-7-68. Cl. 18.  
 Morrill, Harry L., Jr., Marietta, Ga. 728,825, can. Cl. 22.  
 Motorscoche Societe Anonyme, Geneva, Switzerland. 436,306, 12(c) pub. 5-7-68. Cl. 23.  
 Mrs. America, Inc., New York, N.Y. 728,868, can. Cl. 38.  
 Mud Control Laboratories, Inc., Oklahoma City, Okla. 728,753, can. Cl. 6.  
 Munck International A/S Norwegian Corp., Bergen, Norway. 848,528, pub. 2-20-68. Multiple Class (Classes 21 and 23).

Muna, Margaret E., d.b.a. Printz Electric Co., Detroit, Mich. 848,543, pub. 2-20-68. Cl. 21.  
 Munswear, Inc., Minneapolis, Minn. 848,705, pub. 2-20-68. Cl. 39.  
 National Air Conservation Commission: See—  
 National Tuberculosis Assn.  
 National Assn. of Home Builders of the United States, The, Washington, D.C., from Madison Builders Assn., Madison, Wis. 848,806, pub. 10-19-65. Cl. A.  
 National Association of Home Builders of the United States, The, Washington, D.C., from Madison Builders Assn., Madison, Wis. 848,808, pub. 10-19-65. Cl. B.  
 National Basketball Players Assn., New York, N.Y. 848,805, pub. 2-20-68. Cl. 200.  
 National Biscuit Co.: See—  
 Hills Brothers Co., The.  
 National Brake Block Corp.: See—  
 Simon, Irving.  
 National Potteries Corp., Bedford, Ohio. 848,631, pub. 2-20-68. Cl. 30.  
 National Tuberculosis Assn., d.b.a. National Air Conservation Commission, New York, N.Y. 848,786, pub. 2-20-68. Cl. 100.  
 Naumkeag Steam Cotton Co., Salem, Mass., to Spring Mills, Inc., New York, N.Y. 437,426, ren. 5-7-68. Cl. 42.  
 Nell Products Inc., Los Angeles, Calif. 503,823, can. Cl. 45.  
 New Jersey Chemical Co., Inc., Lynhurst, N.J. 848,770, pub. 2-20-68. Cl. 52.  
 New York Merchandise Co., Inc., New York, N.Y. 848,822. Cl. 39.  
 Newport Instrument Corp., Newport Beach, Calif. 848,617, pub. 2-20-68. Cl. 26.  
 No-Nail Boxes Ltd., Saltney, Chester, England. 848,443, pub. 2-20-68. Cl. 2.  
 Nu-Brite Chemical Co., Inc., Taunton, Mass. 848,497, pub. 2-20-68. Cl. 16.  
 Nukem Products Corp., Buffalo, N.Y., to Amercoat Corp., Iroca, Calif. 437,433, ren. 5-7-68. Cl. 16.  
 Onelida Ltd., Onelida, N.Y. 848,582, pub. 2-20-68. Cl. 23.  
 On-Guard Corp. of America, New York, N.Y. 848,541, pub. 2-20-68. Cl. 21.  
 Ortho Pharmaceutical Corp., Raritan, N.J. 848,516, pub. 2-20-68. Cl. 18.  
 Owen, R. C., Co., Gallatin, Tenn. 435,922, ren. 5-7-68. Cl. 17.  
 Palmolive-Peet Co., The, Chicago, Ill., to Colgate-Palmolive Co., New York, N.Y. 240,421, ren. 5-7-68. Cl. 51.  
 Paolierio, Michael J., Jr., d.b.a. M.J.P. Construction/Investment Co., Fresno, Calif. 848,632, pub. 2-20-68. Cl. 31.  
 Paxton Processing Co., Inc., Paxton, Ill. 848,430, pub. 2-20-68. Cl. 1.  
 Pelloni, Renard A., Great Neck, N.Y. 848,626, pub. 2-20-68. Cl. 28.  
 Peltzer & Ehlerer Kommanditgesellschaft, Krefeld, Germany. 816,092, cor. Cl. 23.  
 Pendleton Tool Industries, Inc., Los Angeles, Calif. 848,578, pub. 2-20-68. Cl. 23.  
 Pendleton Woolen Mills, Portland, Ore. 848,730, pub. 2-20-68. Cl. 42.  
 Penney, J. C., Co., New York, N.Y. 848,687-8, pub. 2-20-68. Cl. 39.  
 Penn-Union Electric Corp.: See—  
 Penn-Western Electric Corp.  
 Penn-Western Electric Corp., Hawthorne, from Penn-Union Electric Corp., Erie, Pa. 848,484, pub. 2-20-68. Cl. 13.  
 Pentronix, Inc., Melvindale, Mich. 848,586, pub. 2-20-68. Cl. 23.  
 Pep Boys, Manny, Moe & Jack, The, Philadelphia, Pa. 848,650, pub. 2-20-68. Cl. 35.  
 Petrie Stores Corp., Chicago, Ill. 848,709, pub. 2-20-68. Cl. 39.  
 Petrusapothek Dr. August Kutlak, to Dr. Kutlak & Co., Arzengimittelfabrik, Vienna, Austria. 238,883, ren. 5-7-68. Cl. 18.  
 Pfizer, Chas., & Co., Inc., New York, N.Y. 848,490, pub. 2-20-68. Cl. 14.  
 Picariello & Singer, Inc., East Boston, Mass. 848,691, pub. 2-20-68. Cl. 39.  
 Piggly Wiggly Operators' Warehouse, Inc., Shreveport, La. 848,741, pub. 2-20-68. Cl. 45.  
 Pinkerton Tobacco Co., The, Toledo, Ohio. 848,499, pub. 2-20-68. Cl. 17.  
 Piping Specialties, Inc., New York, N.Y. 440,722, 12(c) pub. 5-7-68. Cl. 13.  
 Pittsburgh Plate Glass Co., Pittsburgh, Pa. 848,592, pub. 2-20-68. Cl. 23.  
 Plastic Contact Lens Co., The, Chicago, Ill. 848,615, pub. 2-20-68. Cl. 26.  
 Polymers, Inc., Middlebury, Vt. 440,358, ren. 5-7-68. Cl. 1.  
 Premium Corp. of America, Inc., Minneapolis, Minn. 848,565, pub. 2-20-68. Cl. 23.  
 Princess Peggy, Inc., Peoria, Ill. 848,713, pub. 2-20-68. Cl. 39.  
 Printz Electric Co.: See—  
 Muna, Margaret E.  
 Pritchard, J. F., & Co., Kansas City, Mo. 848,784, pub. 2-20-68. Multiple Class (Classes 100 and 103).  
 Production Products, Inc., Minneapolis, Minn. 848,571, pub. 2-20-68. Cl. 23.  
 Progress Lithographing Co., The, Amberley Village, Cincinnati, Ohio. 848,819, Cl. 38.  
 Purex Corp., Ltd., Lakewood, Calif. 848,580, pub. 2-20-68. Cl. 23.  
 Purex Corp., Ltd., Lakewood, Calif. 848,783, pub. 2-20-68. Cl. 52.  
 Pusynski, Bruno A., d.b.a. Frontier Products, Chicago, Ill. 848,670, pub. 2-20-68. Cl. 37.  
 Pyroil Co., Inc., La Crosse, Wis. 848,458, pub. 2-20-68. Cl. 5.  
 Quaker Oats Co., The, Chicago, Ill. 240,242, ren. 5-7-68. Cl. 46.

Quality Products of America, Inc., Kansas City, Mo. 848,593, pub. 2-20-68. Cl. 24.  
 Quarterback Sports Federation, Inc., Minneapolis, Minn. 848,788, pub. 2-20-68. Cl. 100.  
 Quartz Radiation Corp., Fairfield, N.J. 848,537, pub. 2-20-68. Cl. 21.  
 Raburn Products, Inc., Wheeling, Ill. 848,811, Cl. 2.  
 Racing Intelligence Corp., to The Armstrong Daily, Inc., New York, N.Y. 239,775, ren. 5-7-68. Cl. 38.  
 Radio Corp. of America, New York, N.Y. 848,666, pub. 2-20-68. Cl. 36.  
 Radio Steel & Mfg. Co., Chicago, Ill. 728,830-2, can. Cl. 22.  
 Rainbow Multi-Vision Aquarium: See—  
 Gandy, Aaron E.  
 Ramer Industries, Inc., Brooklyn, N.Y. 848,704, pub. 2-20-68. Cl. 39.  
 Redken Laboratories, Inc., Van Nuys, Calif. 848,827. Cl. 51.  
 Reemtsma Cigarettenfabriken G.m.b.H.: See—  
 Lane, Ltd.  
 Revlon, Inc., New York, N.Y. 848,764, pub. 2-20-68. Cl. 51.  
 Rexall Drug and Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 848,514, pub. 2-20-68. Cl. 18.  
 Rexall Drug & Chemical Co., d.b.a. Vanda Cosmetics Co., Los Angeles, Calif. 848,763, pub. 2-20-68. Cl. 51.  
 Rexall Drug Co.: See—  
 Rexall Drug and Chemical Co.  
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 848,506, pub. 2-20-68. Cl. 17.  
 Riccar America Co., Anaheim, Calif. 848,590, pub. 2-20-68. Cl. 23.  
 Richardson-Merrell Inc., New York, N.Y. 728,785, can. Cl. 18.  
 Rider, John F., Publisher, Inc., New York, N.Y. 728,858, can. Cl. 38.  
 Ricker Crisa Corp., Laredo, Tex. 848,643-6, pub. 2-20-68. Cl. 33.  
 Riekse, Neil B., d.b.a. Service Tool Sales, Los Angeles, Calif. 848,426, pub. 2-20-68. Cl. 1.  
 Rite Marker, Inc., Ramsey, N.J. 728,850, can. Cl. 37.  
 Ritter Pfandier Corp.: See—  
 Barnstead Still & Sterilizer Co., Inc.  
 Riverdale & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Inc., to Dan River Mills, Inc., Danville, Va. 439,158, ren. 5-7-68. Cl. 42.  
 Robo-Wash, Inc., Kansas City, Mo. 848,591, pub. 2-20-68. Cl. 23.  
 Ronco Corp.: See—  
 Scintilla Aktiengesellschaft.  
 Rosen, M., & Co., Assor. to Argo Knitting Mills, Inc., by American Argo Corp., Schuylkill Haven, Pa. 435,836, 12(c) pub. 5-7-68. Cl. 39.  
 Rosenthal Co., The, New York, N.Y., to A. W. Faber-Castell Pencil Co., Inc., Newark, N.J. 435,240, ren. 5-7-68. Cl. 37.  
 Ross Inc.: See—  
 Ross Utilities, Inc.  
 Ross Seed Co., The, Wichita, Kans. 728,729, can. Cl. 6.  
 Ross Utilities, Inc., d.b.a. Ross Inc., Belleville, Ill. 728,773, can. Cl. 15.  
 Rounick, Max, Inc., Philadelphia, Pa., to Spartans Industries, Inc., New York, N.Y. 240,755, ren. 5-7-68. Cl. 39.  
 Rubber Corp. of Pennsylvania, West Hazleton, Pa. 848,712, pub. 2-20-68. Cl. 39.  
 Ruby Lighting Corp., The, New York, N.Y. 848,551, pub. 2-20-68. Cl. 21.  
 Rudy-Patrick Seed Co., Kansas City, Mo., to W. R. Grace & Co., New York, N.Y. 245,558, ren. 5-7-68. Cl. 1.  
 SCM Corp., New York, N.Y., from The Glidden Co., d.b.a. Durkee Famous Foods, Cleveland, Ohio. 848,745, pub. 2-20-68. Cl. 46.  
 St. Paul & Tacoma Lumber Co., Tacoma, Wash., to St. Regis Paper Co., New York, N.Y. 500,549, ren. 5-7-68. Cl. 12.  
 St. Regis Paper Co.: See—  
 Howard Paper Mills, Inc.  
 St. Paul & Tacoma Lumber Co.  
 Salesmasters National: See—  
 McAdam, Paul A.  
 Sandusky Distributing Co., Sandusky, Ohio. 848,796, pub. 2-20-68. Cl. 101.  
 Saunders, Harvey R., Norfolk, Va. 848,563, pub. 2-20-68. Cl. 22.  
 Scent-Sation, Inc., New York, N.Y. 848,669, pub. 2-20-68. Cl. 37.  
 Scholastic Corp., to Scholastic Magazines, Inc., New York, N.Y. 501,092, ren. 5-7-68. Cl. 38.  
 Scholastic Magazines, Inc.: See—  
 Scholastic Corp.  
 Scientific Advances, Inc., Columbus, Ohio. 848,606, pub. 2-20-68. Cl. 26.  
 Scientific Safety Corp., New York, N.Y. 728,969, can. Cl. 52.  
 Scintilla Aktiengesellschaft, Soleure, Switzerland, by Ronco Corp., Blue Bell, Pa. 307,285, 12(c) pub. 5-7-68. Cl. 21.  
 Sculpting Products Inc., Houston, Tex. 848,424-5, pub. 2-20-68. Cl. 1.  
 Sealol, Inc., Warwick, R.I. 848,569, pub. 2-20-68. Cl. 23.  
 Seamless Rubber Co., The, New Haven, Conn. 728,818-19, can. Cl. 22.  
 Sehalgo Chemical Corp., South Windham, Maine. 728,717, can. Cl. 1.  
 Seelye Plastic-Fab, Inc., Minneapolis, Minn. 848,647, pub. 2-20-68. Cl. 34.  
 Selig Chemical Industries, Inc., The, Atlanta, Ga. 848,492, pub. 2-20-68. Cl. 16.  
 Semiramis, Ltd., New York, N.Y. 848,697, pub. 2-20-68. Cl. 39.  
 Senior American Life Insurance Co., Phoenix, Ariz. 848,798, pub. 2-20-68. Cl. 102.  
 Service Co., The, Long Beach, Calif. 728,983, can. Cl. 103.  
 Service Tool Sales: See—  
 Riekse, Neil B.



Sexauer, J. A., Mfg. Co., Inc., White Plains, N.Y. 848,767, pub. 2-20-68. Cl. 52.  
 Shartman, I. Harold, Rabbi, d.b.a. Kosher Overseers Associates of America, Los Angeles, Calif. 848,807, pub. 2-20-68. Cl. A.  
 Shea/Kustin, Inc., Atlanta, Ga. 848,794, pub. 2-20-68. Cl. 101.  
 Sheffield Watch, Inc.: See—  
 Sheffield Watch of New York, Inc.  
 Sheffield Watch of New York, Inc., from Sheffield Watch, Inc., New York, N.Y. 848,621, pub. 2-20-68. Cl. 27.  
 Sherwin-Williams Co., The, Cleveland, Ohio. 500,723, ren. 5-7-68. Cl. 6.  
 Slevers, William E.: See—  
 Magna Products, Inc.  
 Sila-Flex, Costa Mesa, Calif. 728,822, can. Cl. 22.  
 Simel, John M., d.b.a. Fly Stripe Co., Alameda, Calif. 728,751, can. Cl. 6.  
 Simon, Irving, d.b.a. Alltex Products Co., New York, to National Brake Block Corp., Woodside, N.Y. 439,448, ren. 5-7-68. Cl. 19.  
 Simons Mfg. Co., by Simontz Co., Chicago, Ill. 137,701, 12(c) pub. 5-7-68. Cl. 4.  
 Simontz Co.: See—  
 Simons Mfg. Co.  
 Slab Fork Coal Co., Slab Fork, W. Va. 728,714, can. Cl. 1.  
 Sleepy Lagoon Ltd., Salford, England. 831,425, cor. Cl. 32.  
 Sloan Chemicals, Inc., Cleveland, Ohio. 728,973, can. Cl. 32.  
 Smith Brothers, Geneva, Ala. 848,525, pub. 2-20-68. Cl. 19.  
 Smith Shoe Corp., Newmarket, N.H. 848,721-5, pub. 2-20-68. Cl. 39.  
 Smoler Bros., Inc., Chicago, Ill. 848,711, pub. 2-20-68. Cl. 39.  
 Snappi Knits, Ltd., New York, N.Y. 848,694, pub. 2-20-68. Cl. 39.  
 Societa Metallurgica Italiana, Florence, Italy. 848,481, pub. 2-20-68. Multiple Class (Classes 13 and 23).  
 Societe Laitiere A.L.B., Clamart (Seine), France. 728,901, can. Cl. 46.  
 Songrand Corp., The, Kansas City, Mo. 848,824. Cl. 44.  
 Soreghea, George L., d.b.a. Diamond Whip Co., Chicago, Ill. 848,469-70, pub. 2-20-68. Cl. 7.  
 Southern Cotton Oil Co., The, to Hunt-Wesson Foods, Inc., Fullerton, Calif. 69,714. Am. 7(d). Cl. 46.  
 Spartans Industries, Inc.: See—  
 Rounick, Max, Inc.  
 Speedring Corp., Warren, Mich. 848,595, pub. 9-6-66. Cl. 26.  
 Sportsmaster Corp., The, Detroit, Mich. 728,871, can. Cl. 38.  
 Sportsways, Inc.: See—  
 Tomic, Michael.  
 Spring Mills, Inc.: See—  
 Naumkeag Steam Cotton Co.  
 Springbok Editions, Inc., New York, N.Y. 848,557, pub. 2-20-68. Cl. 22.  
 Standard Oil, Flemington, N.J. 848,432, pub. 2-20-68. Cl. 1.  
 Standard Sewing Equipment Corp., New York, N.Y. 848,583, pub. 2-20-68. Cl. 23.  
 Stanford Seed Co.: See—  
 Conklin, E. W., & Son, Inc.  
 Stanley Comb Products Corp., New York, N.Y. 848,726, pub. 5-9-67. Cl. 40.  
 Stauffer Chemical Co., New York, N.Y. 728,744, can. Cl. 6.  
 Steelcase, Inc.: See—  
 Metal Office Furniture Co.  
 Steele & Dolphin Ltd., Rubery, Birmingham, England. 848,628, pub. 2-20-68. Cl. 28.  
 Sterling Drug Inc.: See—  
 Beacon Co., The.  
 Sterling Drug Inc., New York, N.Y. 848,773-4, pub. 2-20-68. Cl. 52.  
 Sternco Industries, Inc., Harrison, N.J. 848,750, pub. 2-20-68. Cl. 50.  
 Stillit, Gerald Barry, London, England. 848,596, pub. 2-20-68. Cl. 26.  
 Stillit, Gerald Barry, London, England. 848,673, pub. 2-20-68. Cl. 38.  
 Stoeger Arms Corp., South Hackensack, N.J. 848,472, pub. 2-20-68. Cl. 9.  
 Stone & Webster, Inc., New York, N.Y. 848,785, pub. 2-20-68. Multiple Class (Classes 100, 101 and 102).  
 Sun Chemical Corp., New York, N.Y. 436,540, 12(c) pub. 5-7-68. Cl. 11.  
 Sunset International Petroleum Corp., Beverly Hills, Calif. 848,801, pub. 2-20-68. Cl. 103.  
 Sunshyne Chemical Corp., Farmingdale, N.Y. 848,782, pub. 2-20-68. Cl. 52.  
 Superior Packaging Equipment Corp., East Rutherford, N.J. 848,814, Cl. 23.  
 Surgical Appliance Industries, Inc., Cincinnati, Ohio. 501,016, ren. 5-7-68. Cl. 44.  
 Swing, Raymond, d.b.a. Raymond Swing Associates, Seattle, Wash. 848,448, pub. 2-20-68. Cl. 2.  
 Taisbo Pharmaceutical Co., Ltd., Takataminamicho, Toshimaku, Tokyo, Japan. 848,508, pub. 2-20-68. Cl. 18.  
 Talbott, Inc., New York, N.Y. 728,882, can. Cl. 39.  
 Talon, Inc., Meadville, Pa. 848,527, pub. 7-11-67. Cl. 21.  
 Tanky Corp., Fort Worth, Tex. 729,001, can. Cl. 39.  
 Tappan Co., The, Mansfield, Ohio. 848,538, pub. 2-20-68. Cl. 21.  
 Tau Kappa Epsilon Fraternity, Kansas City, Mo. 728,991, can. Cl. 200.  
 Tecumseh Products Co., Tecumseh, Mich. 848,584, pub. 2-20-68. Cl. 23.  
 Telesco Brophy Ltd., Montreal, Quebec, Canada. 848,727, pub. 2-20-68. Cl. 41.  
 Telrex, Inc., Asbury Park, N.J. 848,480, pub. 2-20-68. Cl. 12.  
 Terra Chemicals International, Inc., Sioux City, Iowa. 848,787, pub. 2-20-68. Cl. 100.  
 Tectron Inc., Providence, R.I. 848,627, pub. 2-20-68. Cl. 28.  
 Thomas, T. J., Co., Inc., Brooklyn, N.Y. 848,860, pub. 2-20-68. Cl. 22.  
 Thul, John, d.b.a. Arizona Precision Sheet Metal Specialists, Phoenix, Ariz. 848,753, pub. 2-20-68. Cl. 50.  
 Titze, Oskar, Denver, Colo. 848,716, pub. 2-20-68. Cl. 39.  
 Tomic, Michael, Redondo Beach, Calif., from Sportsways, Inc., Paramount, Calif. 848,556, pub. 2-20-68. Cl. 22.  
 Torgis, William H., New York, N.Y. 848,797, pub. 2-20-68. Cl. 101.  
 Torit Corp., The, Saint Paul, Minn. 848,817. Cl. 34.  
 Toro Mfg. Corp., Minneapolis, Minn. 848,519, 2-20-68. Cl. 19.  
 Total Sound, Inc., The, New York, N.Y. 848,667, pub. 2-20-68. Cl. 36.  
 Trelleries Leon Bekaert, Pvba, Belgium Corp., Zwevegem, Belgium. 848,482, pub. 2-20-68. Cl. 13.  
 Trimount Clothing Co., Inc.: See—  
 Eon Productions Ltd.  
 Tropical Pharmaceutical Lab.: See—  
 Vargas, Arnaldo L.  
 True Temper Corp., Cleveland, Ohio. 848,559, pub. 2-20-68. Cl. 22.  
 Tuttle, H. W., & Co., Tecumseh, Mich. 848,529, pub. 2-20-68. Cl. 21.  
 Twin City Testing Corp., Tonawanda, N.Y. 848,604, pub. 2-20-68. Cl. 26.  
 Tyco Laboratories, Inc., Waltham, Mass. 848,549, pub. 2-20-68. Cl. 21.  
 UFO Lubricants, Inc., Danvers, Mass. 848,768, pub. 2-20-68. Cl. 52.  
 Union Fork & Hoe Co., The, Columbus, Ohio. 439,348, ren. 5-7-68. Cl. 23.  
 Union Tank Car Co., Chicago, Ill. 848,800, pub. 2-20-68. Cl. 103.  
 United States Lawn Tennis Assn.: See—  
 Bancroft Racket Co.  
 United States Rust Control Corp., Miami, Fla. 848,494-5, pub. 2-20-68. Cl. 16.  
 United States Safety Service Co., Kansas City, Mo. 848,618-9, pub. 2-20-68. Cl. 26.  
 United States Tobacco Co.: See—  
 Fleming-Hall Tobacco Co., Inc.  
 Universal American Corp., New York, N.Y. 848,589, pub. 2-20-68. Cl. 23.  
 VWR United Corp., Seattle, Wash. 848,462, pub. 2-20-68. Multiple Class (Classes 6 and 46).  
 Vall Associates, Inc., from Vall Associates, Ltd., Vall, Colo. 848,623-4, pub. 2-20-68. Cl. 28.  
 Vall Associates, Ltd.: See—  
 Vall Associates, Inc.  
 Valve Corp., of America, Bridgeport, Conn. 848,447, pub. 2-20-68. Cl. 2.  
 Vanda Cosmetics Co.: See—  
 Rexall Drug & Chemical Co.  
 Vargas, Arnaldo L., d.b.a. Tropical Pharmaceutical Lab., Santurce, Puerto Rico. 848,507, pub. 2-20-68. Cl. 18.  
 Vernors Inc.: See—  
 Wagner's, W. T., Sons Co., The.  
 Verreries de Goetzenbruck, Walter, Berger & Cie, S.A., Goetzenbruck, Moselle, France. 848,605, pub. 2-20-68. Cl. 26.  
 Versa-Camp, Inc., Missoula, Mont. 848,523, pub. 2-20-68. Cl. 19.  
 Vestal Chemical Co., St. Louis, Mo., to W. R. Grace & Co., New York, N.Y. 245,239, ren. 5-7-68. Cl. 52.  
 Viking Industries, Inc., Chatsworth, Calif. 848,530, pub. 2-20-68. Cl. 21.  
 Villager, Inc., The, Philadelphia, Pa. 848,689, pub. 2-20-68. Cl. 39.  
 Volker, William, & Co. of Missouri, Inc., Kansas City, Mo. 848,728, pub. 2-20-68. Cl. 42.  
 Vulcan-Hart Corp., Baltimore, Md. 848,587, pub. 2-20-68. Cl. 23.  
 Wade, James L., d.b.a. Wade Tri-Test Munitions, Mundelein, Ill. 848,471, pub. 2-20-68. Cl. 9.  
 Wade Tri-Test Munitions: See—  
 Wade, James L.  
 Wagner's, W. T., Sons Co., The, Cincinnati, Ohio, by Vernors Inc., Chicago, Ill. 376,676, 12(c) pub. 5-7-68. Cl. 45.  
 Washington Crab Producers, Inc.: See—  
 Kaakinen Fish Co.  
 Waste King Corp., Los Angeles, Calif. 848,535, pub. 2-20-68. Cl. 21.  
 Waverly Screw & Hardware, Inc., Philadelphia, Pa., from Wimbi Products Corp., Brooklyn, N.Y. 848,440, pub. 2-20-68. Multiple Class (Classes 2, 13, and 21).  
 Wear-Right Gloves, Inc.: See—  
 Wimbacher & Rice Inc.  
 Weber Dental Mfg. Co., The, Canton, Ohio. 848,737, pub. 5-10-66. Cl. 44.  
 West Chemical Products, Inc., Long Island City, N.Y. 848,769, pub. 2-20-68. Cl. 52.  
 Western Engineering & Mfg. Co., Venice, Calif. 848,634, pub. 2-20-68. Cl. 34.  
 Western Zone Sales Co., Los Angeles, Calif. 848,456, pub. 2-20-68. Cl. 4.  
 Westinghouse Electric Corp., Bloomington, Ind. 848,552, pub. 2-20-68. Cl. 21.  
 Whaley-Eaton Corp., Staunton, Va. 728,878, can. Cl. 38.  
 White Cross Hospital Assn. of Ohio, Columbus, Ohio. 848,678, pub. 2-20-68. Cl. 38.  
 Williams, J. B., Co., Inc., The, Thomaston, Conn. 848,542, pub. 2-20-68. Cl. 21.  
 Wilson Sporting Goods, from Wilson Sporting Goods Co., River Grove, Ill. 848,562, pub. 2-20-68. Cl. 22.  
 Wilton Corp., Schiller Park, Ill. 848,459, pub. 2-20-68. Cl. 5.  
 Wimbi Products Corp.: See—  
 Waverly Screw & Hardware, Inc.

Wimbacher & Rice Inc., to Wear-Right Gloves, Inc., New York, N.Y. 500,926, ren. 5-7-68. Cl. 30.  
 Winston, Harry, Inc., New York, N.Y. 848,629, pub. 2-20-68. Cl. 28.  
 Wisconsin Rapids Tribune Co., Wisconsin Rapids, Wis. 848,675, pub. 2-20-68. Cl. 38.  
 Witco Chemical Co., Inc., New York, N.Y. 848,509, pub. 2-20-68. Cl. 18.  
 Wolf, Jacques, & Co., to Diamond Shamrock Corp., Cleveland, Ohio. 436,886. Am. 7(d). Cl. 6.  
 Wolo, A.-G., (Wolo Ltd.), Zurich, Switzerland. 848,510, pub. 2-20-68. Cl. 18.  
 Wood, G. H., & Co. Ltd., Toronto, Ontario, Canada, to Woodlets, Inc., Buffalo, N.Y. 439,318, ren. 5-7-68. Cl. 5.  
 Woodlets, Inc.: See—  
 Wood, G. H., & Co. Ltd.  
 Wrought Iron Chair Corp., Upper Darby, Pa. 848,634, pub. 2-20-68. Cl. 32.  
 Wyandotte Chemicals Corp., Wyandotte, Mich. 848,771, pub. 2-20-68. Cl. 52.  
 Young, George, & Co., Chicago, Ill. 728,817, can. Cl. 22.



## PATENTS NOTICES

### Board of Appeals Decisions Rendered in the Month of March 1968

|                                 |     |
|---------------------------------|-----|
| Examiner affirmed .....         | 162 |
| Examiner affirmed in part ..... | 32  |
| Examiner reversed .....         | 58  |
| Total .....                     | 252 |

### TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

#### Chapter 1—Patent Office, Department of Commerce

##### PART 1—RULES OF PRACTICE IN PATENT CASES

##### PART 3—FORMS FOR PATENT CASES

##### Amendment of Rules re New Defensive Publication Program; Additional Form

Sections 1.11, 1.14, 1.101, 1.103 and 1.108 of Title 37 CFR (Patent Rules 11, 14, 101, 103 and 108) are amended or revised and a new § 1.139 (Patent Rule 139) is added to take effect May 1, 1968, for the purpose of instituting a new defensive publication program. A new section 3.50 is added for the purpose of implementing the new program.

The general substance of the proposed revisions and additions was published in the Federal Register of February 20, 1968 (33 F.R. 3189). A hearing was held on March 27, 1968, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations or suggestions. Both oral and written comments were carefully considered. The sections are being revised substantially as published with a few additional changes.

This program is intended to provide better service to the public by making available the technical disclosure of certain applications in which the owner may prefer to publish an abstract in lieu of obtaining an examination by the Patent Office. The defensive publication would be in the form of an abstract of the technical disclosure, printed in the OFFICIAL GAZETTE and made a part of the Patent Office search files.

This program will be open to any applicant having an application awaiting action by the Patent Office and who files a written request no later than eight (8) months after the earliest U.S. effective filing date of the designated application and agrees to the conditions of the program, including waiving his patent rights based on the designated application, opening the complete application to inspection by the general public upon publication of the abstract, expressly abandoning his application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated, and waiving his rights to a patent on a continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of the designated application. *Until November 1, 1968, this program will be open*

*to any pending application awaiting first action by the Patent Office at the time of the request without regard to the filing date of that application.*

In accordance with existing rules and procedures interferences may be declared with applications and patents. During the period beginning with the suggestion of claims by the Patent Office or the filing of claims by the applicant copied from a patent and ending with the termination of proceedings if an interference is declared or the mailing of a decision refusing to declare the interference, abandonment by reason of the expiration of the five year period will be stayed. Since the applicant has waived his patent rights and agreed to a defensive publication, termination of interference proceedings in his favor would render the express abandonment ineffective but would not result in the issuance of an enforceable patent. Instead, a normal Notice of Allowance would be issued except that the applicant would be notified that when the issue fee is remitted a disclaimer of the entire term of the patent to be granted in accordance with the second paragraph of 35 U.S.C. 253 should be included.

No special fees will be required for entrance into this program. The applicant will be permitted to include with his request a replacement or expanded abstract of the technical disclosure of up to two hundred (200) words. Acceptance of a request to enter this program will be contingent upon screening by the Patent Office to exclude such material that may be considered advertising, frivolous, scandalous, against public policy, subject to national security controls, etc. Acceptance of a designated application in this program is not intended to preclude the examination of any continuing application filed under 35 U.S.C. 120 within thirty (30) months after the earliest effective U.S. filing date of the designated application.

Upon receipt and approval of the request the application abstract will be published in the OFFICIAL GAZETTE. Publication of the abstract in the OFFICIAL GAZETTE would be in a separate section identifying the application as being open for inspection by the general public and indicating that it is subject to the New Defensive Publication Program.

Following publication the application would be filed in the Record Section of the Patent Reference Branch where it will be available for inspection upon written request. Copies of the application will be furnished by the Patent Office upon request and payment of fee. The application abstract and suitable drawing copies would then be made a part of the official search files.

After the defensive publication has appeared in the OFFICIAL GAZETTE the abstract and suitable drawing copies will be available as prior art from the date of publication under 35 U.S.C. 102(a) or 102(b) as a printed publication. Also, at this time the application will be available as prior art under 35 U.S.C. 102(a) as evidence of prior knowledge from the actual date of filing the application in the Patent Office.

The changes follow:

1. In § 1.11, delete "Patent" from the title. Identify the one paragraph now in the section as paragraph "(a)" and

#### New Applications Received During March 1968

|                     |      |
|---------------------|------|
| Patents .....       | 7926 |
| Designs .....       | 431  |
| Plant Patents ..... | 9    |
| Reissues .....      | 20   |
| Total .....         | 8386 |

#### Issue—May 14, 1968

|              |  |
|--------------|--|
| Patents..... | 1202—No. 3,382,503 to No. 3,383,704, incl. |
| Designs..... | 84—No. 210,991 to No. 211,074, incl.       |
| Total.....   | 1286                                       |



follow with a new paragraph "(b)", so that the section reads as follows:

**§ 1.11 Files open to the public.**

(a) After a patent has been issued, the specification, drawings, and all papers relating to the case in the file of the patent are open to inspection by the general public, and copies may be furnished upon paying the fee therefor. The file of any terminated interference involving a patent, or an application on which a patent has subsequently issued, is similarly open to public inspection and procurement of copies. See § 2.27 for trademark files.

(b) Applications in which the Office has accepted a request filed under § 1.139 are open to inspection by the general public, and copies may be furnished upon paying the fee therefor.

2. In § 1.14, insert "Except as provided in § 1.11(b)" at the beginning of the first sentence of both paragraphs (a) and (b), so that these paragraphs read:

**§ 1.14 Patent applications preserved in secrecy.**

(a) Except as provided in § 1.11(b) pending patent applications are preserved in secrecy. No information will be given by the Office respecting the filing by any particular person of an application for a patent, the pendency of any particular case before it, or the subject matter of any particular application, nor will access be given to or copies furnished of any pending application or papers relating thereto, without written authority of the applicant, or his assignee or attorney or agent, unless it shall be necessary to the proper conduct of business before the Office or as provided by this part.

(b) Except as provided in § 1.11(b) abandoned applications are likewise not open to public inspection, except that if an application referred to in a United States patent is abandoned and is available, it may be inspected or copies obtained by any person on written request, without notice to the applicant. Abandoned applications may be destroyed after twenty years from their filing date, except those to which particular attention has been called and which have been marked for preservation. Abandoned applications will not be returned.

3. In § 1.101, add "except for those applications in which the Office has accepted a request filed under § 1.139" at the end of the last sentence of paragraph (a), so that it reads:

**§ 1.101 Order of examination.**

(a) Applications filed in the Patent Office and accepted as complete applications (§§ 1.53 and 1.55) are assigned for examination to the respective examining divisions having the classes of inventions to which the applications relate. Applications shall be taken up for examination by the examiner to whom they have been assigned in the order in which they have been filed except for those applications in which the Office has accepted a request under § 1.139.

4. In § 1.103, add a new paragraph (d) to read as follows:

**§ 1.103 Suspension of action.**

(d) Action on applications in which the Office has accepted a request filed under § 1.139 will be suspended for the entire pendency of these applications except for purposes relating to proceedings under § 1.201(b).

5. In § 1.108, delete "and forfeited" in the title and the first sentence, and add "except those which have become abandoned as a result of the filing and acceptance of a request under § 1.139" at the end of the first sentence, so that it reads as follows:

**§ 1.108 Abandoned applications not cited.**

Abandoned applications as such will not be cited as references except those which have become abandoned as a result of the filing and acceptance of a request under § 1.139.

6. A new § 1.139 is added, the full text of which reads as follows:

**§ 1.139 Waiver of patent rights.**

An applicant may waive his rights to an enforceable patent based on a pending patent application by filing in the Patent Office a written waiver of patent rights, a consent to the publication of an abstract, an authorization to open the complete application to inspection by the general public, and a declaration of abandonment signed by the applicant and the assignee of record or by the attorney or agent of record.

7. A new § 3.50 is added to read as follows:

**§ 3.50 Waiver of patent rights.**

To the Commissioner of Patents:  
The undersigned having on \_\_\_\_\_ filed an application for patent, Serial No. \_\_\_\_\_, hereby waives his right to an enforceable patent based on said application or on any continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of said application and subject to acceptance by the Commissioner, and requests that an abstract of the disclosure thereof be published in the OFFICIAL GAZETTE, that the complete application be opened to inspection by the general public upon publication of said abstract, and that the application be considered pending for the purpose of interference; and further the undersigned expressly abandons said application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated.

(Sec. 1, 66 Stat. 792; 35 U.S.C. 6)

EDWARD J. BRENNER,  
Commissioner of Patents.

Approved: Apr. 9, 1968.

JOHN F. KINCAID,  
Assistant Secretary for  
Science and Technology.

Published in 33 F.R. —; Apr. 11, 1968

**New Edition of "Rules of Practice"**

A new edition of "Rules of Practice in Patent Cases" dated January 1968, is now available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, at 55 cents per copy.

**Disclaimers**

3,169,137.—Gerhard R. Wendt, Havertown, and Kurt W. Ledig, Philadelphia, Pa. NOVEL 17a-AMINOALKYL AND AMINOALKYNYL 1,3,5(10)-ESTRADIEN-17-OL-3-ETHERS. Patent dated Feb. 9, 1965. Disclaimer filed Mar. 26, 1968, by the inventors and the assignee, American Home Products Corporation.

Hereby enter this disclaimer to claims 1, 2, 3, 5, 6, 8, and 9 of said patent.

3,181,215.—Ray Eberhart, Mishawaka, Ind. SAFETY BELT BUCKLE. Patent dated May 4, 1965. Disclaimer filed Mar. 11, 1968, by the inventor.

Hereby enters this disclaimer to claim 6 of said patent.

3,264,217.—Frank Kuisaor, Cleveland, Ohio. FERROELECTRIC CERAMIC COMPOSITIONS. Patent dated Aug. 2, 1966. Disclaimers filed Feb. 27, 1968, and Mar. 7, 1968, by the assignee, Clevite Corporation.

Hereby enters these disclaimers to claims 11, 12, 15, 16 and 20 of said patent.

**Erratum**

All references to Patent No. 3,380,338 to Robert W. Mitchell, assignor to Heath Company, for Method and Apparatus for Computing Color Balance Characteristics and Preparing Improved Color Prints, appearing in the OFFICIAL GAZETTE of April 30, 1968, should be deleted as the application was withdrawn from issue and the patent was not issued.

**Adverse Decisions in Interferences**

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 3,058,099, M. Williams, BISTABLE MAGNETIC DEVICES, decided Dec. 13, 1967, Interference No. 93,762, claims 3 and 5.

Patent No. 3,081,200, E. H. Tompkins, METHOD OF APPLYING AN OXIDE COATING ONTO A NON-POROUS REFRACTORY SUBSTRATE, decided Mar. 6, 1968, Interference No. 95,784, claim 1.

Patent No. 3,144,586, J. C. Gambale, PROTECTIVE RELAY ASSEMBLIES, decided Dec. 6, 1967, Interference No. 94,690, claim 5.

Patent No. 3,176,580, J. L. Metz, SOUND TAPE AND PICTURE SLIDE HOLDER, decided Mar. 1, 1968, Interference No. 95,248, claims 1, 3, 4 and 5.

Patent No. 3,181,998, J. L. Kanig, TABLET DISINTEGRATION, decided Mar. 27, 1968, Interference No. 95,501, claims 1, 2, 4, 5 and 6.

Patent No. 3,182,288, H. G. Smith, ELECTRONIC WARNING DEVICE, decided Dec. 21, 1967, Interference No. 95,407, claims 1-24.

Patent No. 3,194,938, D. E. Smith, METHOD FOR PRODUCING PARTS BY ELECTRICAL EROSION, decided Mar. 11, 1968, Interference No. 95,245, claims 1, 2, 3, 4, 6, 8 and 9.

Patent No. 3,200,152, H. Ruppert and H. Schnell, a,a'-DI-(SUBSTITUTED AND UNSUBSTITUTED AMINO PHENYL) a,a'-TETRAALKYL-p-XYLENE, decided Mar. 27, 1968, Interference No. 95,431, claims 1 and 2.

Patent No. 3,208,969, W. M. Quattlebaum, Jr., and J. E. Hardwicke, VINYL HALIDE RESINS STABILIZED WITH DI-ORGANO TIN AROMATIC DIMERCAPTO COMPOUNDS, decided Mar. 27, 1968, Interference No. 95,857, claims 1, 2 and 5.

Patent No. 3,245,211, R. M. Weygandt and R. A. Weygandt, APPARATUS FOR AND METHOD OF HARVESTING BERRIES AND SIMILAR PRODUCE FROM BUSHES, decided Mar. 4, 1968, Interference No. 95,593, claim 2.

Patent No. 3,264,747, M. Fuentevilla, METHOD AND APPARATUS FOR CONTINUOUS FREEZE DRYING, decided Feb. 5, 1968, Interference No. 95,801, claim 1.

Patent No. 3,285,926, S. E. Ellsey, Jr., and W. A. Gulce, (PERFLUORODIOXOCYCLOALKYL)PYRIDINIUM BETAINES, decided Mar. 5, 1968, Interference No. 96,092, claims 16, 20, and 21.

Patent No. 3,306,969, R. O. Barber, PERCUSSION TONE GENERATING DEVICE, decided Mar. 5, 1968, Interference No. 96,080, claim 12.

Patent No. 3,311,173, W. W. Henslee, Jr., and D. W. Cockrell, WELL BORE TESTING APPARATUS, decided Mar. 5, 1968, Interference No. 96,106, claims 22 and 23.

Patent No. 3,334,087, V. L. Brown, Jr., and T. E. Stanin, N-ACYL DERIVATIVES OF 3-AZABICYCLO[3.2.2]NONANE, decided Mar. 27, 1968, Interference No. 96,138, claim 3.

**Adjudicated Patents**

(C.A. Wia.) Leach, Manthle and Clapp Patent No. 2,580,306 (302-36), for SILO UNLOADER. Claims 12, 15 and 16 Held invalid and not infringed. *Leach v. Badger Northland, Inc.*, 385 F.2d 193; 155 USPQ 365.

(C.A. Ill.) Elsbain Patent No. 2,657,618 (95-89), for DEVELOPING APPARATUS. Claims 1, 5 and 11 Held valid and infringed. *American Photocopy Equipment Co. v. Rorico Inc.*, 384 F.2d 813; 155 USPQ 119.

(C.A. Ill.) Skeggs Patent No. 2,797,149 (23-230), for METHOD AND APPARATUS FOR ANALYZING LIQUIDS CONTAINING CRYSTALLOID AND NON-CRYSTALLOID CONSTITUENTS. Claims 4, 14, 16 and 19 Held valid and infringed. *Technicon Instruments Corp. v. Coleman Instruments*, 385 F.2d 391; 155 USPQ 369.

(C.A. Calif.) Pfankuch and Wrighton Patent No. 2,845,233 (242-107.4), for SAFETY APPARATUS. Claims 7 and 9 Held invalid. *Aerotic Industries of California v. Pacific Scientific Co.*, 381 F.2d 795; 155 USPQ 52.

(C.A. Ill.) Skeggs Patent No. 2,879,141 (23-253), for AUTOMATIC ANALYZING APPARATUS. Claims 10 and 16 Held valid and infringed. *Technicon Instruments Corp. v. Coleman Instruments Corp.*, 385 F.2d 391; 155 USPQ 369.

(C.A. Ariz.) Redmond Patent No. 2,895,821 (75-75), for PROCESS FOR REFINING BLISTER COPPER. Claims 1 and 3 Held valid and infringed. *San Manuel Copper Corp. v. Brian Jackson Associated, Inc.*, 384 F.2d 487; 155 USPQ 417.

(C.A. Ind.) Norman, Powell and Sherer Patent No. 2,896,257 (18-30), for INJECTION MOLDING MACHINE, Held invalid. *Kochring Co. v. National Automatic Tool Company*, 385 F.2d 414; 155 USPQ 231.

(C.A. Fla.) Onstad Patent No. 3,031,827 (55-526), for FILTER AND METHOD OF MAKING SAME. Claim 1 Held invalid. *National Filters, Inc. v. Research Products Corp.*, 384 F.2d 516; 155 USPQ 355.

(C.A.N.J.) Rinker and Dura Patent No. 3,104,212 (204-46), for ELECTROPLATING SMOOTH DUCTILE GOLD, Held invalid. *Englehard Industries, Inc. v. Sel-Res Corp.*, 384 F.2d 877; 155 USPQ 225.

(C.A. Fla.) Onstad Patent No. 3,155,560 (156-222), for METHOD OF MAKING A FILTER. Claim 1 Held invalid. *National Filters, Inc. v. Research Products Corp.*, 384 F.2d 516; 155 USPQ 355.

(C.A. Pa.) Fox Design Patent No. 173,694 (D26-1), for ELECTRICAL CONNECTOR, Held invalid. *Methods Electronics, Inc. v. Elco Corp.*, 385 F.2d 1358; 155 USPQ 353.

(C.A. Calif.) McPhee Design Patent No. 176,986 (D9-277), for LIQUOR POURER, Held invalid. *Payne Metal Enterprises Limited v. McPhee*, 382 F.2d 541; 155 USPQ 123.

(C.A. Pa.) Fox Reissue Patent No. 23,547 (339-47), for QUICK DETACHABLE CONNECTOR, Held invalid. *Methods Electronics, Inc. v. Elco Corp.*, 385 F.2d 1358; 155 USPQ 353.



# PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

## CONDITION OF PATENT APPLICATIONS AS OF MARCH 25, 1968

| PATENT EXAMINING OPERATIONS AND GROUPS  | Actual Filing Date of Oldest Case Awaiting Action |          |
|---|---|----------|
|   | New   | Amended  |
| * Denotes date of oldest application for each Operation.  |   |          |
| <b>CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.</b>  |   |          |
| GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager.<br>Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.  | *2-18-65  | *8-22-62 |
| GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager.<br>Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.   | 6-21-65   | 12-28-62 |
| HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Manager.<br>Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.  | 6-24-65   | 3-22-63  |
| COATING AND LAMINATING, BLEACHING, DYING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager.<br>Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.   | 3-3-65  | 8-7-64   |
| SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager.<br>Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes. | 3-19-65   | 1-29-64  |
| <b>ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.</b>  |   |          |
| INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager.<br>Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.  | 8-3-65  | 12-31-63 |
| SECURITY, GROUP 220—S. BOYD, Manager.<br>Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.  | 10-25-65  | 8-20-64  |
| INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager.<br>Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.   | 11-3-64   | 6-18-62  |
| ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager.<br>Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.  | *10-29-64   | *4-10-62 |
| PHYSICS, GROUP 280—R. L. EVANS, Manager.<br>Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.   | 10-1-65   | 3-22-65  |
| DESIGNS, GROUP 290—S. BOYD, Manager.<br>Industrial Arts; Household, Personal and Fine Arts.   | 5-24-67   | 6-3-66   |
| <b>MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.</b>   |   |          |
| HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager.<br>Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Hoists; Ships; Aeronautics; Motor and Land Vehicles and Apparatuses; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.             | 10-31-66  | 2-4-65   |
| MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager.<br>Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Wood-working; Tools; Cutlery; Jacks.                           | 5-2-66  | 1-2-64   |
| AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager.<br>Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Type-writers; Stationery; Information Dissemination.  | *11-9-65  | 5-14-64  |
| HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager.<br>Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.   | 10-28-66  | 8-5-65   |
| FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager.<br>Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.   | 9-20-66   | 10-22-64 |
| TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager.<br>Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.  | 4-6-66  | *5-20-63 |
| Total number of pending applications (excluding Designs).....   | 173,841   |          |
| Total number of Design applications pending.....  | 3,587   |          |

Expiration of patents: The patents within the range of numbers indicated below expire during May 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1968*.

Patents..... Numbers 2,550,000 to 2,555,299, inclusive  
Plant Patents..... Number 1,012

# DECISIONS IN PATENT AND TRADEMARK CASES

## U.S. Court of Customs and Patent Appeals

UNIVERSAL OVERALL COMPANY V. STONECUTTER MILLS CORPORATION

No. 7776. Decided June 22, 1967

[54 CCPA 1541; 379 F.2d 983; 154 USPQ 104]

### 1. TRADEMARK — OPPOSITION — CONFUSING SIMILARITY — SUPERIOR RIGHTS TO MARK.

"We are satisfied that the Board did not err in dismissing the opposition. If it were thought that likelihood of confusion would result from the competing marks, the conclusion that Stonecutter has superior rights to Universal is supported by the testimony in Cancellation No. 6771, incorporated in the present record. It is apparent that Stonecutter has used that term as the principal element of its trade name since first marketing its goods in 1921, five years prior to Universal's claimed first use in 1926. However, it is our opinion that Stonecutter must prevail here for the reason that likelihood of confusion under section 2(d) will not result between its trademark and that of Universal. Our reasons for that conclusion are similar to those set forth in full in our decision concurrently handed down in P.A. 7774 and 7775."

### 2. SAME—FRAUD—SECTION 13.

Stating that "The Board recognized that the statement, in the application as originally filed, that Stonecutter used the mark for clothing was not correct, even though the record shows that 'tags and labels bearing the mark 'Stonecutter' have found their way into articles of clothing and home furnishings made of 'Stonecutter' fabrics,' and that 'It held, however, that such misstatement did not constitute fraud because Stonecutter, at the suggestion of the Examiner, amended its application prior to publication to recite fabrics rather than finished clothing, and the assertion of belief in damage in an opposition must, under the terms of section 13 of the statute, be predicated on the application as published rather than as originally filed,' Held that 'We agree with the Board that Universal's charge of fraud has not been sustained.'"

### AFFIRMED.

*Norman Lettvin, George A. Arkwright (James F. Davis, Bair, Freeman & Molinare, of counsel) for appellant.*

*Edward L. Merrigan (Gadsby, Maguire, Hannah & Merrigan, Weil, Gotshal & Manges, of counsel) for appellee.*

Before WORLEY, Chief Judge, and RICH, SMITH, and ALMOND, Associate Judges

WORLEY, Chief Judge, delivered the opinion of the court.

Stonecutter Mills Corporation (Stonecutter)<sup>1</sup> has applied for registration of "Stonecutter" for "textile fabrics of cotton, silk, rayon and/or other manufactured fibers and combinations thereof for use in garments for men, women and children, \* \* \* and for use in home furnishings items \* \* \*." The application was filed on August 6, 1959, asserting first use in 1921. Universal Overall Company (Universal) opposed, asserting use of the trademark "Stone Cutter" on clothing products since 1926.<sup>2</sup> It also stated that it is the owner of pending application Serial No. 578,290, filed December 13, 1954, for registration of the mark "Stone Cutter" for certain clothing. That application is involved in Opposition No. 40,441, in which cross appeals

<sup>1</sup> The same parties and the same opposition proceeding are involved here as in *Universal Overall Company v. Stonecutter Mills Corporation*, 50 CCPA 760, 310 F.2d 952, 135 USPQ 437, but the issues differ as a result of the remand to the Board in that appeal.

<sup>2</sup> The garments are further described as "including blouses, dresses, shirts, jackets, jeans, lingerie, shirts [sic], ties, slacks, shorts and sportswear" and the home furnishing items as "such as draperies, curtains, bedspreads and upholstery fabrics."

<sup>3</sup> Universal also claims ownership of Registration No. 251,053, issued December 25, 1928, but not renewed upon its expiration 20 years thereafter. The mark in that registration includes the words "Stone Cutter" with an illustration of a man cutting the word "overalls" in a block of stone with a chisel and hammer and is for "mens overalls."



from the decision of the Trademark Trial and Appeal Board are decided concurrently herewith, *Stonecutter Mills Corp. v. Universal Overall Co.* (PA 7774, 7775), 54 CCPA —, — F.2d —, — USPQ —.

Originally, the Board granted summary judgment to Stonecutter on res judicata based on the Assistant Commissioner's final decision in Cancellation No. 6771 dismissing a petition by Universal to cancel Registration No. 422,633 issued to Stonecutter August 6, 1946, for "Stonecutter" for "piece goods of rayon, wool and/or cotton." We reversed and remanded.

On remand, the Board dismissed the opposition on the ground that Stonecutter has superior rights in "Stonecutter."<sup>4</sup> It also found no merit in a contention by Universal that Stonecutter was barred from obtaining the registration sought because it perpetrated a fraud in alleging in its application that the mark had been used since 1921 knowing that the allegation could not be supported, and in originally alleging use of the mark on finished garments knowing it had been used only on piece goods. Universal urges here that the Board erred in both holdings.

[1] We are satisfied that the Board did not err in dismissing the opposition. If it were thought that likelihood of confusion would result from the competing marks, the conclusion that Stonecutter has superior rights to Universal is supported by the testimony in Cancellation No. 6771, incorporated in the present record. It is apparent that Stonecutter has used that term as the principal element of its trade name since first marketing its goods in 1921, five years prior to Universal's claimed first use in 1926. However, it is our opinion that Stonecutter must prevail here for the reason that likelihood of confusion under section 2(d) will not result between its trademark and that of Universal. Our reasons for that conclusion are similar to those set forth in full in our decision concurrently handed down in P.A. 7774 and 7775.

Concerning Stonecutter's allegation that it has used "Stonecutter" as a trademark since 1921, the Board stated (with a footnote omitted):

• • • Certainly, the uncontradicted testimony by the Chairman of the Board of Stonecutter Corporation, who was the founder of the company, that from 1921 to 1944, "The goods were identified as Stonecutter fabrics, Stonecutter goods, and they were identified in various ways by tickets and labels, marks on the packages. Every package of goods that were ever shipped were marked Stonecutter, and the salesmen described them as Stonecutter goods to the customer" and "Stonecutter has been a part—the central part of all our business operations, all of our transactions of all kinds, correspondence, and all of the fabrics of all kinds that we have been making have been known as Stonecutter fabrics" provides a sufficient basis for alleging trademark use of "Stonecutter" as a trademark since 1921, notwithstanding the absence of documentation in that regard. In view of the foregoing, applicant's assertion under oath that it has used "Stonecutter" as both a trade name and as a trademark since 1921 must be considered as having been made in good faith and not in an attempt to perpetrate a fraud upon the Patent Office or upon opposer.

[2] The Board recognized that the statement, in the application as originally filed, that Stonecutter used the mark for clothing was not correct, even though the record shows that "tags and labels bearing the mark 'Stonecutter' have found their way into articles of clothing and home furnishing made of 'Stonecutter' fabrics." It held, however, that such misstatement did not constitute fraud because Stonecutter, at the suggestion of the Examiner, amended its application prior to publication to recite fabrics rather than finished clothing, and the as-

<sup>4</sup> 145 USPQ 567.

sertion of belief in damage in an opposition must, under the terms of section 13 of the statute, be predicated on the application as published rather than as originally filed.

We agree with the Board that Universal's charge of fraud has not been sustained.

No reversible error having been found, the Board's decision is affirmed.

AFFIRMED.

### U.S. Court of Customs and Patent Appeals

IN RE MAX J. KALM

No. 7698. Decided June 15, 1967

[54 CCPA 1466; 378 F.2d 959; 154 USPQ 10]

#### 1. PATENTABILITY—STATUTORY BASIS FOR REJECTION—35 U.S.C. 102(e) and 103.

"A rejection under 35 U.S.C. 102(e) for anticipation, such as made by the Patent Office in the present case, necessarily implies that the invention sought to be patented has been 'described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent,' and therefore is not 'new'—that there are no differences between what is claimed and what is disclosed in the prior art. Even where there are differences, 'A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject pertains.' 35 U.S.C. 103."

#### 2. SAME—SAME—SAME.

"• • • It is somewhat difficult for us to comprehend how appellant's compounds may be *unobvious* in view of a reference, yet at the same time be said to be *described* by the same reference as the Patent Office has held here. Necessarily, a description in a reference which is insufficient as a matter of law to render a composition of matter obvious to one of ordinary skill in the art would a fortiori be insufficient to 'describe' the composition as that term is used in 35 U.S.C. 102(e), a complete description being but the ultimate or epitome of obviousness."

#### 3. SAME — COMPOUND — GENUS CONCLUDES COMPOUNDS CLOSELY RELATED IN STRUCTURE AND PROPERTIES.

"When one speaks of a 'genus' in the chemical arts, one ordinarily speaks of a group of compounds closely related both in structure and in properties. Appellant has found a group of chemical compounds which possess properties diametrically opposite to the properties disclosed by Siemer for his compounds. It is quite evident that Siemer never made the present compounds; or if he did, he never tested them to determine what effect they would have on the central nervous system, since, if he had, he could not logically have failed to report the seemingly anomalous result appellant has discovered. While it is not necessary that a reference disclose every property or attribute of a composition of matter to be a valid anticipation, appellant has found properties for his claimed compounds which are totally incompatible and inconsistent with, not merely complementary or in addition to, those attributed by Siemer to his compounds. It is our view that Siemer never intended to, nor does he, disclose compounds within the scope of appellant's claims."

#### 4. SAME—SAME—In re Petering DISTINGUISHED.

"Contrary to the Solicitor's position here, the compounds which are allegedly encompassed by the general disclosure of Siemer do not constitute a 'recognizable class with common properties,' *Ruschig*. As in *Ruschig*, the number of compounds which could be said to fall within the scope of Siemer's disclosure, considering all possible permutations and combinations, is far greater than the 20 compounds found to be disclosed by the reference in *Petering*. We do not consider the situation in *Petering* comparable to that here."



5. SAME — PARTICULAR SUBJECT MATTER—"3,4-DIALKYL-2-CYCLOALKYLMORPHOLINES AND CONGENERS."

The refusal of certain claims in an application entitled "3,4-Dialkyl-2-Cycloalkylmorpholines and Congeners," as unpatentable over the prior art, is reversed.

REVERSED.

Helmuth A. Wegner for appellant.

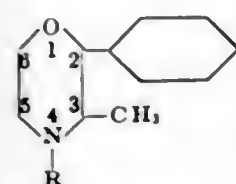
Joseph Schimmel (Jack E. Armore, of counsel) for the Commission of Patents.

Before WORLEY, Chief Judge, RICH, SMITH, and ALMOND, Associated Judges, and Judge WILLIAM H. KIRKPATRICK<sup>1</sup>

WORLEY, Chief Judge, delivered the opinion of the court.

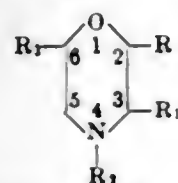
This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 1-3<sup>2</sup> as anticipated by certain prior art under 35 U.S.C. 102(e).

The invention relates to particular morpholine derivatives of the formula

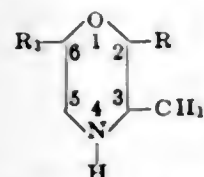


wherein R for purposes here is lower alkyl, being so defined in claims 1 and 2. Claim 3 is directed to the specific compound 2-cyclohexyl-3,4-dimethylmorpholine. According to the specification, the compounds are useful as "selective central nervous system [CNS] depressants—being potent barbiturate potentiators." [Emphasis supplied.]

A brief chronology of the proceedings below will facilitate an understanding of the issue involved. The Examiner originally rejected claims 1-3 as "obvious to one having ordinary skill in the art, 35 U.S.C. 103" in view of the Siemer patent.<sup>3</sup> Siemer discloses a process for the preparation of compounds of the generic formula



where R is phenyl or cyclohexyl, R<sub>1</sub> is lower alkyl, and R<sub>2</sub> and R<sub>3</sub> may be hydrogen or lower alkyl,<sup>4</sup> as well as a "one step" process for preparing compounds of the formula



According to Siemer, the compounds he discloses

\*\*\* exhibit a marked psycho-stimulating and appetite reducing effect. The morpholines that are substituted in 2,3 position, as for example 2-phenyl-3-methylmorpholine[<sup>5</sup>] and 2-cyclohexyl-3-methylmorpholine have a most marked anti-depressive action. \*\*\* [Emphasis supplied.]

The Examiner predicated his §103 rejection particularly on the latter

<sup>1</sup> Senior District Judge, Eastern District of Pennsylvania, sitting by designation.  
<sup>2</sup> Appearing in Serial No. 803,847, filed April 3, 1959, entitled "3,4-Dialkyl-2-Cycloalkylmorpholines and Congeners."

<sup>3</sup> U.S. Patent No. 3,125,572, issued March 17, 1964, on an application filed July 23, 1958.

<sup>4</sup> The only specific compounds disclosed by Siemer are 2-phenyl-3-methylmorpholine, 2-phenyl-3,4-dimethylmorpholine, 2-phenyl-3,6-dimethylmorpholine, 2-phenyl-3-propylmorpholine, and 2-cyclohexyl-3-methylmorpholine, none of which falls within the ambit of appellant's claims.

<sup>5</sup> It appears from the record that 2-phenyl-3-methylmorpholine is marketed under the name "Preludin" as a CNS stimulant.

compound, 2-cyclohexyl-3-methyl-morpholine, which differs structurally from the compounds of claims 1-3 in the absence of a methyl or other lower alkyl group in the 4-position of the morpholine nucleus.

In response to the Examiner's rejection, appellant submitted an affidavit of a Dr. Drill (Drill I) under Rule 132, reporting the results of assays conducted to determine the effect of four compounds on the central nervous system. The compounds tested were the compound of claim 3 and 2-cyclohexyl-3-methyl-4-octylmorpholine hydrochloride (the latter falling within the scope of claims 1 and 2), as well as the two specific compounds to which Siemer attributes marked anti-depressive action. Drill concluded from the reported data that the reference compounds "2-cyclohexyl-3-methyl-morpholine and the corresponding 2-phenyl compound, Preludin, produced a *significantly stimulating* (95% Conf.) effect on the central nervous system," whereas the two compounds falling within the present claims "*depressed* the central nervous system."

Appellant also submitted his own affidavit, laboratory notebook exhibits, and biological testing reports under Rule 131, reporting that he had synthesized the 4-methyl compound of claim 3 and the 4-octyl compound heretofore mentioned, submitted them to pharmacological evaluation, and established "their depressant effect upon the central nervous system" in "standardized assays," all prior to July 23, 1958, the filing date of Siemer.

Subsequently, the Examiner accepted the Drill I affidavit under Rule 132, finding it "to be sufficient to show a difference in kind in an evaluation of pharmacological properties as between the claimed compounds and the N-unsubstituted amines specifically disclosed by the reference," and conceded that "the instant compounds would be rendered unobvious by the Rule 132 affidavit and hence patentable. *In re Papesch*, [50 CCPA 1084, 315 F.2d 381,] 137 USPQ 43." However, the Examiner then proceeded to reject claims 1-3 as "fully met by Siemer," stating:

\*\*\* The reference is considered to so completely describe the claimed morpholines as to negate patentability with[in] the meaning of 35 U.S.C. 102(e). The reference discloses a narrow generic teaching of the claimed amines as well as a method for preparing the compounds. Also an N-homologue [the Examiner was here referring to the 2-cyclohexyl-3-methyl morpholine compound on which he originally predicated his §103 rejection] \*\*\* is described specifically in Example 7. These disclosures by the patentee, it is submitted, are sufficient to negate patentability of the claimed amines within the test laid down in *In re Petering*, \*\*\* [49 CCPA 993, 301 F.2d 676, 133 USPQ 275].

He accepted appellant's Rule 131 affidavit "to the extent that preparation of the compounds is described therein" and as evidence of "clear conception" of those compounds, but found it, for various reasons, to be "unacceptable to prove a *successful* reduction to practice," i.e., appellant had not satisfactorily established the "usefulness" of the compounds prior to the filing date of the Siemer reference.

The Board agreed with the Examiner's rejection of the claims under 35 U.S.C. 102(e), finding that the

\*\*\* reasoning of the court in *In re Petering* \*\*\* is clearly applicable here to establish the anticipatory effect of the Siemer et al. disclosure.

It also agreed with the Examiner that it was necessary for appellant to show that he knew of a use for his compounds prior to the filing date of Siemer in order to overcome Siemer as a reference since, according to the Board, the patentee discloses "therapeutic utility" for the compounds; that appellant's Rule 131 affidavit was inadequate to



establish that he had found a use prior to the filing date of Siemer; and that, as a consequence, appellant had not shown he was *prima facie* the first inventor of the claimed subject matter.

[1] A rejection under 35 U.S.C. 102(e) for anticipation, such as made by the Patent Office in the present case, necessarily implies that the invention sought to be patented has been "described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent," and therefore is not "new"—that there are no differences between what is claimed and what is disclosed in the prior art. Even where there are differences, "A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject pertains." 35 U.S.C. 103.

In making his original rejection under §103, the Examiner was faced with readily apparent differences between the subject matter "sought to be patented" and the prior art, viz, the claimed compounds are central nervous system *depressants* while the disclosed compounds of Siemer are central nervous system *stimulants*. The Examiner, considering those differences, found appellant's narrow group of compounds to be unobvious, §103, to one of ordinary skill in the art, notwithstanding the Siemer reference.

[2] Bearing that determination in mind, it is somewhat difficult for us to comprehend how appellant's compounds may be *unobvious* in view of a reference, yet at the same time be said to be *described* by the same reference as the Patent Office has held here. Necessarily, a description in a reference which is insufficient as a matter of law to render a composition of matter obvious to one of ordinary skill in the art would a fortiori be insufficient to "describe" the composition as that term is used in 35 U.S.C. 102(e), a complete description being but the ultimate or epitome of obviousness.

There appears to be no question that the Siemer patent does not specifically name, describe or claim any particular, individual compound anticipating appellant's claims, nor is there any suggestion by Siemer that *any* of his disclosed compounds is capable of *depressing* the central nervous system. Thus, this is not a case where a reference patent imputes particular characteristics to a readily prepared, *specifically named* and *identified* compound or composition, and a party seeking to claim the *very same* compound or composition must prove that the patent description was erroneous and that what the patent at first blush appears to expressly describe never actually existed. Cf. 35 U.S.C. 282; *In re Molnar*, 54 CCPA 705, 366 F.2d 782, 151 USPQ 203; *In re Jacobs*, 50 CCPA 1316, 318 F.2d 743, 137 USPQ 888.

It is the position of the Patent Office that the presently claimed compounds fall within the scope of the "genus" disclosed by Siemer. A cursory inspection of the Siemer reference might lead one to that unwarranted conclusion. The Solicitor asks that we look at the specific exemplary compounds of Siemer (fn. 4, *supra*) in order to determine the substituents he preferred and to establish the narrow scope of his generic disclosure. We have done so. If any preference of Siemer can be ascertained, it is for compounds with a phenyl radical in the 2-position,

a methyl radical in the 3-position and hydrogen in the 4-position of the morpholine nucleus, yielding the commercial stimulant "Preludin." Only when phenyl appears in the 2-position does Siemer disclose that methyl may be present in positions 4 or 6; only when methyl is in position 3 and hydrogen is in position 4 does Siemer suggest that cyclohexyl may appear in position 2. No real intimation is made as to what would happen if cyclohexyl, methyl and methyl were *simultaneously* placed in positions 2, 3 and 4, respectively. Siemer's disclosure is narrow. The genus constructed with the aid of Siemer's examples is much narrower than that which is depicted in a shorthand manner by Siemer's "generic" chemical formula appearing earlier in this opinion. Indeed, we think that the "genus" disclosed by Siemer is sufficiently narrow that it does not encompass compounds within the scope of appellant's claims. See *E. I. du Pont de Nemours & Co. v. Ladd*, 328 F.2d 547, 140 USPQ 297.

[3] When one speaks of a "genus" in the chemical arts, one ordinarily speaks of a group of compounds closely related both in structure and in properties. Appellant has found a group of chemical compounds which possess properties diametrically opposite to the properties disclosed by Siemer for his compounds. It is quite evident that Siemer never made the present compounds; or if he did, he never tested them to determine what effect they would have on the central nervous system, since, if he had, he could not logically have failed to report the seemingly anomalous result appellant has discovered. While it is not necessary that a reference disclose every property or attribute of a composition of matter to be a valid anticipation, appellant has found properties for his claimed compounds which are totally incompatible and inconsistent with, not merely complementary or in addition to, those attributed by Siemer to his compounds. It is our view that Siemer never intended to, nor does he, disclose compounds within the scope of appellant's claims.

The Examiner, Board and Solicitor rely heavily on this court's decision in *In re Petering*. We had occasion to comment upon some limitations of that decision in *In re Ruschig*, 52 CCPA 1238, 343 F.2d 965, 145 USPQ 274, where we stated:

We did not intend our *Petering* opinion or decision to become a precedent for the mechanistic dissection and recombination of the components of the specific illustrative compounds in every chemical reference containing them, to create hindsight anticipations with the guidance of an applicant's disclosures, on the theory that such reconstructed disclosures *describe* specific compounds within the meaning of section 102. • • •

[4] Contrary to the Solicitor's position here, the compounds which are allegedly encompassed by the general disclosure of Siemer do not constitute a "recognizable class with common properties," *Ruschig*. As in *Ruschig*, the number of compounds which could be said to fall within the scope of Siemer's disclosure, considering all possible permutations and combinations, is far greater than the 20 compounds found to be disclosed by the reference in *Petering*. We do not consider the situation in *Petering* comparable to that here.

The view we take renders it unnecessary to consider appellant's evidence submitted under Rule 131, and the parties' arguments directed thereto.

[5] The decision is reversed.

REVERSED.

SMITH, J., concurs in the result.



## U.S. Court of Customs and Patent Appeals

MARTIN J. BLICKSTEIN AND MARTIN A. MITTLER v. HUGO SEIDEN

No. 7773. Decided June 22, 1967

[54 CCPA 1532; 378 F.2d 988; 154 USPQ 97]

## 1. INTERFERENCE—REDUCTION TO PRACTICE—CORROBORATION.

"Here, we think that Seiden's testimony finds adequate corroboration in the testimony of the other witnesses and in the exhibits. Hope stated he made components for a capacitor of the type in question; Schultz testified to making an electrical test on a model brought to him by Seiden; Gershkowitz stated that he observed the tests and saw the model which was being tested; and Hirschberg and Goodman testified to seeing a model capacitor and the test results thereon. Hirschberg answered affirmatively questions whether the test model had the various elements required by the count, as did Gershkowitz and Schultz. It is true that those witnesses admitted they were unable to see everything within the model because they did not disassemble it, and the outer conductive electrode extending over a portion of the dielectric tube somewhat obstructed the view of the interior. However, they testified that no other similar capacitor made by J.F.D. exhibited a linear response as shown by the test results of Exhibits H-1 and H-2 and had the particular range of capacitance values covered by those test results."

## 2. SAME—SAME—TESTS—COUNT RECITES NO USE.

"The count does not specify any particular use. In such case, evidence proving substantial utility for any purpose is sufficient to establish reduction to practice. *Gordon v. Hubbard*, 52 CCPA 1598, 347 F.2d 1001, 146 USPQ 303. Moreover, the record demonstrates that the purpose of the invention was to provide a direct travel mechanism whereby the piston could be adjusted without producing any reversal in the capacitance change. It does not show that any change in the use of the capacitor under normal electrical conditions was contemplated and there appears to be no indication that the new construction would be expected to change the other basic properties of the capacitor from those of capacitors for corresponding purposes in the prior art. We think the test showing the present structure to be free of the capacitance reversals sought to be avoided was sufficient to demonstrate that the structure was capable of successfully achieving the use contemplated for it."

## AFFIRMED.

*Burgess, Dinklage & Sprung, Arnold Sprung* for appellants.

*Ostrolenk, Faber, Gerg & Soffen, Samuel H. Weiner* for appellant.

Before WORLEY, Chief Judge, and RICH, SMITH, and ALMOND,  
Associate Judges

WORLEY, Chief Judge, delivered the opinion of the court.

The controlling issue in this appeal from the Board of Patent Interferences is whether Seiden, senior party by virtue of his March 29, 1962, filing date, has satisfactorily proved an actual reduction to practice of the instant invention prior to December 20, 1961. That is the earliest date asserted in the preliminary statement of Blickstein and Mittler (Blickstein), the junior party by virtue of their May 31, 1962, filing date. From our review of the record we agree with the Board that Seiden has discharged his burden of proof.<sup>1</sup>

The invention relates to an adjustable structure which Seiden states can be used in both tuning and trimmer capacitors<sup>2</sup> and which is described in connection with a trimmer capacitor. The brief for appellants explains the structure as follows:

The subject matter of the interference involves a non-rotating piston trimmer capacitor. A capacitor is a device having two electrodes separated by a non-con-

<sup>1</sup> The Board did not find it necessary to consider testimony submitted by Blickstein, nor do we.

<sup>2</sup> According to Seiden's testimony, tuning capacitors are constructed to be suitable for being adjusted or varied repeatedly. A trimmer capacitor is used to provide a fixed capacitance in an electronic circuit and is left set in the position to which it is initially adjusted.

ductive material (dielectric). A charge may be held on the electrodes due to the natural electrostatic attraction across the dielectric. In a piston trimmer capacitor the dielectric is generally in the form of a glass tube. One electrode is in the form of a piston which may be axially moved within the tube, and the other electrode is in the form of a conductive layer, such as metallizing, or a foil on the outside of the tube. The capacitance may be varied by adjusting the axial position of the piston within the tube. The piston trimmer capacitor is generally used for making precise capacitance adjustments in electrical equipment. Piston trimmer capacitors may be classified as two general types, i.e., rotating and non-rotating. In the rotating type the piston is simply secured to the end of an adjustment or lead screw and rotates with the screw as its axial position for adjustment of the capacitor is varied by turning the screw. In a non-rotating piston trimmer capacitor rotation of the lead or adjustment screw moves the piston axially without the piston being rotated. The invention as covered by the count of the interference is directed to a non-rotating type piston trimmer capacitor having a very specific structure which allows the piston to be axially moved in the dielectric tube without rotation. \* \* \*

## The single count in issue reads:

1. An adjustable reactance device comprising the combination of a hollow dielectric form having an electrode secured thereto, a conductive piston contained coaxially within said dielectric form and being movable along the axis of said hollow dielectric form, a support bushing, and an operating mechanism for moving said piston with respect to said dielectric form; and said bushing having an enlarged diameter portion receiving and supporting one end of said dielectric form, and an axially extending portion positioned within and concentric with said dielectric form; said axially extending portion of said bushing having an axially directed slot therein extending to a free end thereof; said piston being contained between the outer diameter of said extending portion of said bushing and the inner diameter of said dielectric form; said operating mechanism including an elongated operating screw and a screw receiving member; said bushing having an interior bushing portion; said elongated screw having an extending section; said extending section of said screw being captured in said interior portion of said bushing whereby said elongated screw has a position which is axially fixed with respect to said bushing and said elongated screw is rotatable with respect to said bushing; said screw receiving member being integrally connected to said piston and threadably receiving one end of said screw member; said screw receiving member having an extending portion; said extending portion of said screw receiving member being slidably received by said slot in said bushing.

The evidence on behalf of Seiden includes testimony by Seiden himself, Hirschberg, Goodman, Gershkowitz, Schultz and Hope, all employees of Seiden's assignee, J.F.D. Electronics Corporation, during the period in question. Also submitted were Exhibits A through K. A, B and C are sketches dated in August 1961, D, E, F and G are mechanical parts for capacitors, and H-1 and H-2 are a data sheet of test results and a corresponding graph, respectively. Exhibit K is a sketch dated January 1962.

The record establishes that Seiden was hired by J.F.D. August 1, 1961, as an engineer to develop tuning capacitors. Prior to that he had conversation with Hirschberg concerning some of the problems encountered in piston trimmer capacitors in which the piston constituting one electrode rotated with its adjusting screw while being adjusted in axial position. Seiden testified that he conceived the present invention at the time he made the sketches constituting Exhibits A, B and C in August 1961; that he had the company's model maker, Hope, prepare parts D, E and F as shown in the sketches; and that a working model of a capacitor was then made and subjected to a capacitance test reported in Exhibits H-1 and H-2, the former dated September 28, 1961.

Hirschberg, chief mechanical engineer of J.F.D., testified that he discussed the problems relative to trimmer capacitors with Seiden prior



to the latter's employment by J.F.D. He also stated that Seiden, whose desk was just in front of his own, showed him the sketches of Exhibits A, B and C in August 1961, explaining the idea of putting the piston in a slotted bushing to prevent its rotating during axial movement. Hirschberg further testified that he gave Seiden permission to use the model shop and test facilities, which were under his authority, and that he saw an assembled device within two or three weeks of the August sketches and saw the test results, placing the time of seeing the graph of Exhibit H-2 in August or September, 1961.

The witness Goodman, vice president and general manager of J.F.D., stated that he had seen the sketches of Exhibits A, B and C and had also discussed the structures shown therein with Seiden. He testified to seeing parts like those of Exhibit F assembled into a complete device in September or October of 1961 and seeing the test results of Exhibit H-1 and H-2 around the same time.

Gershkowitz was in charge of the test laboratory at J.F.D. He testified that he became aware of Seiden's work around August 1961 when tests were to be run. He recognized the exhibits concerning the test results and stated that he observed part of the tests and saw the model that was tested. Gershkowitz testified that the model tested included the elements set forth in the count although he conceded he did not disassemble it and did not recall seeing certain portions of it.

Schultz, who was a technician involved in testing components under Gershkowitz, testified that Seiden brought him a model of a piston trimmer capacitor with a rotating screw and a non-rotating piston. He identified the data and graph sheets of the test, stating that he ran the test reported thereon and describing the equipment used. Schultz testified as to the structure of the model tested, which testimony indicated the model supported the count although he also conceded that he could not see the end of the slot or the specific structure of the piston and nut.

Hope, employed as a model maker by J.F.D., testified to making the parts of Exhibits D, E, F and G in accordance with drawings and instructions from Seiden. His testimony places that activity around August or September of 1961.

The Board discussed the evidence in detail, and held it to show Seiden was the originator of the invention at J.F.D., and entitled to the benefit inuring from the activities of the employees directed toward reduction to practice. Upon analysis of the objects of the invention stated in Seiden's application, the Board held that the test sufficiently simulated the practical application of the invention as a capacitor generally to constitute an actual test of the features upon which the invention depends.

The Board concluded:

Considering all of the evidence and giving all competent testimony making up the continuous story its proper place and weight, *Patterson et al. v. Hauck*, . . . [52 CCPA 987, 341 F.2d 131, 144 USPQ 481], and cases cited therein, we hold that Seiden has established by a preponderance of sufficiently corroborated evidence the actual reduction to practice of the invention in issue long prior to December 20, 1961, the earliest date alleged for any activity by Blickstein et al.

Blickstein urges that the record "leaves completely vague and unanswered" the exact origin of the device tested in accordance with Exhibits H-1 and H-2, and questions the proof as to the structure of that device. It is also contended that the test reported in those exhibits is not adequate to prove reduction to practice of the capacitor.

The testimony of Seiden reflects a continuous account of the history of the invention describing not only the conception but also construction of a model embodying the count structure and the successful testing of the model. As to the making of the model, Seiden stated "surely I built a complete unit [capacitor] with all parts," setting the time thereof as August or September of 1961.

As to testing, Seiden referred to life or durability tests on an apparently incomplete unit and to subjecting the model capacitor to electrical tests. Concerning the latter, he testified:

Q237. Will you describe the nature of the test that was performed? A. The test was performed in such a way that the capacitor was measured after each adjustment of the screw.

Now, the screw was adjusted in equal steps; that means half turn, quarter turn or one turn but always the same.

Q238. What type of electrical testing equipment was used? A. Capacitance bridge.

Q239. Was this a standard test? A. Yes.

Q240. Did you see the testing being made on any of your models? A. Yes.

Q241. Who else was present at the test? A. Jerry Gershkowitz.

Q242. Do you remember when these tests were performed? A. It must have been somewhere in September or October, 1961, somewhere in this area.

Coming now to the matter of whether Seiden's testimony is adequately corroborated, the law on that point is considered in the following passage from *Hasselstrom v. McKusick*, 51 CCPA 1008, 324 F.2d 1013, 139 USPQ 511, quoted with approval in *Patterson v. Hauck*:

. . . we are in complete agreement with the necessity for corroboration of an inventor's testimony. However, the purpose of corroborative evidence is to confirm and to strengthen the testimony of the inventor. [Quoting in a footnote *Rivise and Caesar, Interference Law and Practice*, vol. 3, p. 2127.] Obviously the amount and quality of corroborative evidence that is necessary in any given case will vary with the facts of that case. As we observed in *Phillips and Paul S. Starcher v. Arthur W. Carlson*, 47 CCPA 1007, 278 F.2d 782, 126 USPQ 146, there can be no fixed single formula in determining the sufficiency of corroborative evidence.

To the same effect is *Guinot v. Hull*, 40 CCPA 982, 204 F.2d 281, 97 USPQ 441:

A study of the cases issuing from this court reflect[s] the consistent application of the doctrine of independent corroboration of the inventor; that each case is decided upon the basis of the facts therein; and that the entire record is examined to determine whether the necessary proof is present in a given case.

[1] Here, we think that Seiden's testimony finds adequate corroboration in the testimony of the other witnesses and in the exhibits. Hope stated he made components for a capacitor of the type in question; Schultz testified to making an electrical test on a model brought to him by Seiden; Gershkowitz stated that he observed the tests and saw the model which was being tested; and Hirschberg and Goodman testified to seeing a model capacitor and the test results thereon. Hirschberg answered affirmatively questions whether the test model had the various elements required by the count, as did Gershkowitz and Schultz. It is true that those witnesses admitted they were unable to see everything within the model because they did not disassemble it, and the outer conductive electrode extending over a portion of the dielectric tube somewhat obstructed the view of the interior. However, they testified that no other similar capacitor made by J.F.D. exhibited a linear response as shown by the test results of Exhibits H-1 and H-2 and had the particular range of capacitance values covered by those test results.

The test involved connecting the capacitor in a bridge circuit and



measuring the capacitance after every half turn of the adjustment screw in a single direction. The results showed the capacitance to vary continuously in the same direction as the adjustments were made, there being no reversals in the direction of capacitance change. According to the evidence, that was a standard test except for its being made more severe by measuring after each half turn of the screw instead of after every two turns as was the usual practice.

[2] The count does not specify any particular use. In such case, evidence proving substantial utility for any purpose is sufficient to establish reduction to practice. *Gordon v. Hubbard*, 52 CCPA 1598, 347 F.2d 1001, 146 USPQ 303. Moreover, the record demonstrates that the purpose of the invention was to provide a direct travel mechanism whereby the piston could be adjusted without producing any reversal in the capacitance change.<sup>3</sup> It does not show that any change in the use of the capacitor under normal electrical conditions was contemplated and there appears to be no indication that the new construction would be expected to change the other basic properties of the capacitor from those of capacitors for corresponding purposes in the prior art. We think the test showing the present structure to be free of the capacitance reversals sought to be avoided was sufficient to demonstrate that the structure was capable of successfully achieving the use contemplated for it.

We have reviewed the record in light of appellants' arguments and the decisions relied on, but are not convinced that the Board erred in holding that Seiden has established by a preponderance of properly corroborated evidence the construction of a complete and operative device in accordance with the count and the adequate testing of such device.

The decision is affirmed.

**AFFIRMED.**

<sup>3</sup>Seiden stated in his testimony:  
The main problem was linearity of the capacitor. Therefore, we did run linearity tests.  
Commenting on the results plotted on Exhibit H-2, Schultz testified:  
The results were very satisfactory for me at that time because it didn't show any reversals. The basic object of this particular design was to eliminate reversals in the capacitor.

### U.S. Court of Customs and Patent Appeals

IN RE WILLIAM L. ALBRECHT AND MORRIS MINDICK

No. 7695. Decided March 16, 1967

[54 CCPA 1209; 373 F.2d 1020; 153 USPQ 70]

#### 1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"NONAQUEOUS SILICA SOLS AND METHOD FOR PREPARING SAME."

The refusal of certain claims in an application entitled "Nonaqueous Silica Sols and Method for Preparing Same," as unpatentable over the prior art, is reversed.

**REVERSED.**

*Herbert B. Keil, Richard L. Johnson* for appellants.

*Joseph Schimmel (Raymond E. Martin, of counsel)* for the Commissioner of Patents.

Before WORLEY, Chief Judge, RICH, SMITH, and ALMOND,  
Associate Judges, and Judge WILLIAM H. KIRKPATRICK \*

RICH, J., delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals, adhered to on reconsideration, affirming the final rejection of

\* Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

claims 12-22 in application Serial No. 81,474, filed January 9, 1961, entitled "Nonaqueous Silica Sols and Method for Preparing Same."

Silica sols are colloidal dispersions of silica particles in water or an organic medium. In the latter, the sols are useful as thickening agents and as water repellants. The organosols can be prepared by heating an aqueous salt-free silica sol under vacuum and slowly adding an alcohol. When the water has been replaced, the vacuum is removed and at least some of the silanol (SiOH) groups on the surface of the silica particles are esterified with an alcohol.

Appellants' invention requires that the esterification be effected in the presence of hydrogen bonding agents with dipole moments in excess of 3.0 Debye units. These hydrogen bonding agents protect 50-95% of the surface silanol groups from esterification and thereby eliminate precipitation during the critical esterification steps. This improvement makes it possible to convert relatively concentrated aqueous silica sols into non-aqueous sols, i.e., organosols. The resultant non-aqueous silica sols and their method of preparation are claimed. Claims 12 and 18 are illustrative:

12. A non-aqueous silica sol consisting essentially of, as the continuous phase, a water miscible mono-hydric alcohol having a boiling point greater than 50° C., and as the dispersed phase 20-60% by weight of colloidal, discrete dense particles of salt-free silica which have an average particle diameter of 5-150 millimicrons, and a specific surface area of at least 20 m.<sup>2</sup>/g., which silica particles have from about 50% to about 95% of their surface silanol groups hydrogen bonded by an organic water miscible hydrogen bonding agent and from about 5% to about 50% of their surface silanol groups esterified with the same water miscible alcohol which corresponds to the continuous phase, said hydrogen bonding agent having a dipole moment of at least 3.0 Debye units, and being present in a mol ratio per mol of hydrogen bonded and surface esterified silanol groups of from 10:1 to 1:1.

18. The process of producing a non-aqueous silica sol which comprises the steps of adding an organic water miscible hydrogen bonding agent which has a dipole moment of at least 3.0 Debye units to an aqueous salt-free silica sol containing from 20% to 60% by weight of silica to form a reaction system, with the amount of hydrogen bonding agent being present in a mol ratio per mol of surface silanol groups present in the silica particles of the silica sol of from 10:1 to 1:1, adding under vacuum to the reaction system a water miscible mono-hydric alcohol in an amount of from 1 to 7 volumes per volume of water present in the aqueous salt-free silica sol, said alcohol having a boiling point greater than 50° C., maintaining said vacuum and heating the reactants under conditions whereby substantially all the water is removed from the reaction system, releasing the vacuum, heating the water miscible alcohol of the formed non-aqueous silica sol containing 20-60% by weight of silica to its reflux temperature at ambient pressure and maintaining said temperature for at least ¼ hour.

The Examiner relied on the following references:

Iler, 2,974,105, Mar. 7, 1961.

Kirk, 2,383,653, Aug. 28, 1945.

The claims were rejected "as unpatentable over Iler in view of Kirk."

Iler discloses somewhat similar sols and methods of preparation. He utilizes as a stabilizer "an alkali of the class consisting of water-soluble monovalent metal silicates and basic hydroxides of monovalent cations \* \* \*." These apparently impart stability and other desirable properties to the non-aqueous silica sols prepared by Iler's processes. They apparent do not give the stability *during* preparation which permits esterification of concentrated sols. The esterification reactions disclosed are in dilute sols.



Kirk teaches the modification of *silicic acid* sols with hydrogen bonding agents. Among the advantages recited is increased stability:

I have found that when silicic acid is mixed with an organic hydrogen bonding donor compound it exhibits characteristics unexplainable upon the basis of ordinary chemical reaction and unexpected from a consideration of the characteristics of the materials mixed. Apparently silicic acid has an acceptor hydrogen atom and forms some type of compound with a hydrogen bonding donor. Among the characteristics of these silicic acid-hydrogen bonding donor combinations is a decreased tendency to precipitate gelatin and an increase in the time required for the sol to be converted to the gel.

Kirk lists about 60 hydrogen bonding donors.

The question is whether it would have been obvious within the meaning of 35 U.S.C. 103 to substitute those hydrogen bonding agents of Kirk which have a dipole moment in excess of 3.0 Debye units in the Iler process.

It is agreed by the Patent Office Solicitor and appellants that precipitation of silica during the esterification step was an art-recognized problem. It seems to be agreed that this problem persists in the Iler process despite its stabilizers. The only issue before us is whether Kirk's disclosure made obvious appellants' claimed solution of the problem.

The Solicitor acknowledges that Kirk's silicic acid sols and Iler's silica sols are different but argues that they are "sufficiently closely related that a person skilled in the art would expect that at least some of Kirk's hydrogen bonding donors would render more stable Iler's organosols \* \* \*." In support of this proposition he points to common generic nomenclature. The Solicitor also concedes that the specific purposes for which the hydrogen bonding agents are used are dissimilar. But he urges that each is used for stabilization and that reaction details are, therefore, not controlling. The Solicitor further observes that the Patent Office has placed both the Iler and Kirk patents in the same sub-class of the Patent Office classification.

We are not convinced by these arguments. We would suppose that one skilled in the art would be much more interested in similarity of the compounds than in common nomenclature and in similarity of reaction than in common purpose. We do not think that the stabilization with hydrogen bonding agents of one sol by one reaction would lead him to expect stabilization of a *dissimilar* sol by *another* reaction.

Indeed, it appears from the record (and the Solicitor's comments at oral argument) that only 11 of the 60 hydrogen bonding agents of Kirk actually effect the necessary stabilization in the Iler process. Only these have been shown to have the requisite dipole moment of at least 3.0 Debye units. The Solicitor does not find this determinative, urging that an *experimenter* would soon come upon an agent that was effective, particularly if he tried first the compounds disclosed in Kirk's examples. Essentially the Solicitor's position is that one skilled in the art would err in his analysis of the references and presume that *all* Kirk's agents would work and, in the course of experimentation based on this error would stumble upon *some* of the 11 hydrogen bonding agents which do meet appellants' specifications.

As indicated above, we do not think that one skilled in the art would make this error. Nor, even assuming such an error, do we think that a finding of obviousness may be built in this manner upon it.

[1] The decision of the Board is reversed.

REVERSED.

ALMOND, J., dissenting, with whom WORLEY, Chief Judge, joins.

I would affirm the decision of the Board for the sound reasons stated in its opinion:

The claims stand rejected as unpatentable over Iler in view of Kirk. Iler discloses substantially the same overall method of preparing the silica organosol employing appellants' preferred alcohols but in the absence of a hydrogen bonding donor. However, use of such donor (including appellants' preferred dimethylformamide) to stabilize silica organosols is shown by Kirk. \* \* \* The Examiner held that it would be obvious to one skilled in the art to use the hydrogen bonding donors of Kirk in the process of Iler for their known purpose (stabilization of silica sols).

It is our conclusion, after full consideration of appellants' argument, that this rejection is proper and should be sustained. It appears to us that appellants are merely employing the hydrogen bonding donor of Kirk for its known function. \* \* \*

\* \* \* our view is that the problem, i.e., precipitation [of silica gel], would in any case become apparent on attempts to esterify higher concentrations of the [Iler] silica sol and one would then logically turn to teachings such as Kirk's for stabilization of the silica sol.

\* \* \* In our view of the teachings of the prior art, the inclusion of Kirk's hydrogen bonding donor in preparing the Iler silica organosol is obvious regardless of the concentration of the silica sol to be converted by dehydration and partial esterification.

While the majority attempts to distinguish between silicic acid sols, which Kirk stabilizes with hydrogen bonding donors, and silica sols, which appellants stabilize with the same agents, this distinction appears rather tenuous in light of the well-known fact that silica is merely the anhydrous form of silicic acids, which dissociate readily into silica and water. Kirk, who presumably is one of ordinary skill in this art, uses the terms "silicic acid sols" and "silica sols" interchangeably in his patent. Also, while the majority apparently views the silica sols of Iler and appellants as consisting of pure anhydrous silica, SiO<sub>2</sub>, this hardly accounts for the presence of hydrogen in the silanol (SiOH) groups on the surface of the "silica" particles, which are allegedly "dissimilar" to hydrated silica.

Kirk discloses about 60 hydrogen bonding donors as stabilizers for his silicic acid sols, of which 11 possess appellants' requisite minimum dipole moment of 3.0 Debye units. It is important to note that appellants do *not* argue that *any* of these agents are inoperable as stabilizers of Kirk's hydrated silica sols. Such an argument would have required appellants to meet the heavy burden of proof demanded of one who would establish inoperability and consequent invalidity of a patent cited as a reference against him. *In re Jacobs*, 50 CCPA 1316, 318 F.2d 743, 137 USPQ 888.

Yet appellants urge that about 50 of the 60 donors of Kirk "are completely useless and inactive" as stabilizers of their anhydrous silica sols, and those of Iler. If the sixty hydrogen bonding agents of Kirk are all operable stabilizers of *hydrated* silica sols, as we must presume in the absence of clear and convincing proof to the contrary, then it would be reasonable to expect substantially all of these sixty donors to be operable stabilizers of the *anhydrous* silica sols of appellants and Iler. In other words, one would naturally expect that donors having dipole moments greater than, less than, and equal to 3.0 Debye units would be operative stabilizers of silica sols of both the hydrated and anhydrous types.

In seeking to overcome the adverse effect of this natural inference or presumption, appellants have demonstrated, at most, that a *homo-*



logue of one hydrogen bonding agent of Kirk (not one which is disclosed in Kirk's 12 working examples) is inoperative as a stabilizer of anhydrous silica sols. I am unwilling to accept this proof as clear and convincing evidence that about 50 of Kirk's 60 donors "are completely useless and inactive" as stabilizers of anhydrous silica sols. For all we know, this one agent, which is not even listed by Kirk, may be only an isolated example of a hydrogen bonding agent that stabilizes neither the hydrated silica sols of Kirk nor the anhydrous silica sols of Iler and appellants. If in fact this agent provides merely an isolated instance of inoperativeness, it would be unreasonable to regard it as conclusive proof that hydrogen bonding agents having dipole moments of less than 3.0 Debye units are, *as a class*, inoperable as stabilizers of either hydrated or anhydrous silica sols. Since appellants have failed to demonstrate that a single one of Kirk's 60 donors is inoperative as a stabilizer of anhydrous silica sols, I would affirm the decision below.

### U.S. Court of Customs and Patent Appeals

RICHARD C. LOSHBROUGH v. KENNETH C. ALLEN

Nos. 7898 and 8068. Decided March 9, 1967

[54 CCPA 1113; 373 F.2d 747; 152 USPQ 812]

#### 1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—INTERFERENCE.

"The fact remains, however, that this appeal brings before us an issue involving the review of a determination of priority of invention where the winning party has moved to cancel the counts. We do not believe it proper to knowingly proceed to determine who was the first inventor of an apparently unpatentable invention."

#### 2. INTERFERENCE—RECOMMENDATION BY BOARD ON MATTERS UNRELATED TO PRIORITY—RULE 259.

"The Board's [Board of Patent Interferences] decision would have become final in due course if no appeal had been filed. Prior to the Board's decision becoming final, appellee attempted to direct the attention of the Board to a patent which may amount 'to a bar to the grant of a patent to either of the parties for the claim or claims in interference.' We think the above rule [Rule 259] expressly provides that the Board's power and authority are not as circumscribed as the Board stated in its opinion. The Commissioner has provided the Board with discretion to act independently of its decision as to matters not relating to priority."

#### 3. SAME—SAME—SAME.

"As we view Rule 259, a procedure has been provided wherein interferences need not necessarily be continued where it appears that the claimed subject matter in dispute is not patentable. The spirit underlying this procedure in relation to the conservation of judicial man hours both here and in the Patent Office must be approved. We think that the Board should avail itself of the opportunity to initiate this procedure. We think it is far better than the necessity of continuing the interference be first examined before examining the merits of this appeal as this may obviously eliminate any need for an appeal in this court. Whatever the effect of the Swedish patent, we do not think the case is ripe for review in view of the fact that our examination of over 1600 pages of transcript and hundreds of technical exhibits may well be but an abstract mental exercise. Accordingly, the Board should determine whether, in their opinion, the Swedish patent 'establishes the fact' that it 'amounts to a bar to the grant of a patent to either of the parties,' Rule 259."

#### 4. SAME—SAME—SAME.

"We are mindful of the fact that Rule 259 provides for discretion as to both the Commissioner and Board's actions thereunder. This discretion, of course, must be exercised, *Eckey v. Watson*, 268 F.2d 891, 122 USPQ 5 (D.C.C.A. 1959), and the orderly procedure vitally necessary both here and in the Patent Office

should not be ignored. We may 'require such further proceedings to be had as may be just under the circumstances,' 28 U.S.C. 2106, to the end that our work is 'disposed of in a judicial manner,' *In re Fischer*, 53 CCPA 1211, 360 F.2d 232, 149 USPQ 631."

#### 5. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—REMAND.

"The Assistant Commissioner noted the fact that our previous remand did not contain express directions to consider the merits of the Allen motion. While it may be true that remands from appellate courts to administrative agencies many times do not provide adequate instructions, see Goldfarb, Administrative Agency Action After Remand, 18 W. Res. L. Rev. 565 (1967), our previous remand was designed to permit the Patent Office to solve the problem in its own way. Since the problem was ignored instead of being resolved under Rules 181-183 and 259, we again remand this matter to the Patent Office for determination. The remand should be considered with the object of solving the problem of not rendering the remand ineffectual. See *Cascade Nat. Gas Corp. v. El Paso Nat. Gas Co.*, 386 U.S. — (1967)."

#### REMANDED.

Carl F. Schaffer, Vincent L. Barker, Jr., for appellant.

Lawrence B. Biebel, Nathaniel R. French, for appellee.

Before RICH, SMITH, and ALMOND, Associate Judges

#### PER CURIAM:

We are here faced with a continuation of a complex legal dispute not involving the merits of Appeal No. 7898 which we had hoped would have been greatly simplified by our per curiam decision of May 12, 1966, *Loshbrough v. Allen*, 53 CCPA 1214, 359 F.2d 910, 149 USPQ 633. Unfortunately, simplification has not resulted. Instead, a determination of the merits of this appeal appears to be no closer than at the time of the Board's first decision some sixteen months previous. During this period this dispute between the parties has expended the time and effort of this court once, the Board of Interference twice, and the Assistant Commissioner of Patents twice. Resolution of this dispute is nowhere in sight and it now appears of such proportion as to foreclose a determination of the merits. For the reasons that follow, we think it is time to cut the Gordian knot.

Appellant presents us at this time with a motion to summarily reverse the decision of the Board and remand this case to the Board for further proceedings. This motion in the continuing legal dispute stems from the fact that junior party appellee requested the Board after its original decision "to 'cancel' from the interference the 5 counts on which priority was awarded to him and to substitute a new count." *Loshbrough v. Allen*, supra.

Subsequent actions by the Board and the Assistant Commissioner concerning this motion are explained in detail in our previous decision in which we remanded this appeal to the Board "to take whatever further action it may deem advisable."

The events which have transpired since our remand may be briefly summarized. The Board on August 8, 1966 denied appellee's motion to amend the interference,<sup>1</sup> that is, it refused to consider the merits of the motion. Appellee then filed a "petition to the Commissioner or for reconsideration by the Board of Interference Examiners," in which he requested "action on Allen's motion to amend by the Commissioner or by the Primary Examiner." Allen's request was thereafter joined

<sup>1</sup> A summary of the Board's reasoning is as follows: (1) it has no authority to reform or redeclare an existing interference, (2) its jurisdiction is limited to a determination of the question of priority of invention and questions ancillary thereto, citing 35 U.S.C. 135, *Glass v. De Roo*, 44 CCPA 723, 239 F.2d 402, 112 USPQ 62, (3) it has no authority to review a motion to amend which has been denied, citing *Josserand v. Taylor*, 31 CCPA 709, 138 F.2d 68, 59 USPQ 140, and (4) it had exercised the sole jurisdiction and discharged fully the duty placed on it by 35 U.S.C. 135.



in by appellant. The Assistant Commissioner denied the petition,<sup>1</sup> that is, no consideration was given to the merits of Allen's motion. Appellant then filed a second appeal to this court assigning as error the Board's refusal to direct the attention of the Commissioner to Swedish Patent No. 173,332, which patent may amount to a bar to the grant of a patent to either of the parties for the claims in interference.

In support of his motion here, appellant repeats arguments advanced earlier in his motion to remand and points out:

\* \* \* Since the demand the Patent Office has again refused to act upon the winning junior party's statement that the counts on appeal are unpatentable, therefore the case still cannot be disposed of by this court at this time; if the counts are in fact unpatentable the Board's decision should not stand; and whether unpatentability exists and whether another count should be substituted are still questions for the Patent Office to decide prior to review here. Thus, in its present posture, this court would still be required to decide an involved and complex question of priority which may have become moot. \* \* \*

The time of this court to study a 1600 page transcript accompanied by hundreds of highly technical exhibits, to consider briefs and arguments and to prepare an opinion, must be balanced against the time it will take the Primary Examiner to consider the simple issue of the patentability of all of the present counts and the propriety of Allen's proposed new count.

Appellant summarizes the reasoning underlying the position of the Patent Office as follows:

The persistent refusal of the Patent Office to consider Allen's motion has been based on a narrow and rigid interpretation of its own rules. The motion has been denied (a) because the motion was filed after the decision of the Board on priority, (b) because it failed to state how or when Allen discovered the Swedish patent,<sup>2</sup> (c) because the motion was not directed for action by the Commissioner or the Primary Examiner under his delegated authority, (d) because the Board lacked authority to consider the question of patentability under the rules of practice, (e) because the Patent Office, once having been put to the burden of time and expense of deciding an issue should not be required to assume the burden of considering changes in the issue, and (f) because the interference might be prolonged.

All of the above reasons ignore the substantive injustice done to the parties.

In connection with Allen's motion, had the Patent Office interpreted its rules in the spirit in which they are intended and had the Commissioner exercised the broad authority given him by Rules 182 and 183,<sup>4</sup> it would not have been improper to suspend the interference and to refer the matter to the Primary Examiner for his determination of the question of patentability in accordance with Rule 237. Neither would it have been improper for the Board under the provisions of Rule 259 to direct the attention of the Commissioner to the question of patentability which had been brought to their attention. In such event, the Commissioner could have suspended the interference and remanded the case to the Primary Examiner.

Concerning the alleged prejudice to appellant's rights should this appeal proceed without a consideration of the merits of the Allen motion, appellant argues:

As to appellee's proposed new count, appellant has never had an opportunity

<sup>1</sup> The reasoning advanced in the decision is as follows: (1) the purpose of the remand had been accomplished and no further action by the Patent Office appeared to be in order, (2) consideration of the merits of the motion was barred for the reasons set forth in the former decision of the Assistant Commissioner, and (3) our remand did not indicate that the motion should be considered on its merits.

<sup>2</sup> Allen's motion stated that "the party Allen and his attorneys were not advised of the disclosure of the Swedish patent until after the testimony of both parties had been completed." The party Loshbough was not aware of the patent prior to the filing of Allen's motion.

<sup>4</sup> Rule 182. Questions not specifically provided for.—All cases not specifically provided for in these rules will be decided in accordance with the merits of each case by or under the authority of the Commissioner, and such decision will be communicated to the interested parties in writing.

Rule 183. Suspension of rules.—In an extraordinary situation, when justice requires any requirement of these rules which is not a requirement of the statutes may be suspended or waived by the Commissioner in person on petition of the interested party, subject to such other requirements as may be imposed.

to be heard with respect to the same, no testimony has been taken specifically directed to it and the question of priority of invention with respect to the subject matter thereof has never been determined. However, if this appeal is continued and priority determined on the present record, the losing party (either Loshbough or Allen) will thereafter be precluded under Patent Office rules from contesting in the Patent Office the issue of priority or patentability with respect to the proposed substitute count. The claim could be added to the application of the winning party on resumed *ex parte* prosecution. The losing party will not have had his day in court with respect thereto or with respect to the invention defined thereby. If Allen were found to be the prior inventor with respect to the present counts (which he concedes are unpatentable), it does not follow that he would be entitled to such an award with respect to the different invention defined by his proposed new count. This can be determined only through *inter partes* consideration of the matter.

Appellee, in answering appellant's motion, agrees to a second remand but not to a reversal of the Board's decision, arguing:

\* \* \* the essence of Loshbough's position is that because Allen has questioned the patentability of the counts awarded to him and the Patent Office has refused to rule thereon, the award of priority as to those counts should be summarily reversed, with no consideration of the evidence on which it was based. The "reversal" of an award of priority would seemingly require the premise that the award had been in error. If, however, the summary reversal requested by Loshbough would mean in effect that as senior party, he would then be restored to the status of *prima facie* first inventor, it would manifestly deprive Allen of substantive rights without a semblance of a hearing.

There is no possible holding on the merits of Allen's motion which would justify summary reversal of Allen's award of priority as to any of the present five counts. Consideration of the motion by an appropriate tribunal could result in any of a variety of holdings, but none would justify the inference that as between Allen and Loshbough, Allen was not the first inventor. Thus, the holding might be:

- (1) Granting of the motion in toto.
- (2) Denial of the motion, on the ground that all of the present counts are patentable.
- (3) Partial denial of the motion, to the extent of retaining some of the present counts as patentable.
- (4) Partial granting of the motion, to the extent of substituting Allen's proposed count for some of the present counts.
- (5) Dissolution of the interference, on the ground that there is no common patentable subject matter.

In none of these contingencies would reversal of the existing award of priority to Allen be appropriate. \* \* \*

There is much of merit in the position of the Patent Office and we therefore do not approve of all of appellant's argument concerning the Patent Office position. [1] The fact remains, however, that this appeal brings before us an issue involving the review of a determination of priority of invention where the *winning* party has moved to cancel the counts. We do not believe it proper to knowingly proceed to determine who was the first inventor of an apparently unpatentable invention.<sup>5</sup>

It is true that a host of considerations can be advanced in support of our ignoring the factual background in this case and proceeding to a review of the award of priority as to the 5 appealed counts. However, we do not believe that these considerations either independently or collectively are justification for the illogical result they support, i.e. that the judicial process of review extends to awards of priority of inventorship for unpatentable inventions.

<sup>5</sup> As stated in *In re Baird*, 52 CCPA 1747, 348 F.2d 974, 146 USPQ 579, "we will not knowingly deal with imaginary issues."



As we stated in *Vandenberg v. Reynolds*, 44 CCPA 873, 242 F.2d 761, 118 USPQ 275:

In the interest of orderly procedure and the conservation of judicial man hours, both here and in the Patent Office, it seems to us that any issue which may be determinative of the continuance or outcome of an interference should be decided by the tribunal having jurisdiction thereof when it is first properly raised and not postponed until after the consideration of the usually complex factual issues involved in the merits of priority disputes. \* \* \*

The Board has continuously stated it believes that it is without "jurisdiction" to consider the motion. In support thereof it referred to the motion period provided in Rules 231 and 243. The Board did not expressly comment on Rule 259 which provides:

259. *Recommendation by Board of Patent Interferences.*—The Board of Patent Interferences may, either before or concurrently with their decision on the question of priority, but independently of such decision, direct the attention of the Commissioner to any matter not relating to priority which may have come to their notice, and which in their opinion establishes the fact that no interference exists, or that there has been irregularity in declaring the same, or which amounts to a bar to the grant of a patent to either of the parties for the claim or claims in interference. The Commissioner may suspend the interference and remand the case to the Primary Examiner for his consideration of the matters to which attention has been directed if such matters have not been considered before by the Examiner, or take other appropriate action. If the case is not so remanded, the Primary Examiner will, after judgment on priority, consider such matters, unless the same shall have been previously disposed of by the Commissioner.

[2] The Board's decision would have become final in due course if no appeal had been filed. Prior to the Board's decision becoming final, appellee attempted to direct the attention of the Board to a patent which may amount "to a bar to the grant of a patent to either of the parties for the claim or claims in interference." We think the above rule expressly provides that the Board's power and authority are not as circumscribed as the Board stated in its opinion. The Commissioner has provided the Board with discretion to act independently of its decision as to matters not relating to priority.

[3] As we view Rule 259, a procedure has been provided wherein interferences need not necessarily be continued where it appears that the claimed subject matter in dispute is not patentable. The spirit underlying this procedure in relation to the conservation of judicial man hours both here and in the Patent Office must be approved. We think that the Board should avail itself of the opportunity to initiate this procedure. We think it is far better that the necessity of continuing the interference be first examined before examining the merits of this appeal as this may obviously eliminate any need for an appeal in this court. Whatever the effect of the Swedish patent, we do not think the case is ripe for review in view of the fact that our examination of over 1600 pages of transcript and hundreds of technical exhibits may well be but an abstract mental exercise. Accordingly, the Board should determine whether, "in their opinion," the Swedish patent "establishes the fact" that it "amounts to a bar to the grant of a patent to either of the parties," Rule 259.

[4] We are mindful of the fact that Rule 259 provides for discretion as to both the Commissioner and Board's actions thereunder. This discretion, of course, must be exercised, *Eckey v. Watson*, 268 F.2d 891, 122 USPQ 5 (D.C.C.A. 1959), and the orderly procedure vitally necessary both here and in the Patent Office should not be ignored. We may "require such further proceedings to be had as may be just under

the circumstances," 28 U.S.C. 2106, to the end that our work is "disposed of in a judicial manner," *In re Fischer*, 53 CCPA 1211, 360 F.2d 232, 149 USPQ 631.

[5] The Assistant Commissioner noted the fact that our previous remand did not contain express directions to consider the merits of the Allen motion.\* While it may be true that remands from appellate courts to administrative agencies many times do not provide adequate instructions, see Goldfarb, *Administrative Agency Action After Remand*, 18 W. Res. L. Rev. 565 (1967), our previous remand was designed to permit the Patent Office to solve the problem in its own way. Since the problem was ignored instead of being resolved under Rules 181-183 and 259, we again remand this matter to the Patent Office for determination. The remand should be considered with the object of solving the problem of not rendering the remand ineffectual. See *Cascade Nat. Gas Corp. v. El Paso Nat. Gas Co.*, 386 U.S. — (1967).

Appellant's motion to reverse and remand the decision of the Board is denied. However, since further proceedings under Rule 259 appear necessary to a disposal of the present controversy in a judicial manner, the cases are remanded to the Board with the express direction that it take all necessary and appropriate action consistent with this opinion.

REMANDED.

WORLEY, *Chief Judge*, did not participate.

\*Our opinion directed the Board "to consider the motion pending before it \* \* \* and to take whatever further action it may deem advisable." [Emphasis added.]

## PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,703,902, Rickes and Wood, VITAMIN B<sub>12</sub>-ACTIVE COMPOSITION AND PROCESS OF PREPARING SAME, filed Apr. 2, 1963, D.C.N.J. (Newark), Doc. 270-62, *Merck & Co., Inc. v. Chase Chemical Company, Inc.* Judgment for permanent injunction; claims valid and infringed, Sept. 29, 1967.

2,713,683, L. L. Krieger, BRASSIERES, filed Aug. 20, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C-865, *International Latex Corp. v. Lady Suzanne Foundations, Inc.* Consent judgment for injunction, Nov. 30, 1967.

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3,002,895, D. Freedman, INCUBATOR-SHAKER APPARATUS, filed Apr. 11, 1967, D.C., N.D. Ill. (Chicago), Doc.

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3,345,977, L. F. Hall, SUSPENDED PRESSURIZED GAS OPERATED PAPER CONE PROJECTOR, filed Jan. 4, 1968, D.C., N.D. Tex. (Dallas), Doc. 3-2389, *Lester F. Hall v. Circumatic Company, Inc. et al.*

3,360,607, H. Selden, TRIMMER CAPACITOR WITH DIRECT TRAVEL MECHANISM, filed Jan. 5, 1968, D.C.N.J. (Newark), Doc. 16-68, *Stratford Retreat House v. Voltronics Corporation.*

D. 198,049, R. L. Whitman, METER HOUSING, filed Aug. 25, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c1561, *Handley Industries, Inc. v. Thomas Cleavenger Associates, Inc. and Vac-Form Plastics, Inc.* Dismissed without prejudice, Apr. 7, 1967.

D. 200,010, Appel and Schnur, PAPER TOWEL HOLDER, filed Dec. 22, 1967, D.C.N.Y., Doc. 67-C-5019, *Elpo Industries, Inc. v. Chadwick Miller, Inc.*

Re. 26,119, S. I. Slater, CONTINUOUSLY VARIABLE DIMMER SWITCH, filed Oct. 20, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C-991, *Leviton Mfg. Co., Inc. v. Slater Electric Inc.*

Re. 26,135, J. R. Whitehurst, MEANS FOR FEEDING SLIVERS TO COILERS, filed Nov. 22, 1967, D.C., W.D.N.C. (Charlotte), Doc. 2203, *Ideal Industries, Inc. v. Whittin Machine Works, Inc.*

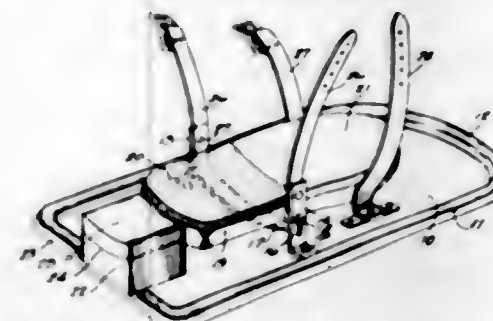


# PATENTS

GRANTED MAY 14, 1968

## GENERAL AND MECHANICAL

**3,382,503**  
**KNEE PROTECTING FLOAT**  
 Gino Ramon, 7123 W. Blue Mound Road,  
 Wauwatosa, Wis. 53213  
 Filed Feb. 9, 1966, Ser. No. 526,126  
 2 Claims. (Cl. 2-24)



1. A float for cement finishing comprising a substantially rectangular plate, a raised rim thereon, a pair of vertical strap standards laterally disposed at the approximate center of said plate, a knee support base, a metal strap extending between said standards transversely under and affixed to said support base, slot means in said standards for a vertical adjustment of the metal strap and support base, padding on the upper surface of said knee support base, and threaded means for fixing the adjusted strap on said standards.

**3,382,504**  
**INFLATABLE FANCY GARMENTS**  
 José Luis Tamayo Barbosa, Francisco Villa No. 22,  
 Mexico City, Mexico  
 Filed Aug. 12, 1965, Ser. No. 479,063  
 Claims priority, application Mexico, Aug. 20, 1964,  
 78,591  
 1 Claim. (Cl. 2-80)

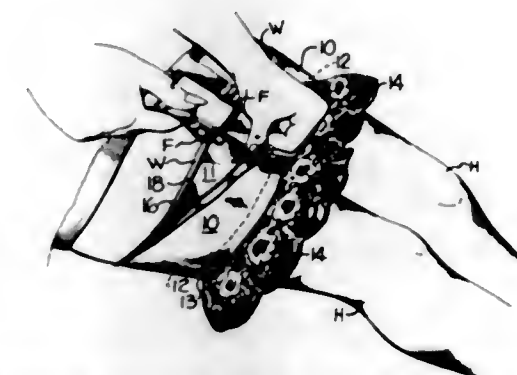


A costume portraying a fanciful figure and adapted to encompass the complete body of a wearer includes at least one inflatable portion to enhance the representation of the fanciful figure.

**3,382,505**  
**HOSIERY WELT COVER**  
 Joseph G. Walser, Jr., High Point, N.C., assignor to  
 Peekers, Inc., Winston-Salem, N.C., a corporation of  
 North Carolina  
 Filed Jan. 21, 1966, Ser. No. 522,146  
 7 Claims. (Cl. 2-240)

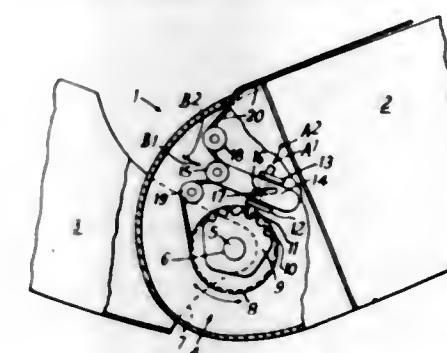
An attractive and ornamental article is provided for wear on the thigh portion of the leg to function as a cover for the hosiery welt, the lower portion of the leg or panty girdle, garter fasteners, and the like. Ornamental lace is

provided around the article to serve as an attractive vision-blocking screen or veil and to prevent the exposure of the



upper portion of the leg and the undergarments when the wearer is seated and wearing a short skirt, dress or the like.

**3,382,506**  
**ARTIFICIAL ARM HAVING A SINGLE PULL CORD FOR UNLOCKING THE ELBOW JOINT AND EFFECTING RELATIVE ANGULAR MOTION OF THE FOREARM**  
 Dennis William Collins, 17 Haig Road, Cambridge, England, and Charles P. Steeper, 23 Shelters Way, Tadworth, England  
 Filed Oct. 21, 1965, Ser. No. 499,425  
 Claims priority, application Great Britain, Oct. 23, 1964,  
 43,366/64  
 5 Claims. (Cl. 3-12.3)



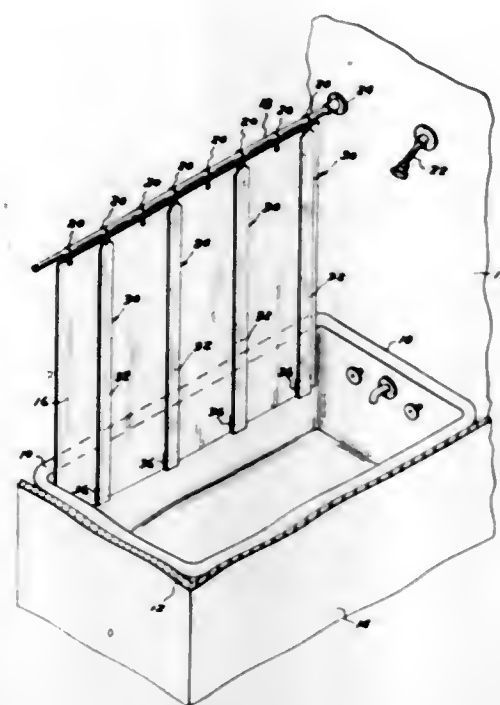
1. An artificial arm comprising a forearm part; an upper arm part; an elbow joint connecting the forearm and upper arm parts for relative angular motions about the axis of the elbow joint; an arcuate toothed member movable with the forearm part about the axis of the elbow joint; a latch mounted on the upper arm part for engaging the toothed member to prevent the said relative motion, withdrawal of the latch from the toothed member permitting the said relative motion; and an operating pull cord connected to the toothed member, and to the forearm for moving the latter; the pull cord being connected to a device for engaging or withdrawing the latch respectively with or from the toothed member.

**3,382,507**  
**CURTAIN POSITION-RETAINING MEANS**  
 James R. Micheau, 19264 Redfern,  
 Detroit, Mich. 48219  
 Filed Oct. 8, 1965, Ser. No. 494,161  
 4 Claims. (Cl. 4-149)

The present invention relates to shower curtains and



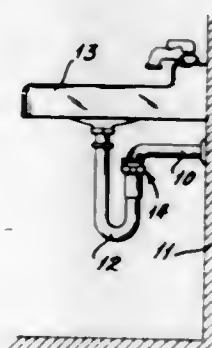
the like and more particularly to a device for securing the lower edge of the curtain to a bathtub while at the



same time providing means tending to maintain the shower curtain in a substantially vertical plane.

3,382,508

**SANITARY TRAP JAMNUT REPAIR UNIT**  
James W. Kammermeyer, 7519 Forest View Drive,  
Normandy, Mo. 63121  
Filed Dec. 3, 1965, Ser. No. 511,464  
2 Claims. (Cl. 4—191)



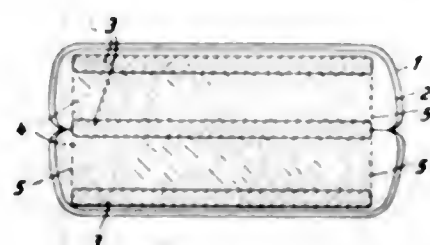
A repair unit for repairing sanitary trap lines in which one pipe is permanently attached to a structural member of the building, including a split ring sleeve which is fitted around the fixed pipe section and bears against a flange on the pipe and a solid threaded nut adapted to engage the threaded sleeve and the threaded lower pipe section so as to engage the pipe sections and compress a seal interposed between the pipe sections.

3,382,509

**DEVICE TO IMPROVE THE PREPAREDNESS TO SLEEP OF HUMAN BEINGS**  
Hellmuth Lüpke, Neuer Wall 41, and Walter Schaake, Neuer Wall 51-53, both of Hamburg, Germany  
Filed Jan. 24, 1966, Ser. No. 522,493  
Claims priority, application Germany, Jan. 30, 1965, L 49,861  
5 Claims. (Cl. 5—337)

An aid to inducing sleep consisting of a pillow containing herbs having volatile components which aid and en-

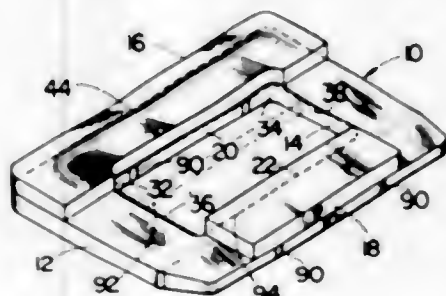
hance sleep. The pillow also includes fibers which are arranged as to be compressible wherein the pillow will be soft and comfortable, and the fibers are preferably



arranged as layers between which the herbs are located. Preferably, the fibers are of such a nature as to aid in the confinement and control of the herb material.

3,382,510

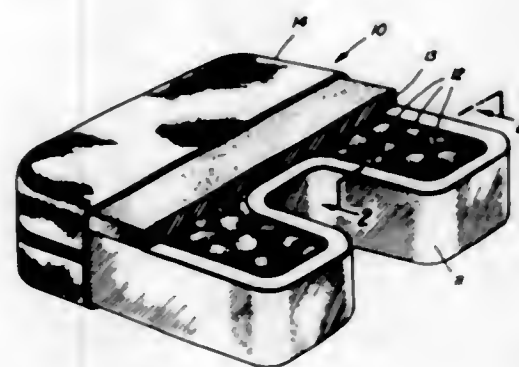
**ORTHOPEDIC PILLOW**  
Effie E. Robinson, 3519 Portage Ave., Apt. 1,  
Wildwood Place, Fort Wayne, Ind.  
Filed July 22, 1966, Ser. No. 567,200  
11 Claims. (Cl. 5—338)



1. An orthopedic pillow comprising a base pillow portion having an aperture therein, a head and neck supporting pillow portion removably connected to said base pillow portion adjacent to a peripheral boundary portion of said aperture, and a body supporting pillow portion removably connected to said base pillow portion adjacent to a second peripheral boundary portion of said aperture, said head and neck and said body supporting pillow portions being on opposite sides of said aperture.

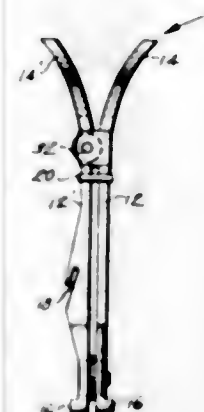
3,382,511

**SAFETY CUSHION**  
William T. Brooks, 1221 Bill St.,  
Norfolk, Va. 23518  
Filed Jan. 13, 1967, Ser. No. 609,722  
3 Claims. (Cl. 5—355)



A safety cushion employing bouncing putty as a stuffing for providing a soft, deformable support to the user which will mold under a steady pressure of normal use while at the same time provide an essentially rigid, unyielding support under rapidly applied loads.

3,382,512  
**BABY FOOD INSTRUMENT—DO-DAD HELPMATE**  
Billie E. Atchley, Box 173,  
Ashton, Idaho 83420  
Filed Nov. 20, 1964, Ser. No. 412,750  
4 Claims. (Cl. 7—3)



The present invention relates to a food handling instrument and more particularly to an instrument comprising a plurality of lever members with a fulcrum means disposed thereon and with gripper means on one end thereof for grasping the inner surface of a jar of baby food and the like, and arcuate spaced apart members on the other end thereof for pressing together so as to cause the gripper members to engage the inner surface of a jar. The device is further provided with temperature means for indicating the temperature of the food within the jar.

3,382,513

**BOAT CONSTRUCTION**  
Charles E. Jennings, 19 N. C St., Pensacola, Fla. 32501  
Filed June 14, 1966, Ser. No. 557,496  
5 Claims. (Cl. 9—1)



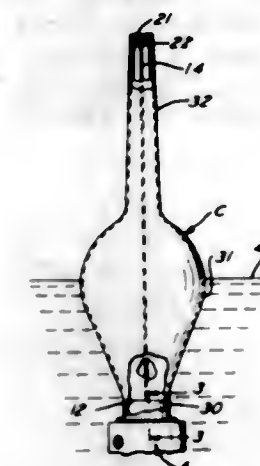
A compact, lightweight boat having a rounded, preferably circular hull with a peripheral rim equipped with a resilient tire, which boat is preferably so proportioned above and below the peripheral rim as to facilitate balancing on the latter so that it may be easily rolled for conveyance on land. The peripheral rim is formed as an L-shaped flange for retaining the resilient tire. The upper or deck portion and the lower or bottom portion of the boat, respectively, are of one piece molded construction and are joined together in a water-tight manner preferably by welding adjacent said peripheral rim.

3,382,514

**POSITIVE SCUTTILING BUOY**  
Joseph L. Boscov, 900 Brighton Ave.,  
Reading, Pa. 19608  
Filed Oct. 19, 1966, Ser. No. 587,737  
9 Claims. (Cl. 9—8)

Positive scuttling of devices such as buoys is obtained by providing an outer air-permeable shape-defining envelope and an internal balloon made of resilient elastic material. On inflation with flotation fluid, the balloon expands to fill the envelope, storing energy in its tensioned material, and the device is rendered buoyant.

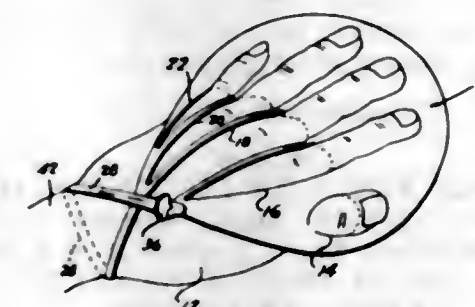
When, after a predetermined interval, the balloon is vented, its contraction and consequent release of stored



energy cause positive expulsion of flotation fluid, so that buoyancy is lost.

3,382,515

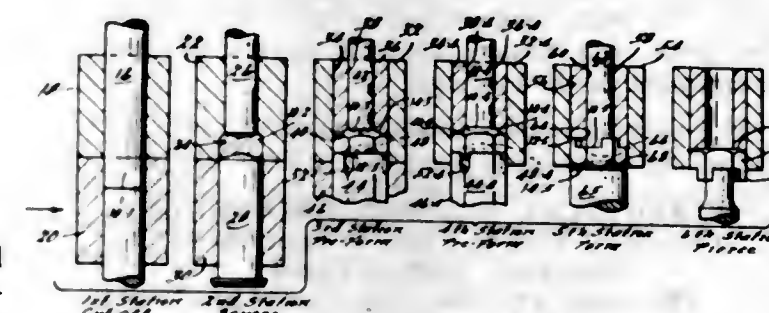
**HAND SWIMMING DEVICE**  
Foster M. McClure, P.O. Box 177,  
El Centro, Calif. 92243  
Filed Mar. 31, 1967, Ser. No. 627,473  
4 Claims. (Cl. 9—307)



A pad for facilitating swimming, adapted to be secured to the hand of the swimmer. Finger-receiving openings are provided in the pad, so that the pad is supported on the front side of the fingers. The middle finger-receiving opening extends to the pad edge and splits the pad substantially in half, for increased flexibility and maneuverability during swimming. An integral wristband secures the pad in fixed position upon the hand, without impairing its designed flexibility, and completes the assembly.

3,382,516

**METHOD FOR MAKING NUTS**  
Vernon L. Westbay, Detroit, Mich., assignor to Zimmer-Lightbody Industries, Inc., Detroit, Mich., a corporation of Michigan  
Filed Aug. 25, 1965, Ser. No. 482,534  
8 Claims. (Cl. 10—86)



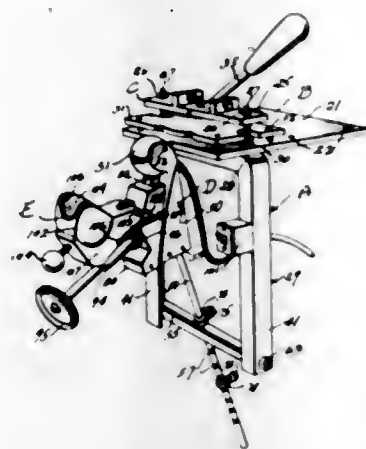
A method of making castellated nuts including indenting the center of a blank in a lobed pattern.



3,382,517

**SHAPING MACHINE FOR USE IN SHAPING FLEXIBLE MATERIALS**

Howard H. Hoffman, Nashville, Tenn., assignor to Southern Shoe Machinery Company, Nashville, Tenn., a corporation of Tennessee  
 Filed Aug. 3, 1966, Ser. No. 569,904  
 9 Claims. (Cl. 12-21)

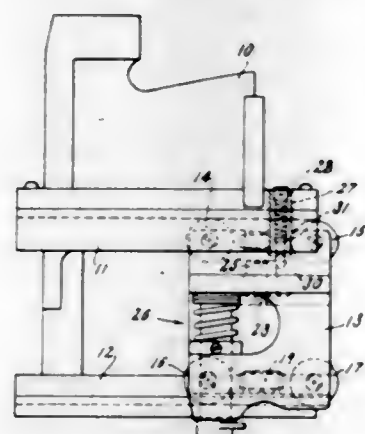


A machine for shaping flexible materials such as elongated soles for shoes or moccasins in which the flexible material is secured in position with an end portion in such position that it can be clamped on a shaping die and the end permanently shaped in a cupping die disposed in complementary relation to the shaping die.

3,382,518

**SAFETY STOP FOR SOLE-CUTTING MACHINE**

John F. Feeley, Medford, Mass., assignor to Wellman Company, Medford, Mass., a corporation of Maine  
 Filed Mar. 14, 1967, Ser. No. 623,017  
 3 Claims. (Cl. 12-86.6)



A safety stop for positively limiting the extent of travel of a reciprocating knife block carriage in a sole-cutting machine. The safety stop may be depressed by overcoming the force of a biasing means to permit the removal or replacement of the carriage.

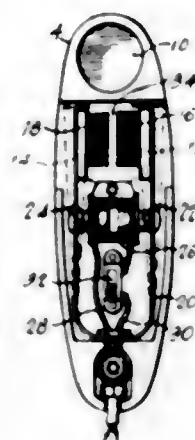
3,382,519

**ELECTRICAL BRUSHING MACHINE**

David C. Piggott, 12047 O'Brien Blvd., Montreal, Quebec, Canada  
 Filed July 13, 1966, Ser. No. 564,803  
 3 Claims. (Cl. 15-22)

1. A brush cleaning apparatus for jewelry comprising: a housing, a pair of arms extending from said housing, a pair of brushes mounted on said arms and arranged in

face to face relationship, said arms being moveable toward and away from each other to move said brushes from an open position providing a gap between said



brushes and a closed position, electromechanical means for vibrating said arms and moving said brushes to and from said open and said closed position.

3,382,520

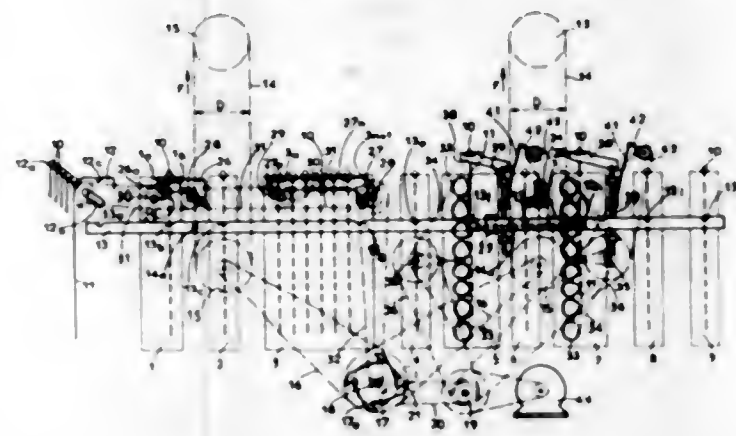
**AUTOMATIC MACHINE FOR THE TREATMENT OF METAL OFFSET PRINTING PLATES**

Bernard Savart, Saint-Maur, France, assignor to Societe des Forges et Ateliers du Creusot, Paris, France, a company of France

Filed June 3, 1966, Ser. No. 555,032

Claims priority, application France, June 10, 1965, 20,252

3 Claims. (Cl. 15-77)



An automatic machine for the treatment of metal offset printing plates has a plurality of successive treatment tanks for the plates. A feed mechanism introduces the plates into the machine in the same cadence and transfers the plates between each of the tanks. Auxiliary feed mechanism moves the plates horizontally within the tanks in which the length of treatment is longer than the cadence of introduction of the plates into the machine.

3,382,521

**ROTARY BRUSH**

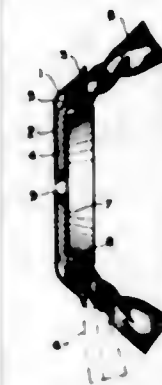
Loy Gene Holder, Sheffield Lake, and Joseph A. Kasnyik, Parma, Ohio, assignors to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 27, 1967, Ser. No. 618,659

7 Claims. (Cl. 15-198)

A power driven rotary cup brush having relatively shallow sheet metal inner and outer cup portions formed

to facilitate controlled bodily radially outwardly swinging movement of the twisted wire bristle knots or tufts

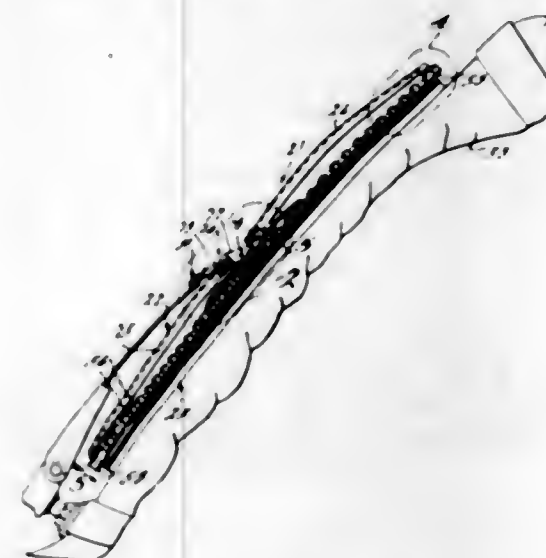


for more effective brushing action coupled with much increased brush life.

3,382,522

**WINDSHIELD WIPER**

Ursula Margot Wise, Columbus, Ind.  
 (22700 Garrison, Apt. 307, Dearborn, Mich. 48124)  
 Filed May 17, 1965, Ser. No. 456,243  
 14 Claims. (Cl. 15-250.42)



A windshield wiper having two independent bow actions on two portions of the blade, the bows being connected to flexure means at a medial portion of the carrier, which has transverse slots along its length. The wiper blade lip is flared at its outer ends.

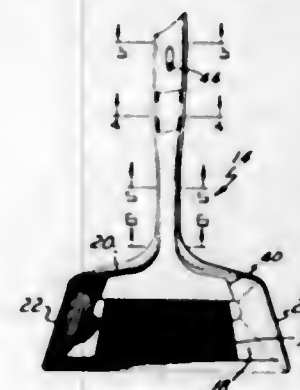
3,382,523

**DUSTPAN AND BRUSH COMBINATION**

Francis Leroy Parisson, Florence, Mass., assignor to Vistron Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Sept. 23, 1966, Ser. No. 581,630

2 Claims. (Cl. 15-257.2)



A dustpan and brush combination, each having an elongated handle of generally channel-shaped cross sectional

configuration. The handles of the brush and dustpan fit together to form a tubular handle, and when so fitted the brush is disposed in the debris receiving chamber of the dustpan. The handles of the brush and dustpan are approximately equal in length and each has an opening registered with the opening of the other for the purpose of hanging up the combination together, or the elements separately.

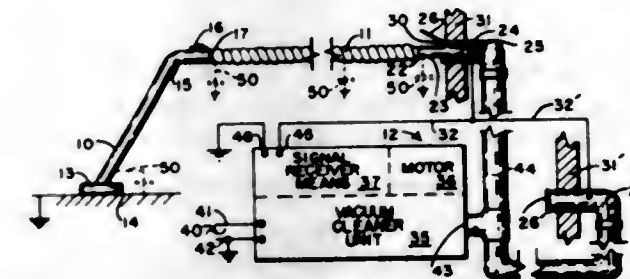
3,382,524

**CONTROL FOR A VACUUM CLEANER SYSTEM**

Clifford L. Sandstrom, Bloomington, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 21, 1966, Ser. No. 566,962

8 Claims. (Cl. 15-314)



1. A vacuum cleaner system, including: wand means, hose means, and vacuum cleaner unit means mechanically connected together to form a vacuum cleaner system; said hose means formed of a flexible air-tight material and including continuous resilient electrically conductive support means; said wand means including an electric signal generating means connected to said electrically conductive support means; and said vacuum cleaner unit means including an electrical signal receiver means electrically connected to said hose conductive support means; said signal generating means controlling said vacuum cleaner unit means by transmitting an electric signal over said continuous resilient conductive support means to said electrical signal receiver means.

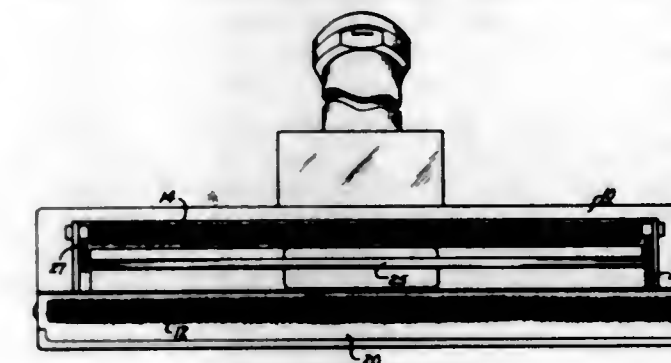
3,382,525

**DUPLEX VACUUM FLOOR CLEANING TOOL**

Michael E. Belicka, Greenwich, Conn., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware

Filed July 28, 1966, Ser. No. 568,615

3 Claims. (Cl. 15-365)



1. A dual purpose cleaning tool comprising an elongated nozzle body having a cleaning surface and an elbow member projecting therefrom for connecting said body to a vacuum cleaner, said nozzle body having a first brush means connected thereto for pivotal movement relative to said body, said first brush member extending in the elongated direction of said nozzle body and having a first operative position in which the bristles of said brush means extend outwardly of said nozzle body beyond said cleaning surface and a second operative posi-



tion in which the bristles of said brush means extend in the opposite direction remote from said cleaning surface, said nozzle body having a well extending in the elongated direction thereof and opening into said cleaning surface, a second brush means within said well movable between a retracted position in which said second brush resides within said well and an extended position in which the bristles of said second brush means project from said well outwardly beyond said cleaning surface, lever means pivotally connected with said nozzle body, said lever means having an outer end projecting from said nozzle body into the plane of said first brush means adjacent one longitudinal end of said nozzle body, said lever means having an inner end within said well for contact with said second brush means; said second brush being moved to said extended position by said lever means when said first brush is in its first operative position engaging the outer end of said lever means, and said lever means being withdrawn from said second brush when said first brush is in its second operative position engaging the outer end of said lever means whereby said second brush is free to move into its retracted position within said well.

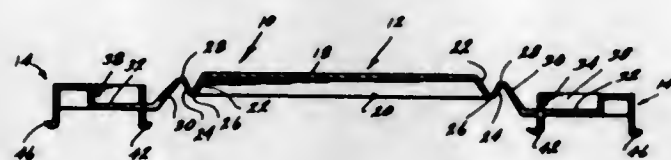
3,382,526

**HANDLE CONSTRUCTION**

John W. Ryan, Bel-Air, Albert Safranoff, Palos Verdes Peninsula, and Philip Morgan, Palos Verdes Estates, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California

Filed Feb. 28, 1966, Ser. No. 530,600

4 Claims. (Cl. 16-110)



A unitary handle construction formed from a suitable, flexible and resilient plastic material, such as polypropylene. The handle construction generally comprises a grippable handle portion which is hinged and integrally connected at each end to a base member or portion. Each of the base members is formed with retaining or mounting means for the attachment of the members to one of the separable portions of the case or other article on which the handle is mounted. The hinged connection between each of the handle ends and the adjacent base member comprises a plurality of thinned portions which define integral "live" hinges in each handle end that serve to enable the handle portion to be easily collapsed from an operative position, wherein it is spaced from the case portion on which it is mounted a sufficient distance to be easily gripped, to an inoperative position wherein it is disposed closely adjacent to the case portion. Each of the base members is integrally and hingedly connected to a locking member which is adapted to be selectively engaged with a member on the other case portion, when the case portions are disposed in abutting or closed relation, to thereby lock the case portions together.

3,382,527

**HINGE FITTING FOR A SEAT AND BACK REST, ESPECIALLY OF A MOTOR VEHICLE**

Werner Strien, Stuttgart-Heumaden, and Jorg Resag, Stuttgart-Degerloch, Germany, assignors to Recaro A.G., Glarus, Switzerland, a corporation of Switzerland

Filed Mar. 5, 1965, Ser. No. 437,401

Claims priority, application Germany, Mar. 11, 1964, R 37,425

10 Claims. (Cl. 16-146)

A hinge fitting for adjusting the inclination of the back rest of the seat comprising two hinge members

pivotally connected to each other and respectively connected to the seat and back rest. A control member is provided which acts upon a movable locking member with a first latch member, which when the back rest is pivoted forwardly from a certain position in which it was previously locked and approaches the end of this forward movement, is caught by a second latch member which is mounted on and movable with the hinge member secured to the back rest, so that the control member is thereby arrested in its releasing position. A storing



mechanism is further provided which, when the back rest is pivoted forwardly from a certain inclined position to which it was previously adjusted, memorizes the angular distance of the forward movement and, when the back rest is thereafter pivoted back freely automatically separates the two latch members when the back rest reaches its original position, so that the control member will then move back to its operative position and automatically lock the members and the back rest in the original position.

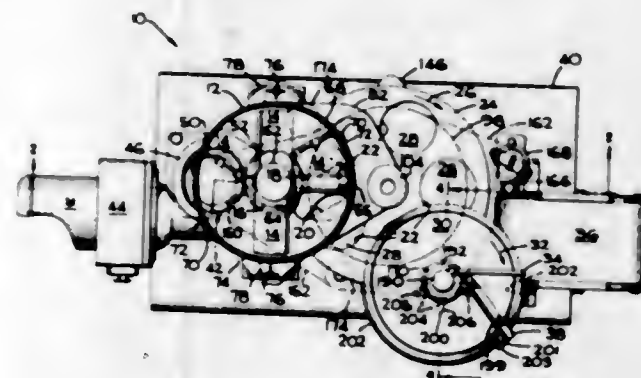
3,382,528

**FOOD MOLDING MACHINE**

Myron C. Noble, Hoopeston, Ill., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed May 27, 1966, Ser. No. 553,400

5 Claims. (Cl. 17-32)



1. In a food molding machine including a rotatable driveshaft, a turret mounted upon said driveshaft and defining a plurality of filling pockets equidistantly spaced about the turning axis of said driveshaft, the bottom end wall of each of said pockets being formed by a movable piston which is moved to an upper raised position flush with the upper surface of the turret to eject a patty previously molded in the pocket, the improvement comprising a circular spatula blade having a turning axis laterally spaced from the turning axis of said turret, means for rotating said blade about its axis, said blade having a peripheral segment overlying a sector of said turret at which each piston approaching said blade is in its upper raised position, and blade tilting means maintaining said blade in non-planar relation to the upper surface of said turret with said blade segment in sliding contact with the upper surface of said piston to shear the patty therefrom.

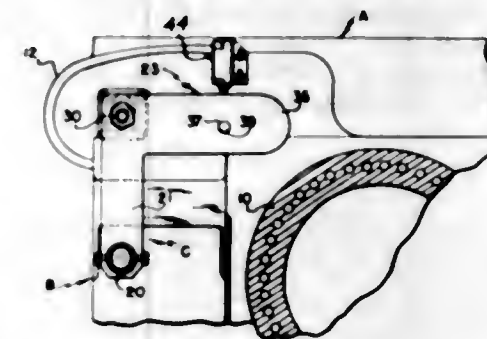
3,382,529

**RUBBER MILL**

James T. Matsuoka, Brecksville, Ohio, assignor, by mesne assignments, to Stewart Bolling & Co., Inc., Cleveland, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 575,005, Aug. 25, 1966. This application Jan. 3, 1967, Ser. No. 606,942

4 Claims. (Cl. 18-2)



A mill, of the type commonly referred to as a rubber mill, for processing plastic material having a member extending across the operator's side of the mill and movably supported for interrupting the drive and stopping the mill upon movement of the member towards the mill as by the operator approaching the mill beyond a predetermined point.

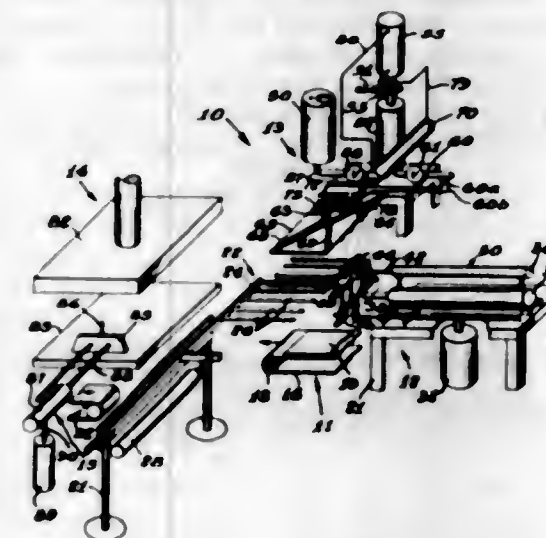
3,382,530

**APPARATUS FOR THE PREPARATION OF SHAPED ARTICLES**

William K. Glesner, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Apr. 29, 1965, Ser. No. 451,811

14 Claims. (Cl. 18-4)



Automated matched die molding employing glass fiber preforms is accomplished using a resin dispenser that applies a fixed quantity of resin to each preform in a predetermined pattern which permits distribution of the resin on closing of the press without significant disturbance or dislocation of the reinforcing preform. Uniform high quality moldings are obtained.

3,382,531

**APPARATUS FOR PRODUCING HOLLOW PLASTIC ARTICLES**

Reinold Hagen, Hangelar uber Siegburg, Rheinland, Germany

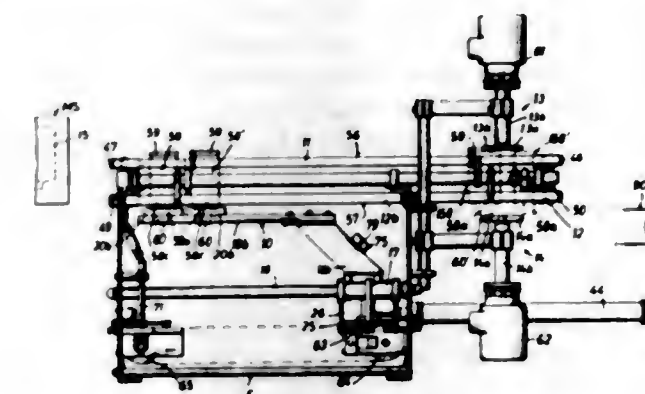
Filed Apr. 26, 1965, Ser. No. 450,754

Claims priority, application Germany, Apr. 25, 1964, K 52,794

27 Claims. (Cl. 18-5)

An apparatus for molding and finishing plastic bottles or similar hollow plastic articles in which means for re-

moving fins from the molded articles are arranged spaced from the mold and in which transfer or gripping means are provided for transferring the articles from the mold



to the conveyor means which move the articles past the fin-removing means so that the fin may be removed from the molded articles in proper sequence and in an automatic manner.

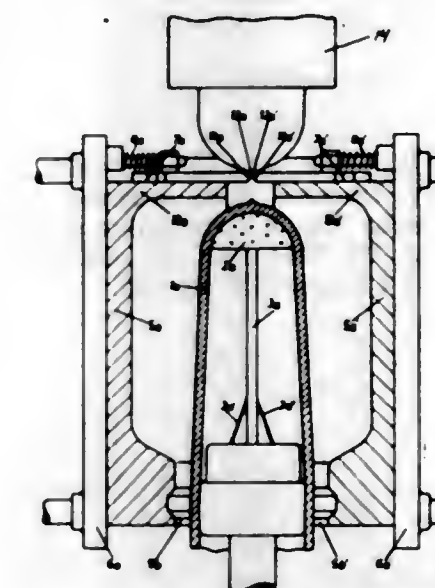
3,382,532

**APPARATUS FOR BLOW-MOLDING OF HOLLOW PLASTIC ARTICLES**

Josef Schweiger, Kalsdorf, Styria, Austria, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed May 10, 1965, Ser. No. 454,381

9 Claims. (Cl. 18-5)



An apparatus for the production of hollow blown plastic articles having a uniform bottom wall thickness comprising (1) a plastic tube supplying means, (2) a partable blow mold, (3) a cutting and heat-sealing means for said tube, (4) a blowing mandrel for inflating the sealed tube within said mold and (5) a supporting member for said sealed tube during inflation thereof.

3,382,533

**APPARATUS FOR APPLYING SLEEVES TO OBJECTS**

William A. Fyfe, North Reading, Alfred W. Shore, Amesbury, and Norman F. Smith, Methuen, Mass., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

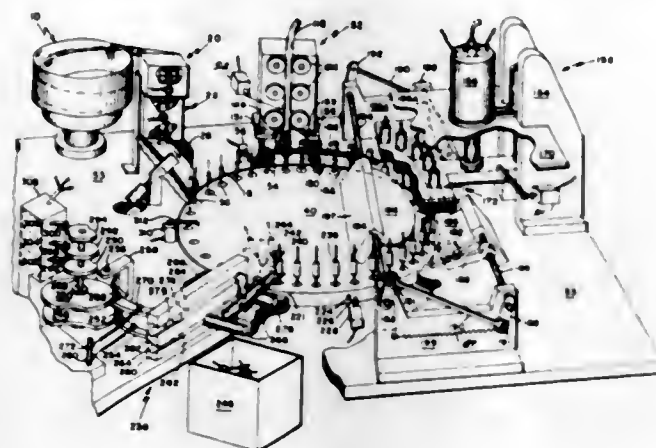
Filed Apr. 25, 1966, Ser. No. 544,780

18 Claims. (Cl. 18-5)

The disclosure concerns apparatus for automatically cutting, assembling, and die forming plastic sleeves to



resistors. The resistors are fed to individual conical-shaped forming dies spaced about an indexing table. Sleeving is cut from a tube of plastic material and provisionally mounted over individual ones of the resistors. The preassembled resistor units are supported and guided by the apparatus in a manner to avoid premature heating by the indexing table. The preassembled units are fed to a forming station also having individual conical dies. As the forming station dies operatively close over the indexing table dies, the preassembled units are properly positioned in the dies, and the sleeves are conformed and

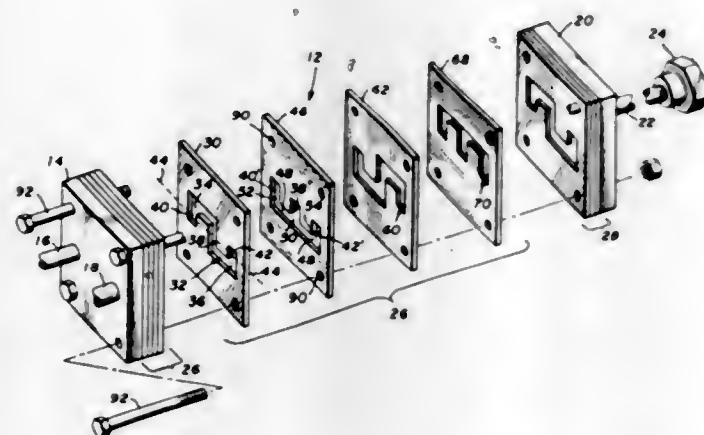


molded about their respective resistors. The table then advances the sleeved resistors to an extractor station for removal from the apparatus. The apparatus also includes a combination of drive, clutch, and transmission means and an electrical control circuit for regulating, in timed sequence, the various station operations of the apparatus.

3,382,534

## PLATE TYPE FLUID MIXER

Thomas M. Veazey, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
Filed Aug. 19, 1965, Ser. No. 480,890  
11 Claims. (Cl. 18-8)



1. Apparatus for combining a plurality of spinning fluids into a single, multi-component stream to be spun into conjugate filaments comprising:

- (a) a plurality of plates joined together in face to face relationship forming a laminate;
- (b) a single, shaped aperture through each of said plates;
- (c) the apertures in every other of said plates being mirror images of one another;
- (d) the apertures in contiguous plates having different shapes;
- (e) said apertures in combination defining a plurality of angularly related passageways through said lami-

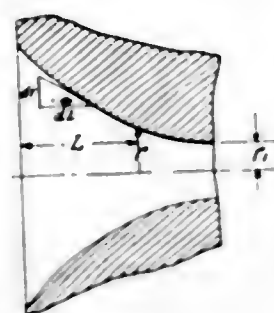
nate whereby a plurality of spinning fluids introduced into said passageways will emerge as a single stream having stacked, alternating layers of said plural fluids.

3,382,535

## MINIMUM LENGTH EXTRUSION DIE

Armando G. Ferrari, Trenton, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 16, 1965, Ser. No. 448,807  
3 Claims. (Cl. 18-12)



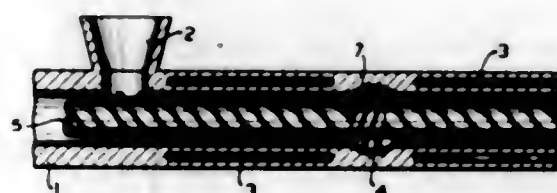
A minimum length extrusion die having a smooth internal contour for extruding, without melt fracture, plastic materials which are sensitive to die taper angles. The internal contour of the die varies from the exit to the entrance in accordance with an equation which is related to the critical shear rate of any selected plastic material, the minimum die radius and the die taper angle.

3,382,536

## SCREW EXTRUDER

Rudolf P. Fritsch, Stuttgart-Weilimdorf, Erwin Bauer, Grossheppach, and Gerhard H. M. May, Mulheim, Germany, assignors to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a firm of Germany

Filed Feb. 11, 1966, Ser. No. 526,734  
Claims priority, application Germany, Feb. 13, 1965, W 38,545  
13 Claims. (Cl. 18-12)



A screw-type extruder for working material with at least two intermeshing screws rotatably mounted in a common drum. Each of the screws includes at least one retarding means with a conveying rate less than the conveying rate of the screw threads and coating with the peripheral groove in the drum. The screws are lengthwise displaceable in the drum between a position substantially in transverse alignment with the groove and a position displaced in reference thereto, thereby correspondingly varying the retardation factor experienced by the material when and while being forced through the retarding means.

3,382,537

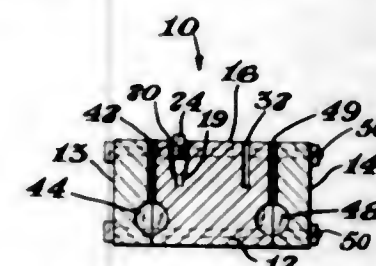
## ADJUSTABLE EXTRUSION DIE

Ruben A. Tigner, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Mar. 21, 1966, Ser. No. 535,796  
2 Claims. (Cl. 18-12)

An adjustable extrusion die is provided by slotting the die body adjacent and parallel to the extrusion passage-

way, providing threaded, tapered plugs to permit selective deformation of the extrusion die by bending the



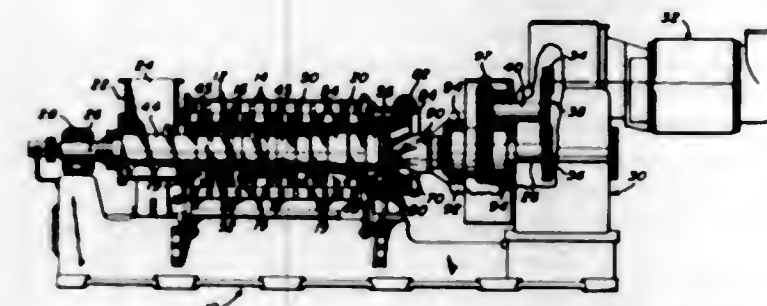
portion of the die body forming at least one of the die lips.

3,382,538

## SCREW PRESS WITH SLICING APPARATUS

Andre H. Burner, deceased, late of Piqua, Ohio, by Jean M. Burner, executrix, Piqua, Ohio, assignor to The French Oil Mill Machinery Company, Piqua, Ohio, a corporation of Ohio

Filed June 27, 1966, Ser. No. 560,982  
6 Claims. (Cl. 18-12)



1. An improved mechanical screw press for handling a solid material such as rubber and adapted to deliver the material in the form of small pieces for providing a large total surface area, comprising a tubular press cage defining a pressing chamber having an inlet and a discharge end, a rotatable shaft extending through said chamber, screw flight means on said shaft for conveying material through said chamber and subjecting the material to mechanical pressure and working, a ring member mounted at said discharge end and having a tapered surface and a cylindrical surface through which the material is discharged in that order, a sleeve member carried on said shaft to extend into said ring member, said sleeve member having a tapered surface cooperatively arranged within the tapered surface of said ring member and also having an end portion extending at least partially within said cylindrical surface of said ring member, means for causing relative movement between said ring member and said sleeve member to change the spacing between said tapered surfaces for regulating the size of the annular opening therebetween, a circular die plate mounted at said end portion of said sleeve for rotation therewith and having an outer periphery in closely spaced relationship with said cylindrical surface, means defining a plurality of extrusion orifices of predetermined size through said die plate forming a multiplicity of passages for the material forced through said annular opening, said orifices providing a total opening at least equal to the maximum opening normally available between said tapered surfaces, and drive means for rotating said shaft and said die plate causing the material to be extruded through said orifices.

3,382,539

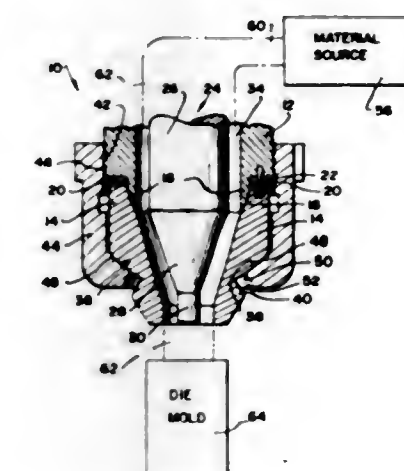
## EXTRUSION DIE SHELL ADJUSTMENT

William J. Zehr, Oak Lawn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Aug. 4, 1966, Ser. No. 570,371  
3 Claims. (Cl. 18-14)

An extrusion die having a die body and a die shell adjustably mounted thereon for controlling the wall thick-

ness of the extrudate flowing through the die orifice. The die body and the die shell are formed with complementary spherical seats to permit relative universal movement therebetween. The die body is seated and held selectively



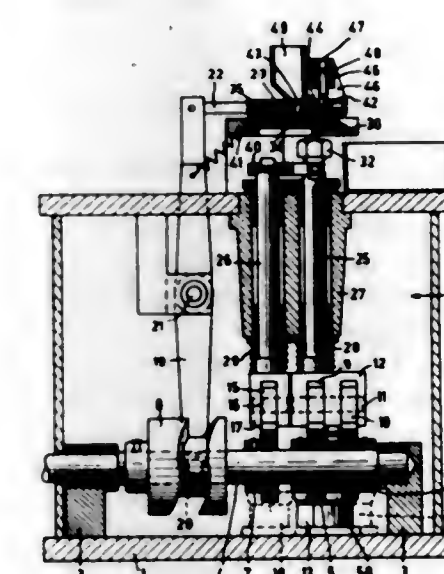
positioned on the complementary spherical surface by a fastening member having a concave spherical surface which engages a convex spherical surface on the die shell.

3,382,540

## PRESS FOR MANUFACTURING ARTICLES FROM POWDER MATERIAL

Cornelis Adrianus Johannes van de Maden and Johannes Karel van der Steen, Emmasingel, Eindhoven, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 30, 1966, Ser. No. 538,634  
Claims priority, application Netherlands, Nov. 30, 1965, 65-15,517  
5 Claims. (Cl. 18-16.5)



1. A press for manufacturing articles from powder material comprising a rigid base structure, having a fixed mold support member, a mold having a configured cavity in said mold support member, a slide member overlying said mold support member, means for moving said slide member relative to said mold, an anvil in said slide for closing one end of said mold cavity during pressing of a powder material in said mold cavity, a movable die means having a portion within said mold cavity, said movable die means entering said mold cavity from the end of said mold cavity opposite said anvil, a first means connected with said movable die means for moving said die means



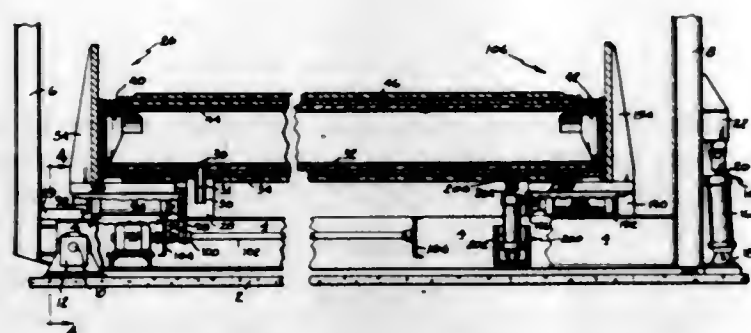
for pressing powder in said mold cavity against said anvil, adjustable means connected with said movable die means for positioning said die means in said mold cavity relative to said anvil, and second means connected with said movable die means for moving said die means for ejecting an article from said mold cavity upon movement of said slide for removal of said anvil from said mold cavity closing position thereof, and both said means for moving said slide and said movable die means being driven by a common shaft in timed relation.

3,382,541

## PIPE APPARATUS

Robert Warren Campbell, Flemington, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed June 24, 1965, Ser. No. 466,552  
5 Claims. (Cl. 18—26)

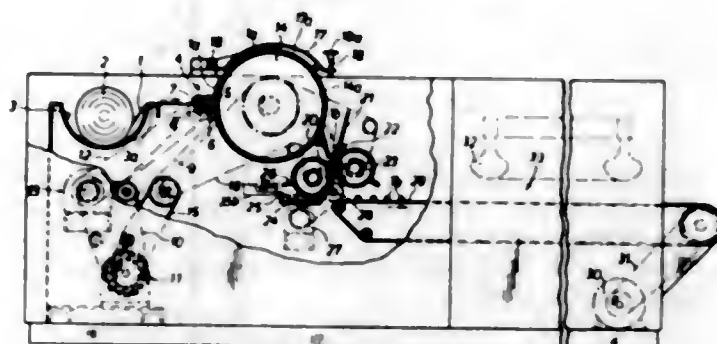


1. Apparatus for use in forming a thermally insulated pipe comprising:

- (a) means for supporting a first and second asbestos-cement pipe in coaxial relationship,
- (b) said first asbestos-cement pipe having an outside diameter less than the inside diameter of said second asbestos-cement pipe so as to form an annular space therebetween, and said first asbestos-cement pipe having an axial extent greater than the axial extent of said second asbestos-cement pipe and positioned to protrude past each axial extremity of said second asbestos-cement pipe,
- (c) means for pivotally mounting one end of said supporting means,
- (d) means for positioning a fluid retaining means between and in contact with the outer peripheral surface of said first asbestos-cement pipe and the inner peripheral surface of said second asbestos-cement pipe adjacent one axial extremity of said second asbestos-cement pipe,
- (e) means adjacent the other end of said supporting means for moving said supporting means about said pivot to a position inclined relative to the horizontal,
- (f) means for depositing an expandable thermal insulating material into said annular space between said outer peripheral surface of said first asbestos-cement pipe and the inner peripheral surface of said second asbestos-cement pipe,
- (g) means for positioning a fluid retaining means between and in contact with the outer peripheral surface of said first asbestos-cement pipe and the inner peripheral surface of said second asbestos-cement pipe adjacent the other axial extremity of said second asbestos-cement pipe,
- (h) means for removing said supporting means from said first and second asbestos-cement pipes after said expandable thermal insulating material has expanded to fill said annular space between the outer peripheral surface of said first asbestos-cement pipe and the inner peripheral surface of said second asbestos-cement pipe.

3,382,542  
MACHINE FOR THE PRODUCTION OF CYLINDRICAL COTTON BODIES AND THE LIKE  
Fritz Witschi, Uhwiesen, Zurich, and Max Bunnli, Neuhausen am Rheinfall, Switzerland, assignors to IVF Verbandslofmashinen-Fabrik Schaffhausen, Schaffhausen, Switzerland

Filed May 7, 1965, Ser. No. 454,017  
Claims priority, application Austria, May 5, 1964, A 4,307/64  
1 Claim. (Cl. 19—149)

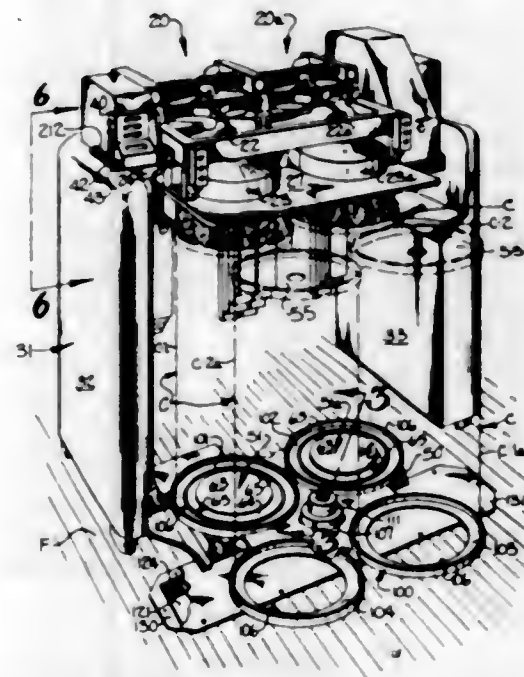


A machine for the production of cylindrical cotton bodies, particularly suitable for producing dental tampons or the like of high quality, having means for furnishing a cotton layer to a mechanism for separating the cotton layer into individual cotton strips of predetermined length, winding means cooperating with said separating means for winding said individual strips into substantially cylindrical cotton bodies, after-treating and final-calibrating means receiving said substantially cylindrical bodies from said winding means for applying glue to the surface of the cylindrical bodies and for finally calibrating these bodies by pasting flat any standing fibres, and transport means for receiving said glued bodies and conveying them through a drying compartment.

3,382,543  
AUTOMATIC COILER CAN DOFFER AND METHOD

Joe T. Roberts, Lowell, and David A. Drum, Dallas, N.C., assignors to Ideal Industries, Inc., Bessemer City, N.C., a corporation of North Carolina

Filed Mar. 10, 1964, Ser. No. 350,852  
32 Claims. (Cl. 19—159)



1. A method of doffing a compacted can of coiled sliver resting on a turntable underneath a coiler plate of a textile coiling mechanism and wherein the coiled sliver extends above the top of the can and is compressed against the lower surface of the coiler plate; which method comprises

- (a) elevating the filled can of sliver toward the coiler plate while compressing the sliver mass more tightly against the lower surface of the coiler plate,
- (b) moving the elevated can of sliver outwardly from underneath the coiler plate, and
- (c) parting the sliver adjacent the coiler plate during movement of the can of sliver from underneath the coiler plate.

7. Apparatus for automatically doffing a filled can of coiler sliver resting on a turntable underneath a coiler plate of a textile coiling mechanism and wherein the coiled sliver extends above the top of the can and engages the underside of the coiler plate; said apparatus comprising

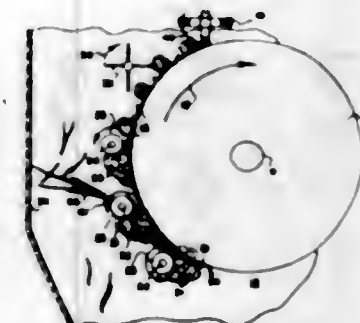
- (a) means for elevating the filled can of sliver away from the turntable toward the coiler plate, and
- (b) means for moving the elevated can of sliver outwardly from underneath the coiler plate.

3,382,544

## COTTON CLEANER

Floyd A. Moore, Phoenix, Ariz., assignor to Garland-Rood Research and Development Company

Filed Jan. 13, 1965, Ser. No. 425,173  
11 Claims. (Cl. 19—202)

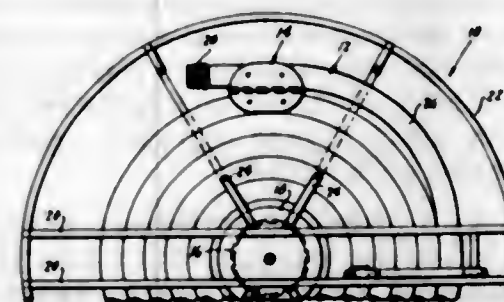


A drum saw in combination with a plurality of grid bars positioned parallel to the axis of the drum saw and radially displaced from the surface thereof; each grid bar including a surface rotatable about the axis of the grid bar, the surface rotating upon contact of cotton therewith, the cotton being transported by the drum saw.

3,382,545

## HOSE CLIP

Joe F. Spinner, Rte. 1, Box 277, Stayton, Ore. 97383  
Filed May 10, 1966, Ser. No. 549,037  
1 Claim. (Cl. 24—81)



A hose clip comprising two elongate generally cylindrical holding members provided with a longitudinal slot which is wider in the center portion than at the ends, the ends of which are arcuately convexly curved, said holding members being secured in back-to-back relation for receiving two adjacent portions of the hose is disclosed.

3,382,546

## ELASTIC LACES

Ilena Bosznay Palmay, 9623 Parkview Ave. 44125, and Steven Kish, 2908 E. 112th St. 44104, both of Cleveland, Ohio

Filed May 25, 1966, Ser. No. 552,848  
5 Claims. (Cl. 24—90)



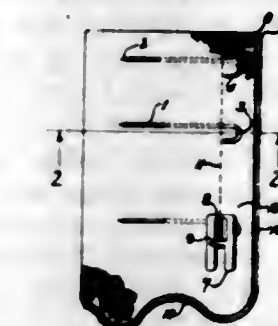
An elastic lace of rubber-like material including a longitudinally extending central portion and integral T-shaped ends extending longitudinally in the plane of the central portion, wherein one of the ends has a thin, narrow extension projecting in a direction longitudinally outwardly from the central section.

3,382,547

## DRESSMAKER'S PIN

Dorothy G. Hofer, 1601 Walnut, Higginsville, Mo. 64037

Filed Apr. 18, 1966, Ser. No. 543,122  
1 Claim. (Cl. 24—150)

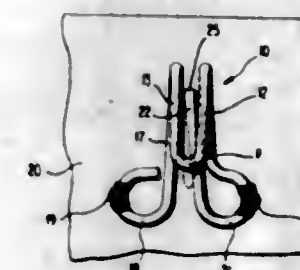


This invention relates to a dressmaker's pin wherein the pointed end and shank portion may be used to hold two pieces of fabric together for stitching with a sewing machine, wherein the pin has one end turned parallel with the shank portion to form a hook, and the hook end is nonpointed or blunt to prevent penetration of the hook into the material when in place.

3,382,548

## HOOK-AND-EYE FASTENER

Anna Rose, 48 Browne St., Brookline, Mass. 02146  
Filed May 20, 1966, Ser. No. 551,696  
6 Claims. (Cl. 24—228)

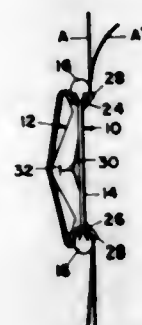


1. In a hook-and-eye separable fastener including a hook formed from a single piece of wire folded upon itself into a generally U-shaped configuration with the bight of said folded wire being bent upon itself to form the shank and bill of a hook, and a loop formed in each arm of said shank in spaced relation to said hook bill for receiving threads anchoring the hook to a sheet of flexible material, the improvement comprising a tongue extending from one of said loops between the arms of said shank in



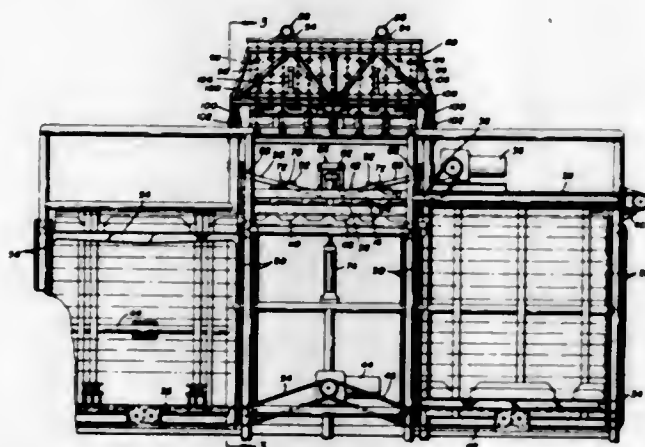
the direction of the bight of said hook, a U-shaped bend being formed in said tongue, and a cantilevered arm extending from said U-shaped bend generally parallel to said shank arms and spaced therefrom on the side thereof opposite to said bill, said cantilevered arm terminating in a sharp point positioned between and spaced from said legs.

**3,382,549**  
**TOGGLE ACTION GARMENT CLASP**  
Robert S. Price, 110 Bridle Path Road,  
West Springfield, Mass. 01089  
Filed Oct. 5, 1965, Ser. No. 493,214  
13 Claims. (Cl. 24-245)



A material clasp comprising a frame and a deformable wedge; the frame having an opening and opposing pressure-receiving seats at opposite ends of the opening; the deformable wedge having spaced pressure seats for engaging the pressure-receiving seats on the frame, there being means on the deformable wedge for loosely engaging the pressure seats on the wedge with the pressure-receiving seats on the frame when the deformable wedge is in the opening in the frame with the means on the deformable wedge at one side of the frame and for tightly engaging the pressure seat on the wedge with the pressure-receiving seats on the frame when the means on the deformable wedge is at the opposite side of the frame.

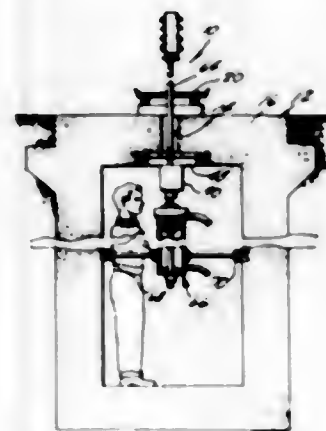
**3,382,550**  
**AUTOMATIC CEMENT ROOF TILE MOLDING MACHINE**  
Opton F. Smith, 4702 E. Lake Circle, and Sylvester H. Jahn, Box 349-S, both of Sarasota, Fla. 33578  
Filed July 20, 1965, Ser. No. 473,463  
3 Claims. (Cl. 25-43)



An apparatus for producing shake shingles, particularly interlocking shake shingles made of concrete, which includes a pair of vertically movable platforms which move in correspondingly opposite directions. One platform sup-

ports a stack of male mold carrying platens and provides a feed-in reservoir from which the platens can be fed one by one onto a centralized molding station, while the other platform supports another stack of male mold carrying platens which have already had the cement shingles molded in them at the central station and thereby provides a feed-out reservoir for receiving the platens one by one as they are removed. The invention utilizes a single female mold to service the plurality of male molds which are brought in turn into operative relationship with the female mold in a horizontally positioned relationship at the central station, with the combined molds turned through approximately a 90° angle into the vertical, allowing the molds to be poured with the molds then turned back to substantially a horizontal position and the female mold removed to allow the cast articles to be carried out of the central station on the male mold.

**3,382,551**  
**WIRE TENSIONING APPARATUS**  
Robert D. Carr, Box 1070, Victoria, Tex. 77901  
Filed Dec. 8, 1965, Ser. No. 512,342  
3 Claims. (Cl. 25-118)

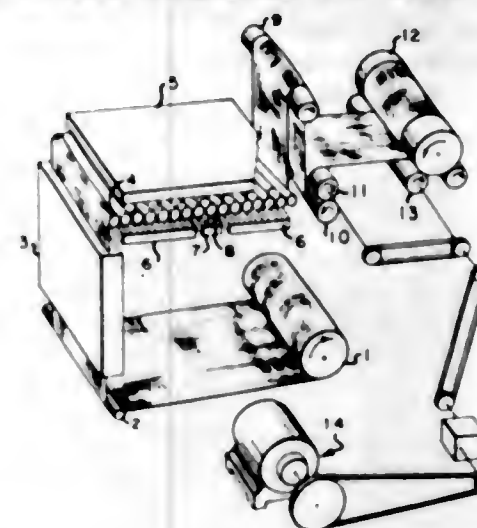


1. In a casting apparatus including an elongated form, one wall of said form being provided with apertures, means adjacent each end of said form for support of reinforcing wires when said wires are suspended within said form, and a tensioning member disposed within said form, said member having wire engaging fingers thereon adapted to engage said wires, one end of said member having a threaded bore for securement thereto of an actuator stud, a tunnel member extending longitudinally of said form and having a slot in the wall contiguous to the apertured wall of said form, a trackway on said wall in bridging relation with respect to said slot, a carriage rollable on said trackway, a stud extending through said slot and carriage and adapted to have the portion adjacent one end inserted into a selected aperture of said form wall and to be threadably engaged in said tensioning member bore, and a prime mover device connected to said tensioning member adjacent to and engaged with the portion of said stud adjacent the other end thereof, said device being adapted to bear against said carriage so as to effect a pulling movement on said stud when actuated.

**3,382,552**  
**PROCESS TO COMPACT FABRIC**  
Thomas A. Davis, Columbia, and Carlos D. Gutierrez, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware  
Filed Mar. 24, 1965, Ser. No. 442,291  
8 Claims. (Cl. 26-18.6)

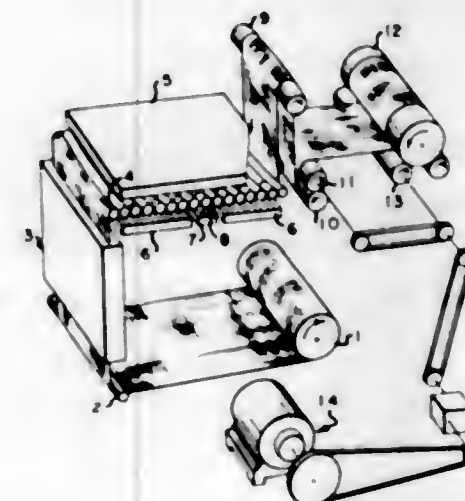
1. A continuous process to impart stretch characteristics to a woven fabric having an open weave comprising: supplying said open weave fabric to a compacting surface,

compacting said fabric in the fill direction on said compacting surface, maintaining said fabric in compacted condition while supplying said fabric to a further compacting surface, compacting said fabric further in the



fill direction, repeating the compacting of said fabric in the fill direction on further compacting surfaces while maintaining the fabric in its compacted conditions at all times and setting the fabric in its compacted configuration.

**3,382,553**  
**APPARATUS TO COMPACT FABRIC**  
Thomas A. Davis, Columbia, and Carlos D. Gutierrez, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware  
Original application Mar. 24, 1965, Ser. No. 442,291.  
Divided and this application Mar. 24, 1967, Ser. No. 625,665  
6 Claims. (Cl. 26-18.6)

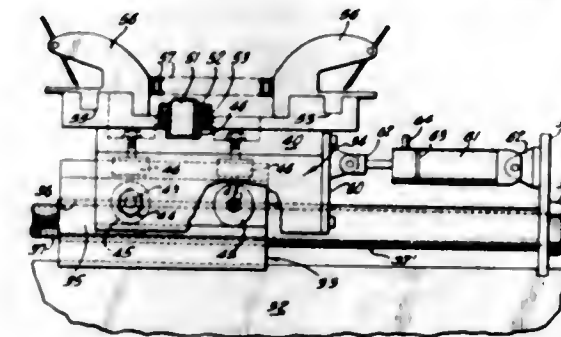


Apparatus to sequentially compact a woven fabric in the fill direction by the use of a plurality of bowed rolls which mechanically apply a compacting force in the fill direction of the fabric.

**3,382,554**  
**TENTERING APPARATUS FOR APPLICATION OF CONTROLLED, UNIFORM TENSION TO FABRICS**  
Carlyle Harmon, Scotch Plains, and John J. Smith, New Brunswick, N.J., assignors to Johnson & Johnson, a corporation of New Jersey  
Filed Apr. 12, 1966, Ser. No. 542,022  
5 Claims. (Cl. 26-57)

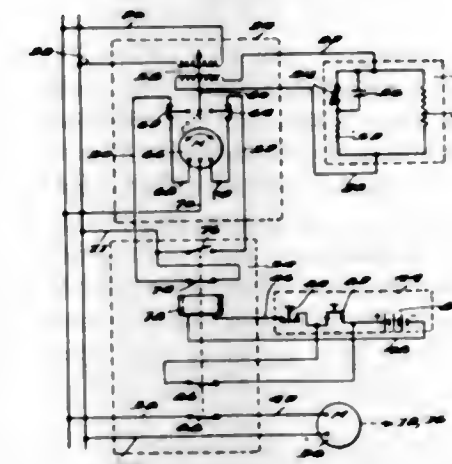
An improvement in tentering machines of the type which have a pair of claims which grip the selvages of the fabric and spread the fabric to its full width. The chains are mounted on a track and the positioning between the chains is controlled by a plurality of screw

means. The improvement comprises splitting the track into an upper and lower portion along its entire length and controlling the position of the lower portion by these



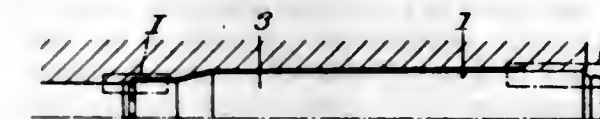
screw means while separately controlling the position of the upper portion with separate control means to apply uniform and desired tension along the entire length of the path of the chains.

**3,382,555**  
**YARN HEATER**  
John Pfeiffer Smoots, Jr., Signal Mountain, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Filed Oct. 27, 1965, Ser. No. 505,325  
5 Claims. (Cl. 28-62)



Temperature controls for the "hot shoe" in a yarn-drawing machine. A dual wound electrical heater, located in the shoe, has a pair of resistance elements connected in parallel and supplied from an autotransformer arranged to reduced power when yarn advance stops and to increase power when yarn advance resumes. In either mode of control, a thermostatic switch connected to one of the elements maintains shoe temperature at a preset level.

**3,382,556**  
**METHODS OF MAKING GUNS**  
Bernard Maillard, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., a society of Switzerland  
Filed June 24, 1966, Ser. No. 560,152  
Claims priority, application Luxembourg, July 9, 1965, 49,038  
4 Claims. (Cl. 29-1.1)



A method for forming gas receiving recesses in the walls of a cartridge chamber of a gun including first subjecting the inner wall of the cartridge chamber to a hardening treatment and subsequently forming the recess in

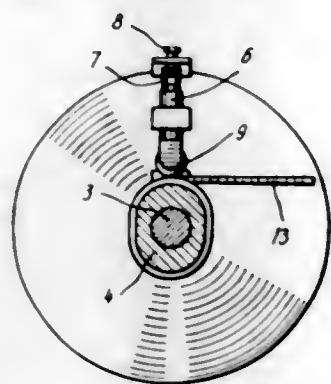


the wall so that the zones connecting the recesses to the inner wall are substantially free of brittle compounds and the portions of the chamber contacting the cartridge cases are hardened.

**3,382,557**  
**MEANS FOR MANUFACTURING BLANKS FOR CAST IRON PISTON RINGS**

Evgeny Grigorjevich Nickolaenko, Dolja Josifovich Jassky, Evgeny Emeljanovich Mikotin, Georgy Grigorjevich Tsarev, and Petr Georgievich Kalashnikov, Odessa, and Filipp Mikhailovich Belykh, Georgy Mikhailovich Shevchenko, and Sergei Andreevich Mikulin, Stavropol, U.S.S.R., assignors to Tsentralnoe Konstruktorsko-Tekhnologicheskoe Bureau, Odessa, U.S.S.R.

Filed May 28, 1964, Ser. No. 370,955  
2 Claims. (Cl. 29—33)

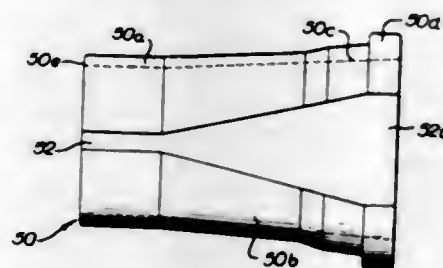


Apparatus for producing piston ring blanks from liquid cast iron in which the liquid iron is cast into strips between rolls and means being provided for the cold-roll sizing of the strip thickness. The cold-roll strips are cut into narrow strips having a thickness approximating the radial thickness of a piston ring and such narrow strips are wound into a continuous helical spiral with such winding being combined with a longitudinal translational movement of the spiral. The spiral is cut along the cylinder generatrix into piston ring blanks and the blanks are heat treated.

**3,382,558**  
**ELECTRICAL CONNECTOR CAPTIVATED REAR RELEASE TOOL**

Leland H. Lutz, Los Angeles, and Charles F. Madaris, Pasadena, Calif., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 2, 1966, Ser. No. 524,530  
3 Claims. (Cl. 29—203)

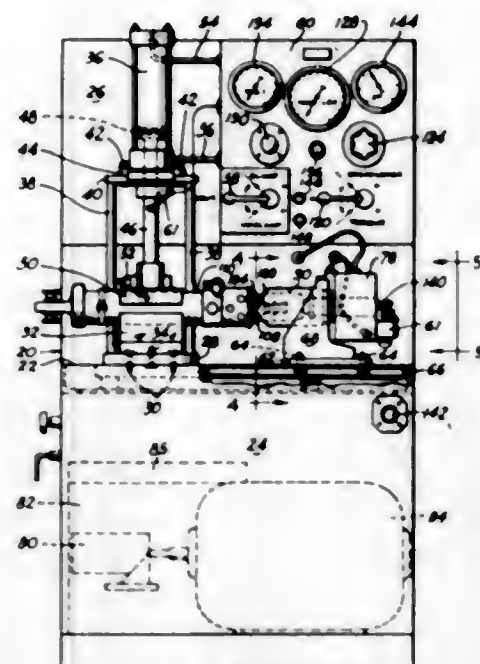


A tool and pin-type conductor assembly is provided in which the tool is permanently mounted on the conductor assembly and is proportioned to fit into the bore of an electrical connector body within which the pin conductor is locked. Forward movement of the tool unlocks the pin conductor to permit its extraction from the bore. The tool remains on the pin conductor as a part thereof even after the pin conductor is extracted from the connector body.

**3,382,559**  
**POWER ASSISTED CLAMPING AND TORQUE MECHANISM**

Frank Kopec, George F. Goron, and Clayton W. Shoff, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware

Filed Nov. 25, 1966, Ser. No. 597,087  
6 Claims. (Cl. 29—240)

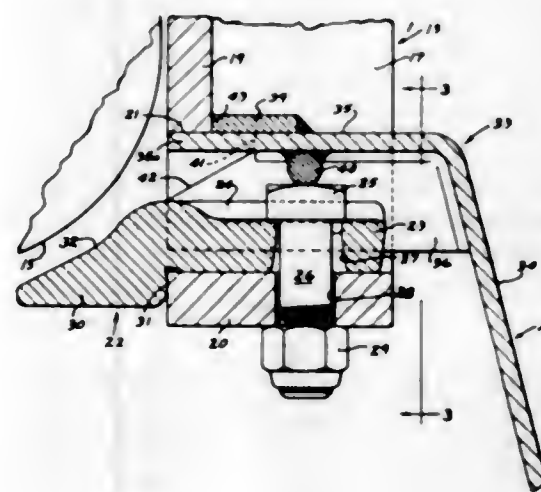


Power assisted clamping and torquing apparatus for coupling two threadedly engaged members wherein one of the two members is held fixed by fluid pressure operated clamping mechanism under controlled clamp pressure and the second of the two members is engaged by a controlled pressurized fluid operated rotatable member which rotates the second member to the fixed member to threadedly engage the same with a predetermined torque effort.

**3,382,560**  
**ASSEMBLY TOOL FOR SIDE FRAME BEARING KEYS**

Thomas L. Swartz, Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio

Filed Aug. 1, 1966, Ser. No. 569,356  
4 Claims. (Cl. 29—267)

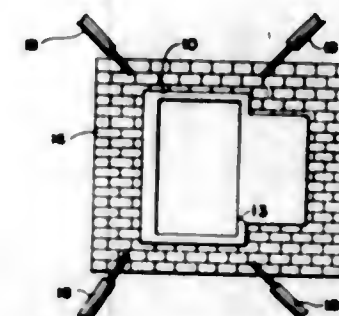


An assembly tool to hold the head of the bolt securing a key element in the side frame recess so that the bearing seated in the frame jaw cannot escape, the tool being designed not to enter the frame recess if the bolt head is not properly seated.

**3,382,561**  
**PROCESS FOR BRAZING CAST IRON STRUCTURES**

Dwain K. Swick and Clarence E. Swick, both of 400 N. Chestnut, McPherson, Kans. 67460

Filed Apr. 21, 1965, Ser. No. 449,834  
2 Claims. (Cl. 29—402)

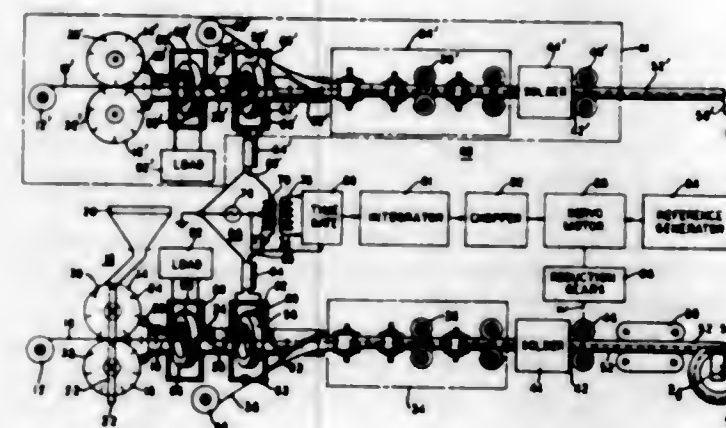


This invention relates to the repair of cast iron structures, more specifically to a process of building up and repairing cast iron structures by brazing. More specifically, this invention relates to the process for the repair of cast iron structures through locating a fracture in the structure; enlarging the fracture to a groove; preheating the entire structure within a predetermined temperature range by the application of heat to various areas of the structure to achieve an overall, even heating thereof; filling in the groove by brazing the same; and enclosing the structure in insulating material and cooling at a predetermined rate so as to not have excessive stresses therein.

**3,382,562**  
**MANUFACTURE OF TRANSMISSION LINES**

Merle C. Biskeborn, Chatham, and William J. Thompson, Mountain Lakes, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 27, 1965, Ser. No. 516,612  
16 Claims. (Cl. 29—407)

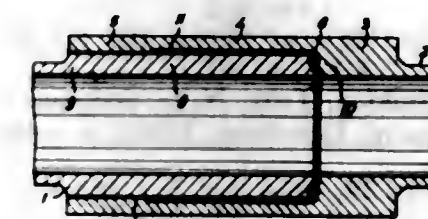


14. The method of producing cable which comprises the steps of forming cable by moving bare wire and moving conductive material toward the wire and surrounding the wire with the material to form an outer conductor, inductively launching pulses in the wire so that they travel through the cable and produce echoes as impedance changes occur, inductively sensing the echoes, and controlling the diameter of the outer conductor on the basis of the characteristics of the sensed echoes.

**3,382,563**  
**LEAK-TIGHT JOINT AND METHOD OF FORMING SAME**

Aimé Barroll, Molrass, and André Michel and André Teytu, Grenoble, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Jan. 8, 1965, Ser. No. 424,404  
Claims priority, application France, Jan. 24, 1964, 961,538  
2 Claims. (Cl. 29—447)

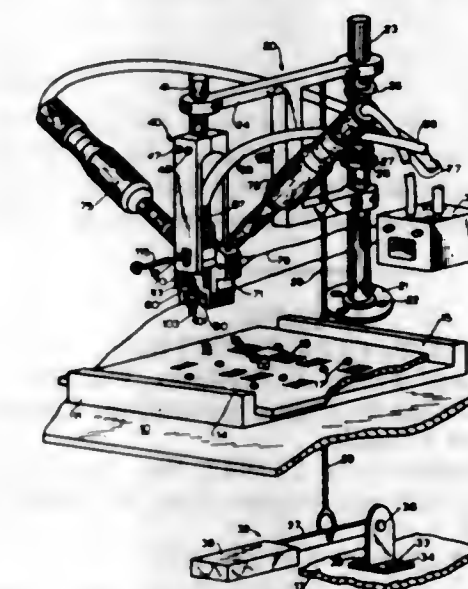


A leak-tight joint between a female member and a male member, and a method for forming the same. The female member contains an annular shoulder, and the terminal portion of said member has an interference fit with an intermediate portion of the male member when both are at the same temperature. The male member has a radial shoulder thereon positioned to confront the annular shoulder, and when the members are assembled there is an uninterrupted annular space extending from said radial shoulder to the terminal portion of the female member. To assemble the joint the members are brought to different temperatures and a seal is disposed between the two shoulders, after which the female member is fitted over the male member until the seal is engaged by the confronting shoulders. The terminal portion of the female member is then quickly returned to the temperature of the male member to lock the members together, after which the remainder of the members are allowed to return to the same temperature. As the remainder of the members return to the same temperature an axial compressive force is generated, which directly compresses the seal between the two shoulders.

**3,382,564**  
**SOLDERING APPARATUS AND METHOD FOR MICROELECTRONIC CIRCUITS**

Donal O. Gallentine, Orlando, Fla., assignor, by mesne assignments, to General Dynamics Corporation, a corporation of Delaware

Filed Sept. 27, 1965, Ser. No. 490,431  
23 Claims. (Cl. 29—471.1)



An apparatus is described for soldering a plurality of leads of a flat-pack type of microelectronic device to a corresponding mating set of leads on a printed circuit

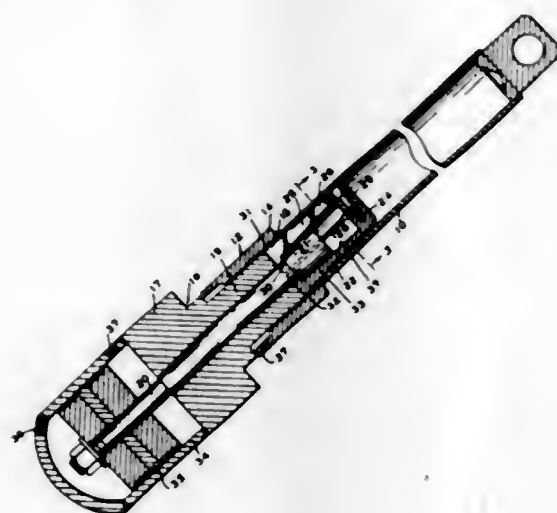


board. The flat-pack is received within a flat-pack holder and held therein by means of an applied vacuum. The flat-pack leads are aligned through the use of pins on the flat-pack holder which enter holes in the printed circuit board. The mating leads are engaged by a clamp. Thereafter preheated solder heads move down into engagement with the aligned set of clamped leads to solder the leads to the board.

### 3,382,565 METHOD OF MANUFACTURE OF HYDRAULIC CYLINDERS

Theodore M. Binkley, Troy, N.Y., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Apr. 29, 1964, Ser. No. 363,434  
5 Claims. (Cl. 29—474.3)



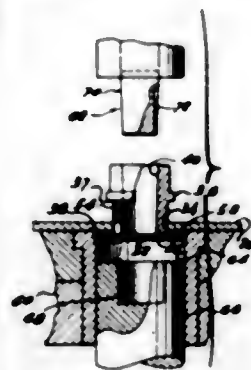
1. The method of welding a concentric metal cylindrical sleeve to an end of a metal hydraulic cylinder having a finished inner wall, comprising assembling the sleeve to the cylinder, expanding within its elastic limit by a mandrel the cylinder and sleeve in the area to be welded, uniting the cylinder and sleeve by the use of weld metal along juxtaposed portions of said cylinder and sleeve, maintaining the cylinder and sleeve expanded until the weld has a substantial amount wherein a solidification of the weld metal has occurred and then permitting the welded area of the cylinder and sleeve to contract normally, the weld metal upon cooling tending to reduce the diameter of the cylinder and the magnitude of expansion by the mandrel being selected to substantially equal the contraction in diameter of the welded area upon cooling.

3,382,566  
**CHAIR CONSTRUCTION**  
Joseph J. Galla and Philip J. Williams, Fairfield, Conn., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia  
Original application July 2, 1963, Ser. No. 292,268.  
Divided and this application Feb. 25, 1966, Ser. No. 534,612

2 Claims. (Cl. 29—509)

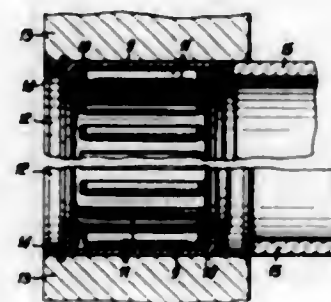
2. The method of fabricating a planar chair iron cross member to provide a self-locking tapered surface thereon together with key means, the improvement comprising the steps of placing a post support member having a tapered bore into an aperture in said cross member, moving a first tool having an identical taper to said bore into said

bore while forcing said member through said aperture until a shoulder on said support member engages said cross member adjacent one side of said aperture with said support member projecting through said aperture, moving a staking tool against the projecting end of said sup-



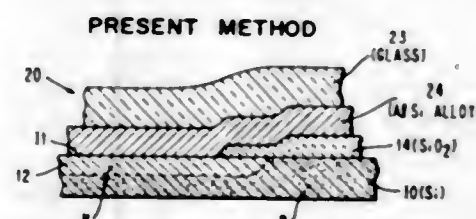
port member to stake said projecting end over said planar chair iron cross member to prevent disengagement of said support member from said cross member while said first tool is engaged in said bore, and the step of simultaneously forming a key in the surface of said bore during the staking of said projecting end.

3,382,567  
**METHOD OF FORMING AND SECURING A SEALING DEVICE IN A BORE**  
Georg Schaeffler, Herzogenaurach, near Nuremberg, Germany, assignor to Industriewerk Schaeffler, Herzogenaurach, Germany, a corporation of Germany  
Original application Aug. 3, 1964, Ser. No. 387,063.  
Divided and this application Nov. 14, 1966, Ser. No. 615,276  
Claims priority, application Germany, Aug. 13, 1963, J 24,240  
7 Claims. (Cl. 29—522)



A method of securing a shaft sealing device in a bore which device is self compensating for tolerance differences in the bore.

3,382,568  
**METHOD FOR PROVIDING ELECTRICAL CONNECTIONS TO SEMICONDUCTOR DEVICES**  
Lubertus L. Kulper, Fishkill, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed July 22, 1965, Ser. No. 474,074  
8 Claims. (Cl. 29—578)



This is a technique for providing an ohmic contact to a semiconductor device. The ohmic contact material contains a small percentage of the semiconductor material which is alloyed with the metal contact material.

3,382,569  
**SEGMENTED FERRITE SONAR TRANSDUCER WITH PERMANENT MAGNET BIAS**  
Donald Leibowitz, Bronx, N.Y., and Alfred Sommer, Bergenfield, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Original application Sept. 3, 1963, Ser. No. 306,392, now Patent No. 3,296,584, dated Jan. 10, 1967. Divided and this application Oct. 20, 1965, Ser. No. 510,426  
2 Claims. (Cl. 29—595)



A method of making a transducer ring. A plurality of arcuate ferrite segments are formed and the ends thereof are ground to provide a flat surface for intimate contact with the ends of adjacent segments. Recesses are drilled into each end of the segments and permanent magnets are inserted into the recesses so that when the segments are placed in abutting contact with one another to form a complete ring, each magnet is positioned with one received in one segment and its other end received in an adjacent segment. The assembled ring is wrapped with a binding material and then with an electrically conductive winding.

3,382,570  
**METHOD OF MANUFACTURING A DISC ARMATURE**  
Theodore F. Knapp, Farmington, and David V. Tinder, Detroit, Mich., assignors, by mesne assignments, to Dura Corporation, a wholly-owned subsidiary of Walter Kidde & Company, Inc., Oak Park, Mich., a corporation of New York  
Original application June 17, 1963, Ser. No. 288,152.  
Divided and this application Nov. 8, 1965, Ser. No. 506,667  
1 Claim. (Cl. 29—598)

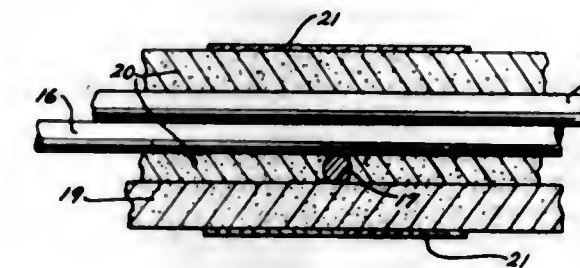


There is herein disclosed a method of forming a disc armature comprising at least four layers of conductor segments in which the outer tab portions are circumferentially misaligned so as to permit electrical connections to be made between adjoining and non-adjoining layers.

3,382,571  
**METHOD OF MAKING A MAGNETIC MEMORY ARRAY**  
Leonardo Di Matteo, Clawson, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan  
Original application Nov. 2, 1962, Ser. No. 234,940, now Patent No. 3,237,174, dated Feb. 22, 1966. Divided and this application May 13, 1965, Ser. No. 464,265  
9 Claims. (Cl. 29—604)

This invention relates to a process for manufacturing magnetic cores. The process provides for regularly and uniformly stringing insulated drive and sense conductors on a non-conductive frame using conductive pins as terminals. A thin sheet of magnetic material is placed on one side of the conductors and contacts the adjacent one. Then the conductors are completely embedded within a magnetic material which is electrolytically deposited.

Two protective maskings are placed in alignment on the opposite sides of the magnetic materials and registered with the junctures of the conductors. The entire assembly is placed in an etching solution to remove all the unmasked magnetic material from the assembly. The as-



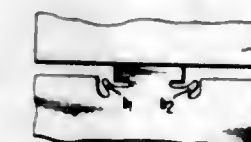
sembly is then a finished article with the option of leaving the frame as a permanent part of the assembly or the assembly or the conductors may be cut to provide an independent assembly with the further option of separating the cores from the assembly into separate articles.

3,382,572  
**METHOD FOR MANUFACTURING EXTENDED TAB CORE MEMORY FRAMES**  
Carl T. Crawford, Bloomington, and William W. Everling, St. Paul, Minn. (both of Univac Park, St. Paul, Minn. 55116)  
Filed Dec. 28, 1965, Ser. No. 517,019  
9 Claims. (Cl. 29—604)



A method of manufacturing a memory frame having conductive extended terminal tabs for electrical connection thereto including forming an insulative spacer member, laminating the spacer member to a conductive sheet member that extends over the edges of the spacer member and then forming the extended terminal tabs from the sheet members.

3,382,573  
**METHOD OF ASSEMBLY BY ELECTRIC WELDING OF STACKS OF LAMINATIONS FOR THE STATORS OF ROTARY ELECTRIC MACHINES**  
Jean Mantelet, Paris, France, assignor to Moulinex-Societe Anonyme, a corporation of France  
Filed Apr. 29, 1964, Ser. No. 363,385  
Claims priority, application France, May 7, 1963, 933,853  
6 Claims. (Cl. 29—609)



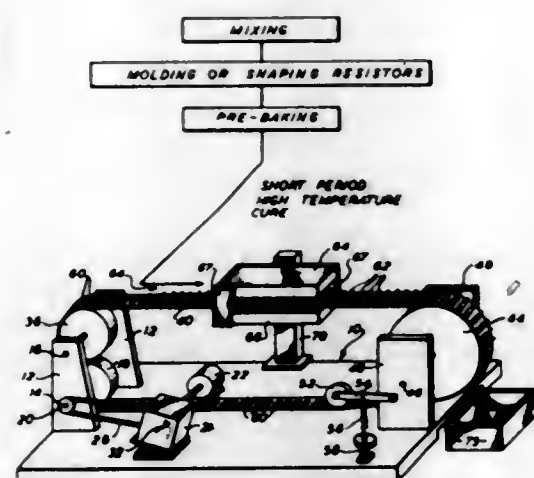
1. A method of producing a stacked part of a rotary electric machine, comprising assembling a stack of laminations of magnetic metal of which each lamination has an outstanding peripheral tooth having a rectilinear top and a root narrower than said top with said laminations in contact with each other and said teeth aligned to provide at least one continuous rib spanning the stack and having an enlarged flat top and a narrower base,



completing an electric circuit through said stack by means including an electrode that rests flat on said enlarged flat top to soften said narrower base by electric resistance heating, and pressing said electrode against said rib to mash said narrower base and press said enlarged flat top closer to the rest of said stack and to weld together the adjacent laminations.

### 3,382,574 METHOD OF MAKING AN ELECTRICAL RESISTOR

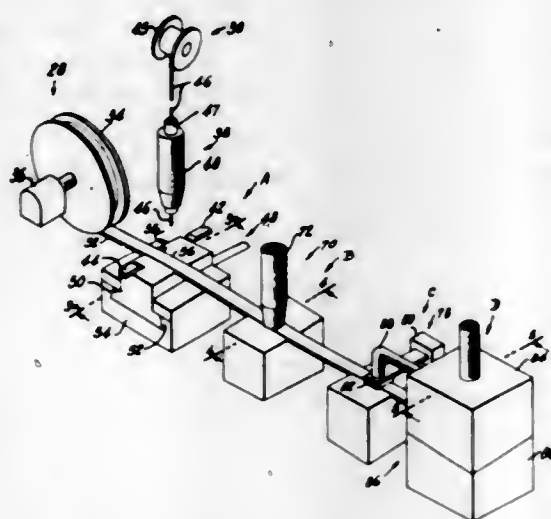
George F. Chadwick, North Tonawanda, N.Y., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York  
Filed Nov. 10, 1964, Ser. No. 410,091  
11 Claims. (Cl. 29-610)



An electrical resistor in which a mixture of conductive and nonconductive particles are bonded into a unitary structure by a silicone resin binder cured at a temperature of from 400 to 525° C. for a period of from 3 to 15 minutes.

### 3,382,575 METHOD OF MAKING ELECTRICAL CONTACTS FROM STRIP STOCK

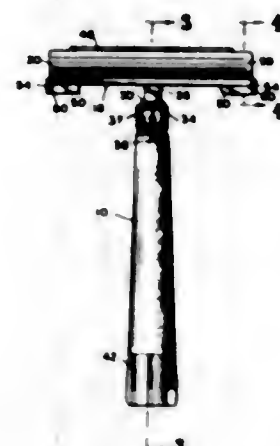
Thomas Earl Gannoe, Warren, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware  
Filed June 2, 1965, Ser. No. 460,693  
1 Claim. (Cl. 29-630)



A method and apparatus for applying laterally spaced, noble metal contact points on continuous base metal strip material by effecting relative lateral movement between the strip and the contact point applying means at the point applying station.

### 3,382,576 SAFETY RAZOR WITH ADJUSTABLE GUARDS

Robert L. Karr, 1915 Winslow Ave.,  
Terre Haute, Ind. 47805  
Filed Apr. 11, 1966, Ser. No. 541,720  
6 Claims. (Cl. 30-60.5)



A safety razor having a pair of vertically spaced plates mounted on a handle with a pair of laterally movable guards carried therebetween. Means are provided for mounting a blade on one of said plates and means are also provided for moving said guards laterally outwardly and inwardly with respect to said plates and blade for controlling the exposure of the blade edges.

### 3,382,577 SCRIBER

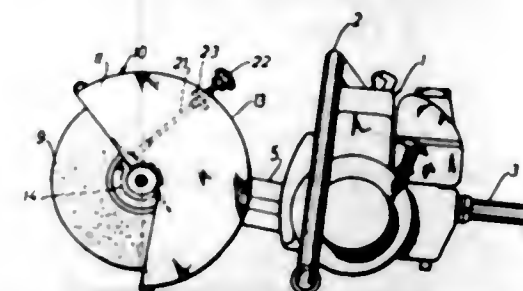
Roland Rieder, Rothenfluh, Basel-Land, Switzerland  
Filed Sept. 21, 1965, Ser. No. 488,994  
Claims priority, application Switzerland, Sept. 23, 1964, 12,345/64  
5 Claims. (Cl. 30-164.9)



A scribing tool which comprises a tabular member having a predetermined length and being provided with a rear end and an open front end. A scribing-pin member having a length substantially smaller than half the predetermined length is provided. An elongated support member is provided, having a length substantially greater than the length of the pin member and having an end portion detachably supporting the pin member. The support member and the pin member are accommodated in the tubular member and are slidable therein between a retracted position in which the pin member is located inwardly of the open front end and an advanced position in which the pin member projects outwardly beyond the open front end of the tubular member.

### 3,382,578 PORTABLE CUTTING TOOLS

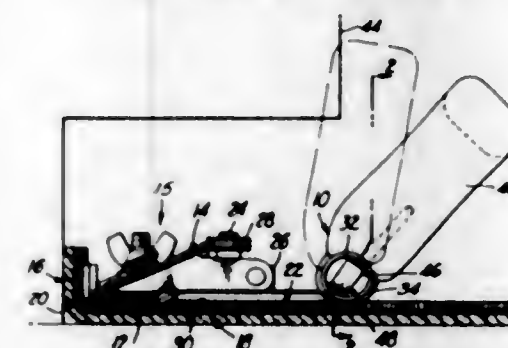
Gunther Heinrich Wilhelm Dobbertin, Ovre  
Olskroksgatan 28, Gothenburg, Sweden  
Filed May 11, 1966, Ser. No. 549,284  
2 Claims. (Cl. 30-167)



The present portable power driven cutting tool includes a driven shaft for rotating a cutting tool, a hub, for supporting said shaft and having a cylindrical portion, an adjustable safety shield for said cutting tool and having a split bearing encircling said hub cylindrical portion and a knob controlled rod with threaded end extending through openings in said split bearing, a non-rotatable nut on said rod whereby said rod can pivot said safety shield about the cutting tool and the split bearing tightened or loosened by the rotation of said rod relative to said nut.

### 3,382,579 FOLDDOWN HANDLE FOR CARPET TRIMMERS

Earle F. Prater, Long Beach, Calif., assignor to Roberts Consolidated Industries, Inc., Industry, Calif., a corporation of California  
Filed Apr. 28, 1967, Ser. No. 634,595  
6 Claims. (Cl. 30-329)



A carpet-cutting tool which includes coaxial inner and outer tube-like members turnable relative to each other, a handle being connected to and extending radially from one of the members with a blade holder connected to the other.

### 3,382,580 PERFORATED CUTTER FOIL FOR DRY SHAVERS

Cornelius Ludwig Rinck and Adam Koromai, Klagenfurt, Carinthia, Austria, assignors to Firma Carinthia Elektrogerate Gesellschaft m.b.H., Karnten, Austria  
Filed Nov. 26, 1965, Ser. No. 509,966  
Claims priority, application Austria, Dec. 7, 1964, A 10,363/64  
5 Claims. (Cl. 30-346.51)

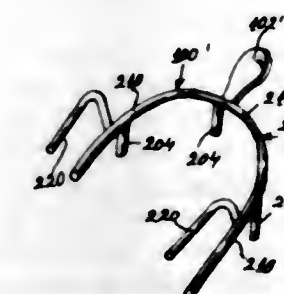


A perforated cutter foil for dry shavers having a plurality of diamond-shaped hair entry openings with adja-

cent sides of each making angles with one another of 60° and 120° respectively, and all the openings constituting a network which has groups of openings with the groups having the principal diagonals extending in three different directions which make angles of 120° with each other.

### 3,382,581 SCIENTIFIC APPARATUS FOR LOCATING THE CORRECT OCCLUSION BITE IN NATURAL POSITION

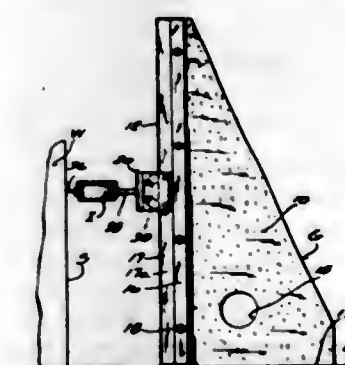
Laszlo Balazs, 227 Willis Ave., 11-K,  
New York, N.Y. 10454  
Filed June 15, 1964, Ser. No. 374,996  
15 Claims. (Cl. 32-19)



Dental apparatus for determining natural occlusion in making artificial dentures having a headset with a band for insertion over the head of a patient. The band carries a pair of yoke bone indicators, each indicator having a fixed member in contact with a patient's cheekbone and having a movable plug disposable in contact with a maxillary-mandibular joint at one side of a patient's face. Signal means are also provided in each indicator operated by the plug for indicating when the bone structure at the joint expands upon tensioning the bone structure and for indicating when said bone structure is in a relaxed condition.

### 3,382,582 MAGNETIC INDICATING SQUARE

Robert J. Matson, 18920 W. National Ave.,  
New Berlin, Wis. 53151  
Filed Nov. 21, 1966, Ser. No. 595,990  
10 Claims. (Cl. 33-174)



A gauge comprising a granite square and having a magnetically attractable guide mounted along a vertical face of the square and an indicator magnetically held against said face for movement therealong and which is used in the metal working industry for checking and measuring the straightness of a workpiece surface and also the squareness of the surface relative to a reference plane.

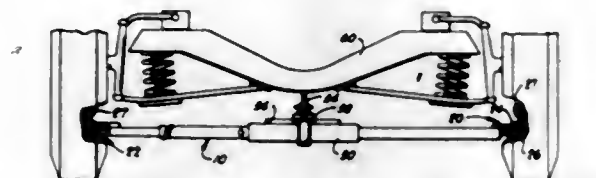


3,382,583

## MEASURING DEVICE

James O. Melton, Norman, and Thomas B. Wilkinson and Kimball A. Robertson, Oklahoma City, Okla., assignors to Jamco, Inc., Oklahoma City, Okla., a corporation of Oklahoma

Filed Nov. 29, 1965, Ser. No. 510,294  
9 Claims. (Cl. 33—181)



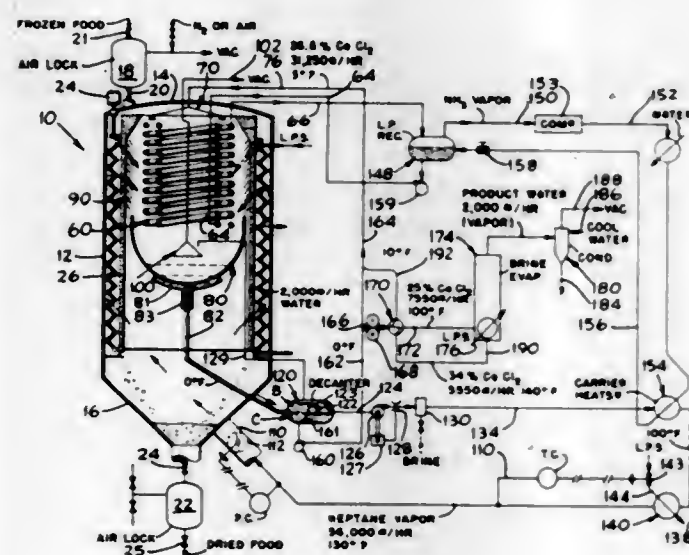
A measuring gauge for determining the position of the frame of an automobile relative to various portions of the running gear and including an elongated shaft having a pair of axially aligned, telescoped sections and further having rim engaging tines disposed at opposite ends of the shaft. A support plate is slidably mounted on the shaft for axial movement therealong, and carries an extension arm which can be moved transversely relative to the elongated shaft, and can also be pivoted about a vertical axis when the elongated shaft is extended between the rims of the wheels of an automobile. A flexible measuring device is secured to one end of the extension arm.

3,382,584

## SUBLIMATION DRYING USING A CONDENSABLE HEAT CARRIER VAPOR

John H. Blake, Portola Valley, John P. Pelmulder, Saratoga, and Erik Thuse, San Jose, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Aug. 15, 1966, Ser. No. 572,401  
26 Claims. (Cl. 34—5)



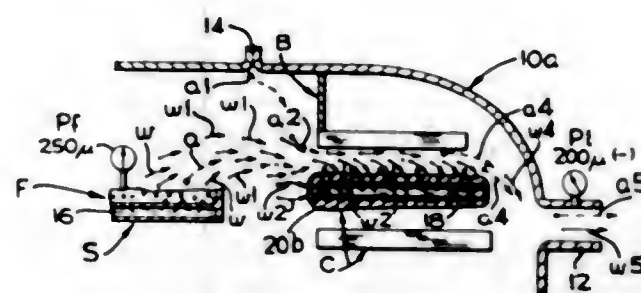
This invention relates to the drying of frozen porous products such as foods by sublimation, commonly referred to as freeze drying. Under this invention, a readily condensable, heat carrier vapor (such as heptane) makes at least two passes through a layer or bed of product moving through a vacuum drying chamber. The carrier vapor is immiscible with water. It is slightly superheated initially and picks up heat between the passes, and thus supplies the heat of sublimation to the product. The carrier gas and entrained water vapor are both condensed, the condensates separated, and the carrier fluid recirculated into the chamber.

3,382,585

## INTERNAL SUBLIMATION CONDENSER APPARATUS

John H. Blake, Portola Valley, John P. Pelmulder, Saratoga, and Erik Thuse, San Jose, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Dec. 28, 1965, Ser. No. 517,055  
8 Claims. (Cl. 34—92)



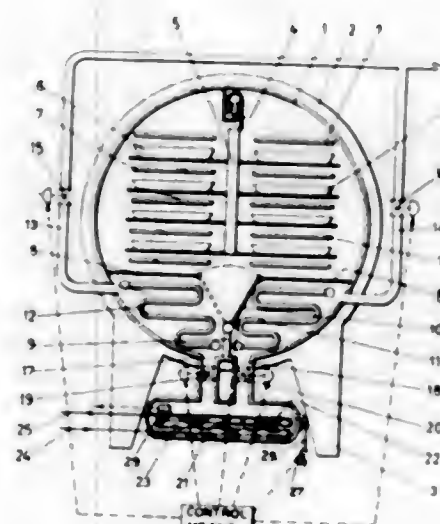
Stagnation of air within the vapor condenser of an internal condenser freeze drying unit is prevented by providing baffles at the ends as well as above and below the condenser, thereby directing all gases through the condenser. A vacuum port for exhausting air is behind the baffled condenser unit.

3,382,586

## APPARATUS FOR FREEZE-DRYING

Jorgen Lorentzen, Narum, Denmark, assignor to A/S Atlas, Copenhagen, Denmark

Filed Mar. 15, 1966, Ser. No. 534,326  
Claims priority, application Denmark, Mar. 18, 1965, 1,370/65  
6 Claims. (Cl. 34—92)



1. Apparatus for the freeze drying in vacuum of products containing water, comprising a principal chamber for containing products to be dried; heating means in said principal chamber for heating said products; at least one cooling chamber, separated from said principal chamber by vacuum-tight partition means, for condensing water vapor out as ice; valve means in said vacuum-tight partition means for interconnecting said principal chamber and said cooling chamber; evacuating means for evacuating non-condensable gases from said principal chamber; melting means for melting ice formed in said cooling chamber; pressure control means for maintaining a pressure substantially lower than atmospheric pressure in said cooling chamber during the melting of ice in said cooling chamber; a plurality of cooling chambers separated from

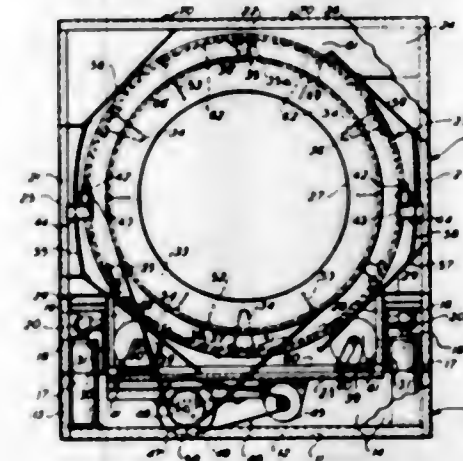
each other and from said principal chamber by vacuum-tight partition means, a cooling conduit presenting a cooling surface for freezing water vapor out as ice positioned in each of said cooling chambers, valve means in said vacuum-tight partition means for opening a selected one of said cooling chambers to said principal chamber, evacuating means opening into said cooling chambers for evacuating the selected one of said cooling chambers and said principal chamber, cooling medium means for supplying a cooling medium to the cooling conduit of the selected one of said cooling chambers and for preventing the supply of said cooling medium to the others of said cooling conduits, a water vapor chamber, water vapor generating means in said water vapor chamber, and a plurality of valves each for opening a corresponding one of said cooling chambers to said water vapor chamber thereby supplying water vapor to the corresponding one of said cooling chambers to melt ice formed on the cooling surface of said corresponding one of said cooling chambers.

3,382,587

## CLOTHES CONDITIONING-DRYING MACHINE

John T. Curtis, Hamilton, Ohio, assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Sept. 6, 1966, Ser. No. 577,391  
3 Claims. (Cl. 34—139)



2. A clothes conditioner and dryer comprising a cabinet having an opening in a sidewall thereof, a drum rotatably mounted within said cabinet on a horizontal axis, means for rotating the drum, said drum having an end opening in registry with said side opening of the cabinet, said drum including a frame having circular end walls and parallel bridging members secured thereto at peripheral intervals forming a cage-like frame structure, perforated panels bolted to said bridging members forming removable peripheral sections of said drum, said cabinet having a top opening in the upper wall thereof through which said panels are removable one-by-one as the drum is indexed to bring the successive panels in registry with said top opening.

3,382,588

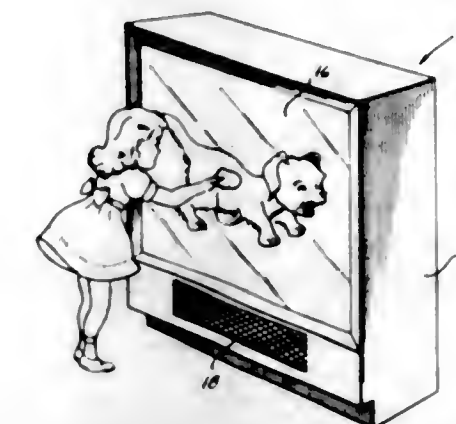
## RESPONSE EXPRESSION APPARATUS FOR TEACHING MACHINES

Robert Serrell, Princeton, N.J., and Frederick R. Kling, Point Pleasant, Pa., assignors to Educational Testing Service, Princeton, N.J., a nonprofit corporation of New York

Filed Jan. 11, 1965, Ser. No. 424,545  
14 Claims. (Cl. 35—9)

7. Apparatus for indicating the response of an observer to an intelligible visual representation a part of which is to be identified including in combination, a screen having a viewing surface, means for projecting a visible image

of said representation through said screen to the viewing surface thereof from a side thereon remote said viewing surface, a plurality of light transmitting proximity responsive devices adapted to be actuated by said observer, and means mounting said devices adjacent the remote side of said screen at locations registering with discrete respective areas of said image in the field of view of said



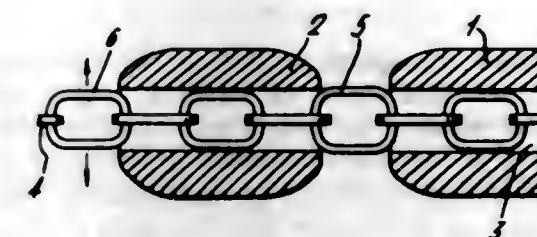
observer, the construction and arrangement of said devices being such that said image passes through said devices and through said screen to said viewing surface and the devices are substantially indistinguishable to said observer in the presence of said image, selection of an area of said image by said observer causing actuation of the associated device.

3,382,589

## CONSTRUCTION FOR SPACING ROSARY OR OTHER BEADS ON A CLOSED LINK CHAIN

James Joseph Dowling, 73 St. Declan Road, Marino, Dublin, Ireland

Filed Nov. 30, 1965, Ser. No. 510,607  
Claims priority, application Ireland, Dec. 3, 1964, 1,262/64  
6 Claims. (Cl. 35—23)



1. An article of the kind consisting of a number of beads threaded on a stringing member along which the beads are spaced in a desired pattern wherein the stringing member comprises a closed link chain and each bead is located in position on the chain by the closed links adjacent the ends of the through-passage or bore in the bead, which last mentioned links are expanded to have a transverse dimension larger than the maximum transverse dimension of said bore to prevent movement of the bead past either of the expanded links.

3,382,590

## ADJUSTABLE GRAPH

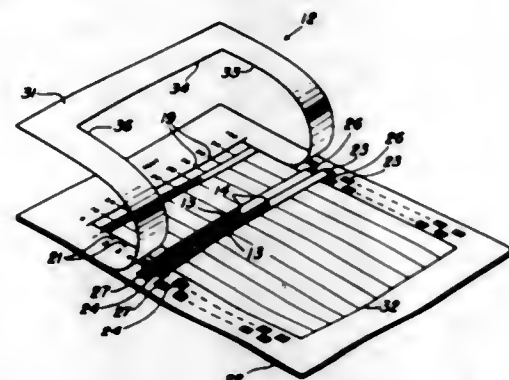
Robert M. Mitchell, 6183 Stetson Place, San Diego, Calif. 92122

Filed Jan. 12, 1966, Ser. No. 536,252  
4 Claims. (Cl. 35—24)

An adjustable bar graph, each bar consisting of an endless loop of tape threaded through a plurality of slots on a mounting sheet to form parallel bar indicators, the mounting slots being staggered to permit adjacent



mounting of the tapes, the tapes being of equal length for ease, simplicity and economy in production and a receive in an angular and reversible manner a groove in a fixed block with a small letter or numeral of any type on



movable scale having a tongue portion for sliding between the mounting member and the endless loops of tape.

3,382,591

# DEVICE AND METHOD FOR DEMONSTRATING ANGLES WITHIN A CIRCLE

Cornelius Savin, Westbury, Alan G. Vorwald, Bethpage, and Christopher R. Vagts, Huntington, N.Y., assignors to Antran Corporation, a corporation of New York  
Filed Oct. 22, 1965, Ser. No. 500,777  
1 Claim. (Cl. 35-34)



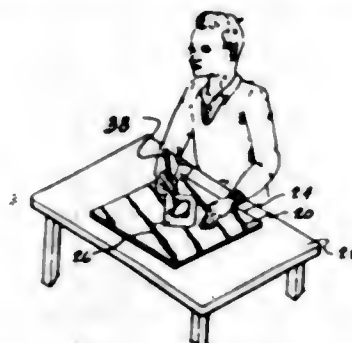
An animated transparency device for demonstrating visually the characteristics of various angles within a circle and the relation thereof to one another and to the circumference of the circle comprising a square member having a projection arranged at each corner thereof, a circle arranged on the square member with a plurality of similar projections arranged circumferentially therearound at spaced-apart intervals and a similar projection arranged centrally thereof, a flexible member which is adapted to be removably disposed around any desired number of the projections to define various angles so as to demonstrate visually a geometric problem, and a circular protractor adapted to be removably positioned on any one of the projections for the measurement of the various angles defined by the flexible member, the square member and protractor being made of a transparent material of identifying and contrasting colors adapted to be projected on a screen by an overhead projector.

3,382,592

# APPARATUS AND METHOD OF TEACHING HANDWRITING TO CHILDREN

Noe B. Lucero, 7453 Indiana Ave.,  
Riverside, Calif. 92504  
Filed Mar. 18, 1966, Ser. No. 541,895  
4 Claims. (Cl. 35-37)

Apparatus for teaching hand writing to retarded children and others, including a base board shallowed to re-



one side and a capital or larger similar character on the reverse side.

3,382,593

# HYDRAULIC DEMONSTRATOR FOR OIL FILTERING ACTION

Larry D. Couch, 724 S. Hindry Ave., Apt. 6,  
Inglewood, Calif. 90301  
Filed Aug. 8, 1966, Ser. No. 570,902  
9 Claims. (Cl. 35-49)



1. A demonstration and teaching aid for illustrating the operation of filtering devices for contaminated fluids, said aid comprising:

means for receiving a quantity of a fluid contaminated with particulate matter so as to have a characteristic dirty appearance;

spindle means; a thin soft fiber paper ribbon tightly wound on said spindle means;

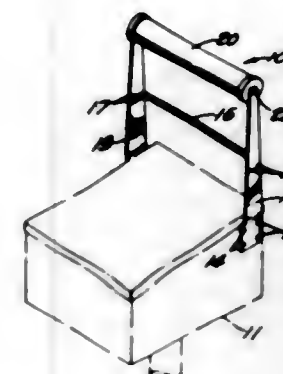
means for receiving decontaminated fluid cleared of its characteristic dirty appearance;

transparent housing means for containing said means for receiving contaminated fluid, said spindle means with said fiber paper ribbon wound thereon and said means for receiving decontaminated fluid, said three last named means being disposed in said housing means with a continuous fluid path communicating therebetween; and

means operatively disposed in said housing and in said fluid path for urging said contaminated fluid from said means for receiving contaminated fluid through said fiber paper ribbon into said means for receiving said decontaminated fluid,

the passage of said contaminated fluid through said fiber paper ribbon, under the urge of said means operatively disposed in said housing, resulting in the entrapment of said particulate matter in said ribbon whereby the fluid thus decontaminated enters said means to receive decontaminated fluid clear and clean, the various stages of passage of said contaminated fluid through said fluid path to become decontaminated being observable through said transparent housing means.

3,382,594  
CREDIT CARD LIST VIEWER  
Donald N. Volger, 4900 Hollywood Blvd.,  
Los Angeles, Calif. 90027  
Filed Sept. 30, 1965, Ser. No. 491,608  
3 Claims. (Cl. 40-68)

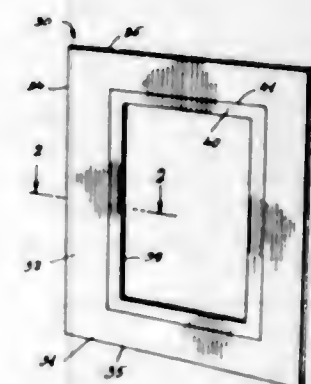


A clear plastic, tubular device to hold a sheet of paper containing a list of rejected credit cards rotatable in a pair of brackets.

3,382,595

# INLAY AND OVERLAY BORDER PICTURE MATS

Frank Shore, 26 Lantern Road,  
Hicksville, N.Y. 11801  
Filed Dec. 15, 1966, Ser. No. 602,041  
9 Claims. (Cl. 40-158)



1. In a readily adjustable picture mat the combination of a mat member of generally rectangular configuration, said mat member having a front and rear side, said front and rear side being bounded by parallel side edges and top and bottom edges, said mat having a central opening of rectangular configuration, said mat member being formed from a plurality of laminations comprising a front layer of relatively thin material which may be specifically colored or textured, a central layer of relatively greater thickness and made from relatively cheap paper filler, and a rear layer of relatively thin sized paper, said mat member having a notch of rectangular configuration extending through said front and central layers to define a border area.

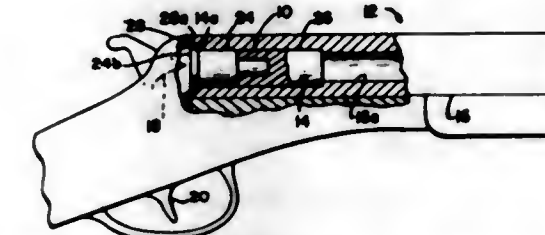
3,382,596

# SAFETY PLUG FOR FIREARM CHAMBER

Clyde R. Rockwood, 2708 Highland Court,  
St. Joseph, Mich. 49085  
Filed Oct. 27, 1966, Ser. No. 589,940  
12 Claims. (Cl. 42-1)

A safety plug adapted to be installed in the firing chamber of a firearm to prevent unauthorized use of the firearm. The plug has the general external configuration of a conventional shell to be used with the firearm. The plug is

bipartite with a rear portion thereof adapted to be extracted or ejected by the ejection mechanism of the firearm when opened. The plug further defines a rear sur-

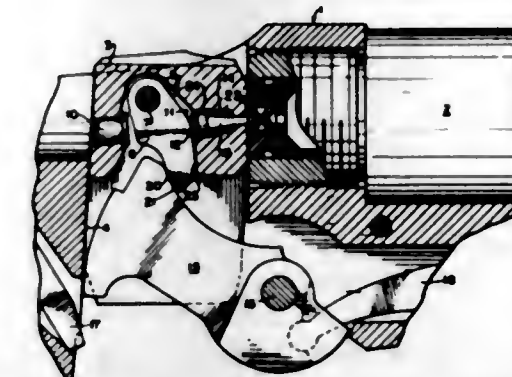


face adapted to be struck by the firing pin of the firearm for improved safe dry firing of the firearm when desired.

3,382,597

# SINGLE SHOT DROP BREECHBLOCK RIFLE

William B. Ruger, Southport, and Lawrence L. Larson, Bethany, Conn., assignors to Sturm, Ruger & Co., Inc., Southport, Conn., a corporation of Connecticut  
Continuation-in-part of application Ser. No. 550,214, May 16, 1966. This application May 16, 1967, Ser. No. 638,942  
3 Claims. (Cl. 42-23)



This invention relates to single shot rifles having a drop breechblock, a hammer which operates in a recess in the breechblock which strikes a pivoted intermediate member which engages and drives the firing pin into contact with the cartridge primer.

3,382,598

# FISHING DEVICE

Johnnie L. Wilson, Tulsa, Okla., assignor of one-half to Nathan H. Horn, Tulsa, Okla.  
Filed June 6, 1966, Ser. No. 555,342  
7 Claims. (Cl. 43-17)



1. For use with a fishing line having a fish hook at one end thereof, the combination comprising:  
an indicating signal generating means in said line re-



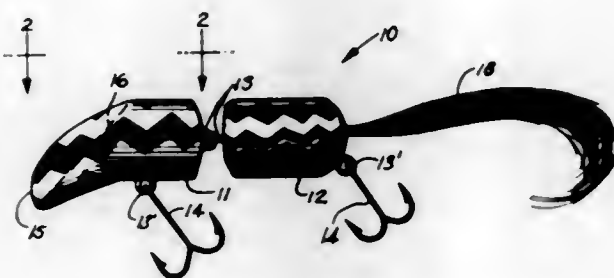
sponsive to originate a signal when said hook is displaced;  
 an underwater signal receiving means remotely spaced from said signal generating means and responsive to said signal originated by said signal generating means; and  
 an audio signal generating means actuated by said signal receiving means providing an audio signal when said hook is displaced.

**3,382,599**  
**FISHING LURE RETRIEVER**  
 John K. Beverley, 4 Ladue Ridge Road,  
 St. Louis County, Mo. 63124  
 Filed Sept. 13, 1965, Ser. No. 486,785  
 6 Claims. (Cl. 43-17.2)



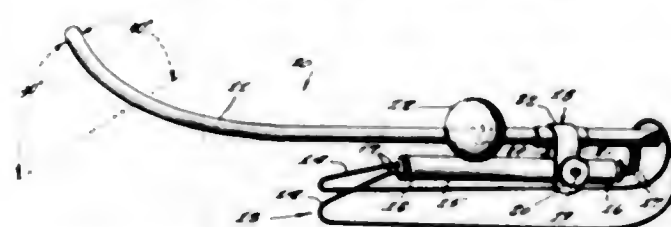
A fishing lure retriever having a primary impact member of hollow form and a secondary impact member loosely caged in the primary member, and slot means in the body of the primary member to receive the line connected to the snagged fishing lure so that the snagged line acts as a guide to direct the retriever against the snagged fishing lure.

**3,382,600**  
**FISHING LURE**  
 Darrel D. Walters, 45 Mill St.,  
 Springboro, Ohio 45066  
 Filed May 3, 1965, Ser. No. 452,595  
 1 Claim. (Cl. 43-42.15)



A fishing lure adapted to simulate a small animal and including forward and rear cylindrical body members interconnected for horizontal pivotal movement. A nose portion extends sharply downward from the forward body portion and a concave surface is provided in the nose and forward body member. A stiff but flexible tail extends centrally from the rear surface of the rear body member, and treble hooks extend downwardly from the rear portion of the rear body member and the central portion of the forward body member.

**3,382,601**  
**FISHING DEVICE**  
 Wesley Green, 390 Pocahontas St.,  
 Xenia, Ohio 43585  
 Filed Jan. 9, 1967, Ser. No. 608,185  
 4 Claims. (Cl. 43-43.14)



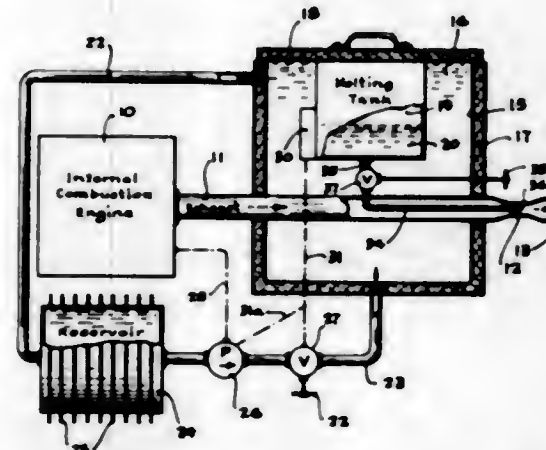
A fishing device that rests on the bottom of a body of water and having an angularly adjustable tube through which the fishing line freely runs. The tube may be adjusted to hold bait on the line an adjustable distance from the bottom.

**3,382,602**  
**FISHHOOK**  
 William A. Blake, Glenoma, Wash. 98336  
 Continuation-in-part of application Ser. No. 357,976,  
 Apr. 7, 1964. This application Oct. 21, 1965, Ser.  
 No. 505,595  
 8 Claims. (Cl. 43-44.6)



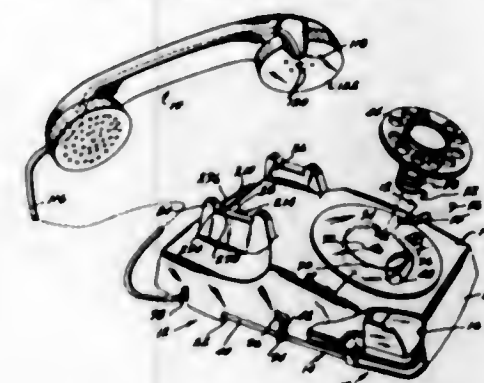
A fabricated fishhook for holding a cluster of eggs, including two shanks integrally joined together, at least one of the shanks being formed of two shank portions united so as to be integral. An impaling member projects from one of the shanks toward the other shank and a catch may be provided on one of the shanks for engaging the other shank.

**3,382,603**  
**METHOD AND APPARATUS FOR VAPORIZING MATERIAL**  
 Edwin L. Oberto, Libertyville, Ill., assignor to Burgess Vibrocrafters Inc., Grayslake, Ill., a corporation of Delaware  
 Filed June 30, 1966, Ser. No. 561,938  
 20 Claims. (Cl. 43-129)



1. A method of producing an aerosol by using an internal combustion engine to vaporize a solid material comprising the steps of: transferring heat from the exhaust of said engine to said material to liquify the same; introducing said material after liquification into said exhaust and vaporizing the same; and releasing said exhaust toward the object to be treated.

**3,382,604**  
**TOY PHONOGRAPHIC TELEPHONE**  
 John W. Ryan, Bel Air, Calif., assignor to Mattel, Inc.,  
 Hawthorne, Calif., a corporation of California  
 Filed Nov. 18, 1964, Ser. No. 412,180  
 15 Claims. (Cl. 46-33)



A toy phonographic telephone includes a housing simulating a real telephone. A battery-operated turntable rotates a record carrying suitable messages reproduced by a tone arm carrying a needle and a speaker cone assembly which is connected by a hollow tube to the receiver portion of a hand set resembling a real telephone hand set. A first button, which actuates a mechanism energizing the turntable, is accessible only after the hand set has been removed and a second button automatically deenergizes the system when the hand set is returned.

**3,382,605**  
**AMUSEMENT DEVICE**  
 Asa B. Compton, Spencerville, Md., assignor to Funtastic, Inc., a corporation of Virginia  
 Filed Oct. 22, 1965, Ser. No. 501,285  
 7 Claims. (Cl. 46-47)

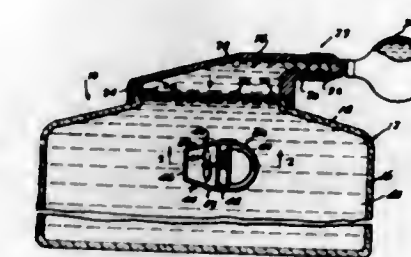


1. A display device comprising a mounting stick of laminated fibrous material having a smooth and readily printable outer surface and of sufficient strength to withstand substantial mechanical shock, said stick bearing a series of notches to receive a rubbing device and thus impart impulsive energy thereto, said stick also being provided with a plurality of annular grooves, a plurality of pin-wheels mounted individually in said annular grooves and freely rotatable therein, but normally not displaceable therefrom without application of substantial force.

**3,382,606**  
**CARTESIAN TYPE TOY**  
 James T. Johnson, Rte. 2, Kissimmee, Fla. 32741  
 Filed Mar. 11, 1966, Ser. No. 533,700  
 13 Claims. (Cl. 46-91)

4. A submersible element for a Cartesian toy comprising an open elongated frame including a pair of end frame members and a side frame member connected to and extending between said pair of adjacent ends of said end frame members, a substantially hollow receptacle having a pair of opposed ends, a flexible diaphragm extending transversely across said receptacle intermediate its said ends to divide said receptacle into a pair of air-

containing and liquid-receiving chambers, said receptacle having a port extending transversely therethrough and in open communication with said liquid-receiving chamber, a liquid pressure-responsive flap valve disposed within said liquid-receiving chamber and mounted on said receptacle, said flap valve normally seating across said port to close the same against liquid entry, a conduit having a pair of opposed ends, said conduit having one of its ends extending transversely through said receptacle in open communication with said liquid-receiving chamber and the other end of said conduit being externally-disposed relative to said receptacle, means at said opposed ends of said receptacle rotatably-supporting said receptacle on and between said end frame members, said means including a shaft having an end thereof fixedly-secured to one end of said receptacle with the other end extending transversely through one of said end frame members, said shaft being rotatable with said receptacle, and propeller means fixedly-secured on the other end of said shaft for rotation therewith.



6. A submersible element for a Cartesian toy comprising an open elongated frame, said frame including a pair of laterally-spaced and substantially parallel side frame members, a pair of longitudinally-spaced end frame members, each of said end frame members connecting, respectively, an adjacent pair of ends of said side frame members, an ogive front frame member having its ends connected, respectively, with an adjacent pair of ends of said end frame members, a substantially hollow rigid receptacle having a pair of oppositely-disposed open and closed ends, a rigid closure wall extending across and closing said open end of said receptacle, a flexible diaphragm extending across said receptacle adjacent the inner side of said closure wall and dividing said receptacle into a pair of air-containing and liquid-receiving chambers, said closure wall having a port extending transversely therethrough, means supporting said receptacle for rotation on said frame, said means comprising a stub shaft having one of its ends fixedly-secured to said closed end of said receptacle for rotation therewith, the other end of said stub shaft being journaled for rotation on said ogive front frame member centrally of the ends thereof and an elongated shaft having one of its ends fixedly-secured to said closure wall centrally thereof for rotation with said receptacle, the other end of said shaft extending transversely through the side frame member adjacent said ogive frame member centrally of said ends thereof and being journaled for rotation therein, said other end of said shaft having an end portion disposed between said side frame members, a propeller fixedly-secured on said end portion of said shaft between said side frame members, a liquid pressure-responsive flap valve disposed in said liquid-receiving chamber and having a pair of opposed ends, means fixedly-securing one of said ends of said flap valve to said fixedly-connected end of said shaft with its other end normally extending across and closing said port against entry of said liquid into said liquid-receiving chamber, and an L-shaped conduit having an end thereof extending transversely through said closure wall and in open communication with said liquid-receiving chamber, the other end of said conduit terminating adjacent the peripheral edge of said closure wall.



3,382,607

**FIGURE TOY HAVING FIBERS IMPREGNATED WITH INDICATOR DYE**

John W. Ryan, Bel Aire, John F. Jones, Torrance, and Marshall Pearlman, Beverly Hills, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California

Filed Jan. 4, 1965, Ser. No. 423,382  
6 Claims. (Cl. 46-156)



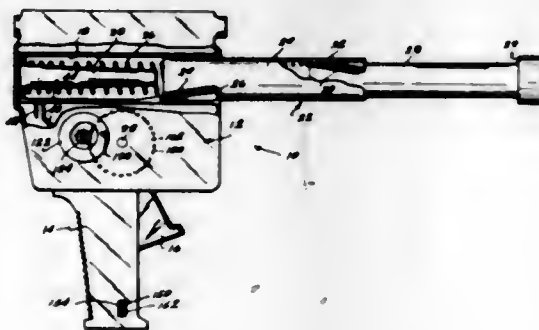
A toy, such as a doll, having a visible portion comprising fibers permanently impregnated with an indicator dye capable of repeated and reversible color change in response to contact with liquids of different pH concentrations.

3,382,608

**MOVIE CAMERA GUN**

John W. Ryan, Bel Air, Willard L. Zeigler, Fountain Valley, Warren D. Kabot, Manhattan Beach, and Edwin O. Stastny, Santa Ana, Calif., assignors to Mattel, Inc., a corporation of California

Filed Feb. 28, 1966, Ser. No. 530,527  
20 Claims. (Cl. 46-175)



1. A toy, comprising:
  - a housing simulating a predetermined article, means mounted on said housing and adapted to be substantially hidden therewithin, said means, when exposed, serving to change the appearance of said housing,
  - a trigger member movably mounted on said housing and operable to effect the exposing of said appearance-changing means when said trigger member is moved to a predetermined position,
  - cap-firing means mounted within said housing and engageable by said trigger member for the firing of a cap when said trigger member is moved to said predetermined position, and
  - actuator means movably mounted on said housing and engageable with said cap-firing means, said actuator means being adapted to be selectively, substantially continuously operated for successively actuating said cap-firing means in a rapid manner and being operatively associated with said trigger member so as to be operable when said trigger member is moved to said predetermined position.

3,382,609

**ELECTRICALLY POWERED TETHERED TOY**

Nick C. Neanhouse, 7133 W. 109th St., Worth, Ill. 60482

Filed Nov. 26, 1965, Ser. No. 509,818  
4 Claims. (Cl. 46-243)



A motorized electric Yo-Yo is described in which an electric motor and thumb-operated switch are used to cause a suspended rubber ball to duplicate the rhythmic rising and falling motions of a conventional Yo-Yo.

3,382,610

**METHOD OF COOLING SOIL IN HOT WEATHER TO ENABLE SEED GERMINATION**

Richard L. Ferm, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Sept. 28, 1966, Ser. No. 582,502  
2 Claims. (Cl. 47-9)

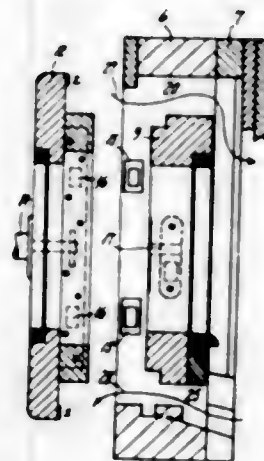
1. The method for protecting seeded soil against overheating, comprising coating the surface of the seeded rows of the soil with a composition consisting essentially of from about 10 to about 40% by weight of an asphalt characterized by a softening point in the range of from about 100 to about 250° F., from about 5 to about 40% by weight of leafing-grade aluminum, and a volatile, non-phytotoxic hydrocarbon solvent boiling in the range from about 120 to about 400° F. in an amount to bring the weight of the composition to 100%, said composition being applied over the surface of the soil at a rate of from about 0.1 to about 3 pounds per one square yard of the coated soil surface.

3,382,611

**CHILD-PROOF WINDOW AND BALCONY DOOR**

Gustaf Adolf Zandella, Kungsgatan 58B, Malmö, Sweden

Filed Mar. 24, 1966, Ser. No. 537,151  
5 Claims. (Cl. 49-67)



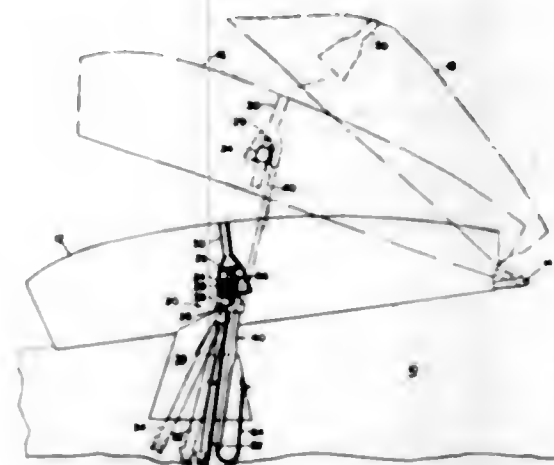
A window or balcony door has two inwardly horizontally swinging sashes the outer of which is spaced from the top and bottom of the window frame to provide upper and lower ventilation openings. These openings are downwardly outwardly directed to render them weather-proof. The sashes may be selectively individually locked.

3,382,612

**SAFETY MECHANISM FOR AIRCRAFT CANOPIES**

Leonard Schroedter, La Palma, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 21, 1966, Ser. No. 560,383  
6 Claims. (Cl. 49-340)



1. In an aircraft having a cockpit and a canopy movable between open and closed positions by selective energization of a hydraulic cylinder, the piston of said cylinder being by said canopy and the cylinder housing being mounted on the fuselage of said aircraft, said canopy constituting a personnel hazard in that the movement thereof from open to fully closed position is capable of being inadvertently initiated, the improvement which comprises: a safety mechanism for precluding such an inadvertently initiated movement of said canopy from open to fully closed position, said mechanism including:

- guide means carried by said piston and movable therewith;
- a projecting element carried by said cylinder housing, said projecting element engaging said guide means;
- said guide means being so configured as to preclude a continuous relative displacement in one direction between said guide means and said projecting element as said cylinder is energized to actuate said canopy from open to fully closed position, as a result of which said canopy is held in a partially open position following initial energization of said cylinder,
- said guide means being further configured so as to permit further relative displacement in the said one direction between such guide means and the said projecting element following a subsequent energization of said cylinder for a limited period of time to actuate said canopy toward open position, during which limited time there occurs a relative displacement between said guide means and said projecting element in a direction essentially opposite to said one direction.

3,382,613

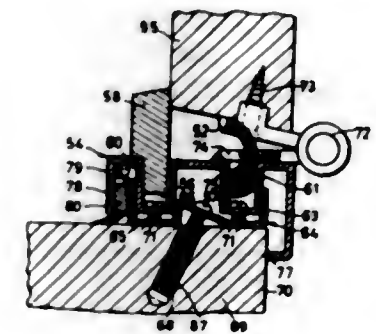
**SASH FRAME AND SASH ASSEMBLY**

Ernst Koller, 64 Paradiesstrasse, Binningen 4102, Switzerland

Filed Oct. 28, 1965, Ser. No. 505,494  
Claims priority, application Switzerland, Jan. 20, 1965, 801/65; June 15, 1965, 8,320/65  
5 Claims. (Cl. 49-419)

A sash frame assembly in which the frame has two longitudinal grooves with a first offset part projecting towards the sash to form an abutment ledge with the latter com-

posed of elastic material and being located in one of the grooves. There is a second offset part also of elastic mate-



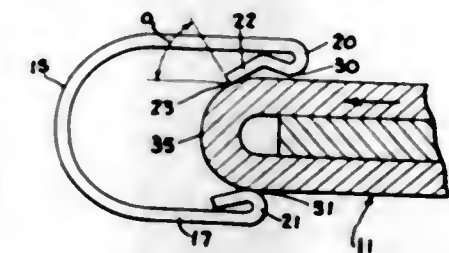
rial and located in the other of the grooves to provide a seal and second abutment for the sash.

3,382,614

**ORNAMENTAL AND PROTECTIVE MOLDING FOR MOTOR VEHICLE DOORS**

Robert Adell, 1365 Balmoral, Detroit, Mich. 48203

Filed Oct. 15, 1965, Ser. No. 496,606  
2 Claims. (Cl. 49-462)



An ornamental and protective molding for the edge of an automobile door, the molding being made of a resilient sheet metal and having a substantially U-shape cross section to go over the edge of the door and to embrace the same, the leg of the U-shape cross section intended to be on the outside of the door edge being shorter than the other leg, with the edges of the molding appearing as the ends of its U-shape cross section being bent inwardly of the U to form rounded edges, the size of the U-shape cross section being so selected that the distance between the rounded edges inside of the U is larger than the thickness of the door edge received therebetween, an inwardly protruding extension provided on the edge of the longer leg of the U pointing substantially toward the center of the curvature of the bottom of the U, the distance between the end of the extension and the rounded edge of the other leg being smaller than the width of the edge of the door received therebetween to ensure in the installed position of the molding exertion of resilient pressure by the end edge of the extension on the innerside of the door edge for retaining the molding in place.

3,382,615

**ORNAMENTAL AND PROTECTIVE MOLDING FOR MOTOR VEHICLE DOORS**

Robert Adell, 350 Billingsgate, Birmingham, Mich. 48010

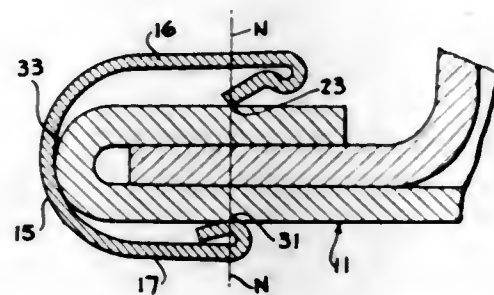
Continuation-in-part of application Ser. No. 496,606, Oct. 15, 1965. This application Mar. 4, 1966, Ser. No. 531,689

3 Claims. (Cl. 49-462)

A strip is provided for a vehicle door edge for ornamenting the edge and protecting the paint thereon from chipping. The strip is of U-shape cross section and its longitudinal length follows the shape of the door edge. The



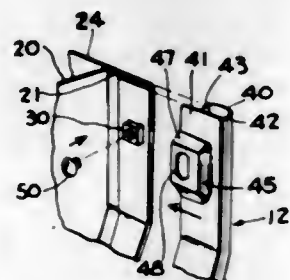
front leg of the U-section is reversely rolled to provide a line contact with the front surface of the door, the inner leg being reversely rolled and extended outwardly



to provide a sharp edge located opposite to the front rolled edge in position to cut into the rear surface of the door edge and retains the strip locked thereon.

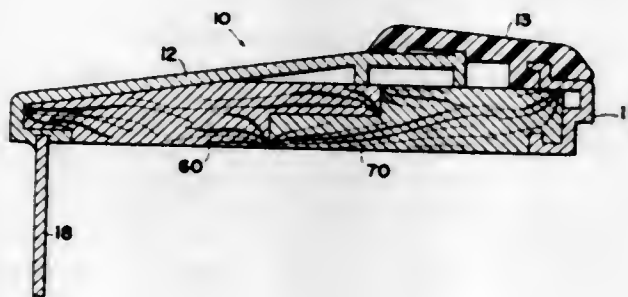
### 3,382,616 ORNAMENTAL AND PROTECTIVE MOLDING FOR MOTOR VEHICLE DOORS

Robert Adell, 350 Billingsgate,  
Birmingham, Mich. 48010  
Filed May 16, 1966, Ser. No. 550,410  
6 Claims. (Cl. 49-462)



The ornamental and protective molding is of U-shape in section with its longitudinal shape conforming to the curvature at the door edge. The outer leg of the molding is curled or reversely rolled inwardly and spaced extensions are provided on the inner leg outwardly thereof. The extensions have an aperture through which a screw extends when threaded into a weld nut on the inner face of the door to secure the molding thereon.

3,382,617  
DOOR SILL  
William R. St. Aubin, 232 Marie Place,  
Perrysburg, Ohio 43551  
Filed Mar. 24, 1966, Ser. No. 537,215  
7 Claims. (Cl. 49-468)



1. A sill adapted for installation beneath an exterior door comprising, in combination, an outer member ex-

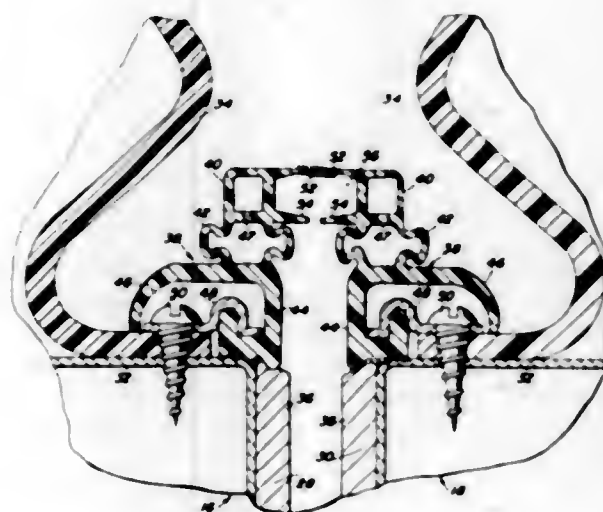
posed to exterior temperatures, an inner member exposed to interior temperatures, means for insulating said inner member from said outer member and said exterior temperatures, said outer member including a front apron extending downwardly and backwardly forming a drip edge to shed moisture, drip edge extension means, and means removably securing said extension means to said front apron.

### 3,382,618 CLOSURE SEALING MEANS FOR REFRIGERATOR CABINET

Russell S. Townsend, Fort Smith, Ark., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Sept. 20, 1965, Ser. No. 488,582  
1 Claim. (Cl. 49-483)

A condensate preventive for refrigerators provided by

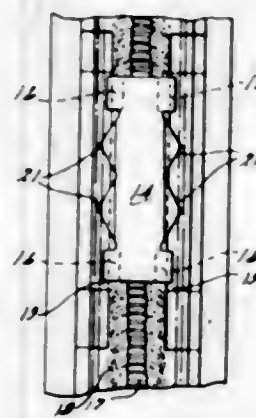


a pair of flexible gaskets respectively connected to side-by-side refrigerator doors swingable toward each other, each gasket being substantially U-shaped in cross section with its legs extending toward the legs of the other gasket, one pair of corresponding legs overlapping in sealing relation and the other pair of legs extending toward each other and defining, with the first pair, a partial dead air space in the refrigerated space between the doors.

### 3,382,619 FLEXIBLE SUPPORT AND REINFORCEMENT FOR MOLDED MATERIAL

Henry P. Bemis, Birmingham, Mich., assignor, by mesne assignments, to Sheller-Globe Corporation, a corporation of Ohio

Filed Oct. 13, 1965, Ser. No. 495,487  
6 Claims. (Cl. 49-493)



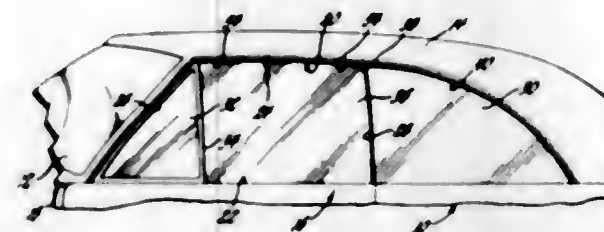
A flexible reinforced sealing strip for use on the triangular shaped vent windows of automobiles wherein the structure of the sealing strip is such that it is enabled

to bend forwardly or laterally to assume a greater curvature while providing sufficient support for retaining clips which hold the sealing strip in position. The sealing strip is comprised of an elastomeric material having a sealing lip on the inner face engageable by a panel to be sealed when in closed position, and a flexible metal reinforcing strip embedded within the elastomeric material and made from wire which is flattened and provides lateral rigidity between the side edges for supporting the securing clips.

### 3,382,620 VEHICLE BODY

Laurent L. Cloutier, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 6, 1966, Ser. No. 584,879  
5 Claims. (Cl. 49-506)

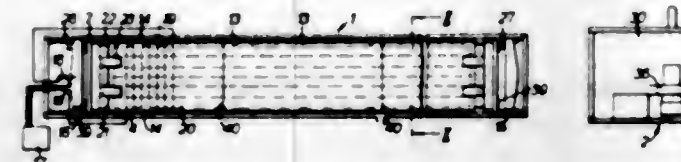


1. A method of locating the edge portion of a movable window within a weatherstrip channel comprising, providing sight means through the weatherstrip to the channel located a predetermined distance from the channel opening, providing light reflecting means on the edge portion of the window, and moving the window within the weatherstrip channel until the light reflecting means are moved past the sight means and concealed from view there-through.

### 3,382,621 APPARATUS FOR SURFACE-FINISHING ARTICLES

Charles J. A. Kellard, Stevenage, England, assignor to Mechanical Handling Plant and Construction Company Limited, Knebworth, England, a British company

Filed May 3, 1965, Ser. No. 452,535  
11 Claims. (Cl. 51-7)



A surface-finishing machine, especially for long articles. A trough has a resilient base formed by a horizontal flexible sheet separating the trough from a water-filled region. The article is reciprocated in finishing medium laid in the trough by a movable carriage, which can also extract the medium to a desired level to expose the article for removal.

### 3,382,622 DISC GRINDER

Elman R. Dunn, Roscoe, Ill., assignor to Landis Tool Company, Waynesboro, Pa., a corporation of Pennsylvania

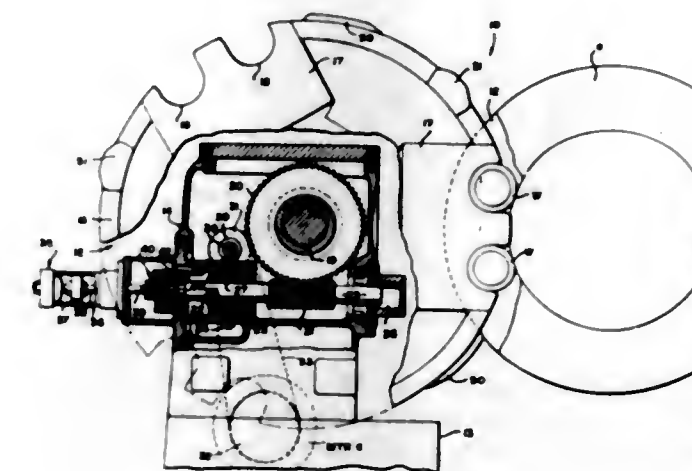
Filed May 28, 1965, Ser. No. 459,603  
14 Claims. (Cl. 51-115)

The apparatus of this application relates to the rotary carrier mechanism of a disc grinder in which the carrier

is rotated by means of a worm and worm wheel. The carrier performs two functions:

(1) It advances unground workpieces into grinding position and removes ground workpieces from the grinding position.

(2) In the grinding position, the carrier oscillates the workpieces during grinding.

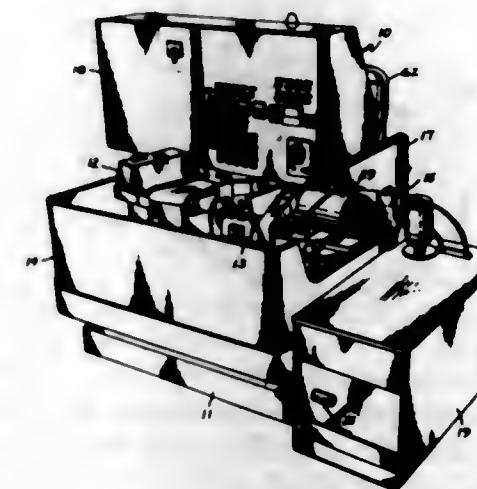


This dual function of the carrier is provided by rotating the carrier intermittently, by rotation of the worm in engagement with the worm wheel on the carrier shaft, and by oscillating the carrier during grinding by axial reciprocating movement of the worm in engagement with the worm wheel on the carrier shaft. The movement of the carrier for both functions is effected without shifting the axis of the carrier.

### 3,382,623 GRINDING MACHINE

Frederick A. Hohler, Holden, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware

Original application Aug. 17, 1962, Ser. No. 217,683, now Patent No. 3,197,921, dated Aug. 3, 1965. Divided and this application Apr. 28, 1965, Ser. No. 451,550  
5 Claims. (Cl. 51-165)



This invention has to do with the generation of surfaces of revolution by the abrasive process in which an



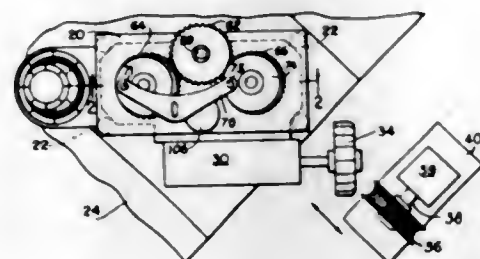
abrasive wheel is fed into the surface of a workpiece with a controlled force.

3,382,624

**OSCILLATORY HOLDER ATTACHMENT**

Cranston Wesley Folley, Kennebunk, Maine, assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois

Filed Mar. 21, 1966, Ser. No. 536,017  
10 Claims. (Cl. 51—237)



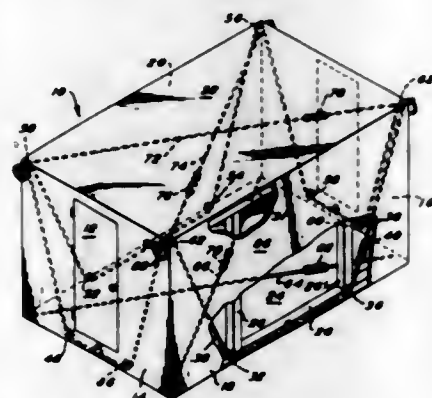
1. A work shaping holder attachment having, in combination, a housing, a support carried on the housing for movement bodily in an oscillatory path for the work shaping of curved surfaces, supporting and actuating mechanism for said support comprising a plurality of parallel eccentric driving sleeves, external bearing supports for said eccentric sleeves mounted on said housing, spindles mounted within said eccentric sleeves to be oscillated bodily about the bearing axes of said external bearing supports along the eccentric radii of said sleeves, each spindle having a bearing connection with said support eccentric to the rotational axis of said spindle, a fastening device for securing each said spindle to turn as a unit with the supporting eccentric driving sleeve, means for maintaining said eccentric sleeves in correct angular relationship and for driving said sleeves at the same rate, and means for effecting identical angular adjustments of said spindles within said sleeves, thereby to vary the oscillatory radius of movement of said support about said external bearing supports.

3,382,625

**PRESTRESSED ENCLOSURE**

Robert S. Kuss, 609 Lee Drive,  
Broomall, Pa. 19008

Filed May 19, 1965, Ser. No. 456,920  
5 Claims. (Cl. 52—63)



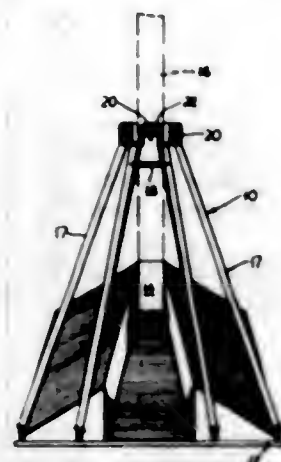
An enclosure is provided with means for prestressing side walls in a direction extending from the bottom to the top so as to provide an equal amount of prestressing and support no matter how the enclosure is twisted or distorted by a cable having relative movement with respect to support points so that the cable can equalize the load throughout its length and distribute the load to other parts of the enclosure for absorption.

3,382,626

**RIGID PLATE TYPE EXTENSIBLE BOOM**

Alexander H. Bohr, Sparta, and Walter O. Borchardt,  
Mountain Lakes, N.J., assignors to Thiokol Chemical  
Corporation, Bristol, Pa., a corporation of Delaware

Filed Oct. 19, 1965, Ser. No. 497,980  
12 Claims. (Cl. 52—108)



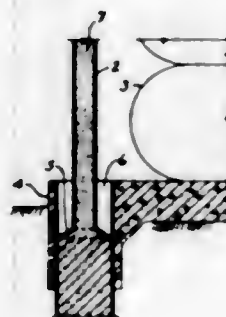
1. An extensible member for use as a boom comprising, in combination, a plurality of rigid interconnectible plates extended from a storage stack into connection to form a strip, additional strips extended from separate stacks coextensively with and adjacent to said first strip, and separate means coextensive with and connecting the edges of said strips to form a rigid hollow boom.

3,382,627

**SAND COLUMN SUPPORT**

Karl O. Vartia, 5214 Grover Ave.,  
Austin, Tex. 78756

Filed Aug. 12, 1964, Ser. No. 389,139  
2 Claims. (Cl. 52—126)



1. A support system for a structure designed to be raised from an initial lower level at a higher level, comprising a column attached to said structure and adapted to transfer at least part of the weight of said structure to a support area at its lower end, a recess closed at the bottom and surrounding said column, and a supply of sand or equivalent granular material within said recess adjacent to the support area at the lower end of the column, said sand supply and said support area being so arranged that the sand flows continuously into contact with said support area as the structure is raised.

3,382,628

**GROUND ANCHOR**

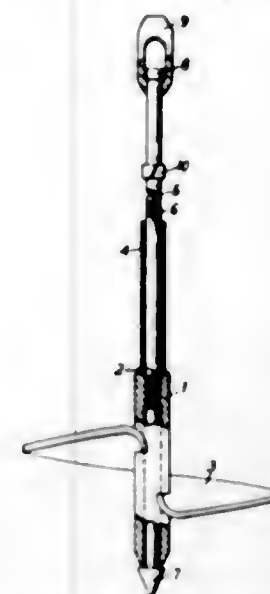
William Edmund Waite, "Thurland," Crooksbury Road,  
Runfold, Surrey, England

Filed Sept. 26, 1966, Ser. No. 581,800  
Claims priority, application Great Britain, Sept. 28, 1965,  
41,273/65

2 Claims. (Cl. 52—157)

An adjustable ground anchor is disclosed in which the shaft length can be changed by rotation of one part of

the shaft with respect to another where they are joined at a threaded connection. The smaller shaft part extends



the entire length through a hollow portion of the shaft and is prevented from being pulled out therefrom by a stop means on the remote anchor blade end thereof.

3,382,629

**DAMPED TUBULAR ANTENNA MAST**

Wolf-Dieter Reutlinger, Darmstadt, Germany, assignor to Dr. Reutlinger & Sohne, Darmstadt, Germany, a firm of Germany

Filed Feb. 1, 1966, Ser. No. 524,040  
Claims priority, application Germany, Feb. 3, 1965,  
R 39,805  
7 Claims. (Cl. 52—173)



The invention relates to the combination of a tubular mast, such as for transmitter antennas, which is subject to becoming vibratory in a wind, and a pendulum in the mast and suspended from a portion of the mast, and dampening means for the pendulum for producing a reactive effect to oppose vibration of the mast.

3,382,630

**MOUNTINGS FOR AIRCRAFT WINDSCREENS**

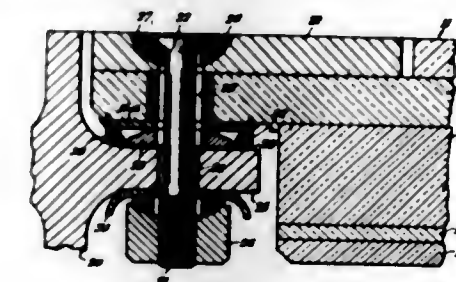
Edward L. Chivers, Southbourne, Bournemouth, England, assignor to British Aircraft Corporation (Operating) Limited, London, England, a British company

Filed Jan. 5, 1966, Ser. No. 518,959  
Claims priority, application Great Britain, Jan. 6, 1965,  
616/65

8 Claims. (Cl. 52—208)

The present invention includes an aircraft windscreen mounting, designed to relieve the transparent panel or

panels from stresses arising from flexure of the fuselage structure of an aircraft in which the transparent panels are attached to the supporting structure by countersunk headed bolts passing with clearance through apertures in the panel and in the supporting structure, a flexible cup washer with a part-spherical under surface being disposed under the head of each bolt and received in a corresponding part-spherical seating in the panel so that the bolts can tilt laterally in response to distortion of the support-



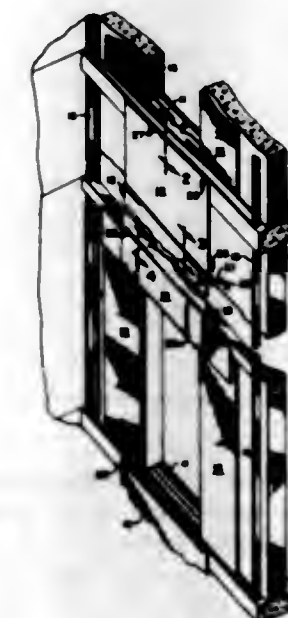
ing structure. Radiused washer pads are interposed between the panel and the supporting structure to permit the panel to adjust itself to flexure of the supporting structure and self-aligning nuts are used on the inner ends of the bolts. A pair of flexible sealing gaskets are fitted between the edge of the panel and the supporting structure, one inside and one outside the ring of bolts. The outer edges of the panel may be provided with metal reinforcing strips and metal bushings may be provided within the bolt-seating apertures.

3,382,631

**FACIA AND COVER PLATE FOR ELEVATOR SHAFT CONSTRUCTION**

Ernst Halpern, Plainview, N.Y., assignor to Williamsburg Steel Products Company, Brooklyn, N.Y., a corporation of New York

Filed May 4, 1966, Ser. No. 547,613  
4 Claims. (Cl. 52—211)

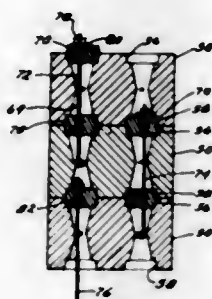


An elevator shaft construction that has adjustable means for covering the interior wall of the elevator shaft between floors. The adjustable means covers the area between the floor sill of one floor and the top of the door frame corresponding to the lower adjacent floor. The adjustable means comprises at least one facia plate having horizontal slots at one edge and vertical slots at the opposite edge, and a cover plate having means for overlapping the facia plate. The cover plate has a pair of slots for admitting fastening devices to attach the cover plate to the facia plate. Fastening devices pass through



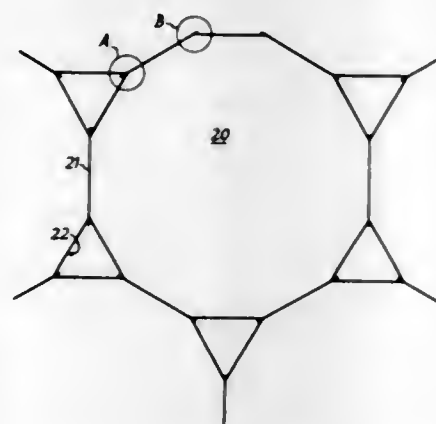
the slots of the cover plate and through the vertical slots of the fascia plate, the cover plate being supported through means of the fastening devices.

**3,382,632**  
**COMPRESSED, INTERLOCKED BLOCK WALL**  
Paul W. Grofcsik, 720 Borbeck Ave.,  
Philadelphia, Pa. 19111  
Filed July 28, 1965, Ser. No. 475,369  
2 Claims. (Cl. 52-228)



A block and wall construction comprising blocks having cooperating projections and cavities and an embedded tie bar for use in securing the blocks of a wall together by means of tie rods.

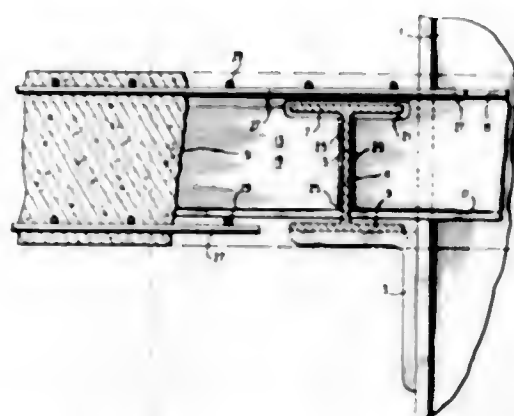
**3,382,633**  
**SILOS**  
John Derek Wilson, William John Barcham, and Alexander Stewart MacCraig, Clifton, Bristol, England, assignors to Duodec Development & Construction Company Limited, Bristol, England  
Filed Oct. 7, 1964, Ser. No. 402,209  
Claims priority, application Great Britain, Oct. 14, 1963, 40,443/63, 40,444/63  
12 Claims. (Cl. 52-237)



1. A silo having at least three compartment cells identical in section which nest with each other, each compartment cell being formed by a plurality of flat plates forming flat side walls of the cell connected together in a regular geometric pattern whereby polygonal spaces occur at each juncture of adjacent cells, which spaces are defined by pairs of connected plates one of which is common with the plates of adjacent cells respectively, any two cells being separated by a common plate, the plane containing a first plate of each pair of adjacent connected plates cutting the plane containing the second plate of said pair along a line which lies on a marginal portion of said second plate which extends in overlapping manner beyond the edge of said first plate into the polygonal space, connecting members located respectively in each angular recess formed by the first plate and the overlapping marginal portion of said second plate; each connecting member located in the angular recess formed by the

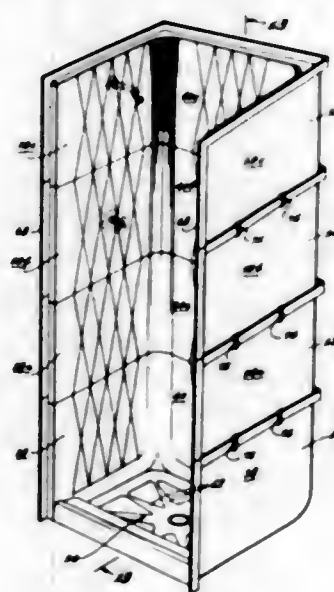
marginal portion of said one plate and the extending marginal portion of said adjacent plate being a strip welded to said marginal portions.

**3,382,634**  
**SHEAR HEAD**  
Donald A. Shaw, Lynchburg, Va., assignor to Montague-Betts Company, Inc., Lynchburg, Va.  
Filed Jan. 7, 1966, Ser. No. 519,331  
6 Claims. (Cl. 52-251)



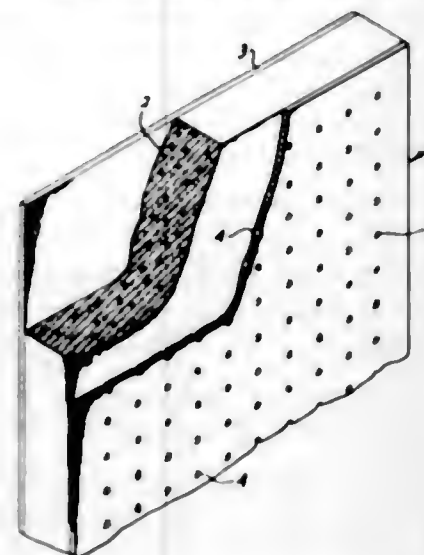
The beams that intersect at a shear head are slightly offset from each other vertically. The higher of the beams is cut only through its web and lower flange to receive the web and upper flange of the lower of the beams. In this way, the upper flanges of the beams are preserved intact. The reinforcing rods are also nested within the assembly to some extent, so as to keep the total height of the assembly to a minimum.

**3,382,635**  
**SECTIONAL BATH COMPARTMENT**  
Venard Lawrence O'Gara, Newport Beach, and Jay S. Ross, Beverly Hills, Calif., assignors to Superior Laminates, Inc., Los Angeles, Calif., a corporation of California  
Continuation-in-part of application Ser. No. 401,522, Oct. 5, 1964. This application Mar. 1, 1965, Ser. No. 446,446  
14 Claims. (Cl. 52-270)



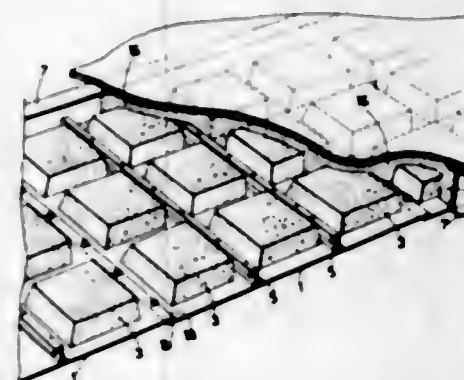
This invention relates to a bathroom enclosure which is sectionalized. The sections are constructed to provide for a telescoping of the sections during shipment. The sections are provided with flanges of a particular construction so that resilient clips can be attached to the flanges to hold the sections in a fixed relationship to one another.

**3,382,636**  
**GYPSUM LATH CONSTRUCTION**  
George W. Green, West Chester, Pa., assignor, by mesne assignments, to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia  
Filed July 24, 1964, Ser. No. 384,893  
3 Claims. (Cl. 52-310)



A paper covered gypsum lath construction having unique water absorbing characteristics is disclosed for use with thin coating plasters. The paper is coated with a wetting agent, such as an alkyl aryl sulfonate, an alkyl ester sulfonate or an alkyl aryl ether, and the paper is provided with pin holes distributed over the surface thereof.

**3,382,637**  
**RIBBED BARRIER WITH LAPPED, EDGE-JOINED FACING PANELS**  
Enrico Longinotti, 75 Viale Donato Giannotti, Florence, Italy  
Filed Apr. 13, 1966, Ser. No. 542,284  
Claims priority, application Italy, Apr. 15, 1965, 8,576/65; Feb. 15, 1966, 3,642/66  
11 Claims. (Cl. 52-320)

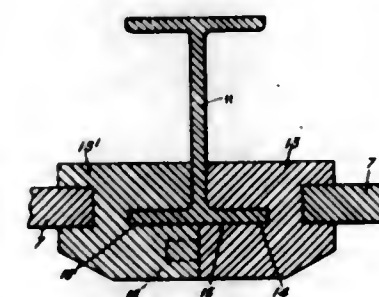


A floor-ceiling structure comprised of a plurality of assembled horizontal metal sheets supported at their longitudinal edges and having overlapped transverse edges with aligned holes in which bolts are inserted and engage nuts to secure the sheets together and deform the sheets at the edges of the holes and form reinforcement collars. A plurality of spaced blocks are mounted on the upper surface of the sheets and form a grid of channels which are filled with a concrete mass forming an overlying continuous slab above the blocks and channels.

**3,382,638**  
**ROOF INSULATION**  
Harold S. Wood, 13 Dundela Park, Dublin, Sandycove, Ireland  
Filed Dec. 3, 1965, Ser. No. 511,420  
1 Claim. (Cl. 52-495)

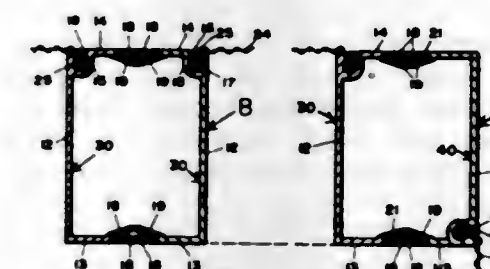
Roof construction comprises an elongated metal roof-supporting member having a web and a flange, and a pair

of strips of expanded polystyrene insulation disposed on opposite sides of the web and flange and encompassing the flange on all sides with the strips contacting each other



along the side of the flange opposite the web. The strips have tongue-and-groove connection with each other, and insulating sheets are dovetailed into the strips on opposite sides of the metal member.

**3,382,639**  
**INTERLOCKING STRUCTURAL MEMBERS**  
Edward C. Smith, 365 W. Redwood Lane, Key Biscayne, Fla. 33149, and Gerald K. Turner, Miami, Fla.; said Turner assignor to said Smith  
Filed Oct. 22, 1965, Ser. No. 501,720  
1 Claim. (Cl. 52-731)



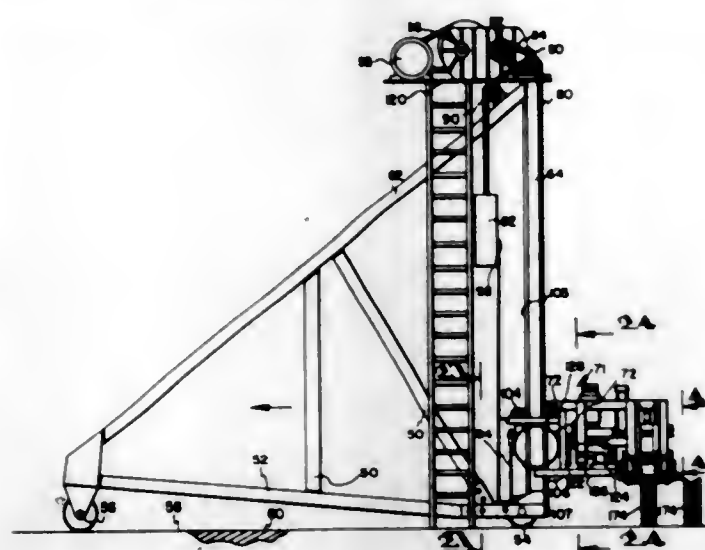
A structural member for interlocking with a similarly constructed structure member by means of key locks comprising an elongated channel shaped body portion, finger portions extending at an oblique angle adjacent the ends of leg portions of the channel shaped body portion and extending on the inside surfaces thereof in a direction toward each other, shoulder means mounted on the ends of said finger portions and key locks for locking the structural members together for forming an integral hollow member received by the abutting leg portions and finger portions and engaging the shoulder means.

**3,382,640**  
**BRICK LAYING MACHINE**  
Paul M. Thomas, 5630 E. Edgewood Road, Phoenix, Ariz., and Lawrence W. Wright, Scottsdale, Russell W. Burge, Glendale, and Eugene E. Crile, Phoenix, Ariz.; said Burge, said Wright, and said Crile assignors to said Thomas  
Continuation-in-part of application Ser. No. 263,034, Mar. 5, 1963. This application Aug. 1, 1963, Ser. No. 299,354  
76 Claims. (Cl. 52-749)

1. In a block laying machine the combination of: a frame; a main carriage vertically movably mounted on said frame; an elongated track means supported on said main carriage; a block conveyor mounted on said main carriage substantially parallel to said track means; a second carriage movably mounted longitudinally of said track means and said conveyor; third means of said second carriage movable in a direction laterally of said track means and said conveyor; block grasping means on said third

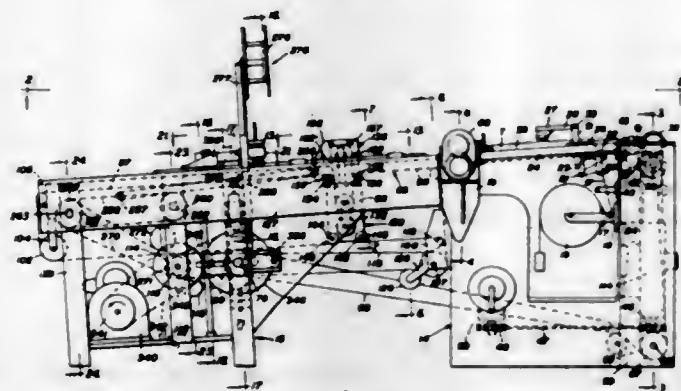


means for engaging blocks on said conveyor and for moving them laterally relative to said conveyor and to a position over an area on which blocks are to be laid; indexing means on said main carriage for moving said second carriage longitudinally along said track means intermittently and in precise increments comprising: members spaced in correspondence with said increments; a motorized crank means on said second carriage; an engaging means on said



crank means and spaced from the rotary axis thereof so that said engaging means moves in a circular path when said crank means is rotated; said engaging means disposed progressively to engage said spaced members and thus providing tractive action with said spaced members intermittently to propel said second carriage longitudinally of said track means; and motor means disposed to operate said crank as each block handling and laying cycle of operation of said second carriage and said machine occurs.

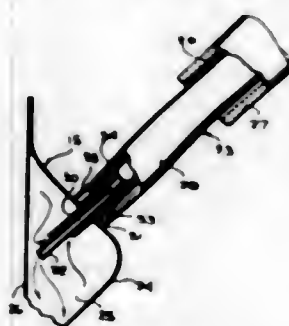
**3,382,641**  
**CONTINUOUS TUBE PACKAGING MACHINE**  
Hans A. Jensen, Madison, Wis., assignor, by mesne assignments, to The Kartridge Pak Co., Davenport, Iowa, a corporation of Iowa  
Filed Sept. 17, 1965, Ser. No. 487,977  
35 Claims. (Cl. 53-14)



A machine for continuously forming and stuffing with a product, such as a sausage batter, a relatively large diameter, tube-like casing of thin pliable film material and dividing the same at intervals into individual packages which machine includes a horizontally disposed, hollow, tube forming and filling mandrel with associated means to fold a continuous strip of film material into a tube about the same, means to feed a flowable product to the hollow mandrel which includes apparatus for withdrawing portions of the product from the filling line at intervals so as to provide for partial filling of the tube in the areas where the tube is to be divided, drive means for positively advancing the tube, mechanism carried on a reciprocating head for constricting the tube at intervals

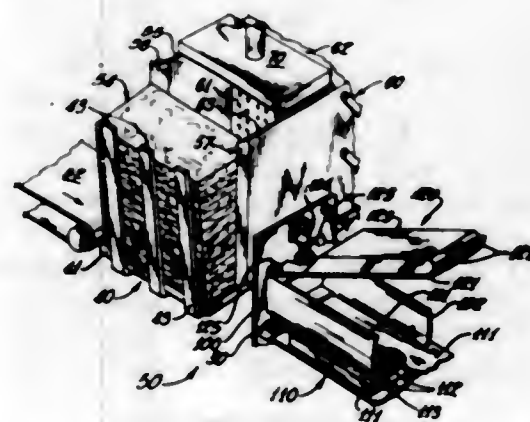
to divide the same into separate package forming sections, a traveling conveyor having a horizontally disposed top run for supporting the filled tube while it is advanced and divided, with control means for varying the rate of advance so as to slow down the advance of the tube while constricting of the tube is accomplished in order to compensate for the reduction in the length of the tube which occurs when the tube is constricted, and mechanism for forming and applying to the constricted portions of the tube pairs of metal fastener clips which are axially spaced so as to close the top of one package section and the bottom of the adjoining package section.

**3,382,642**  
**METHOD OF FILLING POUCHES**  
Fred B. Shaw, Hinsdale, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 179,048, Mar. 12, 1962. This application Oct. 14, 1965, Ser. No. 496,038  
The portion of the term of the patent subsequent to Jan. 24, 1984, has been disclaimed  
2 Claims. (Cl. 53-22)



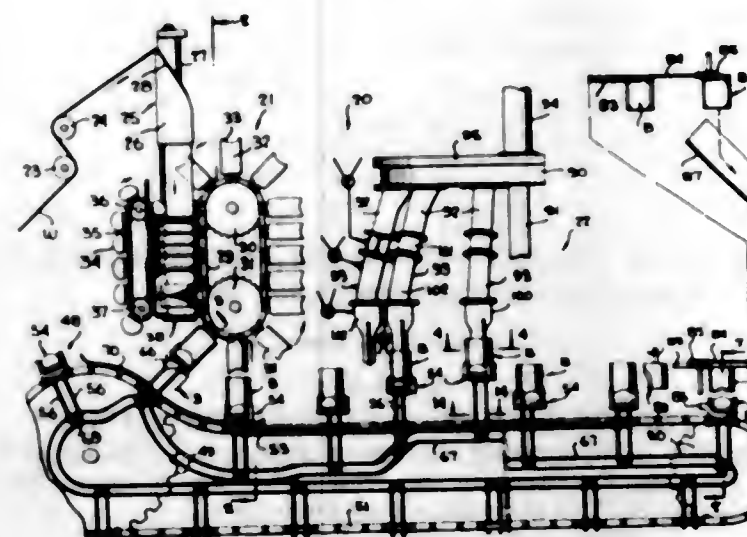
A method of filling a completely closed pouch in which a portion of the pouch is inflated utilizing the gases contained therein, the inflated portion is then punctured by a filler member and filled while simultaneously removing gases entrapped therein, after which, the pouch is completely sealed and the portion having the puncture therein is removed.

**3,382,643**  
**METHOD AND APPARATUS FOR HANDLING AND PACKAGING MATERIAL**  
William B. Hullbort and Pierce B. Brown, Granville, and William H. Mosier, Pleasantville, Ohio, assignors to Owens-Corning Fiberglass Corporation, a corporation of Delaware  
Filed May 18, 1965, Ser. No. 456,750  
10 Claims. (Cl. 53-24)



Method and apparatus for handling and packaging stacks of mats of fibrous material which includes the use of vacuum surfaces to move a stack, support the stack, assist in evacuating air from within the stack during compression, and to retain the stack compressed during a multiple loading sequence and during loading into a package.

**3,382,644**  
**APPARATUS FOR AND METHOD OF CONTINUOUSLY FORMING AND FILLING BAGS**  
Clarence W. Vogt, Box 232, Westport, Conn. 06880  
Filed Dec. 30, 1963, Ser. No. 334,257  
20 Claims. (Cl. 53-29)



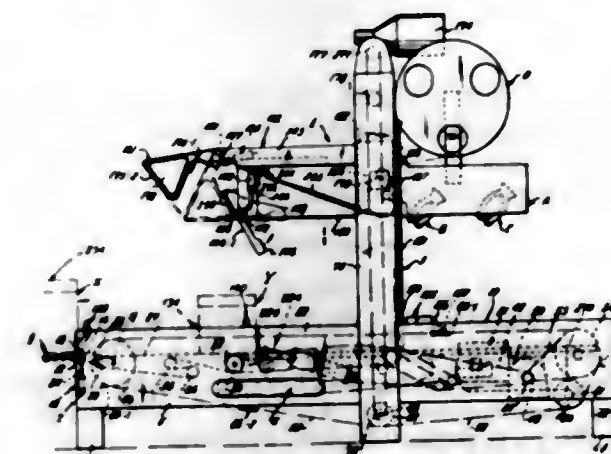
This subject has to do with an apparatus and method for continuously forming bags, filling the bags and sealing the same. In accordance with this invention, a continuous web is moved in a vertical path and is folded, followed by the formation of horizontally disposed open bags therefrom. The individual bags are then transferred to a horizontal path of movement while being held open. Next the bags are filled, followed by the re-shaping of the bags and the sealing thereof.

**3,382,645**  
**CARTON CLAMPING AND GUIDING MEANS IN AN AUTOMATIC CARTON CLOSING MACHINE**  
Winston Loveland, Freeport, and Saul Warsaw, New York, N.Y., assignors to The Loveshaw Corporation, Farmingdale, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 219,212, Aug. 24, 1962. This application Dec. 20, 1965, Ser. No. 514,943  
20 Claims. (Cl. 53-75)

1. In an automatic carton closing machine for folding down and inward the upwardly-extending front and rear flaps of a series of successive open-top cartons to closed lateral positions, including those of relatively shallow depths, the combination with

- (A) lateral conveyor means having an entrance end and a discharge end and defining a path of forward carton travel along which said conveyor means transports each carton,
- (B) a carton sensing and flap folding station located at a point along said path,
- (C) a movable front and rear flap folding sub-assembly mounted for motion along a path at an angle to said carton travel path toward and away from the open top of a carton at said station,
- (D) carton sensing means located along said carton travel path responsive to the presence of an open-top carton at said station to dictate advance of said flap folding means toward the unfolded and upwardly-extending flaps thereof and to fold the front flap back and inward to closing position,
- (E) carton height control means at said station responsive to the top of said carton to stop the advance of said flap folding sub-assembly upon inward folding of the front flap down upon the carton top,
- (F) movable rear flap folding means also carried by

said flap folding sub-assembly to fold the rear flap forward and inward to closing position,  
(G) means to cause each open-top carton to pause at said station for permitting advance of said flap folding sub-assembly to the top of said pausing carton and after performance of a flap-folding operation thereon to release said pausing carton from said station for transport by said conveyor means to the discharge end,  
(H) a pair of opposed, longitudinally-extending, carton clamping and guiding members flanking opposite sides of said station with at least one movable transversely relative to the other for relative approach temporarily to clamp therebetween a carton pausing at said station and for relative retraction to permit reception therebetween of a succeeding carton, and



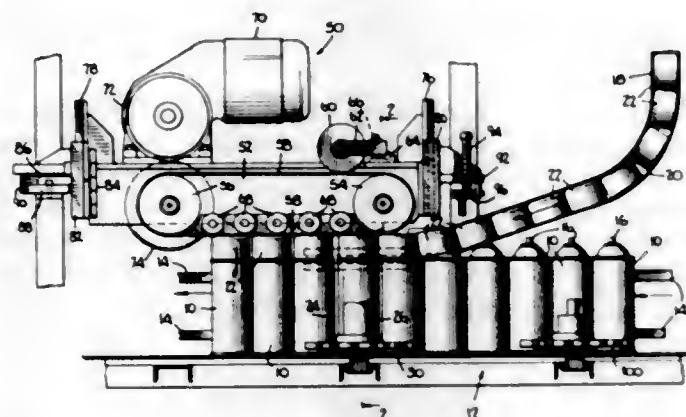
- (I) means to drive at least one of said clamping and guiding members transversely for advance thereof toward the other to effect such carton clamping approach and for the relative retraction thereof; of
- (a) carton side engaging means supported on one of said carton clamping and guiding members at the inner side of the latter to constitute the means of contacting a side of a carton pausing at said station by structure of said member,
- (b) means movably mounting said carton side engaging means on said member for alternate motion away from the latter and said conveyor means toward said flap folding sub-assembly for appreciable lap against the opposed carton side and retraction toward said member and conveyor means to minimize projection of said carton side engaging means, and
- (c) means to effect such retraction of said carton side engaging means as said conveyor means picks up the pausing carton at said station and transports it forward.

**3,382,646**  
**CAPPER**  
Richard A. Lewdtke, Racine, Wis., and Dick E. Millholand, Amstelveen, Netherlands, assignors to S. C. Johnson & Son, Inc., Racine, Wis.  
Filed Mar. 10, 1966, Ser. No. 533,143  
13 Claims. (Cl. 53-128)

1. A capping device comprising conveyor means for causing containers to be capped to move in succession along a given path, cap chute means arranged to feed caps in succession to said containers as they reach a given location along said path, star wheel alignment means positioned alongside of said path on the downstream side of said given location, said star wheel alignment means including plural star wheel elements formed with aligned



peripheral recesses which pass over said path in tangential relationship therewith upon rotation of the elements, said recesses being shaped to receive respectively, a container and a cap from said given location, whereby said

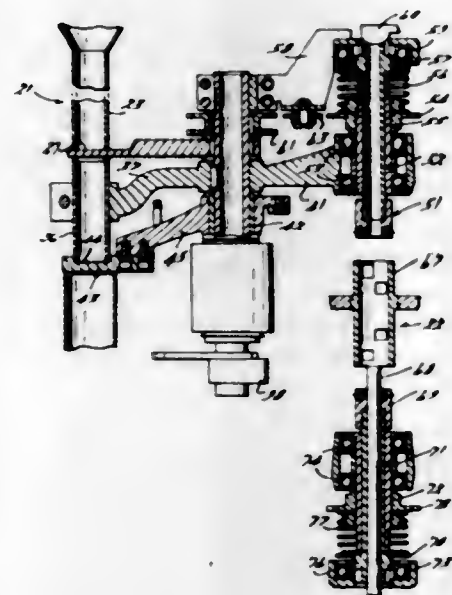


cap and container become aligned upon passing by said star wheel alignment means, and means located on the downstream side of said alignment means to secure each cap to its respective container.

3,382,647

**COIN WRAPPING MACHINE**

Sidney M. Davey, Ferndale, and Robert J. Ebbert and William R. McBride, Rochester, Mich., assignors, by mesne assignments, to Deering Milliken, Inc., New York, N.Y., a corporation of Delaware  
Filed May 20, 1965, Ser. No. 457,307  
7 Claims. (Cl. 53-159)



A coin wrapping machine in which coins are deposited in a tube at one station and are transferred from the one station to a wrapping station where a pre-cut length of paper is wrapped around the coins and the end of the wrapped coin package is automatically crimped.

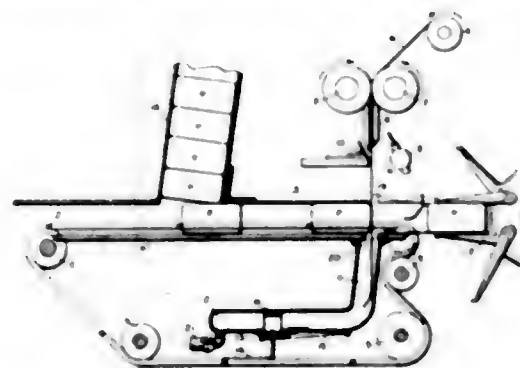
3,382,648

**FILM FEEDING DEVICE**

Charles J. Korzinek, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware  
Filed Sept. 7, 1965, Ser. No. 485,496  
1 Claim. (Cl. 53-228)

An overwrap film feed machine is modified by the installation of a suction device below the line of travel of the articles to be wrapped to provide a force to draw the wrapping film into the path of the articles. The free end

of the film is drawn into the suction device and when the film is contacted by the article, an article advancing lug

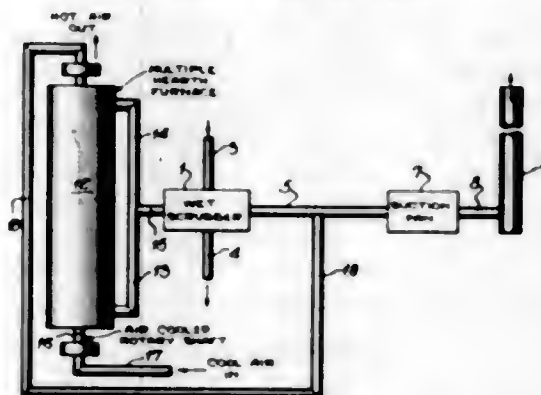


contacts a valve which breaks the vacuum allowing the film to be withdrawn from the suction device.

3,382,649

**TREATMENT OF INCINERATOR GASES**

Charles A. Richmond, Pompton Plains, N.J., assignor to Nichols Engineering & Research Corporation, New York, N.Y., a corporation of Delaware  
Filed Oct. 13, 1966, Ser. No. 586,463  
6 Claims. (Cl. 55-84)



A method of treating combustion gases prior to discharge so that they will not deposit sludge on the surfaces of fan blades and internal ducting, such treatment involving first, scrubbing the gases in a wet scrubber, second, using ambient air to cool various incinerator surfaces and, third, passing the thus heated ambient air in heat exchange contact with the combustion gases coming out of the wet scrubber.

3,382,650

**GAS FILTERS**

Robert Peterl, Paris, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France  
No Drawing. Filed Dec. 24, 1964, Ser. No. 421,087  
Claims priority, application France, Jan. 22, 1964, 961,153  
8 Claims. (Cl. 55-97)

Amorphous trihydrated alumina (gibbsite) is mixed with mineral fibers such as glass and asbestos to produce a filter.

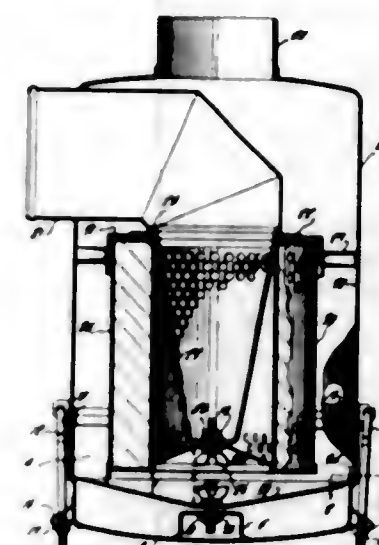
3,382,651

**AIR CLEANER**

Charles W. Hahl and Jesse R. Brown, Pomona, Calif., assignors to Vortex Mfg. Company, Claremont, Calif., a corporation of California  
Filed Apr. 22, 1966, Ser. No. 544,571  
1 Claim. (Cl. 55-337)

A dry air filter enclosed in a housing in spaced relationship from its inner wall to define an annular passage. A support holds one end of the filter in spaced relationship with the inner end wall of the housing to define a disc-shaped chamber therewith that communicates with the annular passage. A cap covers said one end of the

filter to prevent air passage therethrough. A dust receptacle communicates with the disc-shaped chamber to provide a point for removal of centrifugally separated



dust particles. An air intake located near the opposite end of the housing from the disc-shaped chamber directs air into a spiral path swirling around the annular passage toward the disc-shaped chamber.

3,382,652

**TWO-COAT ANALYTICAL ULTRAFILTER AND A METHOD OF MAKING THE SAME**

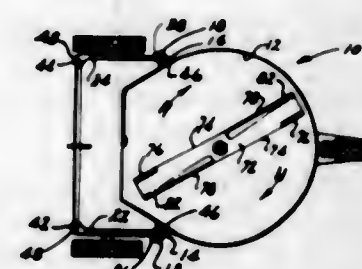
Kvátoslav Spurný, Prague, and Emil Wiesner, Svít pod Tatrami, Czechoslovakia, assignors to Československá akademie věd, Prague, Czechoslovakia  
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,309  
Claims priority, application Czechoslovakia, Nov. 2, 1964, 6,079/64  
11 Claims. (Cl. 55-486)

An analytical, composite ultrafilter for simultaneously separating solid particles of greatly varying dimensions from a suspension thereof in a stream of gas, which filter includes a first fibrous filter layer having a pore size such that only larger solid particles will be retained by it; and a second filter layer superposed upon and contacting the first filter layer and consisting of a xerogel having a pore size sufficiently small to retain the smaller solid particles, so that, upon passing a gas having the larger and smaller solid particles suspended therein through the composite ultrafilter in the direction from the first filter layer towards the second filter layer, the larger particles will be retained by the first filter layer and the smaller particles by the second filter layer.

3,382,653

**POWER DRIVEN ROTARY MOWER**

Frank De Buigne, 1420 Suffield, Birmingham, Mich. 48009  
Filed Oct. 16, 1964, Ser. No. 404,304  
1 Claim. (Cl. 56-25.4)



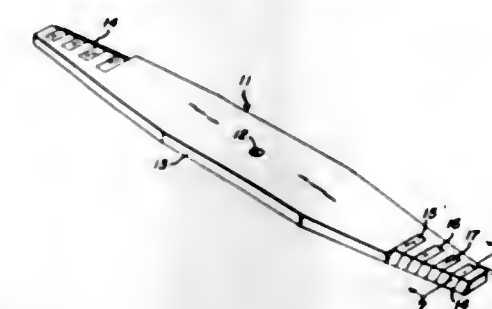
1. In a power driven rotary lawn mower, the combination of:  
a wheeled housing;  
a substantially flat grass cutter blade within said housing,

driving means on said housing for rotating said cutter blade; one edge of said blade having a cutting edge thereon while the other edge has a portion adjacent the end deformed toward the housing to create a suction to stand up the grass to be cut when the blade is rotated and another portion inwardly of said end deformed to create an air pressure which will lift the housing and parts assembled thereon to reduce the wheel load and consequently the rolling resistance when said mower is operated.

3,382,654

**LAWN MOWER BLADE**

Abraham L. Freedlander, Dayton, Ohio, and Leland E. Williams and Dana C. Strickler, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware  
Filed May 10, 1967, Ser. No. 637,401  
6 Claims. (Cl. 56-295)

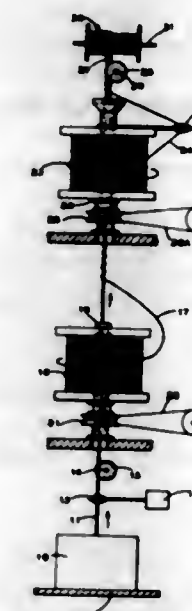


A flexible lawn mower blade for mounting on a power driven rotary lawn mower for providing safety due to the flexing of the blade when striking an object. The blade has cutting portions formed of alternating strips of dissimilar materials such as urethane elastomers and plastics, these strips extending to the cutting edge. Due to the dissimilar abrasion resistance of the materials a saw-tooth effect is formed in the cutting edge.

3,382,655

**APPARATUS AND METHOD FOR MAKING METALLIC FRIEZE YARNS**

Allan Wasserman, 61 Wingate Road, Providence, R.I. 02906  
Filed Aug. 1, 1967, Ser. No. 657,601  
7 Claims. (Cl. 57-16)



Apparatus and method for covering non-metallic core yarns with metallic cover yarns to form bright, scintillating frieze yarn suitable for making knitted or woven fabrics for garments and the like.



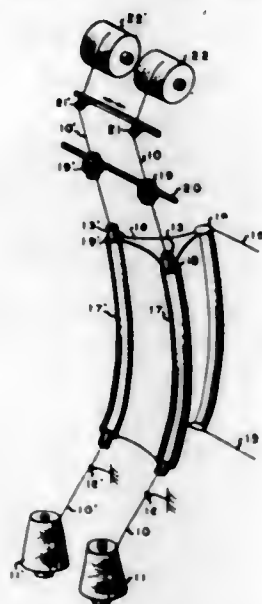
3,382,656

**FALSE-TWIST FRAMES AND METHOD FOR TEXTURING SYNTHETIC FILAMENTS**

Henri Crouzet, Riorges, Loire, France, assignor to Moulinage et Retorderie de Chavanoz, Chavanoz, Isere, France, a corporation of France

Filed Jan. 3, 1966, Ser. No. 518,410

4 Claims. (Cl. 57—34)



A false-twist apparatus for the crimping of a textile yarn including delivery means for advancing the yarn from supply to takeup and between the delivery means, twisting means and heat setting means for application of false twist and for heat setting twist within the yarn. The improvement comprises a heating tube having at least three lobes forming multiple parallel channels, each connected by a heat transfer diaphragm. One of the lobes contains a temperature probe, and at least two other of the lobes serve as passageways for individual filaments. Resistance electrical heating means are provided for heating filaments disposed within the lobes, the filaments being individually heated for setting the false twist applied by an individual spindle downstream of the tube.

3,382,657

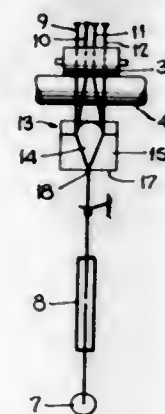
**MANUFACTURE OF TEXTURED TEXTILE YARNS**

Ludwig Horvath, Saint Gall, Switzerland, assignor to Heberlein Patent Corporation, New York, N.Y., a corporation of New York

Filed Jan. 17, 1966, Ser. No. 521,120

Claims priority, application Switzerland, Feb. 17, 1965, 2,147/65

7 Claims. (Cl. 57—34)



Process and apparatus for the production of textured textile yarns by mutually temporarily highly twisting a number of yarns and heat setting the mechanical deformation of the yarns while in the highly twisted state wherein

guide means are provided to form at least one sharp edge at the assembly point at which the yarns to be mutually twisted are brought together.

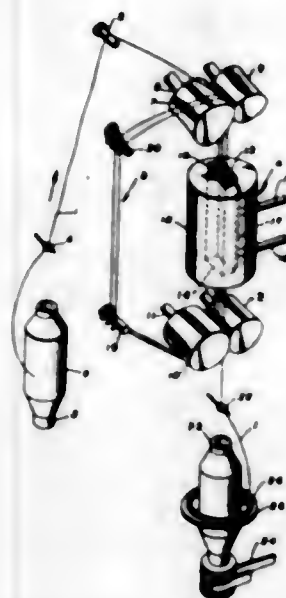
3,382,658

**APPARATUS FOR MANUFACTURING TEXTURED FILAMENT YARNS**

Euell K. McIntosh and Paul T. Howse, Jr., Pensacola, Fla., assignors to Monsanto Company, a corporation of Delaware

Original application Jan. 26, 1965, Ser. No. 428,088, now Patent No. 3,343,364, dated Sept. 26, 1967. Divided and this application May 16, 1967, Ser. No. 638,978

4 Claims. (Cl. 57—34)



Twist-curl textured yarn is treated to render the same more voluminous and dimensionally stable. In such treatment the textured yarn is fed from a source of supply to a point of packaging. During its travel the yarn is relaxed while it is being heated in at least two separate stages. Between each of the stages, the yarn is stretched while the same is being cooled.

3,382,659

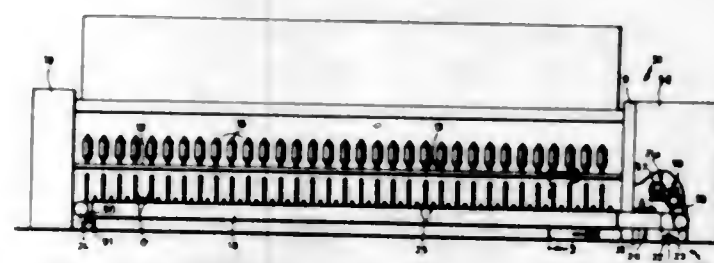
**BOBBIN TRANSPORTING APPARATUS**

Guenter Schulz, Wolfgang Igel, and Hansjörg Walk, Ebersbach (Fils), and Werner Weber, Esslingen, Germany, assignors to Zinser-Textilmaschinen Gesellschaft mit beschränkter Haftung, Ebersbach (Fils), Germany

Filed Dec. 15, 1966, Ser. No. 601,997

Claims priority, application Germany, Apr. 7, 1966, Z 12,154

13 Claims. (Cl. 57—54)



An endless conveyor having a row of holders for empty and full bobbins, is moved along rigid guide means in opposite directions to and from an operative position in which the holders are located in the proximity of the spindles of a spindle rail. Loading means for loading empty bobbins on the holders, and receiving means for receiving full bobbins, are located at the same end of the conveyor, together with the drive means by which the conveyor is moved.

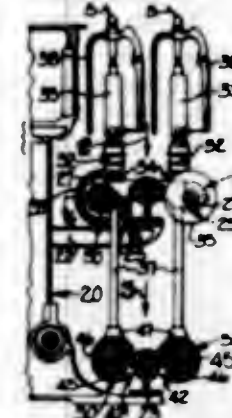
3,382,660

**ROVING FRAME SPINDLE AND BOBBIN SHAFT MOUNTINGS**

Joe R. Whitehurst and James M. Jones, Bessemer City, N.C., assignors to Ideal Industries, Inc., Bessemer City, N.C., a corporation of North Carolina

Filed Feb. 21, 1966, Ser. No. 529,064

13 Claims. (Cl. 57—67)



1. In a roving frame and the like having a frame, a plurality of substantially vertical rotary spindle elements and cooperating rotary package supporting elements, and at least one substantially horizontal drive shaft operatively connected to some of said elements for driving the same; improved means rotatably supporting said shaft comprising:

- (a) a plurality of annular antifriction bearings in which said shaft is journaled,
- (b) means supporting each bearing on said frame,
- (c) each bearing comprising at least two abutting but separable arcuate segmental subassemblies whose respective portions adjacent said shaft extend through an arc of no more than 180° so that the same may be placed around and removed from said shaft without passing the bearing over either end of the shaft, and
- (d) means engaging and releasably maintaining said segments in abutting annular relationship.

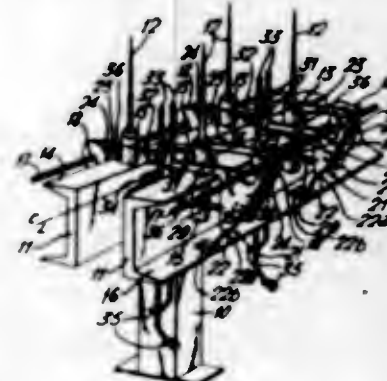
3,382,661

**TEXTILE APPARATUS**

John Peter Davies, Marple, England, assignor to Ernest Scragg & Sons Limited

Filed Jan. 30, 1967, Ser. No. 612,689

16 Claims. (Cl. 57—105)



A drive arrangement for driving rotary spindles of a textile machine or the like, includes a support. A spindle mounted for rotation on the support. An endless belt is trained around the spindle. A belt engaging structure is provided and engages the belt. The structure is mounted for biased flexural movement from an operative first position in which the belt is tight and transmits motion to the spindle, to an inoperative second position in which the belt is slackened and can slip with reference to the spindle or the belt-engaging structure. The belt-engaging structure includes a portion which is arranged to frictionally engage the spindle for positively stopping rotation thereof

when the belt-engaging structure is in the second position. Actuating means is associated with the belt-engaging structure for moving the same to the first position.

**ERRATUM**

For Class 57—145 sec:  
Patent No. 3,383,104

3,382,662

**COVERED ELASTOMERIC YARNS**

Oliver N. Seelig, Wyomissing Hills, and George K. Seelig, Reading, Pa., assignors to Wyomissing Corporation, Reading, Pa., a corporation of Pennsylvania  
Continuation-in-part of application Ser. No. 275,383, Apr. 24, 1963. This application July 15, 1965, Ser. No. 472,230

10 Claims. (Cl. 57—153)



1. A covered elastomeric yarn comprising an elastomeric core yarn having predetermined characteristics of modulus and elongation, and a coating of an elastomeric adhesive having a stretch correlated to the stretch of said core yarn, the thickness of said coating and the tensile strength of said adhesive cooperating with the tensile stress in said core yarn to produce in the covered elastomeric yarn controlled characteristics of modulus and elongation different from said predetermined characteristics.

9. A method of modifying the stretch characteristics of a synthetic elastomeric yarn comprising the steps of tensioning the yarn uniformly to a predetermined degree sufficient to stretch said yarn, uniformly coating the tensioned yarns with an elastomeric adhesive having a given tensile strength, curing or setting said adhesive coating to eliminate tackiness thereof on said tensioned elastomeric yarn, and correlating the thickness of said adhesive coating to the degree of stretch in said tensioned yarn and the tensile strength of said adhesive to produce the desired modification in the stretch characteristics of said elastomeric yarn.

3,382,663

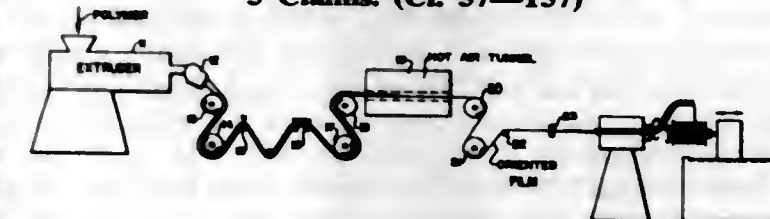
**MANUFACTURE OF FIBRILLATED STRANDS**

Hans Frielingsdorf, Delft, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 14, 1965, Ser. No. 513,760

Claims priority, application Netherlands, Dec. 22, 1964, 64—14,962

5 Claims. (Cl. 57—157)

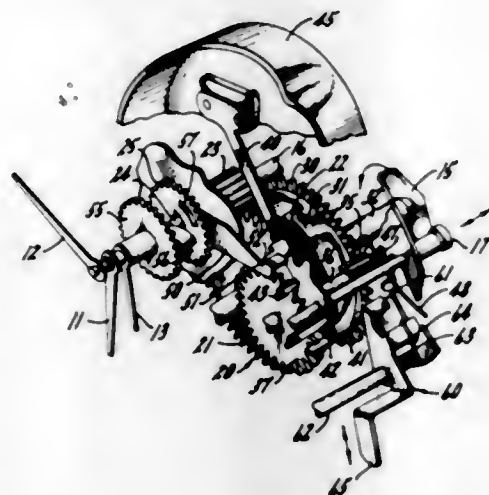


Twisted fibrillated strands are produced from olefin polymers by imparting lengthwise orientation to an un-



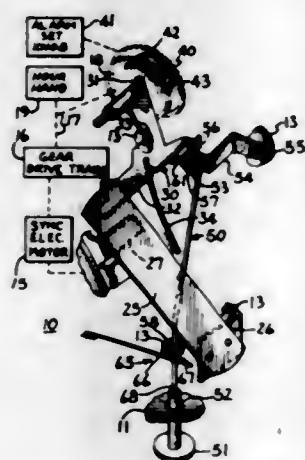
drawn polyolefin film and then drawing and twisting the resulting oriented film with a tensile stress of at least 5 kg./mm.<sup>2</sup> by guided rotation through an at least substantially conical path having its apex situated substantially in the central axis of the rotation.

**3,382,664**  
**SHUTOFF ARRANGEMENT FOR SPRING WOUND ALARM CLOCK**  
Edward F. Cielaszyk, Oglesby, Ill., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware  
Filed Oct. 4, 1965, Ser. No. 492,525  
3 Claims. (Cl. 58—21.15)



A spring wound alarm clock including a shutoff arrangement in which slight downward pressure on the housing actuates a blocking lever or toggle which shuts off the alarm and which has manual means for overridingly controlling the alarm.

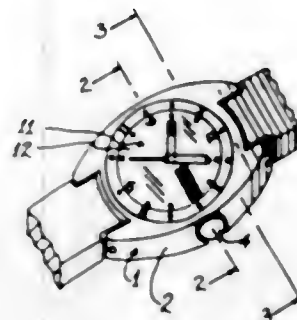
**3,382,665**  
**ALARM CLOCK HAVING TOUCH TYPE SHUTOFF**  
Lee C. Bowden, Warren, Ky., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware  
Filed Nov. 10, 1966, Ser. No. 593,498  
7 Claims. (Cl. 58—21.15)



An alarm clock including a clock motor having an associated alarm device, and a clock mechanism driven by the motor and including an hour wheel. A settable index wheel is mounted adjacent to the hour wheel and means are provided for moving one of the wheels axially as the hour wheel is rotated into register with the index wheel, thereby releasing the alarm device for sounding the alarm. A shutoff plunger extends downwardly from the clock for engagement with a supporting surface, and is movable between a downwardly projecting position and an inwardly pressed position. When the plunger is in its inwardly pressed position, the alarm device is disabled by means

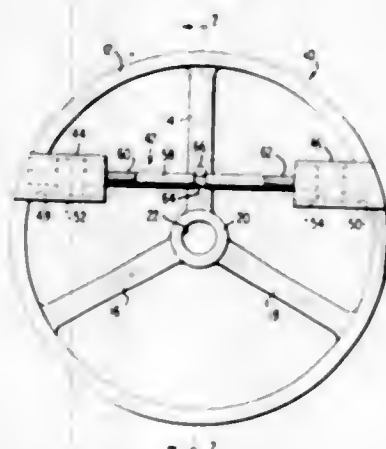
coupled to the plunger. The plunger also includes means for holding it in its extended position for supporting the clock housing slightly spaced from the supporting surface while permitting inward movement of the plunger upon application of a light downward touch to the top of the clock housing.

**3,382,666**  
**MULTIPLE TIME ZONE TIMEPIECE**  
Martin E. Gerry, Santa Ana, Calif., assignor of one-half to Aaron L. Sandberg, La Mirada, Calif.  
Filed July 24, 1967, Ser. No. 655,477  
9 Claims. (Cl. 58—42.5)



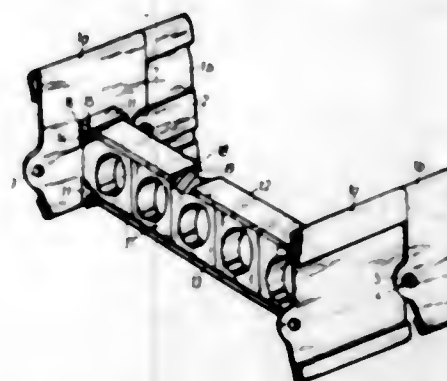
A means for utilizing an existing timepiece movement so as to enable a variety of plural number of time zones to be simultaneously viewed is embodied in a simple rotatable bezel assembly in conjunction with a timepiece case. Special considerations given to the bezel structure makes possible an integrated bezel and window assembly in combination with the timepiece case.

**3,382,667**  
**WATCH REGULATOR**  
John A. Van Horn, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania  
Filed Apr. 1, 1966, Ser. No. 539,507  
15 Claims. (Cl. 58—107)



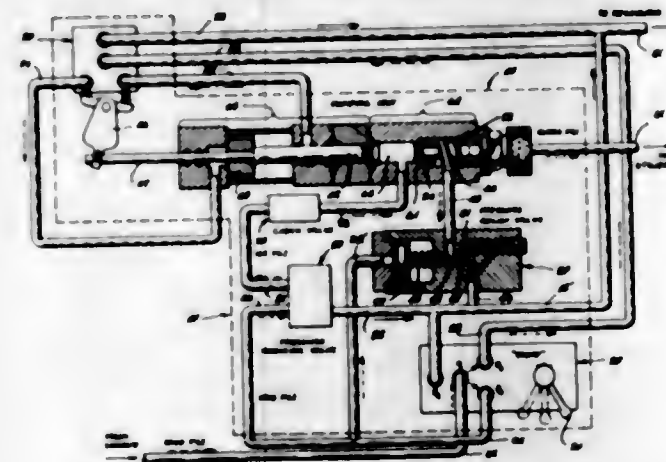
Disclosed is a watch regulator which varies the frequency of oscillation by changing the moment of inertia of a balance wheel. It is based on the fact that two weights may be moved to adjust the moment of inertia without affecting watch poise even though the weights do not lie on opposite sides of the rotational axis of the balance wheel. In the embodiment shown, the movable weights are both on the same side of a plane containing the rotational axis. The weights move along the opposite ends of a threaded, rotatable rod carried by the balance wheel.

**3,382,668**  
**SUPPORTING CHAIN FOR ENERGY CARRIERS**  
Josef Berkes, Siegen, Karl-Heinz Enders, Elserfeld, and Walter Klein, Neunkirchen, Germany, assignors to Kabelschlepp G.m.b.H., Siegen, Westphalia, Germany  
Filed Sept. 22, 1965, Ser. No. 489,366  
Claims priority, application Germany, Sept. 23, 1964, K 54,074  
8 Claims. (Cl. 59—78.1)



1. A chain for supporting energy carriers, especially cables and hoses, for guiding the same to movable consumers, which includes: two substantially parallel spaced chain bands, each of said chain bands being composed of pivotally interconnected chain link means, and transverse means extending transverse to the longitudinal extension of said chain bands and interconnecting the same, each of said transverse means comprising bracing means interposed between and firmly interconnecting oppositely located chain link means of said chain bands, each of said transverse means also including apertured supporting means exchangeably supported by said bracing means for receiving and supporting energy carriers.

**3,382,669**  
**HYDRAULIC BOOSTER APPARATUS**  
Alajos Z. Bauer, Norwalk, Conn., assignor to Burndy Corporation, a corporation of New York  
Filed May 25, 1966, Ser. No. 552,743  
4 Claims. (Cl. 60—10.5)



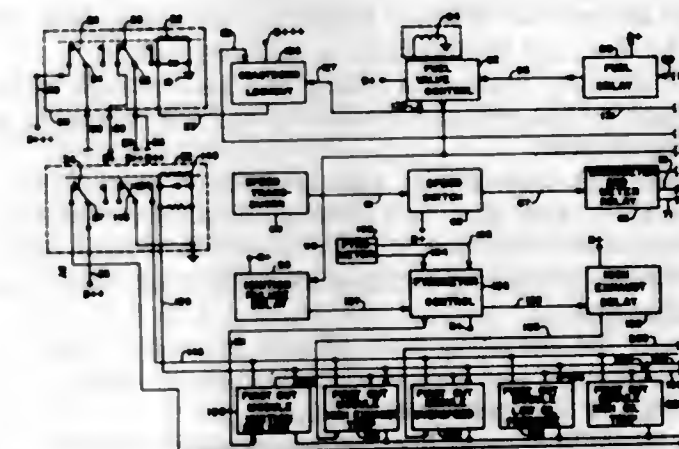
A hydraulic apparatus, for operating devices such as portable crimping tools, which is designed independently of a fluid pressure source and reservoir so that it may be attached conveniently to an external source and reservoir such as are found in common use on "aerial lift" trucks. The apparatus includes a hydraulic booster pump which is adapted to be driven by the fluid pressure derived from the external source, and control valve means together with a pressure reducing valve which will permit selective operation of the booster pump so as to supply either reduced pressure or "boosted" pressure to the utilization device.

**3,382,670**  
**GAS TURBINE ENGINE LUBRICATION SYSTEM**  
Lawrence B. Venable, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York  
Filed Dec. 1, 1966, Ser. No. 598,520  
9 Claims. (Cl. 60—39.08)



1. In a gas turbine engine having a hollow core engine rotor means defining the inner bounds of an annular gas flow path through a core engine;  
a hollow rotor comprising;  
a fan rotor disposed upstream of said core engine rotor means and having a bladed portion for pressurizing air for delivery through the annular flow path to said core engine,  
a fan turbine rotor disposed downstream of said core engine rotor means and having a bladed portion driven by the annular gas flow path from said core engine,  
a relatively small diameter shaft extending through the interior of said core engine rotor means for interconnecting said fan rotor and said fan turbine rotor,  
at least one bearing assembly for journaling said fan turbine rotor,  
a sump surrounding said bearing assembly through which lubricating fluid is circulated,  
seal means between the fan turbine rotor and said sump for minimizing leakage of lubricating fluid from said sump,  
a seal pressurization chamber surrounding said seal means,  
passageway means connected to the flow path from the bladed portion of said fan rotor and extending through the interior of said rotor to said chamber for the seal means,  
whereby air from the discharge stream of said fan rotor pressurizes said seals to prevent leakage of lubricating fluid from said sump.

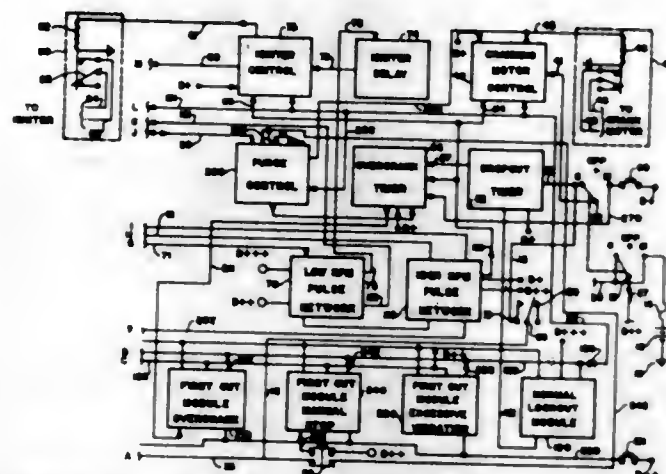
**3,382,671**  
**CONTROL FOR GAS TURBINE EMERGENCY POWER SYSTEM**  
George J. Ehai III, Dallas, Tex., assignor to Beta Corporation, Dallas, Tex., a corporation of Texas  
Filed Dec. 16, 1965, Ser. No. 514,416  
17 Claims. (Cl. 60—39.14)



The system disclosed utilizes solid state circuitry to automatically start a gas turbine driven generator when



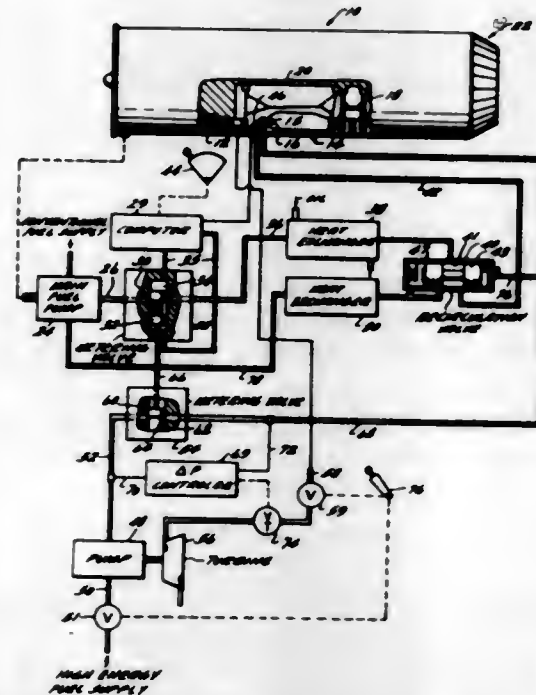
primary power is interrupted and for shutting down the generator system when primary power has been restored for at least a minimal length of time. The system is also



one which is automatically shut down in the event of a malfunction in the turbine system, either during the starting or running cycle.

3,382,672

**GAS TURBINE ENGINE FUEL CONTROL SYSTEM**  
Michael W. French, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York  
Filed Nov. 2, 1966, Ser. No. 591,570  
9 Claims. (Cl. 60-39.28)



1. A fuel control system for an operator controlled multifuel engine having a combustor, said fuel control system comprising:

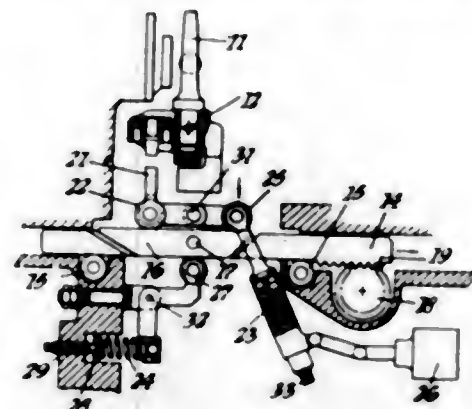
- first and second delivery means for providing flow paths for first and second fuels to said combustor,
- said delivery means including first and second variable area orifice means for scheduling flow of fuel to said combustor,
- means for alternately and selectively controlling the area of said first and second variable orifice means for scheduling flow of said first and second fuels to said combustor primarily as a function of operator demand,
- means for initiating flow of one of said fuels to said combustor and terminating flow of the other of said fuels to said combustor,
- the variable area orifice means of said first and second delivery means having area relationships in response to operator demand so that the total energy available from combustion of fuel delivered through said

first and second variable area orifice means to said combustor is substantially unaffected when flow of fuel to said combustor is switched from one fuel to the other.

3,382,673

### MECHANISMS FOR CONTROLLING SPEED RESPONSIVE GOVERNORS

Dorian Farrar Mowbray, Solihull, England, assignor to Joseph Lucas (Industries) Limited  
Filed Dec. 1, 1966, Ser. No. 598,420  
3 Claims. (Cl. 60-39.28)

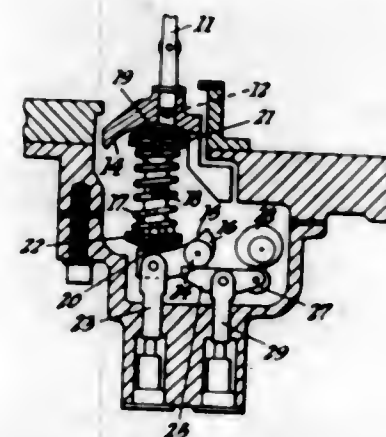


1. A mechanism for controlling the actuation of a speed responsive governor comprising a member movable linearly by an operator, a lever pivotally mounted on the member, a first spring and a second spring arranged to act on the lever at spaced positions respectively, at least one of the springs transmitting movement of means responsive to a signal to said lever, and means for transmitting movement of the lever to the governor to vary the speed at which it is actuated, the arrangement being such that when the member is in one position, the line of action of the first spring passes through the pivotal connection between the member and the lever and when in a second position, the line of action of the second spring passes through said pivotal connection.

3,382,674

### MECHANISMS FOR CONTROLLING SPEED RESPONSIVE GOVERNORS

Joseph Lewis Bloom, Kings Heath, Birmingham, England, assignor to Joseph Lucas (Industries) Limited  
Filed Dec. 1, 1966, Ser. No. 598,421  
3 Claims. (Cl. 60-39.28)



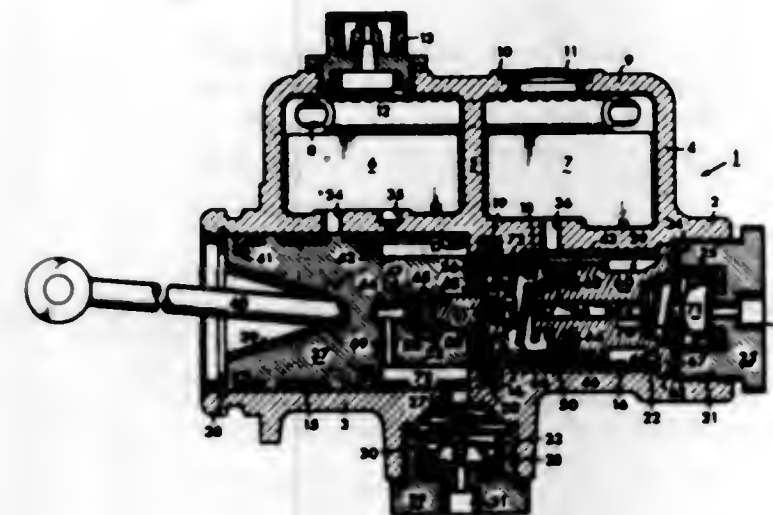
1. A mechanism for controlling the actuation of a speed responsive governor comprising a first lever which is angularly movable by the governor in response to the changes in its driven speed, said first lever having thereon a cam surface, a second lever having a cam surface spaced from but presented towards said first mentioned cam surface, means responsive to changes in a predetermined parameter for varying the position of the second lever in a direction so that its cam surface is moved towards or away from the cam surface on the first lever, a

member which can be moved angularly and a spring movable with said member and acting between the cam surface on the first and second levers respectively, angular movement of the member and spring varying the moment of the spring force action on the first lever and therefore enabling the governor to vary the force which it exerts on the first lever to balance said spring force.

3,382,675

### TANDEM MASTER CYLINDER

Engene E. Wallace, Kirkwood, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware  
Filed Mar. 16, 1966, Ser. No. 538,487  
12 Claims. (Cl. 60-54.6)

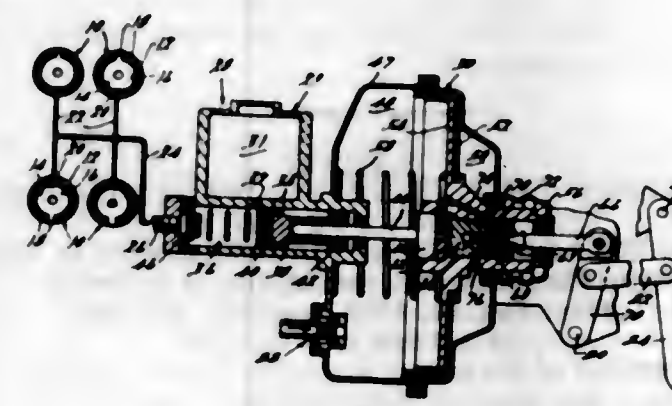


A tandem master cylinder having movable piston means defining therewith a pair of fluid pressure chambers, and an equalizing piston movable in said piston means for substantially equalizing the magnitudes of fluid pressures established in said pair of fluid pressure chambers.

3,382,676

### MINIMUM TRAVEL HAND- OR FOOT-OPERATED POWER BRAKE ACTUATOR

David M. Tenninwood, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed Aug. 8, 1966, Ser. No. 570,925  
16 Claims. (Cl. 60-54.6)



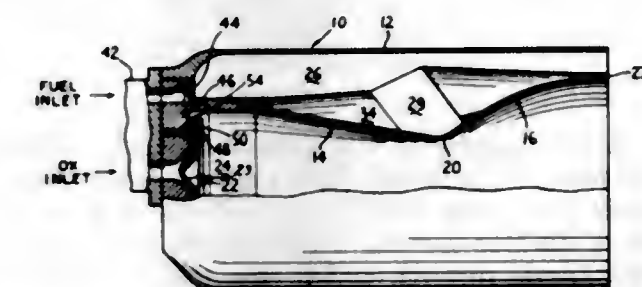
7. A brake actuating mechanism for a power boost brake assembly having a master cylinder piston movable by an operating rod operably connected thereto, a fluid pressure differentially operated servo mechanism operably connected to and between said piston and rod having control means rendered operable upon initial movement of said rod in one direction to move said piston independently of said rod, comprising, a mechanical

linkage including a first lever arcuately movable about a fixed pivot at one end and abutting said rod, a manually movable second lever having a fixed pivotal connection to said first lever and a lost motion connection to said rod, said lost motion connection permitting a limited arcuate relative movement between end portions of said levers, substantially linear movable force means for moving said manually movable lever, and means operatively connecting said second lever to said control means subsequent to movement of said rod and first lever relative to said second lever sufficient to render inoperable said lost motion connection.

3,382,677

### ROCKET THRUST CHAMBER PROPELLANT INJECTOR

Raymond J. Novotny, Sparta, and Walter N. Johansson, Morris Plains, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
Filed Feb. 14, 1966, Ser. No. 527,319  
7 Claims. (Cl. 60-258)

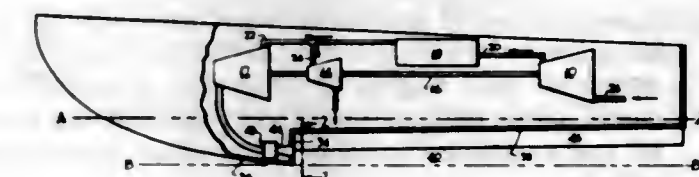


A full diameter vortex injector for rocket thrust chambers having baffle means for preventing the substantial mixing of or the uncontrolled mixing of hypergolic propellants until an effective chamber wall, liquid cooling film is formed. One of the propellants being injected tangentially to form the cooling wall film with the other propellant being radially injected against a baffle which directs its axially downstream for intermixing with the vortex film.

3,382,678

### GAS TURBINE CYCLE PROVIDING A HIGH PRESSURE EFFLUX

Frank J. Reh, Arlington, Va., assignor to the United States of America as represented by the Secretary of the Navy  
Filed July 12, 1966, Ser. No. 564,702  
5 Claims. (Cl. 60-264)

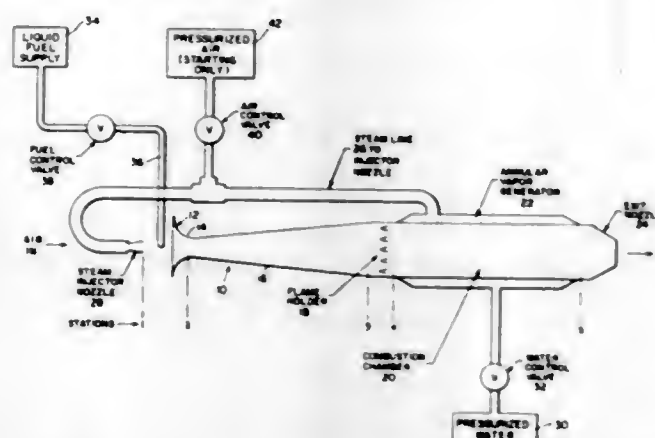


1. A gas turbine power system for developing high pressure efflux which comprises,  
(a) a rotor shaft mounting a first stage compressor, a second stage compressor and a turbine,  
(b) a combustion chamber spaced from the shaft,  
(c) conduit means providing communication between the first stage compressor and the combustion chamber,  
(d) other conduit means for removing combustion products from the combustion chamber,  
(e) said other conduit means providing independent communication with the turbine and independent communication with the second stage compressor and



(f) exhaust conduit means for removing compressed combustion products from the second stage compressor as high pressure efflux.

**3,382,679**  
**JET ENGINE WITH VAPORIZED LIQUID FEEDBACK**  
Lawrence E. Spoerlein, 672 E. Joyce Drive, Port Hueneme, Calif. 93041  
Filed Mar. 28, 1966, Ser. No. 538,921  
1 Claim. (Cl. 60—267)



1. In a jet engine for a vehicle designed for flight above the surface of the earth, said engine having disposed in sequence along the longitudinal axis thereof an air inlet nozzle, a diffuser section, a combustion chamber, and an exhaust nozzle through which pass the products of combustion, the improvement which comprises:

a vapor generator associated with said combustion chamber and energized by the reception of heat therefrom;

a source of pressurized liquid to be vaporized; means for conducting liquid from said source to said generator to vaporize such liquid;

a conduit for conducting vapor from said generator to a point lying along the longitudinal axis of said engine and between one and two inches outside the said inlet nozzle thereof;

means for forming the vapor emerging from said conduit into a jet and for directing the jet so formed along the longitudinal axis of said engine and into the said inlet nozzle;

a source of fuel in liquid form;

means for conducting liquid fuel from said source to a point intermediate said vapor forming means and said engine inlet nozzle and for emitting such liquid fuel into the vapor jet present in such region;

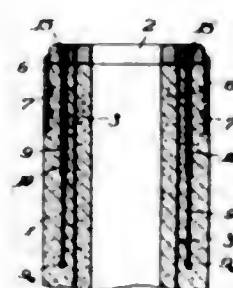
such emitted liquid fuel being introduced into said vapor jet prior to the entry of such vapor into the inlet nozzle of said engine to raise the pressure in said combustion chamber and thereby increase the amount of energy made available to produce flight of said vehicle;

a source of air under pressure; and means for controllably admitting air from said source into the conduit through which vapor is conducted from said generator to a point outside the said engine inlet nozzle in order to initiate operation of said jet engine.

**3,382,680**  
**PRESTRESSED CONCRETE PILE SECTIONS**  
Tamio Takano, Tokyo, Japan, assignor to Nippon Concrete Kogyo Kabushiki Kaisha, Tokyo, Japan  
Filed Sept. 21, 1965, Ser. No. 489,011  
2 Claims. (Cl. 61—56)

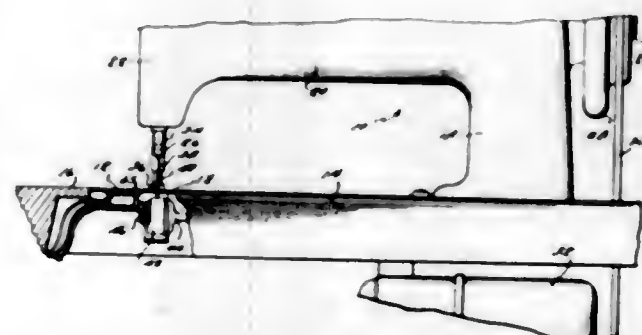
A prestressed concrete pile section comprising a tubular body of concrete with a pair of annular metal discs at

opposite ends thereof and reinforcing metal members extending between and secured to the metal discs in such a manner as to tension such reinforcing metal members and stress the concrete body is provided. Tubular metal plates are positioned on the periphery of the tubular concrete



body and extend longitudinally thereof in partially axially overlapping relation with the metal discs to facilitate welding the tubular metal plates to the metal discs and strengthen end portions of the concrete body.

**3,382,681**  
**STABBER COOLING DEVICE**  
Jack H. Hagy, Melbourne, Fla., assignor of fifty percent to Melville G. Hunter, Melbourne, Fla.  
Filed Nov. 12, 1964, Ser. No. 410,362  
5 Claims. (Cl. 62—62)

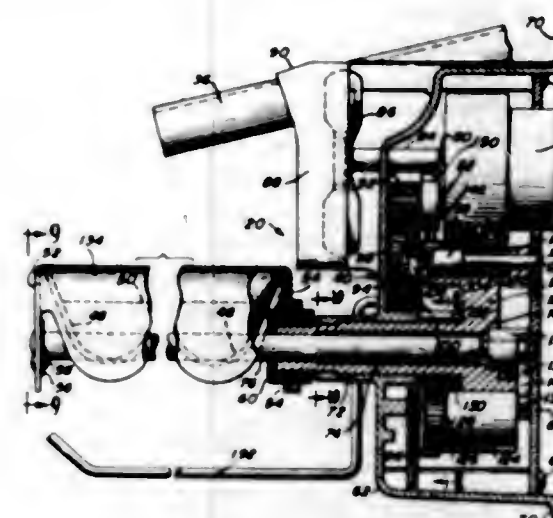


A method for cooling a stabbing device beneath the material being worked on and after the stabbing device has pierced the material with air passed over a coolant to reduce its temperature below 32° F. An apparatus for cooling a stabbing device which is positioned below the material and directs cooled air axially outwardly and, by means of a baffle, approximately radially outwardly or downwardly.

**3,382,682**  
**METHOD FOR HARVESTING ICE BODIES AND APPARATUS FOR THE SAME**  
Edwin H. Frohbieter, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware  
Filed Oct. 19, 1965, Ser. No. 498,058  
21 Claims. (Cl. 62—72)

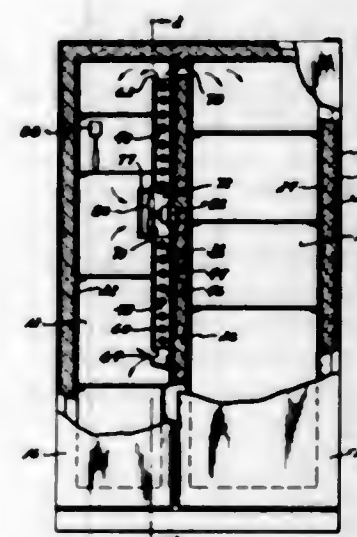
A method of harvesting ice bodies from a flexible tray including the steps of unidirectionally rotating the tray while concurrently bidirectionally twisting the tray to positively free ice bodies contained therein; and an ice maker including a flexible tray and a mechanism for releasing the ice bodies from the tray by turning the tray about an axis with opposite ends of the trays being driven at different instantaneous rates, the ice maker including structure for supporting both ends of the tray from one end thereof, a single motor and control that function to so drive the tray and further to time the period of water introduction into the tray and assures that the tray is in

a proper water receiving position and structure for sensing the housing. Pressure adjustment means are provided to the level of ice bodies in a receptacle below the tray that force the friction material against the driving disc. The



have been discharged from the tray for controlling the ice making operation.

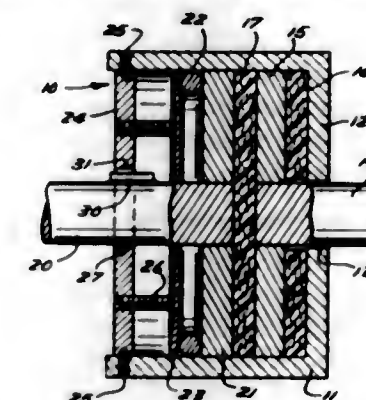
**3,382,683**  
**REFRIGERATING APPARATUS—SINGLE EVAPORATOR**  
Mervin E. Wiljanen, Livonia, Mich., assignor to American Motors Corporation, Detroit, Mich., a corporation of Maryland  
Filed Nov. 14, 1966, Ser. No. 593,929  
8 Claims. (Cl. 62—186)



A refrigerator cabinet having a low and a high temperature compartment cooled by a single evaporator. The evaporator is arranged with a circular to comeingle the air from both compartments and pass it across different portions of the evaporator for return to the low temperature compartment. A counterflow between the compartments is through an open interconnecting passageway.

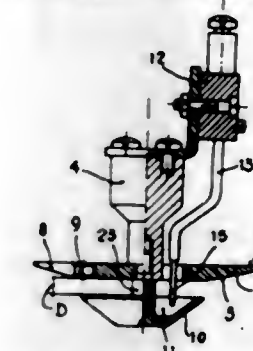
**3,382,684**  
**SLIP CLUTCH**  
Harley D. Fahrenholz, Clarissa, Minn. 56440  
Filed May 19, 1966, Ser. No. 551,430  
3 Claims. (Cl. 64—30)

A slip clutch having an outer housing which surrounds the clutch assembly. The clutch assembly includes a driving disc sandwiched between a pair of friction discs, one of which abuts against an end wall of the housing and the other of which abuts against a disc that rotates with



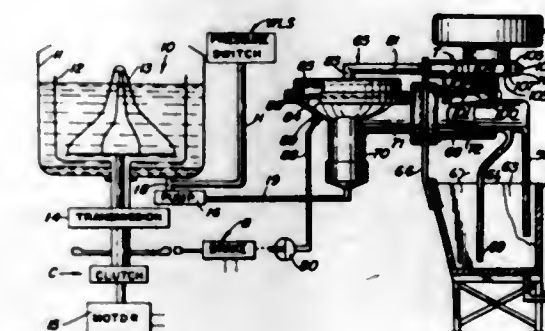
housing is completely enclosed to keep out dirt and foreign material.

**3,382,685**  
**HOSIERY FILAMENTS CUTTING DEVICE**  
Bruno Albini and Bruno Taole, both of Via L. Fiorentini 29/b, Brescia, Italy  
Filed Sept. 2, 1965, Ser. No. 484,564  
Claims priority, application Italy, Sept. 26, 1964, Patent 738,590  
5 Claims. (Cl. 66—145)



Thread-severing device for a circular knitting machine, in which the filaments are burnt by contacting them with an electric resistance. The device comprises a rod-supported disc which is mounted in the latch ring of a knitting machine and has therebelow an inverted frusto-conical, hollow member with an electric resistor located in the cavity of said member. This mechanical configuration enables the threads to be cut to perform a spiral movement which brings them into contact with the electric resistor to be burnt and severed.

**3,382,686**  
**FLUID CONTROL DEVICE FOR AUTOMATIC LAUNDRY MACHINES**  
Curtis R. Hartley, West Frankfort, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois  
Filed Feb. 2, 1967, Ser. No. 613,678  
17 Claims. (Cl. 68—23)



A suds-water saver control device for automatic washers having a tub enclosing a rotatable clothes container, mechanism for controlling rotation of the container, and a pump operative to transfer suds water to a storage



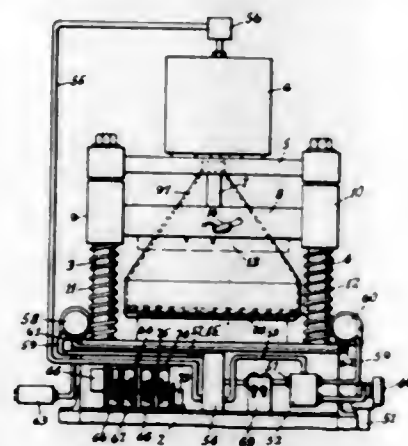
reservoir and rinse water to a drain; the suds-water control device having valve mechanism manually settable to position the valve to direct suds water to the storage reservoir, and actuatable to position the valve to direct rinse water to the drain, and a pneumatic dashpot controlling the valve-actuating mechanism and operable by the basket rotation controlling mechanism to position the valve to direct rinse water to the drain.

3,382,687

# AUTOMATIC APPARATUS FOR FOLDING LEATHER PIECES

Louis G. Freeman, Jr., Cincinnati, Ohio, assignor to The Louis G. Freeman Company, Cincinnati, Ohio, a corporation of Ohio

Filed May 5, 1966, Ser. No. 547,972  
9 Claims. (Cl. 69-1)



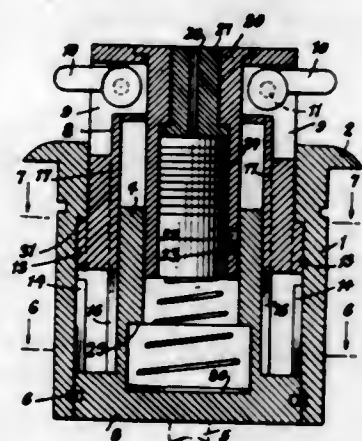
An automatic machine for turning or folding the edges of a leather or similar workpiece, the machine including a fixed lower platen mounting a lower die assembly and an upper platen vertically movable toward and away from the lower platen, the upper platen mounting an upper die assembly, the lower die assembly having a horizontally disposed plate movable between a forward and a rearward position of use, the plate being operatively connected to an actuating bar movable along guide rails projecting rearwardly from the lower platen, power means being provided for raising and lowering the upper platen member in timed relation to the movement of said plate.

3,382,688

# LOCK FOR VENDING MACHINES OR THE LIKE

John F. Wellekens, New York, N.Y., assignor to Hotel Security Systems Corporation, New York, N.Y., a corporation of New York

Filed Oct. 5, 1965, Ser. No. 493,083  
6 Claims. (Cl. 70-208)



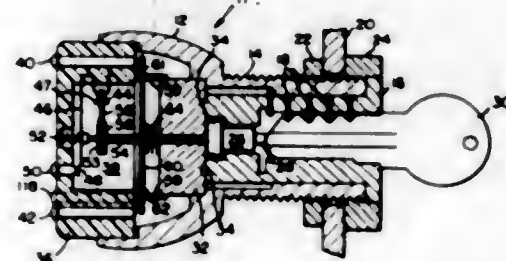
A lock comprising a tubular housing having a rotatable cup fitted within it and closing one end of the housing, said cup carrying or connected to bolt-operating means. A sleeve is fitted within the housing and extends concentrically around the cup. The sleeve carries lock mechanism which engages with the cup when the sleeve is fully retracted within the cup. When the lock mechanism has its latch retracted, it permits the sleeve to be partly advanced out of the housing by the bias of a spring located behind it. The cup and sleeve are coupled by a spline arrangement which permits axial movement of the sleeve relatively to the cup, and a second spline arrangement between the sleeve and housing permits the rotative movement of the coupled sleeve and cup when the sleeve is partly projected out of the housing, said second spline arrangement preventing such rotative movement of the sleeve while it is housed within the housing. The sleeve carries pivoted finger pieces which are housed within the housing while the sleeve is in its retracted position and which project laterally under spring bias when the sleeve is partly projected out of the housing.

trically around the cup. The sleeve carries lock mechanism which engages with the cup when the sleeve is fully retracted within the cup. When the lock mechanism has its latch retracted, it permits the sleeve to be partly advanced out of the housing by the bias of a spring located behind it. The cup and sleeve are coupled by a spline arrangement which permits axial movement of the sleeve relatively to the cup, and a second spline arrangement between the sleeve and housing permits the rotative movement of the coupled sleeve and cup when the sleeve is partly projected out of the housing, said second spline arrangement preventing such rotative movement of the sleeve while it is housed within the housing. The sleeve carries pivoted finger pieces which are housed within the housing while the sleeve is in its retracted position and which project laterally under spring bias when the sleeve is partly projected out of the housing.

3,382,689

# IGNITION ALARM WITH FUEL SHUTOFF DEVICE

James Corradino Simeone, Rochester, N.Y., assignor of one-half to Ralph T. Cerame, Rochester, N.Y.  
Filed May 13, 1966, Ser. No. 549,982  
9 Claims. (Cl. 70-243)

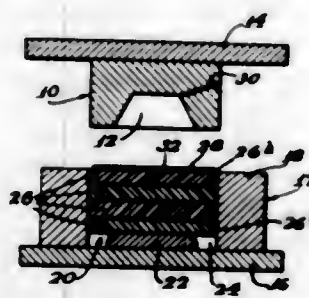


When the key of the automobile is inserted in the rotatable barrel of the ignition lock, the key pushes in a plunger to close a switch against spring pressure, and simultaneously an arm, which is secured to the barrel engages two contacts in circuit with said switch to actuate an alarm. However, when the key rotates the barrel to start the automobile, the arm is disengaged to shut off the alarm, and simultaneously a solenoid is energized to open a shutoff valve and unblock the engine's fuel line. When the key is rotated back to stop the engine, the circuit is remade to the alarm and the solenoid is de-energized, so that the driver is warned against leaving the key and the fuel line is blocked.

3,382,690

# DRAW DIE

Howard S. Achler and Harold Kaufmann, Chicago, Ill., assignors to Kaufmann Tool & Engineering Corp., Chicago, Ill., a corporation of Illinois  
Filed Sept. 17, 1965, Ser. No. 488,048  
4 Claims. (Cl. 72-57)



An improved mechanism for drawing sheet steel and the like is provided by use of a female die defining the shape to which the sheet is to be drawn, and a retainer for cooperation with the female die, wherein the retainer

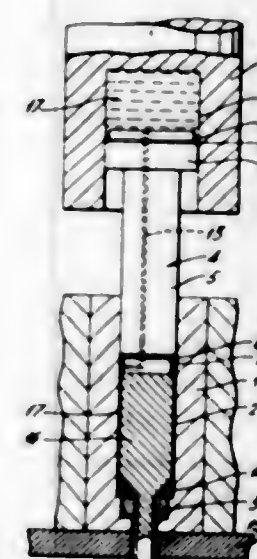
uses a rigid insert spaced from the walls of the retainer to define a well, and at least two die pads of urethane rubber are used in the retainer with at least the uppermost pad overlying the rigid insert and arranged to enter the recess of the female die and at least the lowermost pad providing portions that flow in the well during a drawing operation. A preferred size of urethane rubber pad is disclosed to have a thickness in the range of 1/2 to 1 inch. In one form of device one of the pads is provided in annular shape for entry into said well.

3,382,691

# HYDROSTATIC EXTRUSION PROCESSES

Derek Green, Lytham St. Anne's, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed July 19, 1965, Ser. No. 473,128  
Claims priority, application Great Britain, July 31, 1964, 30,277/64  
5 Claims. (Cl. 72-60)



An extrusion process comprises the steps of pressurizing a hydraulic liquid which envelops a billet in an extrusion chamber to a constant applied pressure to thereby subject the billet to a hydrostatic stress system, applying a direct mechanical axial loading on the billet, by means of a plunger, in a direction towards the extrusion die through which the billet is to be extruded from the extrusion chamber, and bleeding of liquid in a controlled manner from the bore of the extrusion chamber while extrusion of the billet proceeds. The latter step maintains the free space in the bore of the extrusion chamber about the billet full of hydraulic liquid at the constant applied pressure. Bleeding may be accomplished by a passage formed in the plunger interconnecting the bore of the extrusion chamber with a cylinder formed in a ram for driving the plunger.

3,382,692

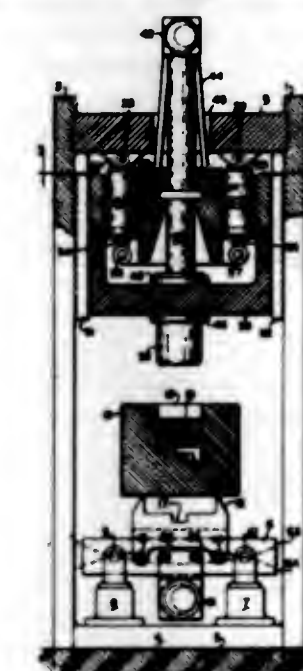
# SONIC METHOD AND APPARATUS FOR CLOSED-DIE FORGING

Albert G. Bodine, 7877 Woodley Ave., Van Nuys, Calif. 91406

Filed June 7, 1965, Ser. No. 461,835  
20 Claims. (Cl. 72-60)

A closed-die forging machine is provided in which the billet is located at the termination region of a resonant acoustic circuit to which intense sonic energy is applied. The frequency of the applied sonic energy is adjusted to accommodate impedance changes naturally occurring

in the resonant circuit during the forging process. The resulting sonic standing wave established in the work piece



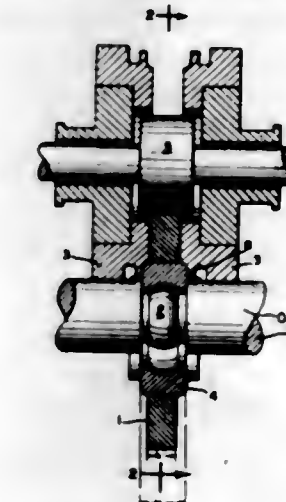
while it is being forged, greatly enhances its grain structure, freedom from porosity, and numerous other properties.

3,382,693

# RING ROLLING TOOL

Jury Lvovich Rozhdestvensky and Victor Victorovich Smirnov, Moscow, U.S.S.R., assignors to Vsesojuzny Nauchno-Issledovatel'skiy Konstruktor'sko-Tekhnologicheskij Institut podshipnikovo Promyshlennosti, Moscow, U.S.S.R.

Filed Mar. 2, 1965, Ser. No. 436,608  
2 Claims. (Cl. 72-87)



A ring rolling tool using a hollow roll against the inner surface of which the ring is rolled by an inner roll, and side rolls rotating on an axis exterior of the hollow roll and tangential to the inner roll, and means to move the hollow roll to one side so that a flash formed between the inner roll and the side rolls will be cut off by the side rolls.

3,382,694

BRAKE SHOE STRAIGHTENING MACHINE  
Richard Rice Neil, Donelson, Tenn. (Neil Parts Rebuilders, Inc., 421 5th Ave. S., Nashville, Tenn. 37203)

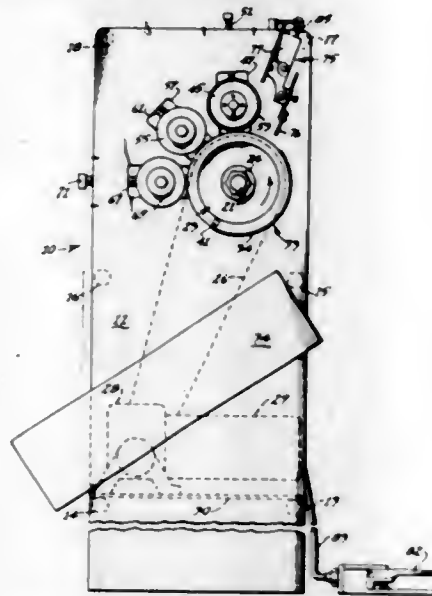
Filed Dec. 27, 1965, Ser. No. 516,286  
9 Claims. (Cl. 72-159)

1. A machine for straightening a brake shoe having a flange extending in a circular arc and a radially disposed web, comprising:

(a) a frame,



- (b) a cylindrical mandrel having a radius equal to the inner radius of said flange,  
 (c) said mandrel having a circumferential groove formed in a radial plane for receiving said web when said flange is fitted circumferentially on said mandrel in operative position,  
 (d) means mounting said mandrel on said frame for rotation about its cylindrical axis,  
 (e) means on said frame for rotatably driving said mandrel in one direction,  
 (f) a first straightener roller,



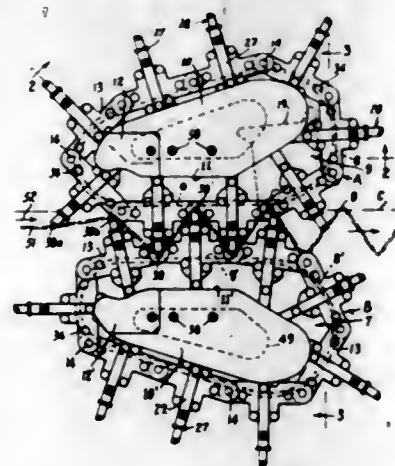
- (g) means mounting said first roller on said frame for rotation about its axis parallel to said mandrel axis, and spaced from said mandrel to apply moderate pressure to a brake shoe flange in operative position, sufficient to eliminate major deformations in said flange,  
 (h) a second straightener roller,  
 (i) means mounting said second roller on said frame for rotation about its axis parallel to said mandrel axis and spaced from said mandrel to apply substantially more pressure to said brake shoe flange in operative position than said first roller, and sufficient to eliminate minor deformations in said flange,  
 (j) said second straightener roller being spaced from said first straightener roller in the direction of rotation of said mandrel.

3,382,695

## WEB BENDER

Richard Allan Gordon Cape, Lachine, Quebec, Canada, assignor to Dominion Bridge Company, Limited, Quebec, Canada

Filed Dec. 10, 1965, Ser. No. 512,920  
 6 Claims. (Cl. 72-190)



A web bender in which a strip of material is fed into a central zone between a pair of travelling link tracks to form a web of Warren-type configuration. Each link of

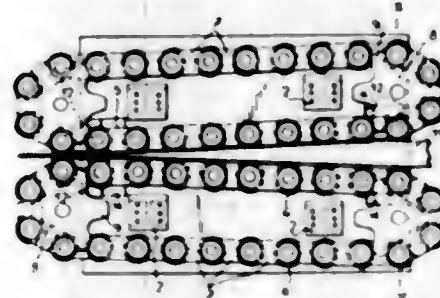
the tracks is equipped with an arm which is movable outwards into the central zone under the control of a cam associated with each track. Anvil members on each link bear against the web material to straighten the material between bends as the formed web passes through the central zone. One of the tracks is in a fixed location while the other track is adjustable relative to the fixed track whereby the depth of the web to be formed can be varied within predetermined limits without changing the links or arms of the tracks.

3,382,696

## APPARATUS FOR WORKING METALS AND OTHER MATERIALS

Ghislain Martelle, 71 Quai de Rome, Liege, Belgium  
 Filed Sept. 7, 1965, Ser. No. 485,514  
 Claims priority, application Luxembourg, Sept. 8, 1964, 46,907

5 Claims. (Cl. 72-190)



A rolling mill comprises two opposed coating roller chains both of which are guided in convergent channel-like guides provided in confronting uprights at the ends of the rolls. At the inlet end and at the outlet end of the path between the opposed chains there are guides which are movable on and relative to the uprights to vary the width of the entrance end or exit end of the mill.

3,382,697

## ROLLING MILL FOR METAL RODS

Karl Josef Neumann, St. Ingbert, Saar, Germany, assignor to Verwaltungsgesellschaft Moeller und Neumann Offene Handelsgesellschaft, St. Ingbert, Saar, Germany

Filed May 10, 1965, Ser. No. 454,424  
 Claims priority, application Germany, May 11, 1964, V 25,970

7 Claims. (Cl. 72-226)



This invention comprises a rolling mill for metal rods and the like having two rolling lines arranged in substantially parallel relationship. Each of the rolling lines include a breakdown group of rolling stands, a finishing group of rolling stands, and a plurality of intermediate horizontal rolling stands between the breakdown and finishing groups for successive treatment of heated rods continuously and simultaneously fed to the breakdown groups. Single-core rolling of the rods is performed in the breakdown groups and in the finishing groups and two-core rolling of the rods is performed in the intermediate stands.

3,382,698

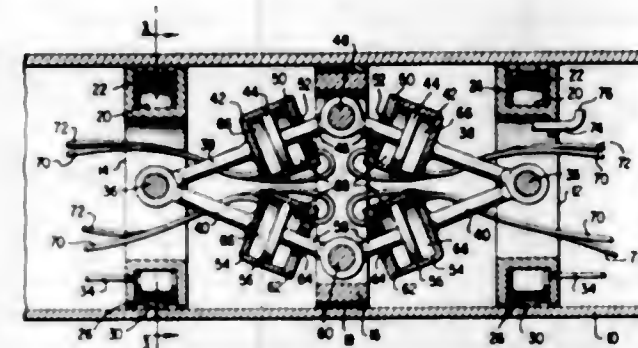
## INTERNAL PIPE BENDER

James H. Anderson, 1615 Hillock Lane, York, Pa. 17403

Filed Mar. 9, 1966, Ser. No. 532,903  
 7 Claims. (Cl. 72-298)

1. An apparatus for bending a tubular structure comprising gripping members positioned within a tubular structure in axially spaced relation to one another, means

to actuate at least one of said gripping members for engaging said tubular structure, an annular member positioned within said tubular structure intermediate said gripping members, said gripping members each having a centrally positioned transverse member mounted therein,



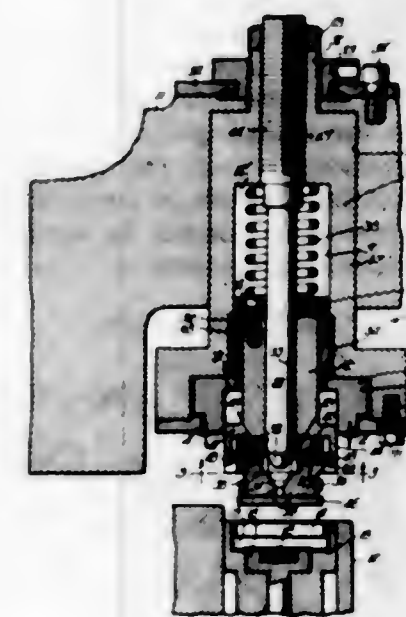
said annular member having a pair of chordal members positioned therein in spaced parallel relation to one another, and means interposed between said annular member and each of said gripping members for displacing said annular member with respect to said gripping members and effecting a bend in said tubular structure.

3,382,699

## METHOD AND APPARATUS FOR THREADING CLOSURE CAPS

Herman A. Seeman, Lombard, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 11, 1965, Ser. No. 438,916  
 13 Claims. (Cl. 72-355)



A method and apparatus for threading a closure cap or other thin walled annular member made of pressure deformable material, the apparatus comprising a threading tool having cam actuated segments mounted in radial slots in a holder with coil spring elements seated on the peripheral surfaces of the segments which spring elements have a contour corresponding to the contour of the thread desired, which expand outwardly upon outward movement of the segments, and which bridge the spaces between the segments resulting from the outward movement thereof in radial paths so that when the tool is positioned in a cap, for example, and the segments are forced outwardly the spring elements will expand radially and produce a thread formation in the wall of the skirt which is continuous and without any interrupted portions.

3,382,700

## PROCESS FOR REDUCING SURFACE CHECKING DURING HOT WORKING OF STEEL

William E. Hekmann, Dolton, Ill., and Michael George Wright, Hammond, Ind., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware  
 No Drawing. Filed Mar. 31, 1966, Ser. No. 538,941  
 14 Claims. (Cl. 72-364)

1. In a process for hot working an unfinished article composed of steel containing at least one metallic alloying element in addition to iron, said process including the steps of:

heating said unfinished steel article to a hot-working temperature under conditions which, in that portion of the unfinished steel article adjacent the surface thereof, (1) oxidize at least some of the iron therein and (2) cause an increased concentration of at least one metallic alloying element of the steel other than iron;

and then deforming said unfinished steel article with the deformation being initiated while said article is at a hot-working temperature;

the improvement comprising the step of removing the entire surface-adjacent portion of said article to at least substantially the depth of said increased concentration;

said surface-removal step being performed between said heating and deforming steps;

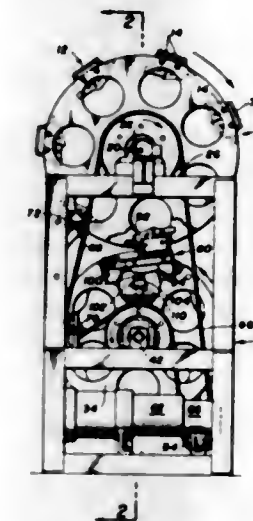
whereby surface checking of said article, during said deforming step, is minimized.

3,382,701

## RUG TESTER

Fred B. Powell, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
 Filed Mar. 10, 1966, Ser. No. 533,311

10 Claims. (Cl. 73-7)



An apparatus for longevity testing of a carpet wherein a pressure pad carried along a path engages a carpet sample carried along another path to simulate the action of a foot on a stair edge. The mechanism supporting the carpet sample is arranged to provide the appropriate impact, sliding and rolling forces to the carpet sample as it engages the pressure pad.

3,382,702

## FRICTION TESTING APPARATUS

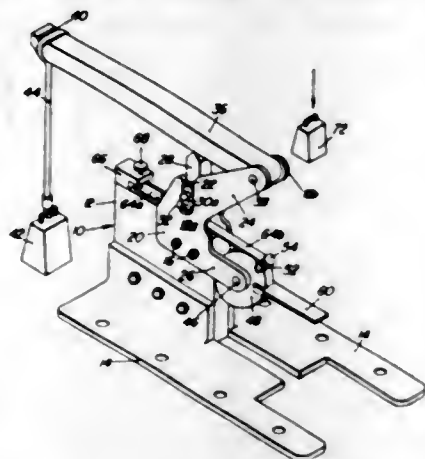
James A. Ford, Hopkins, Minn., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Dec. 13, 1965, Ser. No. 513,453  
 4 Claims. (Cl. 73-9)

An apparatus for testing the sensitivity of combustible material to friction which includes a pair of horizontal members having surfaces of predetermined roughness



arranged on a work table with a sample of combustible material therebetween. A lever system is provided to apply known forces to the sample while simultaneously



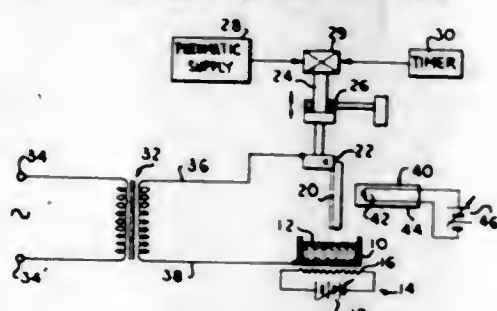
moving at least one of the surfaces with respect to the other thereby determining the frictional force necessary to ignite the test sample.

3,382,703

### SOLDERING EVALUATION BY CAPILLARY RISE AND APPARATUS THEREFOR

James Babakitis, Palos Heights, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Dec. 18, 1964, Ser. No. 419,455  
20 Claims. (Cl. 73-15)



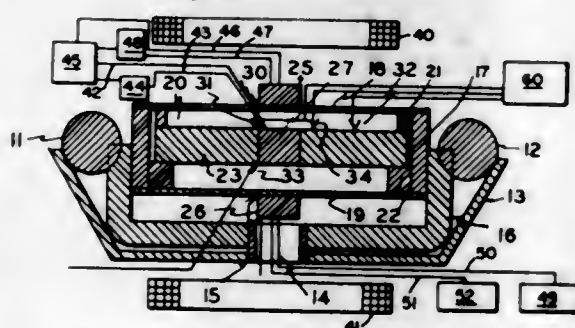
Disclosed herein are methods and apparatus for analyzing soldering systems. A molten solder bath is employed and a test specimen or blank is contacted with the molten solder bath to allow a capillary rise of solder along the test specimen or blank. The test specimen or blank is heated such that a full capillary rise of solder may be employed without the hardening thereof prior to such full capillary rise.

3,382,704

### CORBINO DISK MAGNETO-THERMAL CONDUCTIVITY DEVICE

Robert G. Morris, Rapid City, S. Dak., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 23, 1965, Ser. No. 434,721  
6 Claims. (Cl. 73-15)



This invention relates to a device for accurately measuring the magnetic dependence of thermal conductivity of a material which is accomplished by providing a circular,

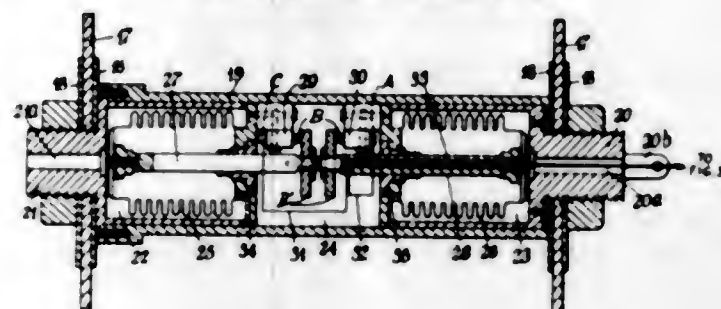
planar test specimen having a source of heat centrally disposed in said test specimen and having a heat sink disposed about the outer periphery and a magnetic field perpendicular of the plane of the test specimen.

3,382,705

### DEVICES FOR TRANSMITTING SIGNALS

John Alexander Cole, Henley-on-Thames, England, assignor to The Water Research Association, Marlow, England, a British company

Filed Mar. 18, 1965, Ser. No. 440,863  
Claims priority, application Great Britain, Mar. 24, 1964, 12,479/64  
4 Claims. (Cl. 73-40.5)



The invention comprises a device adapted to be moved within the interior of a fluid flow system for detecting leaks. It comprises a pair of solenoids arranged at an angle to each other for intermittently and alternately developing a magnetic field which is detectable outside the system. A source of direct current is provided for energizing the solenoids and an electric circuit arranges for the intermittent and alternate connecting of the solenoids to the source of direct current. Pressure responsive switches are included in the device and they are closed and opened selectively in response to the pressure encountered from opposite ends of the device. They control the frequency of the intermittent connecting and disconnecting of the solenoids to the direct current source, the device being equipped with transverse members relative to the interior of the system to effect movement of the device within the system by a fluid flow acting against the members. Detecting means are disposed outside the system for detecting the frequencies of the intermittent connecting and disconnecting of the respective solenoids by receiving the radial magnetic fields emitting therefrom.

3,382,706

### OSCILLATORY ELEMENT FOR MEASURING VISCOSITY

John V. Fitzgerald, Metuchen, and Frank J. Matusik, Piscataway Township, N.J., assignors to National Metal Refining Company, Inc., Highland Park, N.J., a corporation of New Jersey

Filed Oct. 12, 1965, Ser. No. 495,231  
1 Claim. (Cl. 73-59)



This device measures viscosity of fluids and consistency of fluid-like materials by the oscillatory method. Both driver and detector are supported by a rigid central shaft which is attached to the free end of an elastic protective

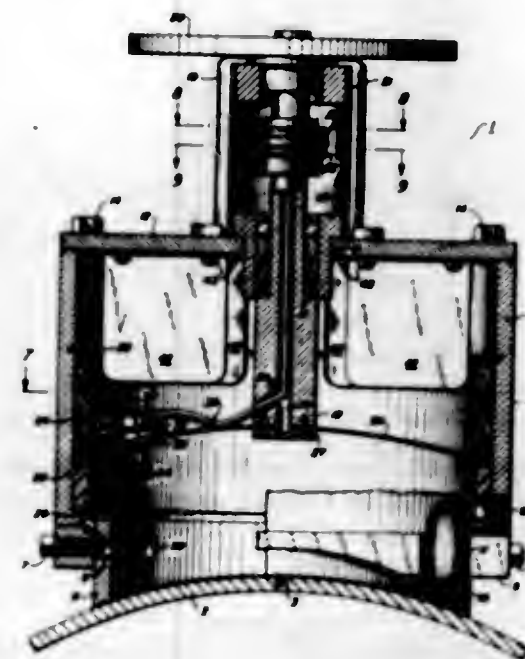
sheath. Also attached to the free end of the sheath is a vibrating tip which senses viscosity or consistency when part of the tip's surface contacts a fluid or a fluid-like material.

3,382,707

### APPARATUS FOR ULTRASONICALLY SCANNING A TUBULAR MEMBER

James C. Heselwood, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware

Filed Apr. 27, 1965, Ser. No. 451,136  
19 Claims. (Cl. 73-71.5)



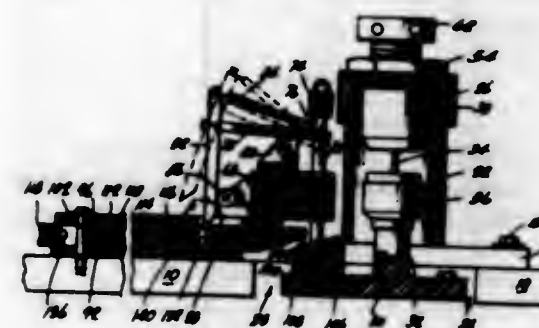
An ultrasonic transducer is mounted on a flexible disc attached to and rotated by a shaft, the longitudinal axis of the shaft perpendicularly intersecting the longitudinal axis of the tubular member and being movable in a direction parallel to the longitudinal axis of the tubular member. The disc edge is guided along a contour corresponding with that of the tubular member. The radiating axis of the transducer is normal to the surface of the tubular member at all times, and the distance between the transducer and the surface of the tubular member is constant.

3,382,708

### FATIGUE TEST MACHINE STROKE ARRESTOR

Elmer L. Hayman, Downey, Michael L. Marcoux, Huntington Beach, and Robert E. McCutchan, Lakewood, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Mar. 2, 1966, Ser. No. 531,270  
9 Claims. (Cl. 73-91)



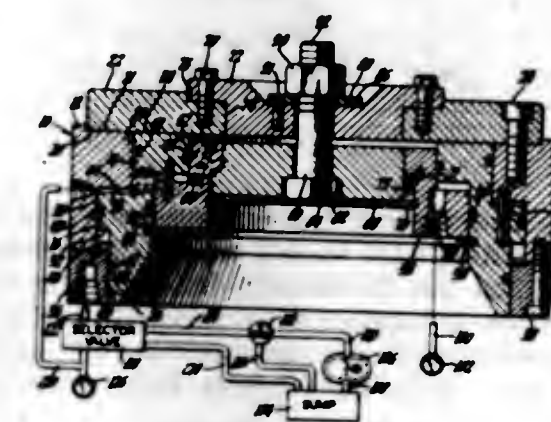
An arresting apparatus to be employed in conjunction with the movable drive element of a fatigue testing machine wherein the arrestor includes a spring-biased plung-

3,382,709

### FASTENER RELAXATION TESTING MACHINE

Helge B. Sorensen, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 24, 1965, Ser. No. 442,306  
6 Claims. (Cl. 73-97)



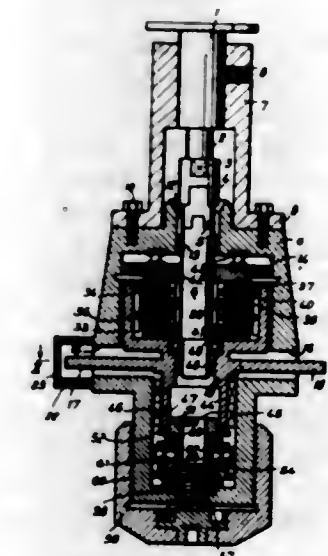
A fastener-testing machine for measuring preload in a fastener and for applying and measuring external load on the fastener. The testing machine has a closed, liquid-filled chamber which is connected to a preloaded gauge to measure preload of a fastener specimen. A load-apply chamber is selectively supplied with liquid under pressure to produce an external load which is transmitted by the liquid-filled chamber to act on the preloaded fastener. A gauge is connected to the load-apply chamber to measure the external load applied.

3,382,710

### TORQUE-MEASURING DEVICES

René Aubeges, Saint-Ouen, and Antoine Agostini, Malsons-Laffite, France, assignors to Societe Anonyme Simca Automobiles, Paris, France

Filed July 14, 1965, Ser. No. 471,882  
Claims priority, application France, July 16, 1964, 981,816, Patent 1,409,795  
5 Claims. (Cl. 73-135)



A device for connecting to the rotatable spindle of a screw tightening machine to measure the torque output thereof, including a driving member supported in a casing and adapted to engage the rotatable spindle by means of clutch means so that a flexible strut secured to a portion of the driving means is deformed in response to the torque applied by the rotating spindle.

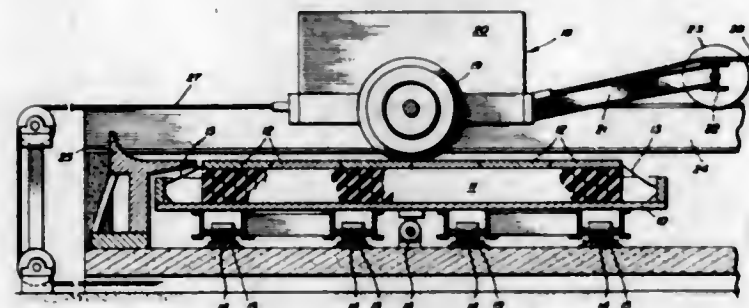


3,382,711

## LOAD TEST APPARATUS

James E. Scholl, Fairfax, Va., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 15, 1966, Ser. No. 537,593  
6 Claims. (Cl. 73-146)



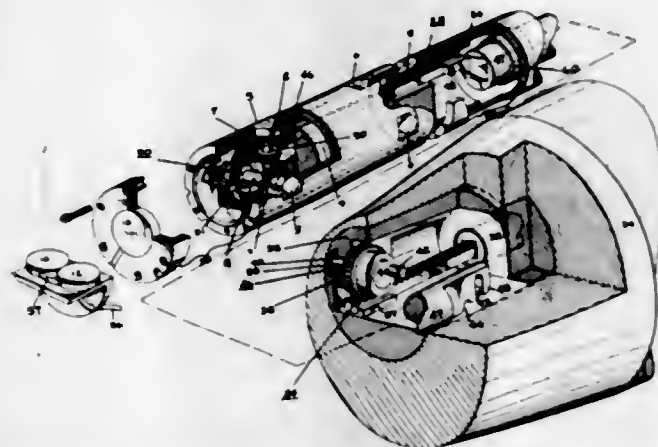
An apparatus for load testing a specimen of a roadway surface consisting of a loaded reciprocable wheel and a test bed which can be laterally indexed. The road surface specimen is supported by rubber-like blocks of a resiliency selected to approximate the resiliency of the road bed with which the roadway surface will be used.

3,382,712

## WIND TUNNEL FREE FLIGHT TEST APPARATUS

Truman M. Curry, Mercer Island, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Dec. 21, 1964, Ser. No. 419,900  
6 Claims. (Cl. 73-147)



Apparatus for measuring static and dynamic forces experienced by a test body to be disposed in a moving fluid. Actuator means release a support to the test body for given periods of time during which force responsive means measure aerodynamic characteristics of the test body which, when released, is in free flight. The support includes a cylindrical member which is enclosed by, and affixed to, the test body. The cylindrical member is restrained and supported by square cams disposed in keeper holes in the sides of the cylindrical member. The cams are disposed to turn on shafts supported by a sting extension which is contained within the cylindrical member. As the square cams are rotated by the actuator means, their restraint upon the cylindrical member is released and the test body achieves free flight condition.

3,382,713

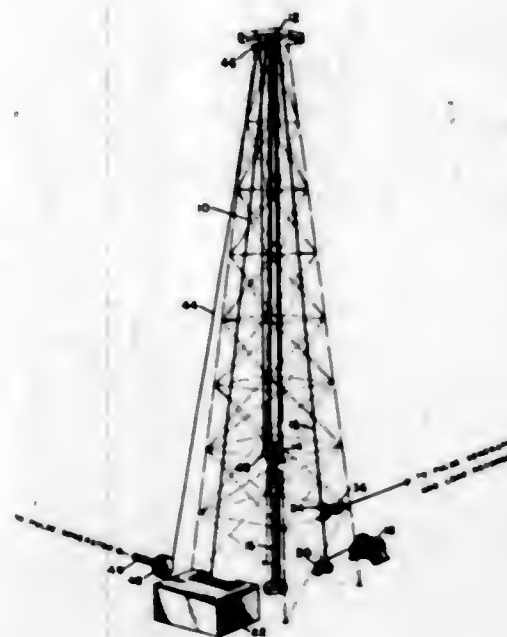
## DRILLING RIG INSTRUMENT SYSTEM

Philip G. Chutter, 6891 Adera St., Vancouver, British Columbia, Canada

Filed Feb. 18, 1965, Ser. No. 433,634  
4 Claims. (Cl. 73-151)

Apparatus for determining the work performed by a moving member which includes means for generating

pulses in a plurality of channels in response to movement of the member, the number of pulses generated for a given movement being different in each channel; means



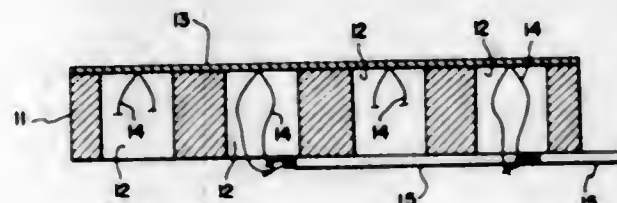
for actuating a particular channel in response to the load on the member; and means for counting the number of pulses generated.

3,382,714

## HEAT-SENSING INSTRUMENT

Howard B. Miller, Hampton, and William D. Harvey, Newport News, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Dec. 29, 1964, Ser. No. 422,092  
3 Claims. (Cl. 73-190)



A device for sensing infinitesimal amounts of heat flowing onto a surface at several locations. A support body having several holes drilled in it at each of said locations has a sheet of heat conducting material bonded to it over said holes. A thermocouple junction is connected to the underside of said sheet in each of said holes to sense the heat flowing onto the surface at the several locations.

3,382,715

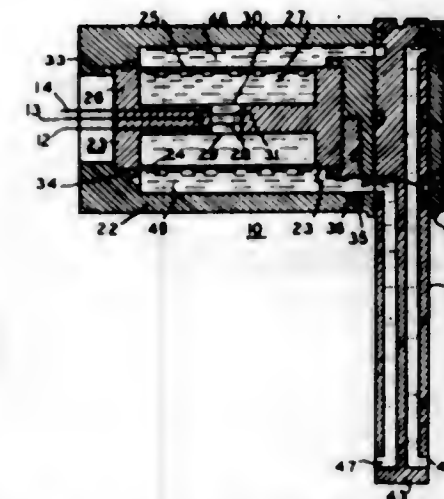
## SOLION CURRENT METER

Charles W. Larkam, Austin, Tex., and Richard J. Miller, River Forest, Ill., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 29, 1965, Ser. No. 468,170  
6 Claims. (Cl. 73-212)

This invention relates to an improved flow meter including a solion transducer having first and second liquid cavities adjacent first and second flexible faces of the transducer and coupled through a rotating probe having two liquid passages therein to a moving fluid stream. The

variation due to velocity pressure is received at the flexible diaphragms of the solion transducer and varied by



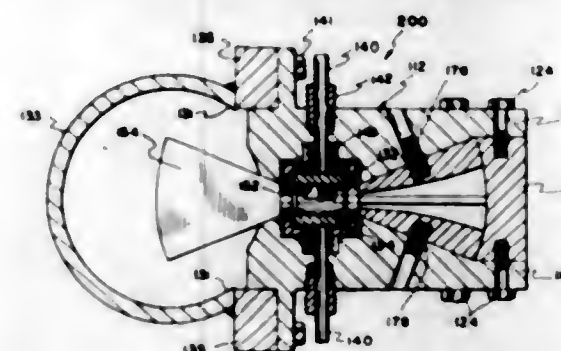
rotation of the probe. The resulting signal is calibrated as flow in a sensing device.

3,382,716

## METERING APPARATUS

Charles R. Struck, Santa Barbara, Calif., assignor, by mesne assignments, to Hoodville Industries, Inc., Buffalo, N.Y., a corporation of Michigan

Filed Oct. 24, 1965, Ser. No. 504,829  
6 Claims. (Cl. 73-229)



A fluid meter of the impeller type which includes a casing having a fluid inlet and a fluid outlet formed therein in communication with a torod chamber within the casing in which is disposed a rotatable impeller having a plurality of flat vanes which are moved through the chamber and which are oscillatable between a first position at which the vanes extend at right angles to the stream of fluid in the chamber between the inlet and outlet openings to a second position at which the vanes are feathered with respect to the fluid stream. Lip seals are provided in the chamber in the region thereof in which the vanes are in the feathered positions thereof to prevent leakage of fluid past the feathered vanes.

3,382,717

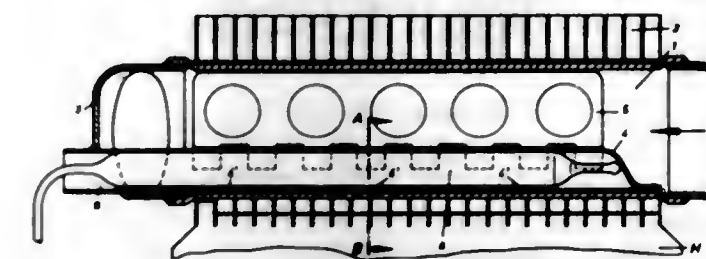
## CONTINUOUS-FLOW HEATER, MORE PARTICULARLY FOR HOT-WATER CIRCULATION HEATING SYSTEMS

Ernst Keppel and Hans Pütz, Remscheid, Germany, assignors to Joh. Vaillant KG, Remscheid, Germany

Filed Jan. 20, 1966, Ser. No. 521,862  
Claims priority, application Germany, Mar. 27, 1965, V 28,163; June 12, 1965, V 28,665  
9 Claims. (Cl. 73-362.8)

A hot water heating system has a fin block through which water flows and externally of which the hot gases of combustion flow. A well for a temperature sensor is provided with metallic walls. These walls may be an integral part of the water carrying fin tube of the fin block or they may be a composite of the fin tube and an external or internal sleeve soldered to the fin tube in a

manner such that the solder forms a part of the metal heat conducting path between the well and the exterior thereof. In any event, a first portion of the external area of the metallic member defining the well is exposed to the water and a second portion of the external area is exposed to the gases, and they are formed so that direct



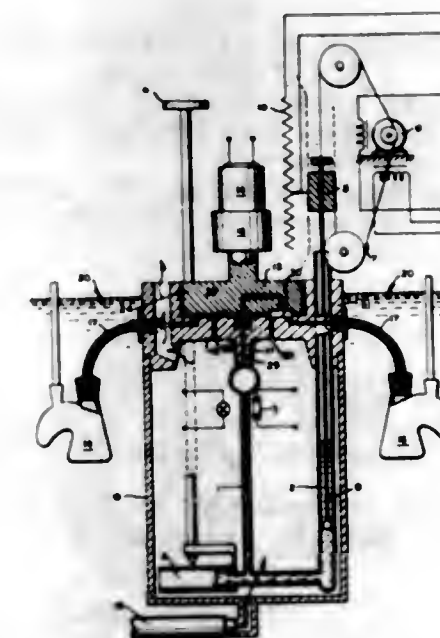
metal heat conduction paths exist between said areas and said well, the second portion of the external area being a major part of the exposed area of the metal. The heat sensor is slightly smaller than the well and is urged against that part of the metal defining the well which is most closely adjacent said first portion.

3,382,718

## AUTOMATIC WARBURG MANOMETER FOR THE CONSTANT VOLUME MEASUREMENT AND RECORDING OF THE PRESSURE OF ONE OR A PLURALITY OF CLOSED SYSTEMS

Peter Bartsch and Rudolf Strobl, Berlin, Germany, assignors to VEB Glaswerke Stutzbach, Stutzbach, Thuringia, Germany

Filed Sept. 1, 1966, Ser. No. 576,702  
11 Claims. (Cl. 73-401)



1. In automatic manometer apparatus including a U-tube manometer having a closed shank comprising a capillary tube having a zero point and an open shank having a diameter which is wide relative to that of said capillary tube and a plurality of reaction vessels each having a constant volume pressure to be measured, a bath of temperature controlled fluid; a gas reservoir in said bath, said gas reservoir having an open top and said U-tube manometer being positioned in said gas reservoir; and a multiple duct face plate cock enclosing the open top of said gas reservoir and selectively fluid-coupling the capillary tube of said manometer to each of said reaction vessels to enable the selective measurement of the pressure of each of said reaction vessels.

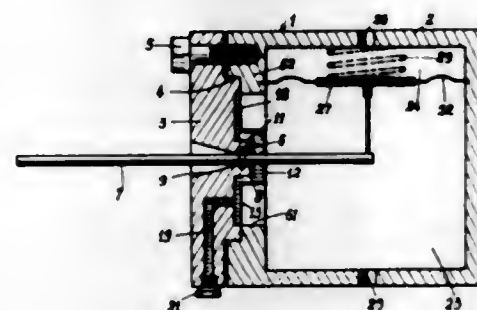


### 3,382,719 DEVICE FOR TRANSMITTING A MECHANICAL VARIABLE THROUGH THE WALL OF AN ENCLOSURE

Georges Villeneuve, Palaiseau, France, assignor to Mecel, Materiel Electrique de Controle et Industriel, Paris, France, a company

Filed May 8, 1967, Ser. No. 636,995

Claims priority, application France, May 11, 1966, 61,146, Patent 1,506,322  
13 Claims. (Cl. 73-406)

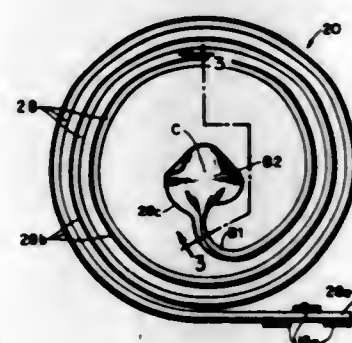


A device whereby a mechanical variable which may be either motion or force is transmitted through the wall of a sealed enclosure by means of a flexible diaphragm mounted within the enclosure and subjected to the pressure which is developed within said enclosure. The diaphragm is adapted to carry a rigid lever which extends outside the enclosure and is supported on a hydraulic cushion located between the diaphragm and the enclosure wall, said rigid lever being adapted to traverse said wall through an opening which is fitted with a seal and which permits angular displacements of the lever.

### 3,382,720 SHARPLY BENT TUBING FOR BOURDON TUBE

Lloyd La Fond Young, Stratford, Conn., assignor to Dresser Industries, Inc., Stratford, Conn., a corporation of Delaware

Filed June 9, 1965, Ser. No. 462,702  
8 Claims. (Cl. 73-418)



A Bourdon tube constructed as a spiral of flattened small diameter tubing and terminating cylindrically at its open end in a sharp right angle bend axially of the spiral.

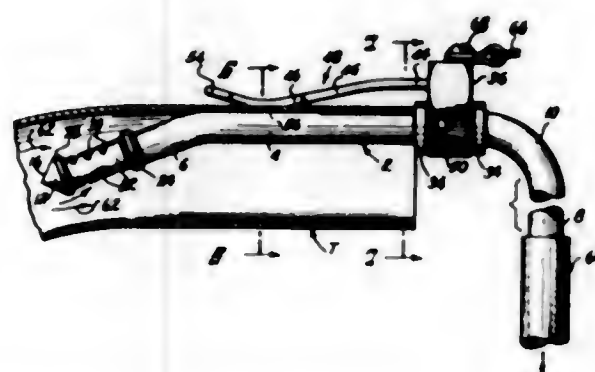
### 3,382,721 PROBE FOR COLLECTING EXHAUST GAS

Leland P. Tinkham and Carl J. Ames, Temple City, Calif., assignors to Clayton Manufacturing Company, El Monte, Calif., a corporation of California

Filed Oct. 4, 1965, Ser. No. 492,618  
18 Claims. (Cl. 73-421.5)

A probe for collecting the exhaust gas from an internal combustion engine for analysis purposes. The probe is

designed to be inserted into the end of the exhaust pipe and a spring clip is provided to hold it in place. The gas

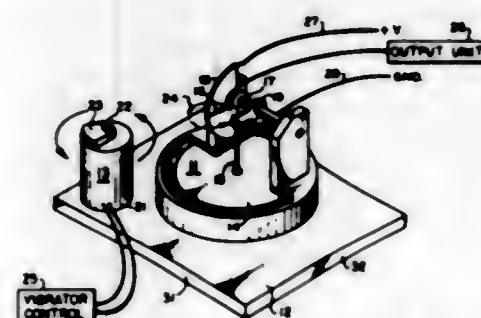


inlet ports are so arranged that solid matter entrained in the exhaust gas is rejected from the collected sample.

### 3,382,722 INDICATING INSTRUMENT HAVING VIBRATOR FOR REMOVING EFFECTS OF STATIC FRICTION

Richard B. Bridges, Greenbelt, Md., and Thomas E. Marshall III, Sterling, Va., assignors to the United States of America as represented by the Secretary of the Navy

Filed Mar. 31, 1966, Ser. No. 540,151  
9 Claims. (Cl. 73-432)



A condition responsive measuring instrument having a motor-driven rotating eccentric mass to produce vibrations for the purpose of overcoming the effects of hysteresis and static friction upon the instrument's pointer or wiper arm on a potentiometer. The relationship of the axis of rotation of the vibrator relative to the plane of movement of the pointer and to the movement of the sensing element may be controlled to select the effects desired to be produced upon those structures. The vibrator may be periodically controlled to produce vibrations which continuously vary in amplitude and frequency from zero to predetermined values and then to zero.

### 3,382,723 LIMIT STOPS FOR THE INERTIAL MASSES OF ACCELEROMETERS

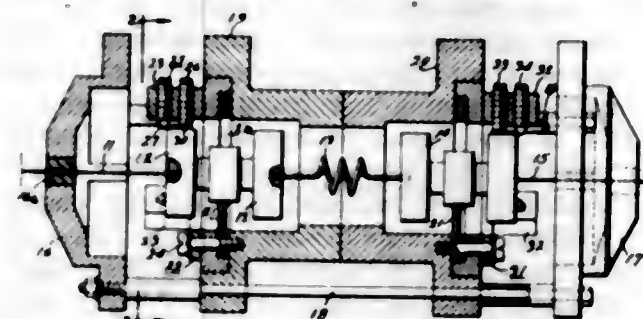
Charles D. Bock, Plainview, and Charles Ward, Westbury, N.Y., assignors to American Bosch Arms Corporation, Garden City, N.Y., a corporation of New York

Filed Oct. 3, 1963, Ser. No. 313,704  
1 Claim. (Cl. 73-517)

1. The method of providing an accurately-positioned stop for arresting the motion of a conductive proof-mass member mounted from the frame of an accelerometer, comprising:

applying a voltage between said conductive proof-mass member and said stop while advancing said stop toward said proof-mass member;

detecting the current produced between said stop and said proof-mass upon the occurrence of contact between said stop and said proof-mass;

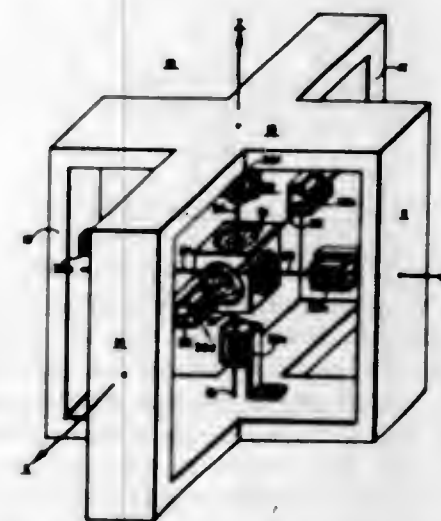


retracting said stop from contact with said proof-mass by a predetermined amount; and  
fixing said stop to said frame in said retracted position.

### 3,382,724 THREE AXIS ACCELEROMETER

Doyle E. Wilcox, Hacienda Heights, Calif., assignor, by *mesne assignments*, to North American Rockwell Corporation, a corporation of Delaware

Filed Jan. 4, 1965, Ser. No. 422,962  
5 Claims. (Cl. 73-517)

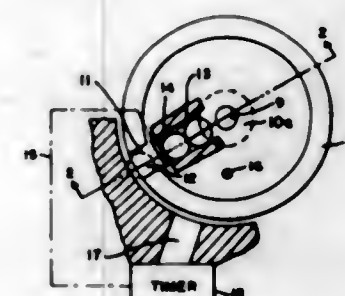


A vibratory string type accelerometer for determining acceleration along three mutually orthogonal axes. A proof mass is suspended by six string members extending from the proof mass along the three axes. The string members are whirled in a circular orbit, the frequency of which will vary as a function of acceleration.

### 3,382,725 GRAVITY-OPERATED DELAY MECHANISM

David A. Goldstein, Bellmore, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware

Filed Jan. 6, 1966, Ser. No. 519,026  
2 Claims. (Cl. 74-1)



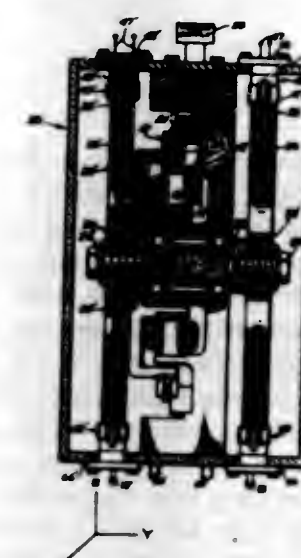
A gravity-operated delay mechanism comprises a freely rotatable disc having an annular flange with a slot dimensioned to receive a single ball weight and biased by gravity to a predetermined position. A conduit is disposed to

deliver one or more balls to the slot in succession each time the disc occupies a predetermined position. Movement of a ball into the slot changes the center of gravity of the disc to effect rotation thereof. The mechanism has an exit port in registry with the slot when the disc occupies a second predetermined position to permit exit of a ball from the slot, thereby causing the disc to return to its original biased position. Associated with the mechanism is a timer actuated by the balls from the exit port and a control mechanism which initiates operation of the timer simultaneously with the release of a ball from the conduit.

### 3,382,726 VIBRATING ROTOR GYROSCOPE

Harold F. Erdley, Pacific Palisades, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif.

Filed May 21, 1965, Ser. No. 457,740  
21 Claims. (Cl. 74-5.6)

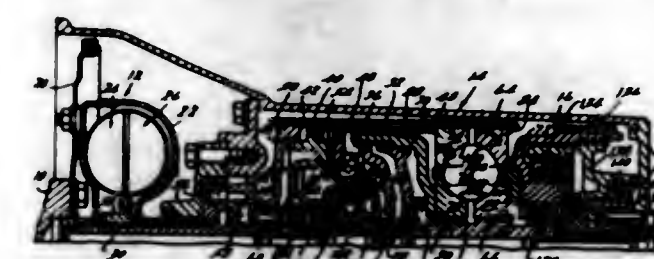


1. An inertial instrument comprising: a frame; a plurality of inertial elements rotatable with respect to said frame about a first axis, said inertial elements being capable of rotationally restrained vibratory motion about axes of vibration rotating with said inertial elements and angularly disposed with respect to said first axis; and means for rotating said inertial elements about said first axis.

### 3,382,727 SERVOMECHANISM

Reginald T. Lewicki, Dearborn Heights, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 13, 1965, Ser. No. 513,515  
4 Claims. (Cl. 74-190)



A fluid pressure actuated piston assembly is non-rotatably connected to the input drive race of a ball friction drive mechanism, the races having axially slidable elements, the piston having axially spaced and slidable portions that are in interdigitated relationship with a power input friction drive element so that axial movement of the piston to axially move the race elements clutches the power input element to the piston and thereby provides the power for driving the ball drive.

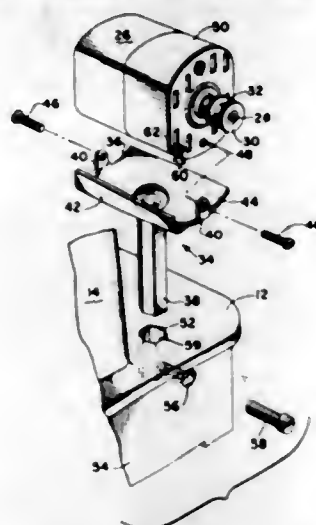


3,382,728

**MOUNTING ARRANGEMENT FOR SEWING MACHINE MOTORS**

Jin Takahashi, Tochigi-ken, Japan, assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 11, 1965, Ser. No. 494,735  
8 Claims. (Cl. 74-209)

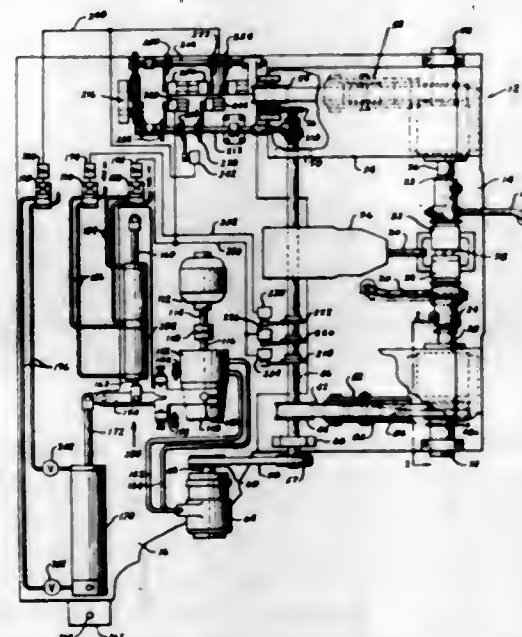


1. In a sewing machine having a frame including a standard and a bracket arm carried by said standard, a main shaft journaled longitudinally of said bracket arm, an electric motor having a drive shaft, pulleys mounted upon said drive shaft and said main shaft, a belt mounted on said pulleys for imparting rotation to said main shaft upon actuation of said motor, means for supporting said electric motor from said sewing machine frame, said means including a bed having a motor receiving side and a post connecting side and a noncircular post connected by one end to the post connecting side of the bed, said frame including a noncircular hole adapted to receive said post in sliding engagement therewith and in a manner which prevents turning movement of the post about the longitudinal axis of the post, and means for locking said post against endwise movement in a direction axially of the post, said last named means providing for selective adjustment of the post in an endwise direction axially of the post.

3,382,729  
**BELT DRIVE**

Otto F. Steinke, Dayton, Ohio, assignor to The Globe Tool and Engineering Company, Dayton, Ohio, a corporation of Ohio

Filed Aug. 30, 1966, Ser. No. 576,103  
4 Claims. (Cl. 74-226)



1. In an armature winding machine of the type having a pair of rotatable flier shafts, drive means rotating said

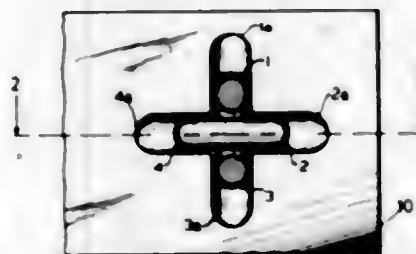
shafts, means intermittently moving said shafts axially toward and away from one another, and wherein said drive means includes a pair of drive pulleys, a pair of driven pulleys, one on each of said flier shafts, a pair of timing belts, one timing belt being drivingly connected to one of said drive pulleys and one of said driven pulleys, the other of said timing belts being drivingly connected to the other of said drive pulleys and the other of said driven pulleys, the improvement wherein said timing belts are longer than required to positively engage said driven pulleys whereupon said timing belts are not stretched upon axial movement of said flier shafts, and a pair of slack reducing means are provided to artificially increase the belt paths between said drive pulleys and said driven pulleys when said driven pulleys are at a substantially minimum separation from said drive pulleys.

3,382,730

**CHAIN GUIDE**

Hans Roggatz, Wetter (Ruhr), Germany, assignor to Demag-Zug G.m.b.H., Wetter (Ruhr), Germany  
Filed Apr. 29, 1966, Ser. No. 546,367  
Claims priority, application Germany, Sept. 24, 1965, D 48,270

2 Claims. (Cl. 74-240)



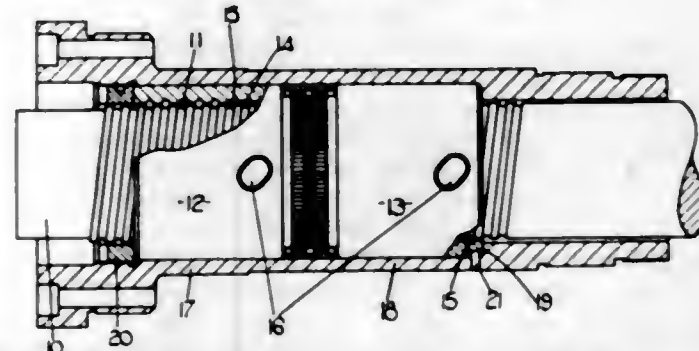
A combination chain guide and link chain includes a link chain having substantially ellipsoidal links which are of a length greater than width thereof. The guide includes four vertically extending guide grooves arranged in substantially right angle angular relationship with opposed sets of the grooves being dimensioned from the bottom of one to the bottom of the opposite one of an amount less than the length of the links but sufficiently wide to accommodate the width of the links. In addition the guide includes walls formed at the entrance to the grooves which converge inwardly to the grooves so that any link which is fed with its long side transverse to the feed direction will be deflected so that it will enter into the guide grooves with its width transverse so that it can be satisfactorily accommodated.

3,382,731

**SCREW AND NUT MECHANISMS**

John Charles Frederick Whicker, Tring, England, assignor to Rotax Limited, London, England  
Filed May 20, 1966, Ser. No. 551,654

Claims priority, application Great Britain, May 31, 1965, 23,031/65  
4 Claims. (Cl. 74-424.8)



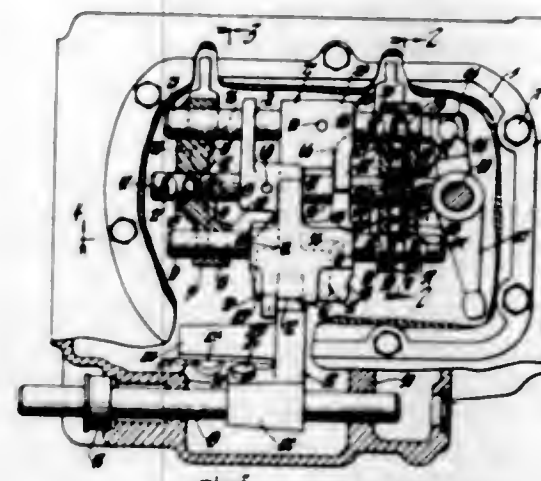
A screw and nut mechanism comprising a pair of nuts mounted within a housing and engaging a threaded shaft which extends through the housing. The nuts having pre-

sented faces which are urged into engagement by a screwed ring engaged within the housing, the relative angular setting of the nuts being determined by a sleeve having two series of gear teeth which are engaged with complementary series of teeth on the nuts respectively one series of teeth having more teeth than the other series of teeth whereby the backlash between the shaft and the housing can be adjusted.

3,382,732

**CONTROL MECHANISM**

William E. Oram, Warren, and Edward L. Francis, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Feb. 3, 1965, Ser. No. 430,010  
6 Claims. (Cl. 74-473)



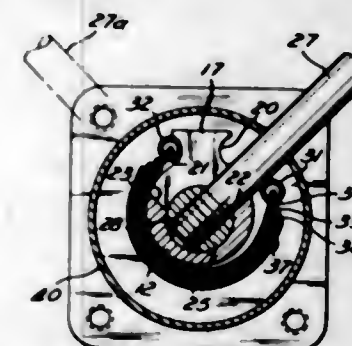
1. In a control for a multi-speed transmission comprising a case for housing the transmission, said case being formed with an access opening therein, a cover member for said opening, a plurality of elongated members movably mounted on the inside of said cover member, a shifter head secured to each of said elongated members, movable means on at least one of said heads for changing transmission output on movement thereof, shift control means spaced from said cover member and movably mounted on said case for shifting said heads to predetermined positions, means removably securing said cover member to said case, and said heads and elongated members in one of said predetermined positions fitting within the area of said access opening to facilitate assembly and removal of said cover member and controls as a unit with said case.

3,382,733

**SPRING RETURN FOR SELECTOR VALVES**

Paul J. Miller, Maple Heights, and James R. Jeromson, Jr., Willoughby, Ohio, assignors to The Weatherhead Company, a corporation of Ohio

Filed Apr. 22, 1966, Ser. No. 544,551  
5 Claims. (Cl. 74-543)



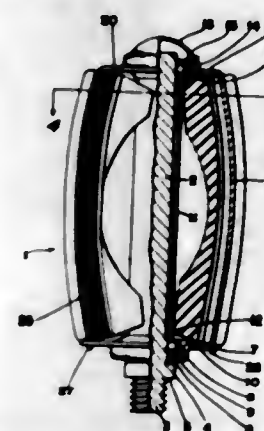
A valve has a rotating shaft for actuating the valve extending outward from the valve housing and surrounded by a projecting boss. The boss has an arcuate slot to allow movement of the shaft by a handle connected to the shaft and extending radially outward through the slot. In one

3,382,734

**BICYCLE PEDAL**

Robert R. Hussey, Ashtabula, Ohio, assignor to The Ashtabula Bow Socket Company, Ashtabula, Ohio, a corporation of Ohio

Filed Sept. 16, 1966, Ser. No. 580,037  
6 Claims. (Cl. 74-594.4)



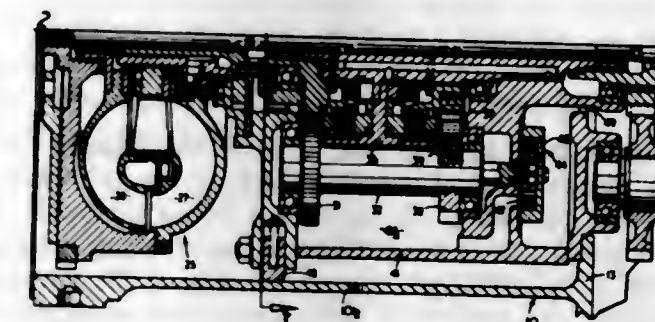
A pedal is disclosed having an elongated core with a threaded portion on one end thereof. An elongated housing means is telescoped over the core with the threaded portion of the core extending from an end thereof. Bearings at either end of the housing means hold the core and the housing means in spaced co-axial relation. A unitary generally U-shaped frame is provided which includes an end portion surrounding the end of the core opposite the threaded end and the adjacent housing end and side members spaced from and extending along the length of the housing means. A brace extends from one side portion of the frame to the other with its intermediate portion surrounding the core between the threaded portion and the adjacent bearing means. A pair of elastomeric members each having a free length greater than the distance between the end portion of the frame and the brace are secured adjacent an inside surface of each of the side portions of the frame by means of a longitudinal compressive force exerted by the end portion of the frame means and the brace.

3,382,735

**TRANSMISSIONS**

Albert Leslie Gattas, Streethy, England, assignor to Brockhouse Engineering Limited, West Bromwich, England, a British company

Filed Sept. 9, 1965, Ser. No. 486,146  
2 Claims. (Cl. 74-730)



A power transmitting apparatus having a transmission casing in which a hydro-kinetic torque converter and a power operated shift reversing mechanism replaces a conventional clutch drive mechanism.



3,382,736

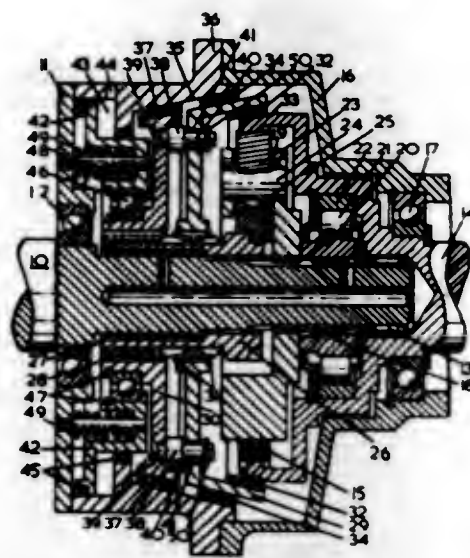
**EPICYCLIC CHANGE-SPEED GEARING**

Randle Leslie Abbott, Leamington Spa, England, assignor, by mesne assignments, to Auto Transmissions Limited, London, England, a British company

Filed July 27, 1966, Ser. No. 568,290

Claims priority, application Great Britain, Aug. 24, 1965, 36,423/65

14 Claims. (Cl. 74-740)



A two speed planetary gear set which may be used in series with a main change speed transmission the gear set being provided with a helical torque responsive connection to the reaction gear which is effective to vary both brake surface area and pressure when in one ratio and vary clutch pressure in response to reverse torque conditions in the other ratio.

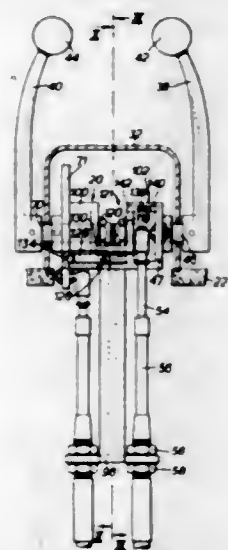
3,382,737

**ENGINE AND TRANSMISSION CONTROL**

Francis D. Manzollillo, P.O. Box 324, Peoria, Ill. 61601

Filed Apr. 4, 1966, Ser. No. 540,071

12 Claims. (Cl. 74-878)



An engine and transmission control mechanism comprises a clutch control member and an engine control member having facing surfaces one being grooved and the other having three spaced bores. An interlock member comprises a rod slideable in a tube between the two facing members and abutting a ball. When the ball is located in the groove, the other end of the rod is clear of the bores in the other member which is thus freely movable. When the ball rises out of the groove, the rod enters one or other of the bores and locks the bored member against further movement.

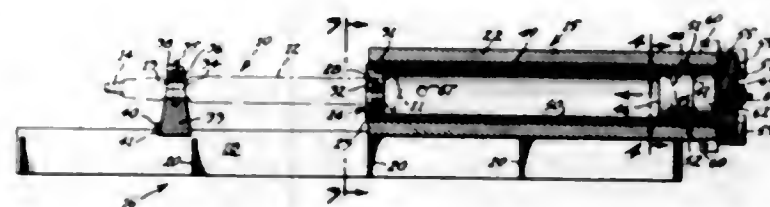
3,382,738

**DRILL BIT SHARPENER**

Harold D. Copeland, Commerce St., Loretto, Tenn. 38469

Filed Feb. 16, 1966, Ser. No. 527,667

9 Claims. (Cl. 76-89.2)



1. A device for sharpening a drill bit comprising:
  - (a) an elongated explosion chamber of uniform cross-section, having a front end and a rear end,
  - (b) means for holding the cutting end of said drill bit exposed within the front end of said chamber,
  - (c) a die having a face shaped with the complementary configuration of the cutting end of said drill bit, and having the same cross-sectional shape as said chamber,
  - (d) said die being mounted with said face forward in said chamber for free longitudinal movement therein, but constrained against rotational movement,
  - (e) means in the rear end of said chamber for detonating an explosive charge behind said die to drive said die forward, and
  - (f) means in the forward portion of said chamber for exhausting gases from said chamber as said die moves toward said bit.

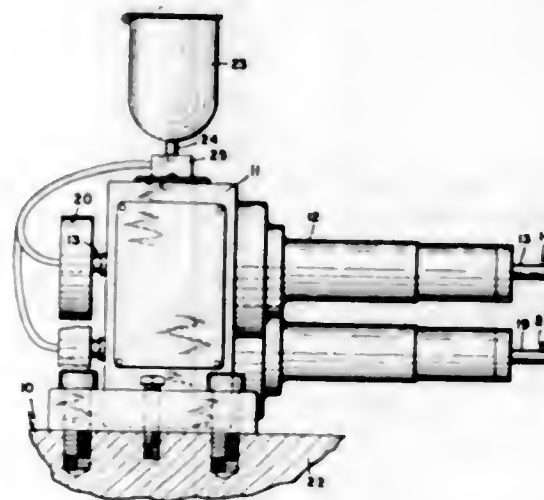
3,382,739

**MACHINE TOOL**

Alden H. Jacobson, Paxton, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware

Filed Mar. 14, 1966, Ser. No. 534,096

9 Claims. (Cl. 77-3)



1. A machine tool, comprising
  - (a) a head,
  - (b) a sleeve fixedly mounted in the head,
  - (c) an elongated spindle mounted for rotation in the sleeve, one end of the spindle and the sleeve lying within the head and the other end lying a substantial distance from the head,
  - (d) a bearing lying between the spindle and the sleeve at a first position, and

- (e) a hydrodynamic bearing lying between the spindle and the sleeve at a second position substantially spaced from the first position.

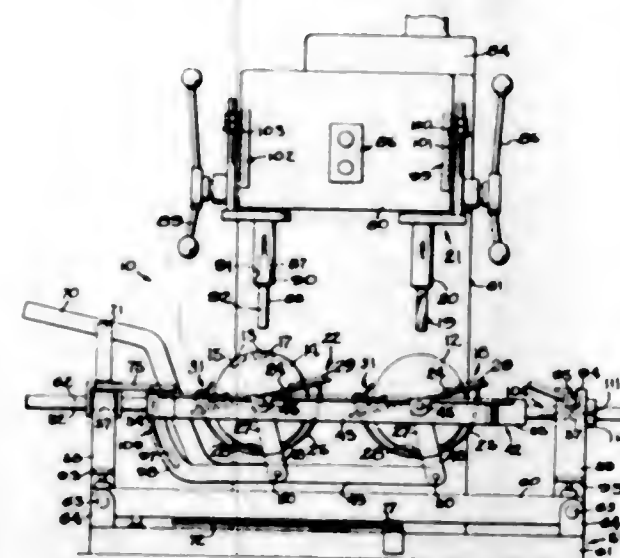
3,382,740

**BALL DRILLING MACHINE**

Russell P. Lotta, 3535 Latham, St., Rockford, Ill. 61103

Filed Dec. 29, 1965, Ser. No. 517,393

7 Claims. (Cl. 77-5)



A ball drilling machine for forming finger holes in a bowling ball in the positions of holes in a master ball having side-by-side spindles holding a drill and a pilot pin for movement along parallel paths respectively toward a holder for a blank ball and a holder for the master ball. The two holders are mounted on a frame movable perpendicular to the paths of the drill and the pilot pin both from front to rear and from side to side to align each hole in the master ball with the pilot, and also are tiltable about parallel axes to rock the axis of the hole into alignment with the pilot pin. In addition, the holders are pivotally connected by a link which transmits the rocking of the master ball to the blank ball so that all motion of the master ball in aligning a hole with the pilot is automatically and correspondingly transmitted to the blank ball. The holders are locked in each selected position for the drilling operation, and appropriate scales are formed on the positioning means to provide readings regarding hole positions. A locator is mountable over each of the holders with a pointer indicating the vertical center for use in setting the balls correctly in the holders at the beginning of an operation.

3,382,741

**APPARATUS FOR MACHINING BALLS**

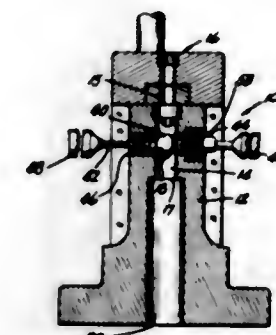
Paul J. Hackbarth and Jacob S. Doty, Middletown, Ohio, assignors to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan

Filed May 25, 1966, Ser. No. 552,798

5 Claims. (Cl. 77-21)

1. Apparatus for machining shaped openings in balls, said apparatus comprising a fixed body, means in said body for supporting a ball to be machined, a pair of clamp members on said body engageable with diametrically opposite sides of a ball in said body so as to exert compressive forces on a ball engaged therebetween to retain said ball in a fixed position in said body, a pair of axially aligned tools disposed on diametrically opposite sides of a ball clamped between said clamp members, one of said tools being a drill of a length to extend diametrically through said ball, means for advancing said drill through said ball and retracting said drill so as to

leave a through hole in said ball, the other one of said tools having a terminal end section of a size to be piloted in said hole formed by said drill, said other tool having at least one section of a larger diameter than said drill



disposed rearwardly of said terminal end section, and means for advancing said tool into the hole formed in said ball by said drill to enlarge a portion of said through hole.

3,382,742

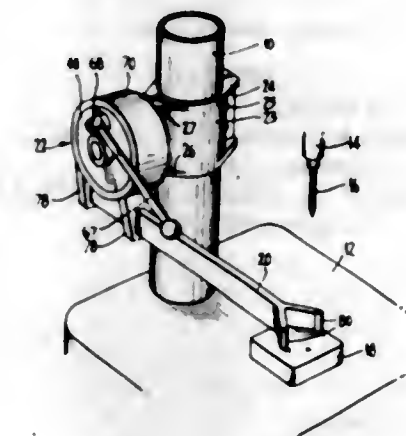
**DRILLING CLAMP**

Nell J. Gibbs, 137 Northern Road, West Heidelberg, Victoria, Australia

Filed Oct. 11, 1965, Ser. No. 494,592

Claims priority, application Australia, Oct. 15, 1964, 50,551

4 Claims. (Cl. 77-55)



A clamping device for clamping a workpiece to the table of a drill press comprises mounting means for engagement with the pillar of the drill press, a hollow casing rotatably supported from said mounting means and having ratchet teeth on its inner surface, a clamping arm for engagement with the workpiece, said arm being supported by the casing, a pair of discs rotatably mounted within the casing, at least one pawl pivotally supported by and between said discs and cooperating with said ratchet teeth, and means to rotate the discs in a direction to cause the pawl to rotate the casing and thereby move the clamping arm into engagement with the workpiece and clamp the workpiece to the table.

3,382,743

**DRILLING MACHINE BIT MEANS**

Walter E. Trevathan, McKeanle, Tenn., assignor to Walter Trevathan Corporation, a corporation of Tennessee

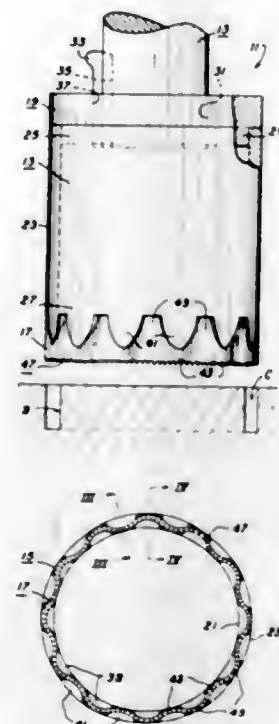
Filed Dec. 8, 1965, Ser. No. 512,482

10 Claims. (Cl. 77-69)

A bit means for forming a circular cut in a piece of work material. The bit means has an elongated rotatable tubular body having a plurality of support lugs at the

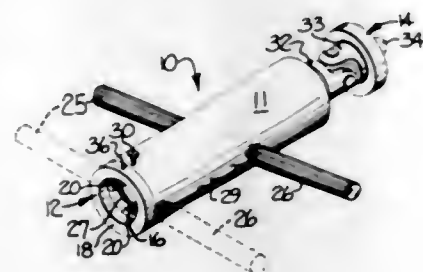


lower end thereof. A thin band-like cutting ring is sinusoidally disposed in frictional engagement with the support lugs. Optional holding means is shown which is in the



form of at least one tab formed on the cutting ring and extending into a hole in one of the support lugs. The cutting ring is shown both in a continuous form and in a non-continuous form with the ends overlapping.

**3,382,744**  
**POWER WRENCH**  
Ralph R. Jones, P.O. Box 127,  
Lyman, S.C. 29365  
Filed Sept. 15, 1966, Ser. No. 579,532  
7 Claims. (Cl. 81-54)

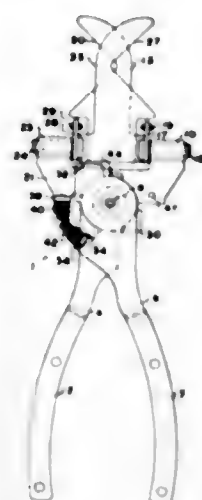


A readily portable power wrench for facilitating the assembly of threaded workpieces, such as pipe, and particularly the field installation of long runs of such pipe, by being adapted for quick connection to and disconnection from lengths of pipe and to transmit rotational force to the pipe from a variety of power sources.

**3,382,745**  
**BAG OR CASING CLOSING TOOL**  
Roy Lane Trimble, Danville, Ill., assignor to  
Tee-Pak, Inc., a corporation of Illinois  
Filed Mar. 16, 1967, Ser. No. 623,606  
7 Claims. (Cl. 81-311)

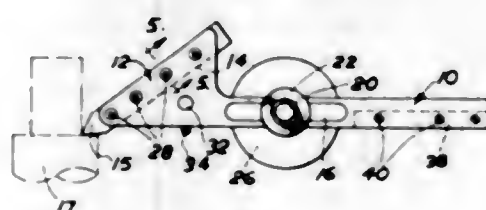
A tool for gathering and clamping a bag or casing at spaced points in preparation for tying or clipping consists of a pair of handles pivotally connected and carrying at one end two pairs of V-shaped or hooked shaped clamping members. The clamping members are moved by

movement of the handles into gripping relation wherein the jaw members overlap each other and grip the bag or casing to be gathered or closed at closely spaced intervals. The jaw members are pivotally mounted on the ends of the respective handles and spring biased toward each other. The handles are provided with an over-travel mechanism permitting relative movement of the



handles beyond the point where the jaw members are moved into gripping relation. Relative movement of the handles beyond the point where the jaw members are in gripping relation is effective to pivot the jaw members laterally and thus provide two spaced gripping points on the bag or casing being closed while maintaining the jaw members in gripping relation.

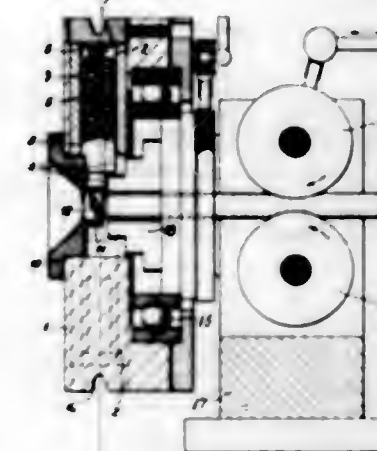
**3,382,746**  
**COMBINATION TOOLHOLDER**  
Larry K. Tucker, 604 Park Ave.,  
Sycamore, Ill. 60178  
Filed May 4, 1966, Ser. No. 547,487  
3 Claims. (Cl. 82-36)



1. In a combination toolholder, a shank adapted to be clamped in a tool post, a head on said shank having a tool bit receiving groove in the side thereof, said groove being at an angle relative to said shank and being symmetrically located relative to the top and bottom surfaces of said shank whereby the shank may be clamped in a tool post with either side up and the angle of said tool bit receiving groove thereby reversed for either right hand or left hand cuts by a tool bit received in said groove, and means to retain the tool bit in said groove comprising two sets of set screws to enter said groove from opposite sides thereof whereby, in either position of said toolholder, that set of set screws which is opposite to the direction of rotation of the work can be used to hold the tool bit and the other set can be backed off from the tool bit, and wherein the end of said shank opposite said head is provided with a groove in the side thereof to receive a tool bit, and means is provided to retain such tool bit therein comprising two sets of set screws to enter said last mentioned groove from opposite sides thereof whereby in either position of said

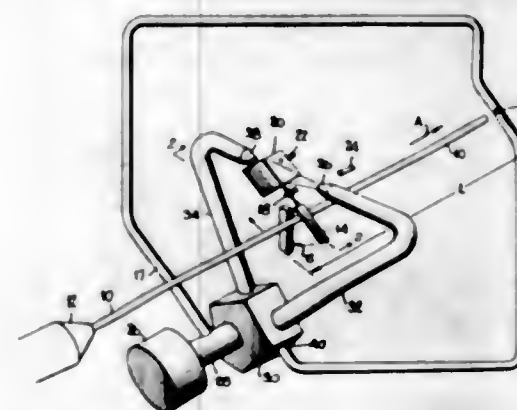
toolholder that set of set screws can be used which is opposite to the direction of rotation of the work.

**3,382,747**  
**MACHINE FOR PRODUCTION OF RINGS OR DISCS FROM TUBE OR STRAND-SHAPED WORKPIECES**  
Rudolf Breher, Uffeln, Vlotho, Germany, assignor to  
Firma Elastomer AG  
Filed Apr. 12, 1966, Ser. No. 542,026  
Claims priority, application Germany, Apr. 13, 1965,  
B 81,426  
5 Claims. (Cl. 82-59)



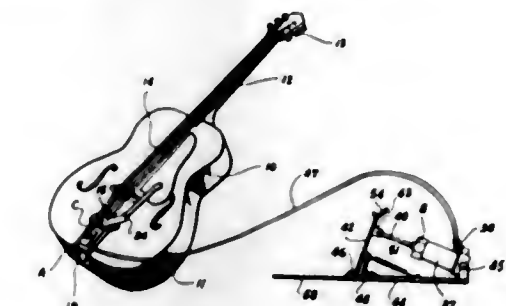
The invention relates to a cut-off machine having a hollow rotating cutter head in which cutting elements are resiliently biased radially inwardly for cut-off operations during slow speed rotation and the cutting elements are retracted radially outwardly against the resilient bias during high speed rotation to permit intermittent axial advancement of work material.

**3,382,748**  
**CUTTING APPARATUS**  
Paul Dubach and Torben Joergensen, Wattwil, Switzerland, assignors to Heberlein & Co. AG, Wattwil, St. Gall, Switzerland, a corporation of Switzerland  
Filed June 21, 1966, Ser. No. 559,266  
Claims priority, application Switzerland, June 30, 1965,  
9,142/65  
17 Claims. (Cl. 83-370)



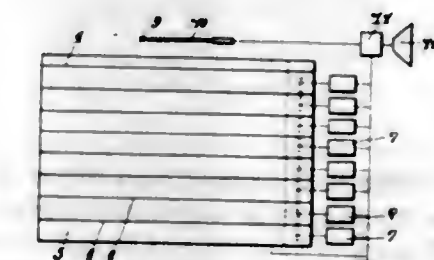
Strand-like material to be cut into equal length pieces is advanced past a fluid power operated cutting element the desired distance to a distal point where it obstructs an aperture in the conduit carrying control fluid to one or more fluid amplifiers. The driving stream in at least one of the fluid amplifiers is switched upon obstruction of the aperture to cause actuation of the cutting element. Both monostable and bistable embodiments are described.

**3,382,749**  
**DEVICE FOR PRODUCING A TREMOLO EFFECT ON STRINGED MUSICAL INSTRUMENTS**  
John W. Watson, 403 Stevens St.,  
Greenwood, S.C. 29646  
Filed Mar. 10, 1966, Ser. No. 533,361  
4 Claims. (Cl. 84-313)



1. A device for producing a tremolo effect on a stringed musical instrument having a plurality of aligned tensioned strings extending along the instrument with one end of the strings being connected to keys carried by the instrument and the other end of the strings being connected to a movable tail stock carried on the main body of the instrument comprising: expansible means carried by said instrument adjacent said tail stock; means for reciprocally supplying fluid to said expansible means causing a reciprocating movement of said expansible means; a connecting element carried by said expansible means for movement therewith responsive to the flow of fluid into said expansible means, and a free-end of said connecting element being connected to said movable tail stock for imparting movement from said expansible means to said tail stock; whereby said tail stock is moved varying the tension in the strings connected thereto responsive to the movement of fluid into and out of said expansible means producing a tremolo effect in the tones of said strings while said musical instrument is being played.

**3,382,750**  
**ELECTRONICALLY SOUNDING BLACKBOARD**  
Mitsunaga Hiyama, 383 Nagisa-anada, Nagano-ken,  
Matsumoto-shi, Japan  
Filed July 26, 1966, Ser. No. 567,958  
4 Claims. (Cl. 84-471)



1. An electronically sounding blackboard comprising a base plate which is entirely covered and attached with aluminum leaf, an insulating film which adheres on and entirely covers insulating horizontal lines which are drawn at regular intervals with insulating paint and which form a narrow and thin elevated layer on said insulating film, electro-conductive film stripes which are formed on said insulating film between each pair of the insulating horizontal lines and which are coplanar with said horizontal lines and connect with oscillators and an amplifier for producing proper signals respectively, a baton which is attached to the amplifier by a connector in the extremity of said baton, and a speaker which connects with said amplifier.

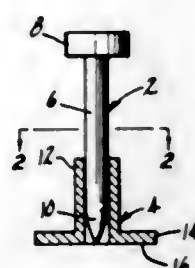


3,382,751

**FASTENER AND ATTACHMENT FOR PISTON-TYPE FASTENING TOOL**

Rowland J. Kopf, North Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Jan. 12, 1966, Ser. No. 520,149  
7 Claims. (Cl. 85-10)



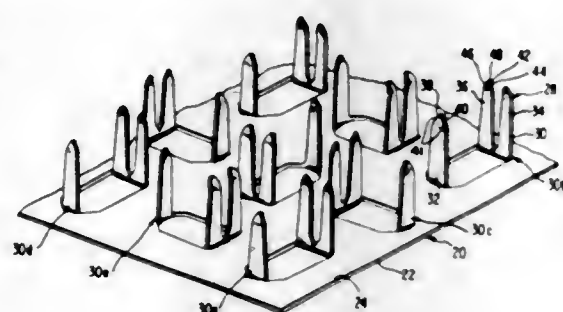
A fastener assembly for use in a piston-type power actuated tool. The fastener assembly includes a fastener member having a shank portion with a head at one end and a tapered tip at the other end. The fastener is provided with an attachment having a tubular body and a flange portion at the forward end of the body. The internal surface of the attachment conforms to the shape of the shank of the fastener with a friction fit and is so positioned that the flange portion of the attachment, which has a forward planar surface extending substantially perpendicular to the axis of the shank of the fastener, is positioned adjacent the forward end of the fastener tip.

3,382,752

**CONNECTOR PLATE FOR JOINING WOOD MEMBERS**

William Hill Black and William Hill Black, Jr., both of 1240 NE. 204th Terrace, North Miami Beach, Fla. 33162

Filed Oct. 24, 1965, Ser. No. 504,695  
2 Claims. (Cl. 85-13)



A plate having teeth struck therefrom for connecting wood or like members in coplanar relation, such as in trusses and frames. The teeth are struck from the plate in groups each of which includes a bifurcated tooth and spaced therefrom a single tooth struck from between the bifurcations of the bifurcated tooth. The configurations of the teeth, including the bifurcated portions are such as to cause them to bend toward each other as they are driven in the wood to grip around sections of the wood grain. The teeth are formed simultaneously by a single punching method.

3,382,753

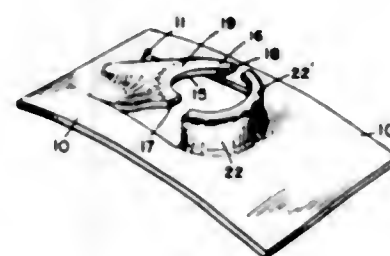
**SPRING STEEL FASTENERS**

George A. Tinnerman, 17864 Beach Road, Lakewood, Ohio 44107

Filed Sept. 20, 1965, Ser. No. 489,467  
3 Claims. (Cl. 85-32)

A fastener in the nature of a nut formed from spring

sheet material having a stud receiving passage formed in an integral base, and having stud engaging and supporting



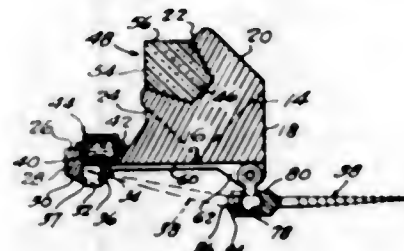
portions formed on the base to maintain proper alignment with the stud during assembly of the nut thereon.

3,382,754

**DEVICE FOR PLUMBING AND ORIENTING UPRIGHTS**

Jack Lunden, Box 405, Homer, Alaska 99603

Filed May 4, 1965, Ser. No. 453,090  
7 Claims. (Cl. 88-2.3)



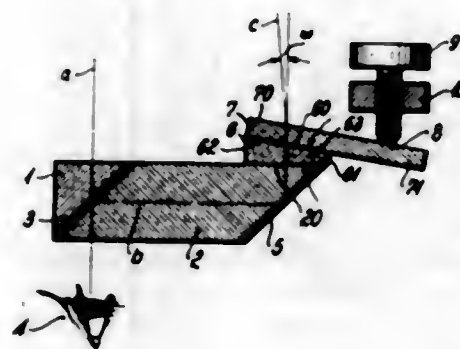
A device for plumbing uprights comprising a prism having horizontal and vertical sighting surfaces, a bubble level having a viewing face parallel to the horizontal sighting surface, and a prism mounting means including a vertical spindle and a horizontal pivot permitting the prism to be vertically tilted toward and away from the side of an upright through an arc greater than 90°. Adjustments permit not only positioning a pole vertically, but turning it about its own axis to properly face a preceding pole.

3,382,755

**RANGEFINDER FOR PHOTOGRAPHIC PURPOSES INCLUDING A DEFORMABLE PRISM**

Friedrich Papke, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany

Filed Feb. 18, 1964, Ser. No. 345,659  
Claims priority, application Germany, Feb. 20, 1963, V 23,674  
9 Claims. (Cl. 88-2.4)



A rangefinder particularly for photographic structures. The rangefinder includes a solid, transparent, block-shaped deformable means and a directing means for directing range finder rays along a predetermined path through the transparent deformable means to the eye of the operator.

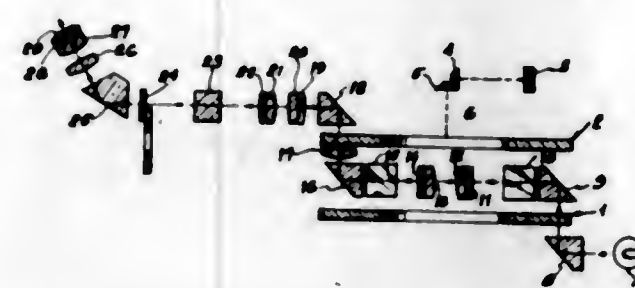
A deforming means engages the transparent deformable means for deforming the latter so as to deflect the range-finder rays and thus adjust the location of the path thereof to the eye of the operator.

levered beam in the carriage having appropriate light sources and angled mirrors and a telescope mounted on the motor for close inspection, in combination with the

**OPTICAL SCALE READING APPARATUS AND METHOD**

Eric J. Schneider and Berwyn T. Archer, Chicago, Ill., assignors to Engle Equipment Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 12, 1962, Ser. No. 179,137  
5 Claims. (Cl. 88-14)



1. In an apparatus comprising an oscillating controlling means operatively connected to an oscillating disc having a graduated scale thereon, the improvement which comprises:

- (A) a tracking disc having a graduated scale thereon substantially identical to that of said oscillating disc rotatively mounted at its central axis, said tracking disc being rotatable independently of movement of said oscillating disc;
- (B) means for rotating said tracking disc for annular displacement with respect to said oscillating disc for orienting said graduated scale of said tracking disc to conform with selected positions of said graduated scale of said oscillating disc;
- (C) optical viewing means; and
- (D) optical means for projecting two aligned images consisting of an image of a segment of said oscillating disc and an image of a segment of said tracking disc into said viewing means, said aligned images being disposed so that corresponding graduated markings on corresponding segments of said discs are scaled in the same direction and said corresponding markings appear to increase and decrease in the same direction;

whereby said tracking disc may be rotated to maintain said scale images in said viewing means in alignment until said oscillating disc reaches the point of maximum deflection and begins to reverse, whereupon rotation of said tracking disc is terminated and its reading in said viewing means corresponding to the reading of said oscillating disc at the point of maximum deflection is determined at leisure.

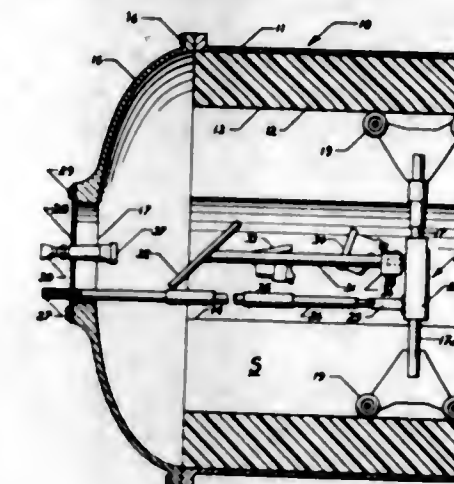
3,382,757

**ROCKET CHARGE INSPECTION INSTRUMENT INCLUDING A CARRIAGE CARRYING AN ANGLED REFLECTOR WHICH IS MOVABLE ALONG A BORE**

James A. Poirier, Jekyll Island, Ga., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Nov. 7, 1963, Ser. No. 322,202  
2 Claims. (Cl. 88-14)

An apparatus for inspecting the ignition surfaces of a rocket motor solid propellant including a wheeled carriage for traversing the surface to be inspected, a sectioned control rod attached to the carriage and extensible exteriorly of the motor for moving the carriage, a canti-



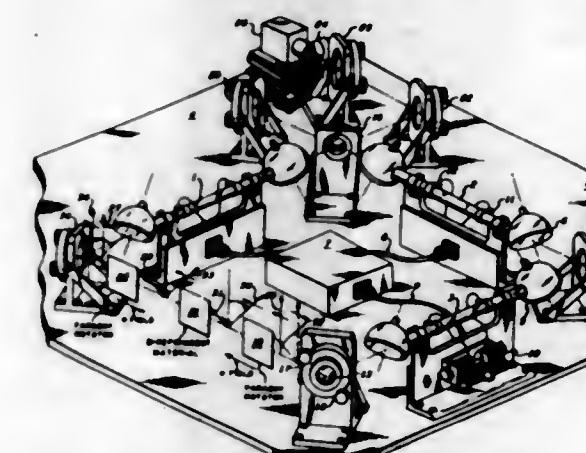
mirrors and light sources, of the ignition surfaces as the carriage is moved thereover by means of the sectional control rod from outside the motor.

3,382,758

**RING LASER HAVING FREQUENCY OFFSETTING MEANS INSIDE OPTICAL PATH**

Chao C. Wang, Mineola, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Dec. 5, 1963, Ser. No. 328,326  
8 Claims. (Cl. 88-14)



A ring laser having a lasing medium equipped with Brewster angle windows for the propagation of oppositely travelling linearly polarized light beams. A birefringent material, placed within the closed loop optical path, delays one of the oppositely travelling linearly polarized beams by an amount different from the delay introduced in the other beam. Said two beams pass through one of the corner mirrors of the ring laser and are heterodyned in a photodetector to produce a finite beat note even in the absence of laser rotation.

3,382,759

**RING LASER BIASED BY ZEEMAN FREQUENCY OFFSET EFFECT FOR SENSING SLOW ROTATIONS**

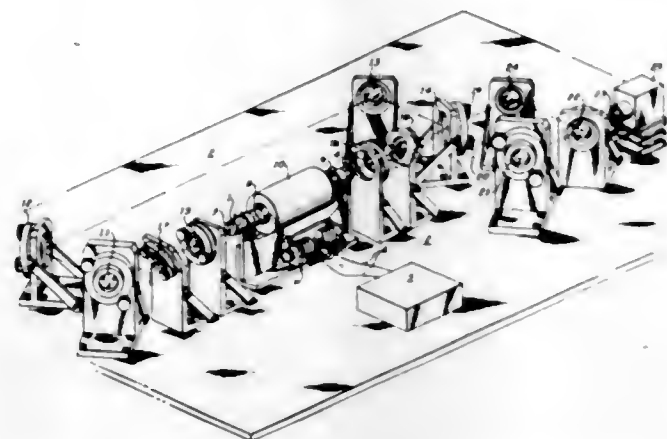
Warren M. Maczek, Huntington Station, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Dec. 18, 1963, Ser. No. 331,523  
8 Claims. (Cl. 88-14)

1. A ring laser rotation rate sensor having a plane polygonal closed loop optical path, said laser comprising a reflecting mirror in said path at each corner of said path,



a longitudinally extensive lasing medium in said path, the longitudinal axis of said medium being coincident with a side of said path, means for applying a predetermined magnetic field longitudinally along said medium, means for exciting said medium to generate a pair of oppositely sensed circularly polarized beams of different frequencies in both directions along said path,



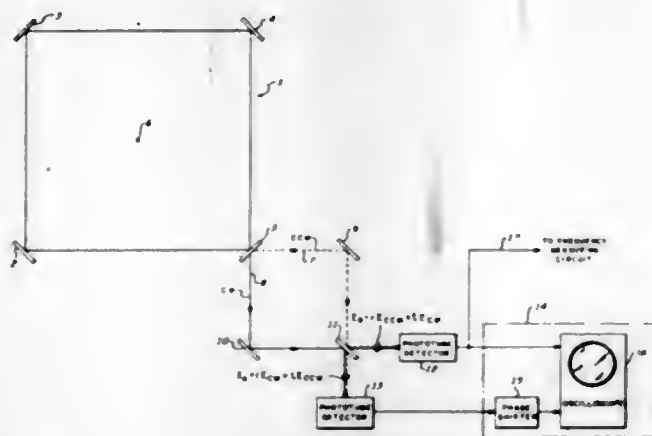
means favoring the propagation of one of said beams in one direction about said path and for favoring the propagation of the other of said beams in the opposite direction about said path, one of said mirrors partially transmitting the counter rotating light beams impinging thereon, means for making collinear the beams transmitted through said one of said mirrors, and means for heterodyning the collimated beams.

3,382,760

#### COHERENT LIGHT FREQUENCY DIFFERENCE SENSOR

Warren M. Macek, Huntington Station, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed July 2, 1964, Ser. No. 379,914  
6 Claims. (Cl. 88-14)

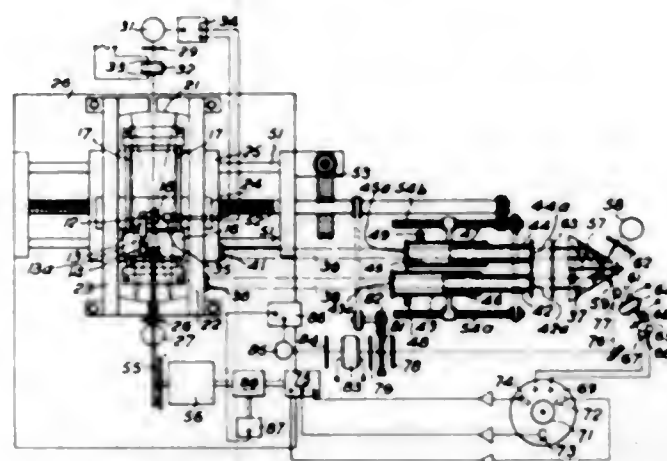


An apparatus for measuring the sense of the frequency difference between two light beams such as the beams issuing from a ring laser wherein the beams are applied via a beamsplitter to a pair of photodetectors. One photodetector receives the transmitted component of the first beam and the reflected component of the second beam whereas the second photodetector receives the transmitted component of the second beam and the reflected component of the first beam. The output signals from the photodetectors are applied to a phase sense determining device.

#### 3,382,761 RULING ENGINES FOR THE PRODUCTION OF FINE PITCH SCALES

James Dyson, Teddington, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain

Filed Nov. 16, 1964, Ser. No. 411,294  
Claims priority, application Great Britain, Nov. 18, 1963, 45,507/63  
11 Claims. (Cl. 88-14)



A ruling engine for diffraction gratings having a continuously traversed blank carriage and an interferometer for co-ordinating operation of the tool actuating mechanism with the carriage traverse avoids errors due to change in the air conditions by including variable length evacuated tubes in the interferometer beams controlled from the carriage traverse to maintain a constant length path of the beams through air. Preferably one tube is shortened and the other lengthened by equal amounts during the traverse. Preferably the correction is applied through a servo system to the tool actuating mechanism. Errors in the tool actuating mechanism may be corrected by a secondary interferometer and a secondary servo system. Particular constructions of servo mechanisms together with particular optical and photo electric devices for controlling the operation of the engine described.

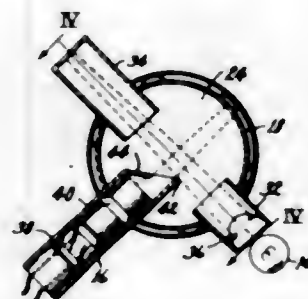
3,382,762

#### SMOKE DETECTING DEVICE

Alfred W. Vasek, 222 Linwood St., Abington, Mass. 02351, and Rudolph W. Kalns, 18 Harding Ave., Braintree, Mass. 02184

Continuation of application Ser. No. 396,629, Sept. 15, 1964, which is a continuation of application Ser. No. 94,532, Mar. 9, 1961. This application Feb. 21, 1967, Ser. No. 617,717

4 Claims. (Cl. 88-14)



4. A smoke detector, comprising a chamber having a wall structure darkening the inside of the chamber, there being spaced shielded apertures through said wall structure inter-communicating with each other through said

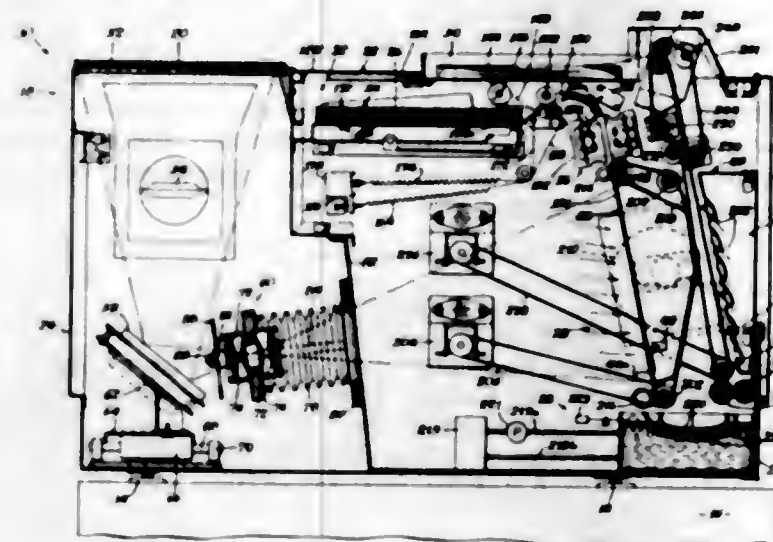
chamber for allowing ambient atmosphere to circulate through the chamber, a light source for projecting a light beam across said chamber, and a light responsive device shielded from direct light from the light source and being positioned to view transversely a portion of the light beam, wherein the improvement comprises lens means associated with the light responsive device to restrict the field of view of the light responsive device in the chamber beyond the light beam to an area less than the area of the field of view within the light beam, whereby the ratio of the amount of light transmitted through said lens means to said light responsive device when particles of smoke enter said chamber and reflect light from said region of said beam, to the amount of light transmitted through said lens means to said light responsive device without smoke in said chamber, is increased since said lens means has decreased area of view in said region beyond said light beam as compared to the area of view in said beam.

3,382,763

#### PHOTOELECTROSTATIC COPYING MACHINE

John V. Bruning, Prospect Heights, Ill., assignor to Addressograph-Multigraph Corporation, Charles Bruning Division, Mount Prospect, Ill., a corporation of Delaware

Filed May 21, 1965, Ser. No. 457,685  
10 Claims. (Cl. 88-24)



An electrostatic copying machine includes a copy sheet transport system of rollers and belts for moving a copy sheet from a supply through a charging station, an exposure station, a liquid developing station, and a drying or fixing station in sequence. An optical system directs a light image of a stationary original to be copied on the charged copy sheet held in a fixed plane at the exposure station to provide an electrostatic image that is subsequently developed in the developing station. An air blower has an intake at the exposure station for holding the copy sheet on the transport system in the exposure plane at the exposure station and an outlet at the drying station for holding the copy sheet on the transport system and drying the sheet.

3,382,764

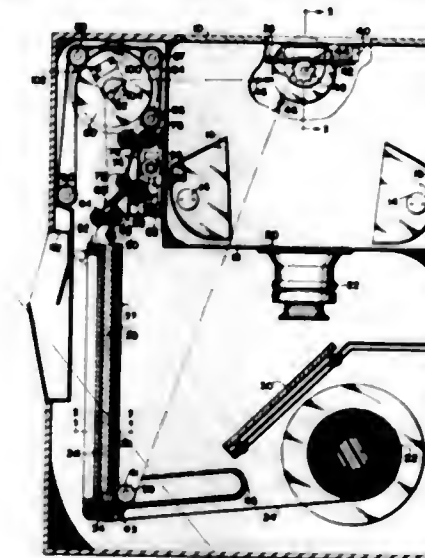
#### PHOTOGRAPHIC EXPOSURE AND PROCESSING APPARATUS

Richard J. Chen, Winchester, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Apr. 25, 1966, Ser. No. 544,746  
6 Claims. (Cl. 88-24)

Photographic apparatus for exposing and processing successive sections of a photosensitive sheet including an

exposure system for exposing a variable area of the photosensitive sheet and a visible indicator coupled with the



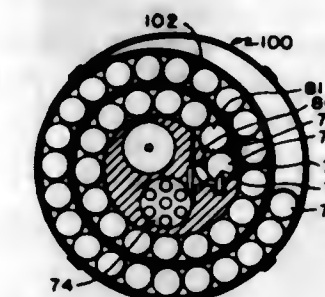
exposure system for indicating the length of the area exposed.

3,382,765

#### MULTIPLE DRUM-TYPE MAGAZINE OF PARTICULAR UTILITY WITH ROCKET-BOOSTED AMMUNITION AND FEATURING RADially INWARD HELICAL FEED TOWARD A COMMON RECIPROCAL FEED SLIDE

Kenneth J. J. McGowan, Richmond, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware

Application Nov. 1, 1966, Ser. No. 591,288, now Patent No. 3,331,282, dated July 18, 1967, which is a division of application Ser. No. 478,570, Aug. 10, 1965, now Patent No. 3,315,567, dated Apr. 25, 1967. Divided and this application Mar. 29, 1967, Ser. No. 626,816  
2 Claims. (Cl. 89-34)



This is an ammunition supply. A plurality of cylindrical magazines are positioned side by side, defining a feed path. Each magazine comprises a helically wound ammunition guide having an output end and spring means for urging the ammunition toward the output end. A common delivery slide is disposed transversely of all of the output ends and along the feed path. Each magazine has a pawl pivotally mounted adjacent its output end and the delivery slide for the purpose of sensing whether a round of ammunition is present in the slide adjacent the output and associated with that pawl. When the answer is negative, a magazine whose pawl supplies the negative answer supplies a round to the delivery slide. The slide is provided with ganging means so that as it makes an advance stroke, one round of ammunition at a time is supplied to an ammunition feeder.

3,382,766

#### COMBINATION MANUAL AND AUTOMATIC BOLT ACTION FOR FIREARMS

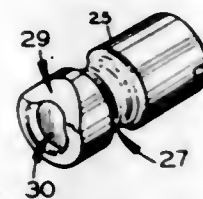
Abe Seiderman, Coral Gables, Fla., assignor to Universal Firearms Corp., Hialeah, Fla., a corporation of Florida

Filed Sept. 30, 1966, Ser. No. 583,266  
3 Claims. (Cl. 89-193)

A semiautomatic firearm having a gas port in the barrel to urge a spring biased piston and bolt out of firing posi-



tion is provided with a cylinder body. The cylinder body has an oblique face located near the port leading from



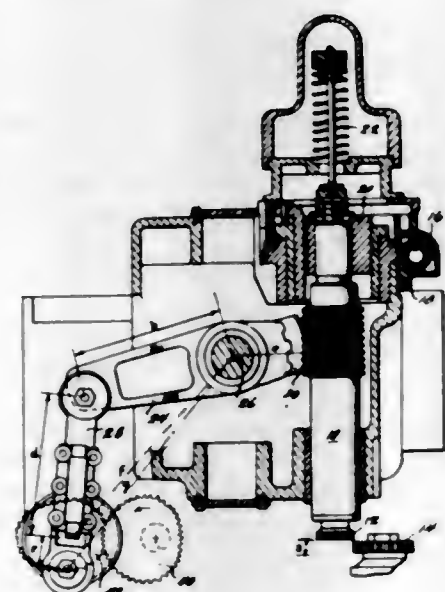
the barrel. The oblique face leads into a cavity coaxial with the barrel. The cylinder body can be rotated to close the gas port so that the firearm can be single fire operated.

3,382,767

## GEAR SHAPER DRIVING MEANS

Arthur I. Bean, Springfield, Vt., assignor to The Fellows Gear Shaper Company, Springfield, Vt., a corporation of Vermont

Filed Apr. 19, 1966, Ser. No. 543,727  
5 Claims. (Cl. 90—7)



1. In a gear shaping machine having a vertical spindle for carrying a cutting tool, said spindle being mounted for vertical reciprocations and for engaging the cutting tool with a workpiece during the downward reciprocation of the spindle, and a driving mechanism for reciprocating the spindle, said driving mechanism including gears for driving a cranking mechanism which in turn reciprocates said spindle in a pattern of movement determined by the configuration of said gears, the improvement comprising:

a pair of non-circular gears for driving said cranking mechanism, said pair of gears including a drive gear and a driven gear which intermesh on a principal axis for the pair when said spindle is at an approximate midpoint for an upward return stroke reciprocation, and wherein said cranking mechanism receives driving movements from said pair of gears so as to dictate a pattern of movement for said spindle which provides for a rapid return of said spindle to its uppermost position and for a more uniform velocity for said spindle during its downward cutting stroke, said pattern of movement being the result of the drive gear rotating in a direction which rotates the driven gear at a maximum increase in speed during the upward movement of the spindle from its

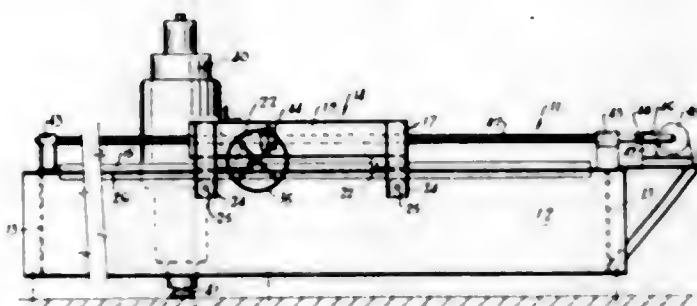
midpoint position to its uppermost position and at a maximum decrease of speed at the midpoint of a downstroke for said spindle.

3,382,768

## MOVABLE MILLING MACHINE

Ernest James Mount, Dorval, Quebec, Canada, assignor to Dominion Bridge Company Limited, Montreal, Quebec, Canada

Filed Dec. 6, 1965, Ser. No. 511,790  
8 Claims. (Cl. 90—12)



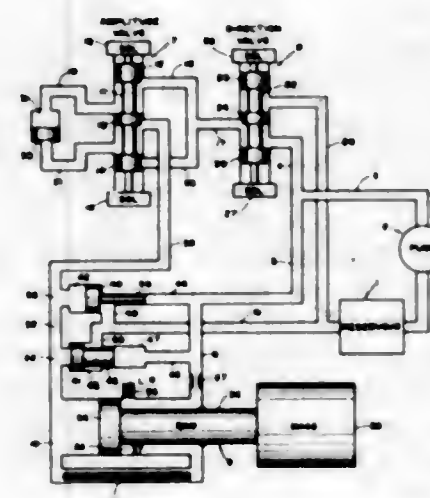
A movable milling machine including a rectangular support frame comprising a pair of side members having tracks along the upper edges thereof. A carriage assembly has an upper carriage portion engageable with the tracks and movable longitudinally therealong and a lower carriage portion attached to the bottom of the upper carriage portion and extending below the horizontal level of the tracks, the lower carriage portion including a saddle plate movable laterally relative thereto, the saddle plate having a motorized milling unit mounted thereon and adapted to be lowered into cutting engagement with a surface to be machined.

3,382,769

## DIGITAL HYDRAULIC ACTUATOR

Jerry W. Raider, Endicott, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 4, 1966, Ser. No. 540,097  
6 Claims. (Cl. 91—47)



The digital hydraulic actuator disclosed contains a fluid metering feature wherein a so-called "volume piston" is adapted to move back and forth from one end to the other of its accommodating cylinder to transfer fixed and equal amounts of fluid between a fluid supply and a control cylinder containing a movable ram. A solenoid-

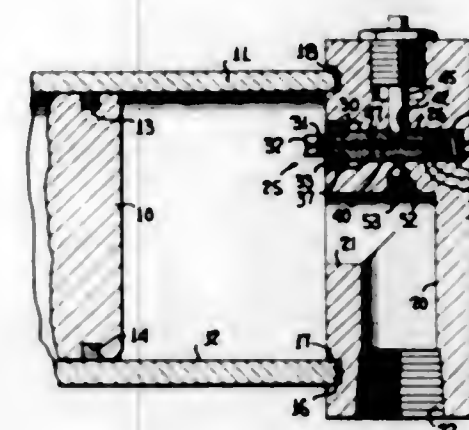
operated amplitude control valve allows this volume piston to move in the above manner and still feed fluid into one end of the control cylinder to advance the ram in equal incremental steps in a given direction. A solenoid-operated directional control valve determines whether this metered fluid flows into or out of this end of the control cylinder and, consequently, the direction of ram movement.

3,382,770

## MECHANISM FOR CONTROLLING A FLUID MOTOR

John F. Berninger, Niles, Walter W. Davis, Palatine, and Robert W. Lanman, Wilmette, Ill., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 1, 1964, Ser. No. 400,696  
26 Claims. (Cl. 91—275)



1. A mechanism for controlling a fluid motor comprising a cylinder, a piston mounted for movement in a bore of said cylinder, a plunger mounted for movement by and relative to said piston, a member mounted for movement by said plunger at an angle relative thereto, means for placing opposite end portions of said plunger in fluid communication with said bore whereby fluid pressure in said bore acts upon the opposite end portions of said plunger, and means for at all times isolating said member from the fluid pressure in said bore.

3,382,771

## LOAD RELEASE INHIBITOR FOR LOAD-HANDLING APPARATUS

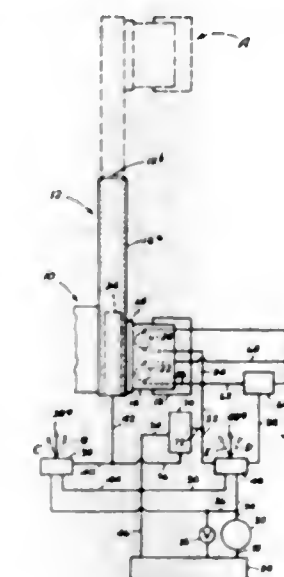
Ralph E. Nutter, Portland, Oreg., assignor to Cascade Corporation, Portland, Oreg., a corporation of Oregon

Filed Sept. 12, 1966, Ser. No. 578,619  
6 Claims. (Cl. 91—412)

1. In load-handling apparatus including elevatable fluid-operated load-clamping means for clamping against and releasing a load, first fluid-actuated motor means operatively connected to said load-clamping means actuatable to produce clamping and releasing of a load by said load-clamping means, and a second fluid-actuated motor means operatively connected to said load-clamping means for raising and lowering the same,

conduit means for supplying fluid to and exhausting it from said first and second motor means, a control valve operatively connected to said conduit means adjustable to effect clamping and releasing of a load by said load-clamping means by controlling the flow of fluid to said first motor means, and a pressure-sensitive device operatively connected to said conduit means responsive to the pressure of fluid in said second motor means operable, with said load-clamping means elevated and said control valve ad-

justed to effect releasing of a load by said load-clamping means, and said pressure exceeding a pre-



determined pressure, to prevent such releasing of a load by said load-clamping means.

## ERRATUM

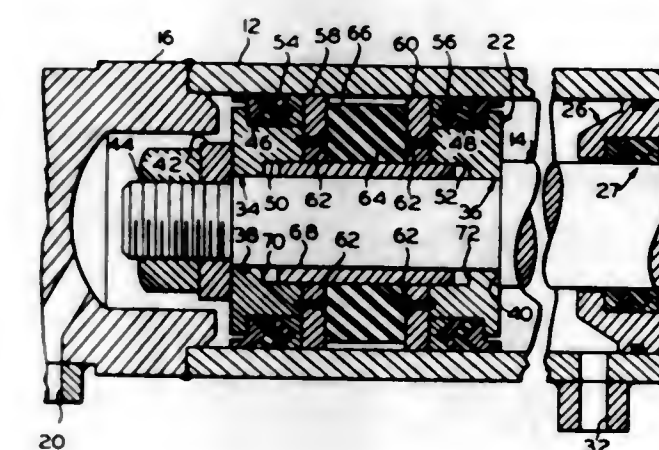
For Class 91—198 see:  
Patent No. 3,382,793

3,382,772

## HYDRAULIC CYLINDER CONSTRUCTION

Keith W. Kampert, Libertyville, and Kenneth E. Houtz, Streamwood, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed June 7, 1966, Ser. No. 555,728  
10 Claims. (Cl. 92—84)



A piston head assembly including spaced piston head members movably mounted on a piston rod with a resilient member and a relatively movable stop member mounted between the piston head members.

3,382,773

## APPARATUS AND METHOD FOR FORMING CONTAINER END CLOSURES

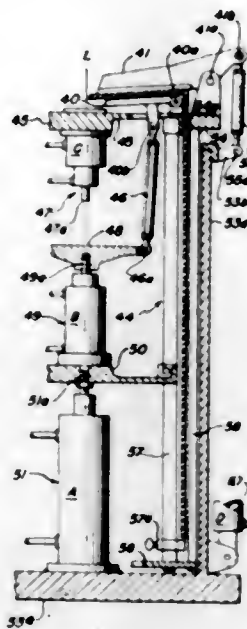
Ernest C. Pellaton, Larkspur, Calif., assignor to Fibreboard Corporation, a corporation of Delaware

Filed Apr. 5, 1966, Ser. No. 540,324  
21 Claims. (Cl. 93—39.1)

This invention relates to an apparatus and method for

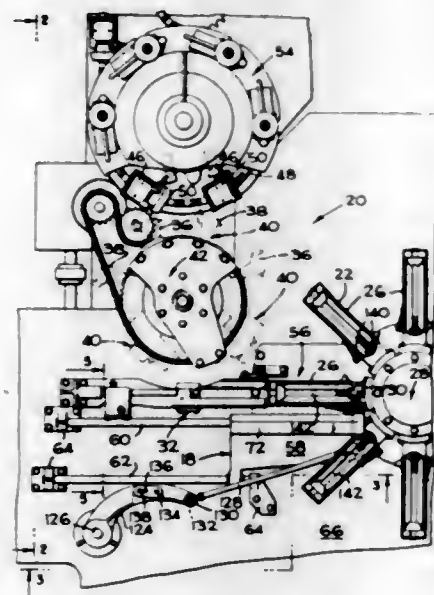


forming container end closures and more particularly relates to an apparatus and method for folding and seal-



ing panels of a tubular container together to form a leak-proof end closure therefor.

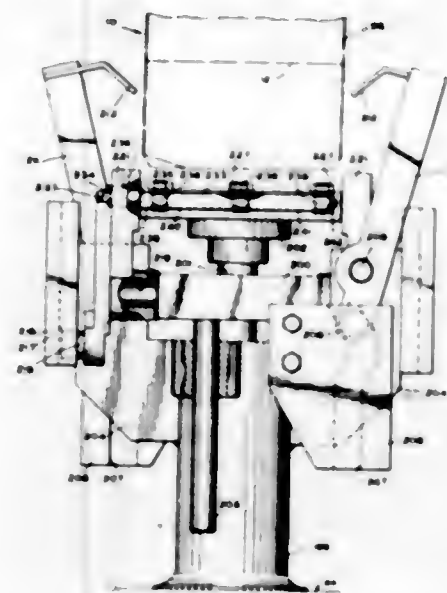
**3,382,774**  
**MANDREL STRIPPING MECHANISM**  
Francis L. Hoff, Santa Clara, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware  
Filed July 8, 1966, Ser. No. 563,838  
10 Claims. (Cl. 93-44.1)



1. In a carton forming machine a mandrel stripping mechanism for stripping cartons of generally rectangular cross section with one end closed and the other end open from a mandrel comprising, the combination of an intermittently driven turret, a mandrel on said turret movable along a first predetermined path and intermittently indexed into an unloading station, stripping means movable between a retracted position out of the path of movement of said mandrel and an extended position in the path of movement of said mandrel, drive means for synchronizing the movement of said turret and said stripping means for effecting movement of said stripping means along a second path from the retracted position to the extended position and back to the retracted position while said

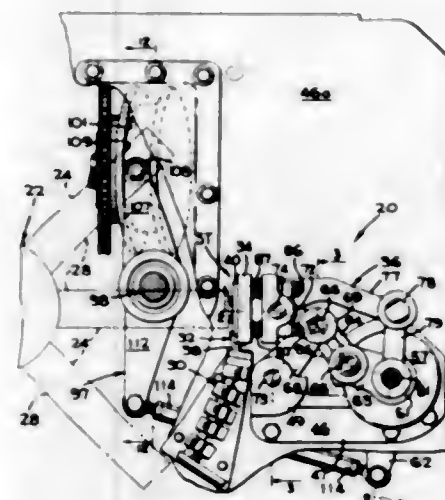
mandrel is indexed at said unloading station, and fail-safe means included in said stripping means for allowing movement of said stripping means laterally of said second path out of the path of movement of said mandrels in the event said mandrel moves out of the unloading station before said stripping means reaches said retracted position and contacts said stripping means.

**3,382,775**  
**MACHINE FOR FABRICATING CONTAINERS**  
Robert J. Allen, Farmington, Mich., assignor to Ex-Cell-O Corporation  
Filed Oct. 29, 1964, Ser. No. 407,369  
6 Claims. (Cl. 93-44.1)



A container bottom closure folding apparatus having a pair of cooperating tucker rods with rollers adjustably mounted on each rod. The first rod having individually adjustable rollers for bowing the tuck in flap panel and the second rod being eccentrically mounted allowing uniform rotatable adjustment of the rollers acting on the tuck-out flap panel.

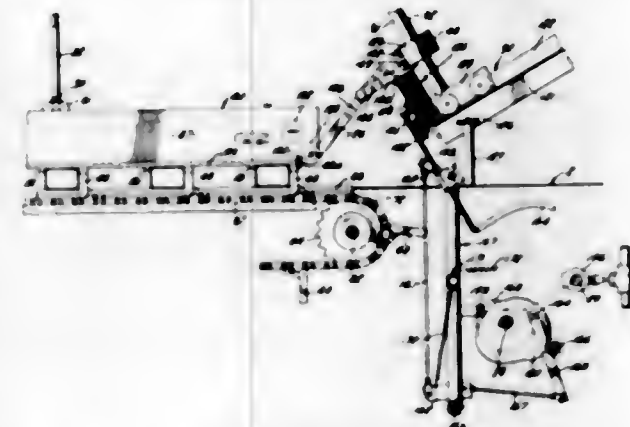
**3,382,776**  
**CARTON FORMING AND FILLING MACHINE**  
Francis L. Hoff, Santa Clara, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware  
Filed Mar. 7, 1966, Ser. No. 532,173  
9 Claims. (Cl. 93-44.1)



1. A flap folding and sealing apparatus comprising support means including a pressure resisting head for supporting a thermoplastic carton having end closure flaps heated to a bonding temperature and projecting outwardly therefrom, means for moving said support means

past the folding station and into a sealing station, flap folding means at said folding station for folding said flaps into substantially planar relationship, a sealing head at said sealing station movable between a retracted position spaced from said pressure resisting head and a sealing position urging said end closure flaps against said pressure resisting head, said sealing head having a rough surfaced carton engaging face, a slide plate secured to said sealing head and cooperating with said flap folding means to maintain said flaps in spaced relation from said rough surfaced face while said carton is moving into said sealing position and until after said support means has indexed the carton into said sealing station, and pressure applying means for thereafter moving said sealing head from said retracted position to said sealing position to apply a squeezing force against said flaps thereby sealing the end closure flaps.

**3,382,777**  
**CARTONING MACHINE**  
Elbert L. Bivans, Glendale, Calif., assignor to Bivans Corporation, Los Angeles, Calif., a corporation of California  
Filed Feb. 25, 1965, Ser. No. 435,274  
19 Claims. (Cl. 93-53)

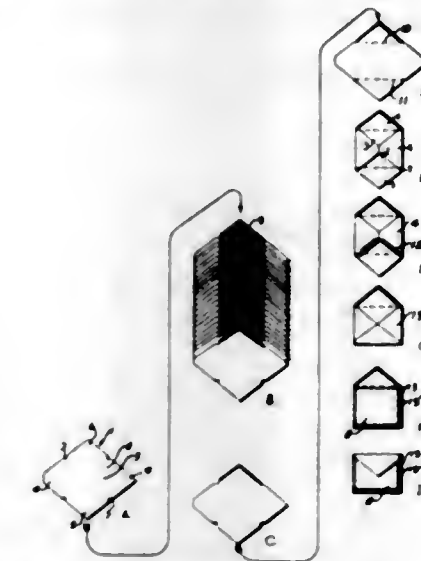


The cartoning machine of this invention provides a conveyor moving at constant speed with a carton transfer device for transferring an open carton to the moving conveyor. The flat cartons are stacked in a hopper. The cartons are opened in the course of transfer to the conveyor. The transfer device includes a vacuum cup holder for depositing the open carton on the conveyor while the conveyor is moving. The vacuum cup holder for the carton is on an arm having a pivot which moves on a feed stroke in the same direction as the conveyor, and on a return stroke, it moves in the opposite direction. The vacuum cup holder also moves between a position at the hopper for carton flats and a position at the main conveyor. One cam oscillates a radius arm about a fixed pivot, and the other cam has a link motion for oscillating the vacuum cup holder arm about a pivot carried by the outer end of the radius arm.

**3,382,778**  
**METHOD AND APPARATUS FOR INTERLEAVING INSERTS DURING THE ENVELOPE MAKING PROCESS**  
Eugene B. Berkowitz, Kansas City, Mo., assignor to Tension Envelope Corporation, Kansas City, Mo., a corporation of Delaware  
Filed Feb. 1, 1966, Ser. No. 524,156  
10 Claims. (Cl. 93-61)

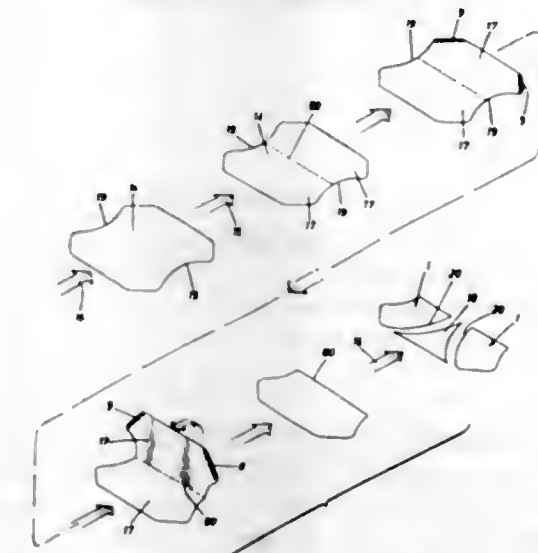
1. A method of forming envelopes and interleaving an insert therewith in the envelope making process, said method comprising:  
(a) conveying an envelope blank having a closure flap and while so conveying,  
(b) forming said blank into an enclosure pocket,

(c) placing an insert adjacent said enclosure pocket,  
(d) folding said closure flap into contacting relation with said insert.  
6. An apparatus for forming envelopes and interleaving an insert therewith, said envelope being formed from a blank including a closure flap, said apparatus comprising:  
(a) a frame,  
(b) conveying means connected to said frame for conveying the envelope blank along a path through an envelope blank folding section,  
(c) means on said frame and operatively connected to said conveying means for forming an envelope enclosure pocket from said envelope blank,



(d) means on said frame and operatively connected to said conveying means for placing at least one insert in contacting relation to said pocket portion of the envelope blank,  
(e) means on said frame and operatively connected to said conveying means for folding the closure flap of the envelope blank into contacting relation to said insert member, thereby interleaving the insert member between the pocket portion and the closure flap of the envelope.

**3,382,779**  
**METHOD OF MAKING COLLARS FOR NECKS OF CONTAINERS**  
Gary Andrew Lynas, Willowdale, Ontario, Canada, assignor to Globe Envelopes Limited, Toronto, Ontario, Canada  
Filed Aug. 2, 1965, Ser. No. 476,285  
2 Claims. (Cl. 93-94)



A pair of tapered collars are made by applying glue along two lines to a forward moving blank and folding normal to the line of feed to bring opposed portions to



seal along the glue lines which are inclined to the fold line; the blank is then cut between the glue lines.

### ERRATUM

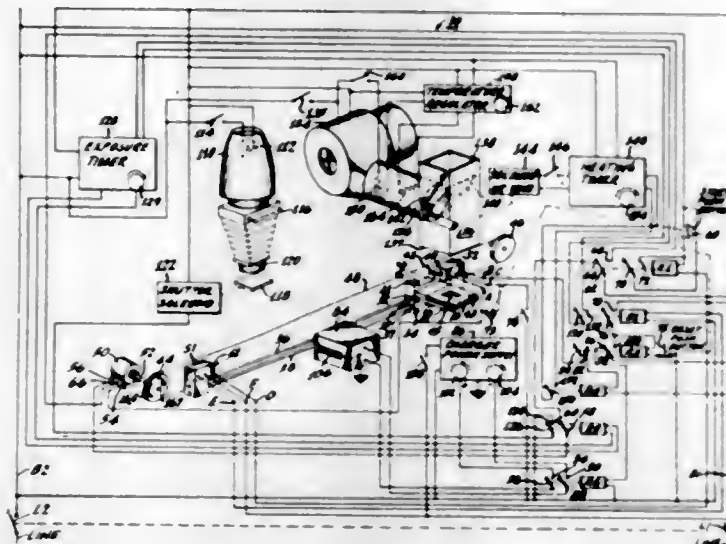
For Class 94—45 see:  
Patent No. 3,382,784

3,382,780

### APPARATUS FOR PRODUCING RIPPLE IMAGES IN ELECTROPHOTOGRAPHIC RECORD ELEMENTS HAVING THERMOPLASTIC PHOTOCONDUCTIVE LAYERS THEREON

Edward C. Glaimo, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Original application Nov. 12, 1963, Ser. No. 322,612.  
Divided and this application Nov. 20, 1964, Ser. No. 414,510

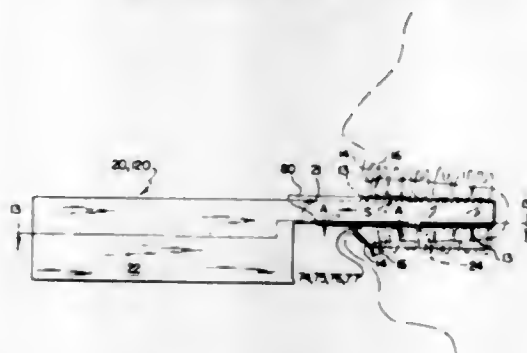
2 Claims. (Cl. 95—1)



Automatic apparatus comprises a carriage for moving a record element, having a thermoplastic photoconductive layer thereon, sequentially to charging, exposing, and heating stations. Switching means are provided to stop the record element at the exposing and heating stations for predetermined times, respectively. A latent electrostatic image produced on the thermoplastic photoconductive layer is developed into a ripple image by directing a stream of hot gas substantially only onto the thermoplastic photoconductive layer.

3,382,781  
CAMERA

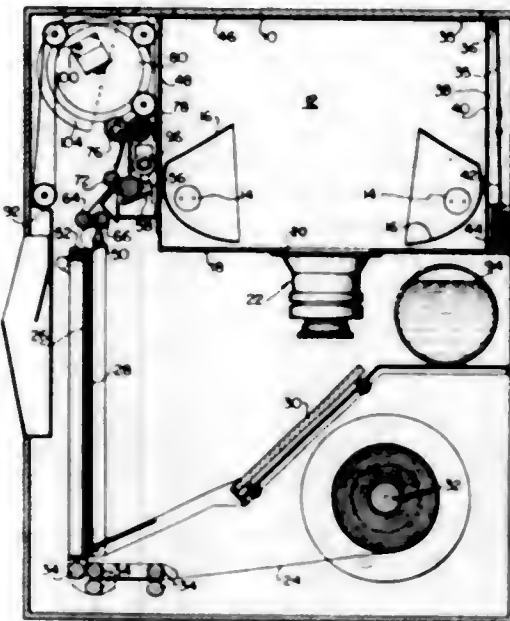
William L. Hamilton, 9365 Euclid-Chardon Road,  
Kirtland, Ohio 44094  
Filed Feb. 10, 1965, Ser. No. 431,615  
59 Claims. (Cl. 95—11)



A dental camera, partly inserted into the mouth, for taking a photograph of chewing surfaces of teeth. It has a flat, rectangular periscope containing lenses, mirrors and lamps; scans view of teeth; delivers image to film outside of mouth; and uses various color or monochrome films, except X-ray. A transparent, disposable sleeve on the viewing end of this camera eliminates fogging from breath and keeps its mouthpiece hygienic.

### 3,382,782 PHOTOGRAPHIC EXPOSURE AND PROCESSING APPARATUS

Nicholas Gold, Arlington, and Paul B. Mason, Magnolia, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware  
Filed Apr. 25, 1966, Ser. No. 544,774  
11 Claims. (Cl. 95—13)

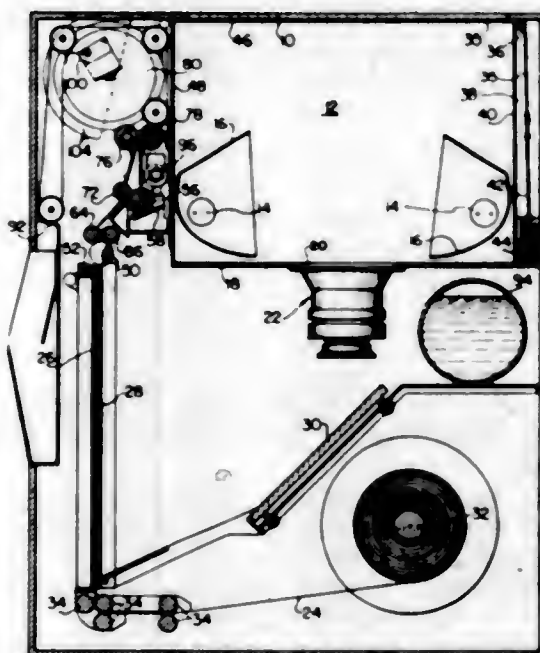


Photographic apparatus for exposing and processing successive sections of a photosensitive sheet including an exposure system for exposing a variable area of the photosensitive sheet and a processing system coupled with the exposure system for controlling the length of the section in proportion to the length of the exposed area.

This invention relates to photographic apparatus for exposing and processing successive areas of a photosensitive image-recording sheet to produce visible images in said sheet and more particularly to apparatus useful for copying documents.

### 3,382,783 PHOTOGRAPHIC EXPOSURE AND PROCESSING APPARATUS

Richard J. Chen, Winchester, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware  
Filed Apr. 25, 1966, Ser. No. 544,947  
3 Claims. (Cl. 95—13)

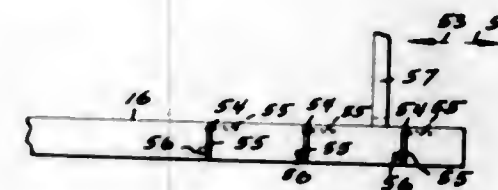


Photographic apparatus for exposing and processing successive sections of a photosensitive sheet including an exposure system for exposing a variable area of the photosensitive sheet and a processing system coupled

with the exposure system for controlling the amount of a liquid processing composition used in processing, in proportion to the length of the exposed area.

### 3,382,784 SPINNING FLOAT AND RECIPROCATING DRIVE FOR CONCRETE FINISHING MACHINES

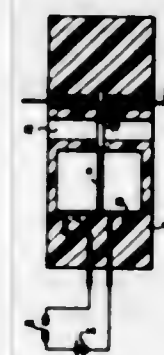
Burnham C. Loveland and Murray A. Rowe, Canton, S. Dak., assignors to K. & R. Industries, Inc., Canton, S. Dak., a corporation of South Dakota  
Filed Oct. 21, 1965, Ser. No. 499,999  
2 Claims. (Cl. 94—45)



A concrete finishing machine for concrete paved roadways having a float which reciprocates longitudinally of the roadway while being carried laterally of the roadway by its carriage. Vanes are provided to control the concrete at the sides of this float and cleaning vanes may also be used.

### 3,382,785 PULSED EDDY CURRENT MOTIVATED SHUTTER

Leonard J. Melhart, 6511 Abbington Drive,  
Oxon Hill, Md. 20021  
Filed Nov. 30, 1965, Ser. No. 510,709  
5 Claims. (Cl. 95—53)

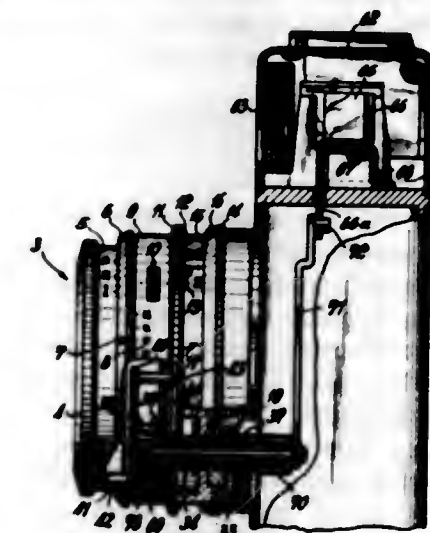


This invention is directed to a fast operating shutter in which shutter motion is produced by eddy currents built up in the shutter. A magnetic field producing coil forces the shutter away from the coil when excited by a capacitor source. The construction of the housing within which the shutter operates acts to stop the shutter by trapped air such as by a dashpot.

### 3,382,786 CAMERA WITH AUTOMATIC RANGEFINDER AND DIAPHRAGM CONTROLS

Herbert Weldner, Volkmarode, and Paul Greger, Braunschweig, Germany, assignors to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany  
Filed June 7, 1965, Ser. No. 461,932  
Claims priority, application Germany, June 12, 1964, V 26,152  
11 Claims. (Cl. 95—64)

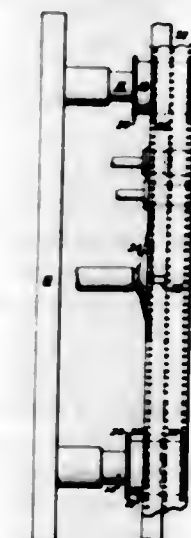
A camera which is capable of being adjusted according to the distance between the camera and the object which is to be photographed. The camera being capable of automatically setting the camera diaphragm in accordance with the adjustment of the distance between the camera and the object to be photographed and utilizable at least for the purpose of making exposures with flash illumina-



camera, the rangefinder at all times and the diaphragm only when exposures are made under flash illumination.

### 3,382,787 APPARATUS FOR THE PRINTING OF PHOTOGRAPHIC IMAGES ON RAW STOCK

Saul Jeffee, Scarsdale, N.Y., and John Joseph Kowalak, River Edge, N.J., assignors to Movielab, Inc., New York, N.Y.  
Filed June 11, 1965, Ser. No. 463,302  
5 Claims. (Cl. 95—75)



In order to provide for printing a pre-print film a number of times in side-by-side relation on raw stock, provision is made for shifting rollers in such a manner as to shift the pre-print film and raw stock transversely relative to each other. Detection apparatus is also provided to detect whether the rollers have been properly shifted and a locking arrangement is provided for the roller shafts.

### 3,382,788 PHOTOGRAPHIC APPARATUS

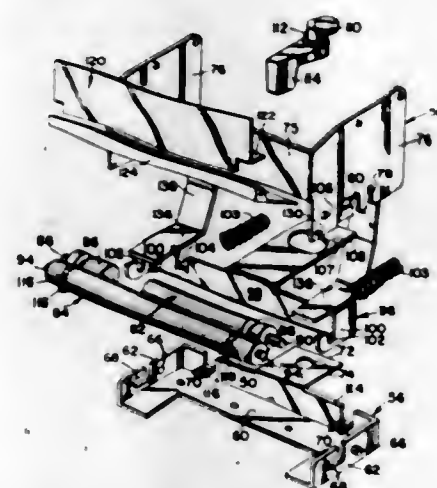
Vaio K. Eloranta, Needham, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware  
Continuation of application Ser. No. 358,269, Apr. 8, 1964. This application Sept. 20, 1965, Ser. No. 488,356  
32 Claims. (Cl. 95—89)

7. In photographic apparatus for exposing and processing successive areas of a photosensitive image-recording sheet, a device for superposing said areas of said image-recording sheet with successive areas of a second sheet and distributing a processing liquid between said sheets to form a sandwich, controlling the movement of said sheets through said apparatus and severing portions of said sand-



wich from other portions of said sheets, said device comprising, in combination:

- first and second support means;
- first and second pressure-applying members mounted in juxtaposition on, respectively, said first and second support means;
- at least one of said pressure-applying members comprising a roll mounted for rotation about a longitudinal axis;
- resilient means for biasing said pressure-applying members toward one another to apply compressive pressure to said sheets during movement of said sheets in superposition between said members;
- an engagement member mounted adjacent an end of said roll for rotation coaxially with said roll and independently thereof;
- said engagement member including two radial projections for engaging portions of one of said sheets near a lateral margin of said one sheet, and being frictionally engaged with said roll for rotation in response to rotation of said roll;



an arresting member mounted for movement between a first position in which a section of said arresting member is disposed in the path of movement of said projections for engaging one of said projections to arrest rotation of said engagement member and movement of said one sheet in engagement with the other of said projections, and a second position in which said section of said arresting member is disposed out of said path of movement of said projections and said engagement member is free to rotate; and

a control member engaged with said arresting member for moving said arresting member between said first and second positions thereof, said control member being mounted on one of said support means for movement with respect to said pressure-applying members and said support means between a first position at which said arresting member is in said first position thereof and a second position at which said arresting member is in said second position thereof; said control member in said first position including a portion disposed outside of said housing and being manually engageable for moving said control member into said second position, said portion of said control member in said second position thereof being frictionally engaged with one of said sheets adjacent said pressure-applying members.

3,382,789

**AUTOMATIC FILM DEVELOPER**

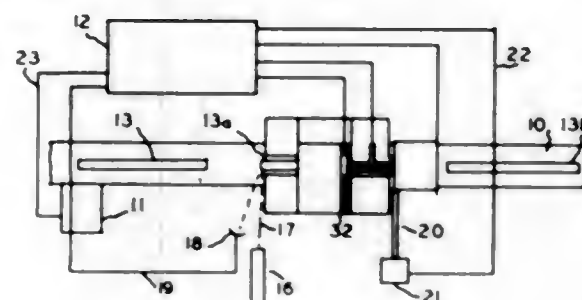
Charles E. Barker, Westminster, Calif., assignor, by mesne assignments, to the United States of America, as represented by the Secretary of the Navy

Filed Apr. 20, 1966, Ser. No. 545,227

6 Claims. (Cl. 95-89)

1. An improved automatic film developer for developing sensitive film, comprising:

- (a) a movable film holder capable of holding a plurality of heat sensitive films to be developed;
- (b) first drive means for moving said film holder;
- (c) a plurality of films held on said movable holder;
- (d) first and second heating elements positioned adjacent said movable means capable of being moved towards and away from each other;
- (e) second drive means for moving said heating elements towards and away from each other;
- (f) first switching means for stopping said first drive means;



- (g) second switching means for determining the position of individual ones of said films; and
- (h) circuit means coupled to actuate said first drive means, said first switch means, said second switch means, said second drive means for heating and developing consecutive ones of said films.

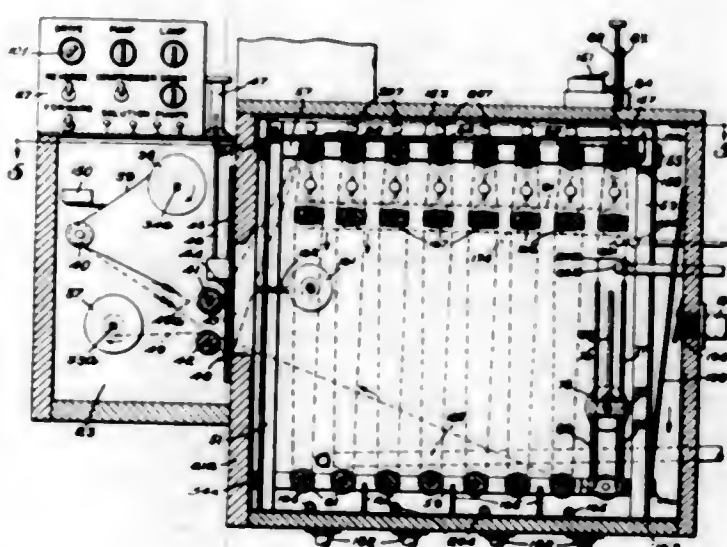
3,382,790

**MACHINE FOR PROCESSING PHOTOGRAPHIC FILM**

Ralph G. Matheson, 178 Essex St., Gloucester, Mass. 01930

Continuation-in-part of application Ser. No. 4,035, Jan. 22, 1960. This application Dec. 3, 1964, Ser. No. 417,534

4 Claims. (Cl. 95-94)



Film is processed by winding it spirally over a series of top and bottom rollers in an enclosed tank. The bottoms of the film loops pass through a shallow layer of processing solution in a series of partitioned compartments at the bottom of the tank. The film is advanced alternately in opposite directions in cycles corresponding to the length of film between the submerged loop portions. Supply and take-up reels are mounted outside a sliding door to the tank. A film tensioning roller is mounted in the tank. Air and fluid can be sprayed on the film loops. A leader is used for threading the film into the tank. The required processing and wash solutions are sequentially cycled into and drained out of the tank.

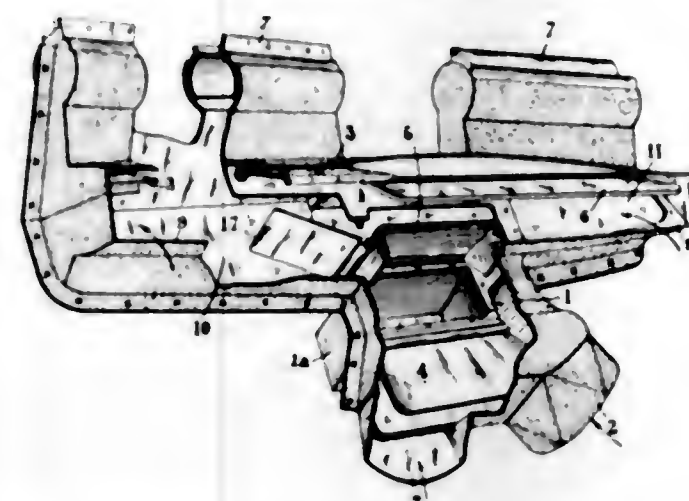
3,382,791

**HEATER-DEMISTER DISTRIBUTORS FOR VEHICLES**

Edmond Henry-Blabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French company

Filed Feb. 2, 1966, Ser. No. 524,519

Claims priority, application France, Feb. 3, 1965, 4,227 7 Claims. (Cl. 98-2)



An air-conditioning distributor for the passenger space of an automotive vehicle comprises a casing consisting of two molded parts joined together to form a central chamber and two lateral chambers. A valve controlled inlet admits temperature controlled air to the central chamber and a shutter variably and selectively directs air from the central chamber to the lateral chambers and to a duct directed downwardly to a lower portion of the passenger space. Individually valve controlled intakes supply fresh air to each of the lateral chambers and swivelling nozzles direct air from the lateral chambers to upper lateral portions of the passenger space. The temperature controlled air is preferably supplied to the central chamber by a blower and a heat exchanger in circuit with the engine cooling system. The lateral chambers may be divided into two chambers, one of which communicates with the central chamber and the other with the fresh air intake.

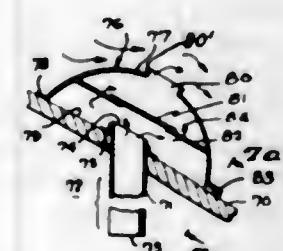
3,382,792

**OMNIDIRECTIONAL EXHAUST VENTILATOR**

Ben O. Howard, 431 Homewood Road, Los Angeles, Calif. 90049

Filed Aug. 16, 1965, Ser. No. 479,734

3 Claims. (Cl. 98-78)



1. An exterior omnidirectional ventilator for an interior chamber comprising a first surface element in one plane forming an exterior portion of said chamber, an orifice section forming part of said first surface element and having an outlet opening therein in communication with said chamber, a second surface element comprising a substantially hemi-spheroidal imperforate dome over said orifice section and providing a space between itself and said orifice section, the perimeter of said second surface element being coincident and forming a junction with the perimeter of said orifice section, said second surface

element having a single centrally located opening therein comprising a vent, said vent being located at substantially the center of said dome, said vent having a substantially annular rim lying in a plane parallel to the plane of said junction, the distance between said surface elements being one diminishing at an increasing rate in all radial directions from the vent outwardly and toward said perimeter.

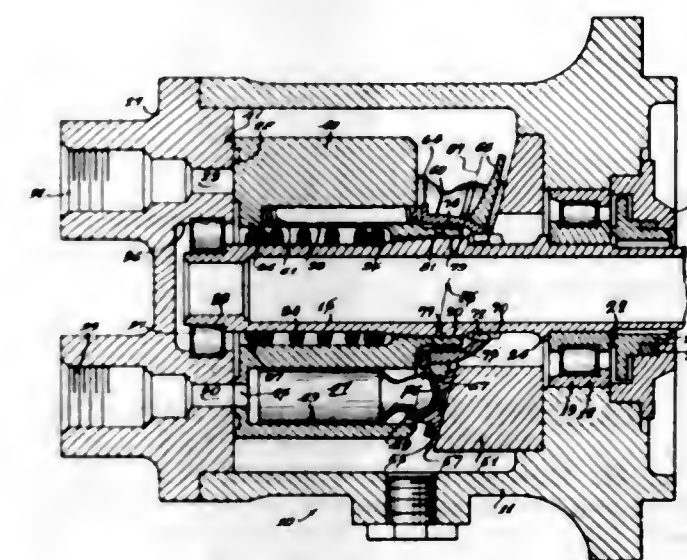
3,382,793

**AXIAL PISTON HYDRAULIC UNIT**

Charles J. Gantzer, Rockford, Ill., assignor to Sundstrand Corporation, a corporation of Illinois

Filed Aug. 9, 1965, Ser. No. 478,247

4 Claims. (Cl. 91-198)



1. An axial piston hydraulic unit, comprising: a housing, valve means in said housing including an inlet port and an outlet port, a shaft rotatably supported in said housing, a cylinder block rotatable with said shaft and having one end thereof slidably engaging said valve means, said cylinder block having a plurality of axial cylinders therein, resilient means for biasing said cylinder block into engagement with said valve means, pistons slidable in said cylinder and having spherical ends projecting therefrom, a cam member adjacent said spherical ends adapted to reciprocate said pistons, slippers receiving said piston ends and connected to be driven by the cam member, said spherical ends and slippers defining pivotal connections, a generally spherical retaining member surrounding said shaft, a retaining plate engaging said spherical member and engaging said slippers, resilient means engaging said spherical member for urging the slippers toward said cam member, said cylinder block and spherical member having interengaging drive means, said spherical member and shaft having interengaging drive means, and means separate from said drive means for supporting said cylinder block on said shaft and permitting limited misalignment therebetween.

3,382,794

**NEWSPAPER RECEPTACLE AND BUNDLER**

William H. Lindholm, 8514 W. 119th Place, Palos Park, Ill. 60464, and Donald W. Lindholm, 15929 S. Grove, Oak Forest, Ill. 60452

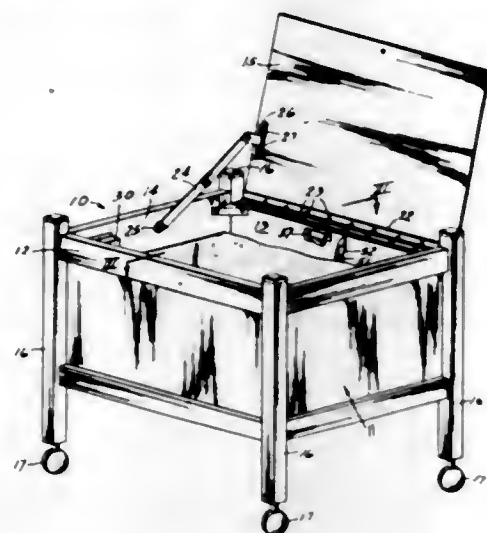
Filed Nov. 14, 1966, Ser. No. 594,206

5 Claims. (Cl. 100-34)

An article of furniture with legs supporting a cabinet providing a chamber sized for stacking newspapers. Access to the chamber is provided by a hinged top lid which is raised for depositing newspapers into the chamber and by a hinged front wall which is lowered to remove the stack of newspapers from the chamber. Wire, twine or



other tie material supplied from a spool on the bottom of the cabinet is laced through releasable guides in the cabinet to surround the newspapers. When a stack of

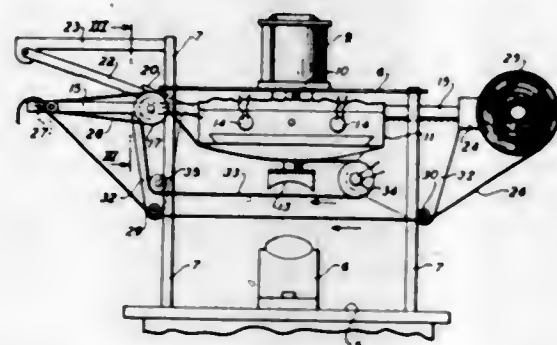


newspapers fills the chamber the tie material is severed, tightened around the stack, and the ends secured together to bundle the stack.

3,382,795

#### STAMPING MACHINE FOR APPLYING INDICIA TO ARTICLES

Myron H. Downs, North Caldwell, N.J., assignor, by direct and mesne assignments, to Downs Process Company, Little Falls, N.J., a corporation of New Jersey  
Filed Mar. 16, 1967, Ser. No. 623,678  
8 Claims. (Cl. 101-9)



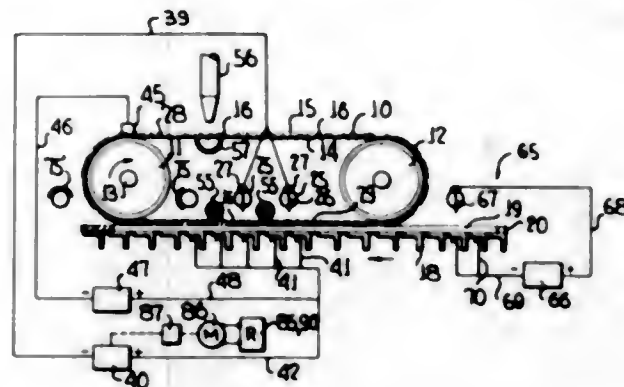
A stamping machine for applying indicia particularly to articles having a non-planar surface from a tape bearing such indicia in the form of ink or gold-leaf which is transferable at elevated temperature and with the tape movable between a die and the supported article. Uniform heating of the indicia-bearing tape with transfer of a selected portion of such indicia to the surface of the article is produced by a movable belt-like member heated to the transfer temperature of the indicia and which is pressed into surface engagement with the tape by movement of the die to its stamping position relative to the supported article.

3,382,796

**APPARATUS FOR CONTINUOUS ELECTROSTATIC SCREEN PRINTING WITH DENSITY CONTROL**  
Laszlo J. Javorik, Chicago, and Edward D. Higgins, Palos Heights, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York  
Continuation of application Ser. No. 409,213, Nov. 5, 1964. This application Jan. 10, 1967, Ser. No. 609,275  
6 Claims. (Cl. 101-122)

An electrostatic screen printing apparatus including an endless stencil screen and means for introducing cloudized toner particles within the loop of the stencil screen.

The cloudizing means comprises a toner reservoir, vibrator means and blower means for carrying a fluidized cloud of toner particles from the reservoir through an elongated tube disposed within the loop of the stencil screen, and

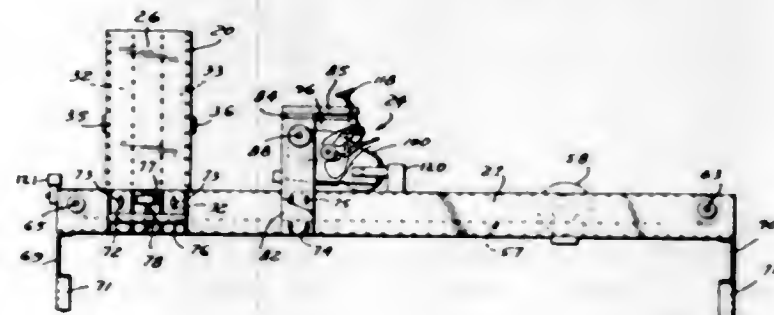


past a plurality of corona needles for charging the toner particles so that they pass through the stencil screen, toward an oppositely charged electrode, and are deposited upon a substrate.

3,382,797

#### MACHINE FOR SEQUENTIALLY PRINTING ON FLAT SURFACES

Louis J. Kessler, Sands Point, and Jacob Kessler, Bay Side, N.Y., assignors to Industrial Marking Equipment Company, Inc., Albertson, N.Y., a corporation of New York  
Filed Aug. 11, 1966, Ser. No. 571,783  
1 Claim. (Cl. 101-279)



A printing device for sequentially printing indicia on the surface of items of various thicknesses and configurations in which a conveyor system receives the items from a hopper by gravity feed and moves the items sequentially to a printing roll, said printing roll and said conveyor being powered by the same source and blocks are provided for modifying the horizontal projection of the hopper surface adjacent said items, means are provided for adjusting the height of the hopper above the conveyor, and means are provided for adjusting the printing roll above the conveyor whereby the several elements can be readily adjusted to enable imprinting of items of various thicknesses and configurations.

3,382,798

#### METHOD OF SHAPING THE IMAGE BEARING SURFACE OF PRINTING PLATES

Homer L. Bishop, 4101 Ridgeway Road, Kettering, Ohio 45429  
Filed Oct. 21, 1965, Ser. No. 499,155  
5 Claims. (Cl. 101-401.3)

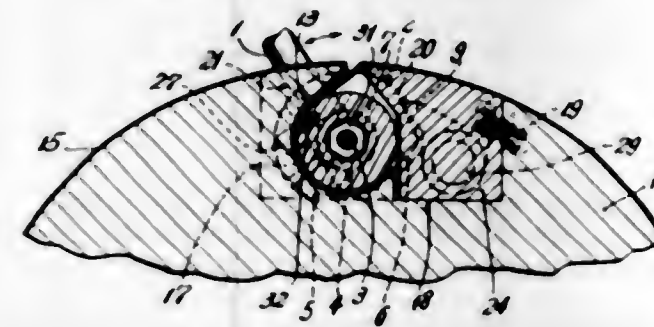
Laminated plates for printing are produced without an adhesive by rolling a thin and flexible surface layer of thermoplastic material upon a heat softened backing layer of compatible thermoplastic material. The rolling action excludes gas from between the laminated layers to

enable intimate contact and cohesive bonding between the laminated layers. Printing characters are molded into the surface layer by an application of heat and hydrostatic pressure. A long wearing printing surface is produced by hard mineral particles such as corundum blended into the plastic of the surface layer. The backing layer may be either a rigid plastic or a soft and pliable plastic. With the hard backing layer, the printing characters are brought to a uniform printing surface by heat softening the backing layer, placing the image bearing printing surface against a rigid mold surface having the desired flatness or curvature, applying a hydrostatic pressure uniformly upon the heat softened backing to move all printing characters uniformly to the rigid mold surface, and cooling the backing layer under pressure. With the soft backing layer, the printing characters are adhered to an adhesive coated flat mold surface by applying a hydrostatic pressure to the surface of the backing layer, removing the pressure, and grinding the surface of the backing layer to produce a uniform plate thickness. To print with the described plate having a hardened surface and soft backing, the sheet which is to receive an ink impression is supported on a backup layer having a resiliency matching that of the backing layer for the printing plate.

3,382,799

#### PLATE LOCKUP MEANS FOR OFFSET OR WRAPAROUND PRINTING PRESSES

Hans J. Luehr, Westerly, R.I., assignor to The Cottrell Company, Westerly, R.I., a corporation of Delaware  
Filed July 29, 1966, Ser. No. 568,922  
5 Claims. (Cl. 101-415.1)

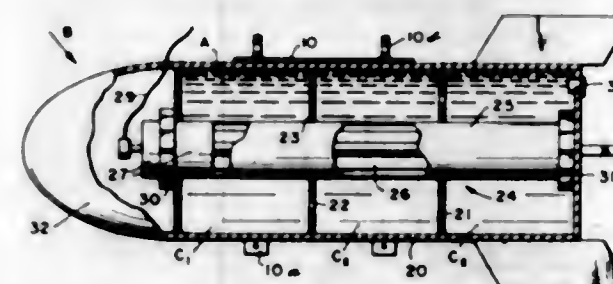


A lockup for wraparound printing plates comprising a single clamp for head and tail sections wherein the clamping force is provided by the reaction of the tensioning force on the tail of the plate and the centrifugal force acting on the floating clamping member in the cylinder.

3,382,800

#### LINEAR-SHAPED CHARGE CHEMICAL AGENT DISSEMINATOR

Lawrence M. Biggs, Jr., China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Nov. 9, 1964, Ser. No. 410,033

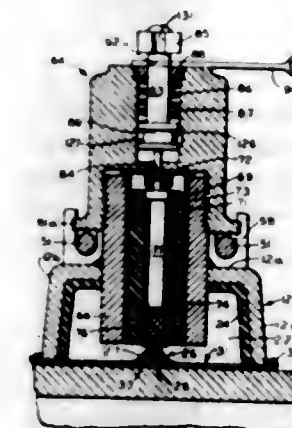


1. A chemical bomb comprising: an elongated outer cylindrical shell closed at opposite ends thereof; a cylindrical burster tube extending axially of the cylindrical shell and coextensive of its length,

the outer shell and burster tube forming an annular chamber containing a liquid chemical, and an elongated lined burster charge, star-shaped in cross-section, disposed within the burster tube and coextensive of its length, of a type adapted to produce a plurality of angularly spaced linear jets when detonated, for rupturing the burster tube and outer shell and disseminating the chemical into the form of a generally flat star-shaped aerosol cloud.

3,382,801

**SHIELDED EXPLOSIVE CUTTING DEVICE**  
Francis B. Burkdoll and George B. Huber, Sunnyvale, Calif., assignors to Explosive Technology, Inc., Fairfield, Calif., a corporation of California  
Filed Aug. 19, 1965, Ser. No. 481,009  
29 Claims. (Cl. 102-24)

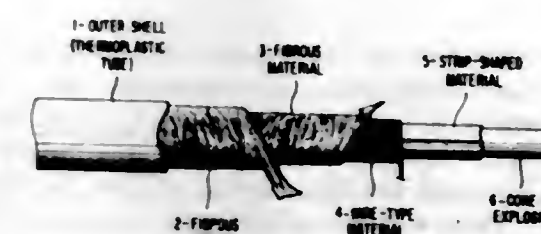


A shielded explosive cutting device having shielding means which arrests the travel within a limited distance in at least one direction of substantially all of any solid particles which may be propelled by the detonation of a linear explosive charge.

3,382,802

**FUSE HAVING AN IMPROVED SHEATHING**  
Josef Prior, Troisdorf, Cologne, and Hildebert Wuckel and Aloys Florin, Spich, Cologne, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany  
Filed Jan. 10, 1966, Ser. No. 519,467  
Claims priority, application Germany, Jan. 19, 1965, D 46,288

8 Claims. (Cl. 102-27)

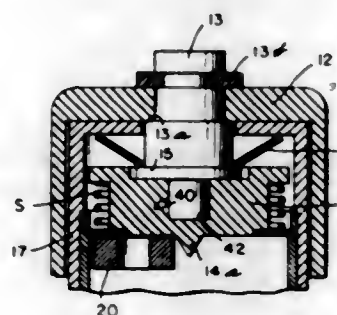


Fuse having a sheathing made from strands or threads of a thermoplastic resin, a ductile metal or glass. Primary explosives and igniting agents having a reaction zone length of less than 0.5 mm. are used in the fuses, in amounts of less than 7 grams per meter, preferably 1-2 grams per meter. Advantageously, particularly for safety, the explosive particles in the fuse should not be larger than 100μ, preferably with at least half of them smaller than 50μ.



3,382,803  
FUZE

Robert E. Swallow, China Lake, and Clayton E. Panlaqui, Ridgecrest, Calif., assignors to the United States of America as represented by the Secretary of the Navy  
Filed May 15, 1967, Ser. No. 639,929  
4 Claims. (Cl. 102—70)

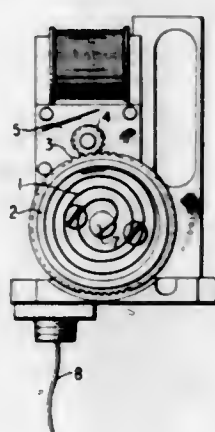


An inertia member is restrained in a "safe" position by a frustoconical washer which is deformed by the opening of a parachute, a spring then moving the weight to an "arm" position. In the event of the parachute snagging a tree or the like, the weight is free to move to "fire" position independent of the rearward pull of the parachute shroud lines.

3,382,804

#### SMALL SIZE IGNITION DEVICE

Kurt Lehmann, Krefeld-Bockum, and Hans-He'mut Gruner, Krefeld-Forstwald, Germany, assignors to Wasag-Chemie, A.G., Essen, Germany, a corporation of Germany  
Filed Nov. 8, 1966, Ser. No. 592,785  
Claims priority, application Germany, Dec. 11, 1965, W 40,495  
2 Claims. (Cl. 102—70.2)



The invention relates to a small size ignition device for igniting the detonators of propellant and explosive charges, which is particularly handy and yet of reliable function, and which does not require any outside current sources. The said ignition device utilizes a draw string drive of a type which activates the alternator on both the forward and return run.

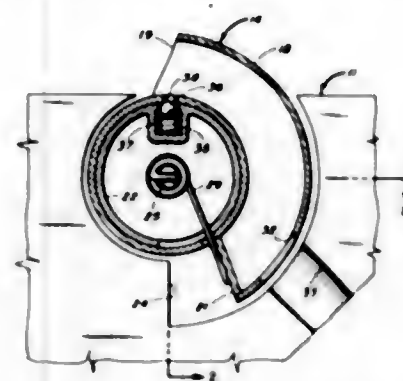
3,382,805

#### AIR RESPONSIVE DELAY ARMING DEVICE

Frank H. Swaim, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Jan. 31, 1967, Ser. No. 613,051  
2 Claims. (Cl. 102—81.2)

An air-flow actuated delay arming device having a resiliently urged air scoop extendable into a slip stream to a magnitude determined by the equilibrium of the

slip-stream and resilient forces acting thereon. The magnitude of extension varies the degree of registry between an orifice and a duct thereby maintaining constant the amount of air-flow impinging upon the blades of a tur-



bine, the revolution rate of which controls the amount of time delay. A detent-mechanism is provided for locking the scoop in a fully extended position in response to a large inertia force.

3,382,806

#### TUBULAR PACKET

Lawrence Spenadel, Elizabeth, and William J. Sparks, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware  
Filed May 1, 1959, Ser. No. 810,503  
10 Claims. (Cl. 102—100)

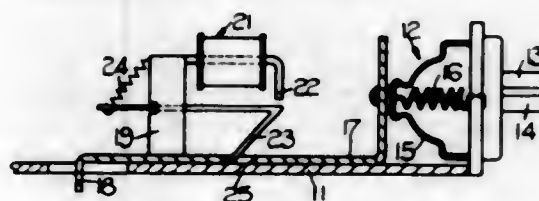


1. A hybrid rocket propellant comprising a tubular packet of a plurality of tubes lying adjacent one another along their longitudinal axes, the walls of said tubes containing an extrudable rubbery polymeric substance which makes the tubes flexible, inner wall surfaces of each of said tubes defining conduits lying along the longitudinal axes of said tubes, outer surfaces of each tube being adhered to outer surfaces of adjacent tubes, and said conduits being substantially filled with a liquid oxidizing agent.

3,382,807

#### POWER TRANSMISSION MECHANISM

Walter Mellor, Sutton Coldfield, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company  
Filed July 20, 1966, Ser. No. 566,539  
5 Claims. (Cl. 103—23)



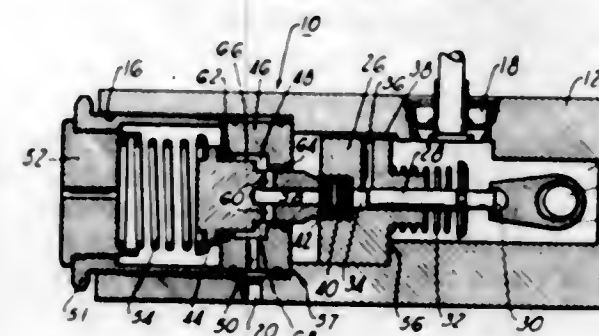
A windscreen washer pump for a road vehicle operated by a slide provided that the slide is allowed to move through its full stroke. The slide is operated by the windscreen wiper motor of the vehicle, but normally its recip-

rocatory movement is limited by a catch, so that the slide does not reciprocate through its full stroke and the wind-screen washer pump is not operated. The limited reciprocatory movement permitted by the catch, operates to move the catch to a position adjacent the pole of the solenoid once during each of the limited reciprocations of the slide, and if the solenoid is energized the catch is retained so that the slide operates through its full stroke to operate the pump. Because the catch is moved close to the pole of the solenoid, a smaller solenoid can be used than otherwise.

3,382,808

#### HYDRAULIC PUMP

Lawrence Robert Myers, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware  
Filed June 30, 1966, Ser. No. 561,806  
1 Claim. (Cl. 103—37)

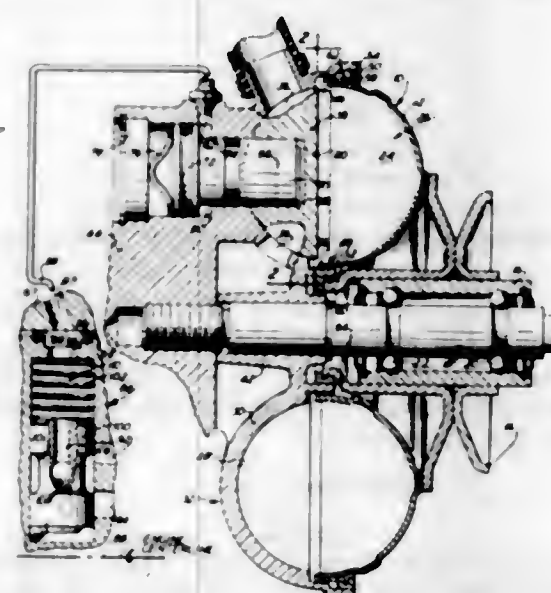


A ported induction pump with a pressure responsive means formed with differential areas subjected to discharge pressure flow from the output such that working pressure in the pump chamber and the larger of the areas of the pressure responsive means regulates the position of the inlet port for the pumping chamber.

3,382,809

#### CONTROL FOR FLUID PUMP BYPASS

Charles C. Bookout, Livonia, and Fred E. Ul'ery, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Continuation-in-part of application Ser. No. 517,729, Dec. 30, 1965. This application Sept. 12, 1967, Ser. No. 667,259  
9 Claims. (Cl. 103—97)

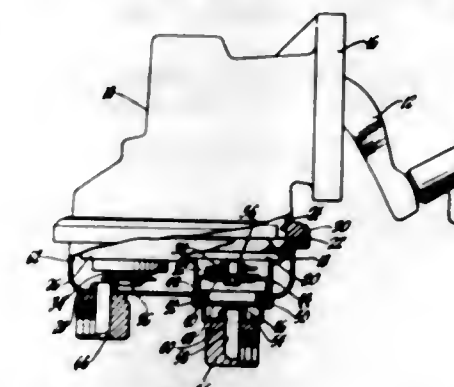


An air turbine type pump having a bladed rotor cooperating with a bladeless stator containing an air dam deflecting the pressurized air from the circuit. The dam contains a slidable piston valve that is spring biased to close an air bypass opening in the dam and is progressively opened by a predetermined fluid pressure level of fluid from a speed responsive valve.

3,382,810

#### DIAPHRAGM PUMP WITH FLOW PROMOTING INLET

Dimitar Toschkoff and Norman J. Rantz, Flint, and Robert G. Taylor, Flushing, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Sept. 1, 1965, Ser. No. 484,195  
1 Claim. (Cl. 103—150)

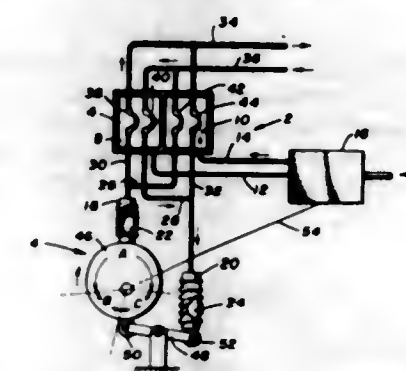


A fuel pump of the automotive diaphragm type having a pump head with a fixed baffle arranged transverse to a general path for incoming fluid giving a time-delay action for enhancing pump performance.

3,382,811

#### SMALL VOLUME PUMP

Pelham D. Chastang and Ronald W. Chidgey, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
Filed June 28, 1966, Ser. No. 561,268  
6 Claims. (Cl. 103—152)



6. A pump comprising, a pair of fluid pressure chambers, valve means timed to charge and vent said pair of fluid pressure chambers in alternate sequence, a pair of expansible bellows, a driven cam and follower assembly for actuating said pair of expansible bellows through a lift, dwell, and fall cycle in continuous, alternate sequence with an overlap in the lift cycle, an inlet line open at one end thereof to a source of liquid and a discharge line open at one end thereof to each of said expansible bellows, said inlet and discharge lines being arranged to pass through said fluid pressure chambers in mixed relation so that an inlet line associated with one expansible bellows and a discharge line associated with the other expansible bellows pass through a respective fluid pressure chamber, resilient valve means interposed in each of the portions of said inlet and discharge lines passing through said pair of fluid pressure chambers, a main discharge line into which said discharge lines open, said timed valve means being timed to reverse the charging-venting sequence of said pair of fluid pressure chambers during the overlap of the lift cycle of

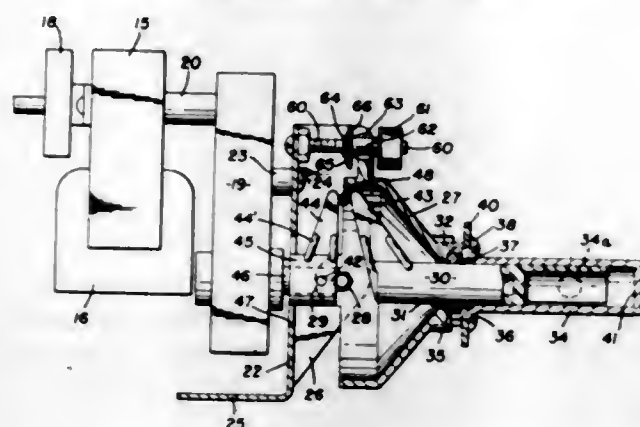


the expansible bellows to open and close said resilient valve means whereby the displaced liquid from each bellows is alternately displaced into said main discharge line to form one continuous uniform liquid mainstream.

3,382,812

**VARIABLE POSITIVE DISPLACEMENT PUMP**  
Edward M. Smith, Mansfield, Ohio, assignor to Gorman-Rupp Industries, Inc., Bellville, Ohio, a corporation of Ohio

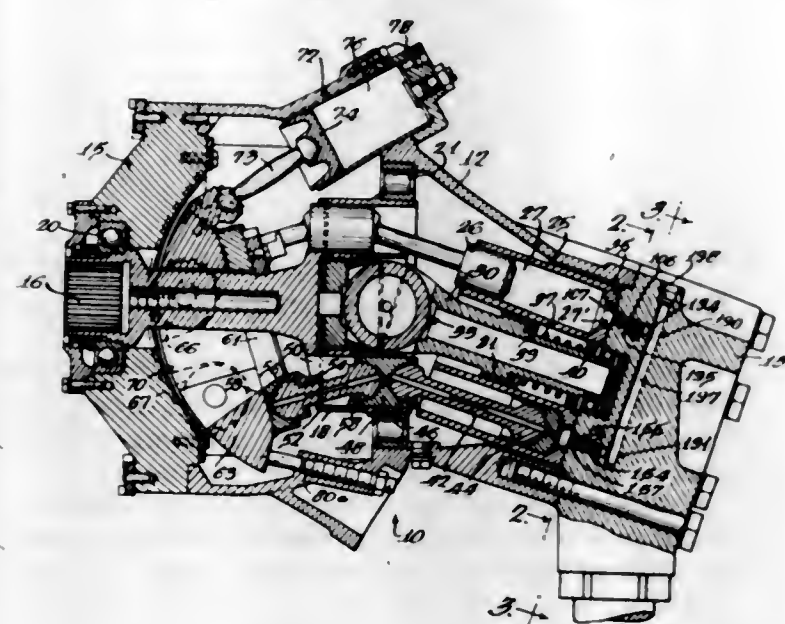
Filed Sept. 27, 1966, Ser. No. 582,402  
11 Claims. (Cl. 103-157)



1. A variable positive displacement pump comprising a drive shaft having a crank arm, a cylinder having lateral flow ducts and a closed end, a piston in said cylinder having a crank arm, means adjustably mounting said cylinder for varying the angularity between the drive shaft and the piston, and flexible hinge means connecting the outer ends of said crank arms.

3,382,813

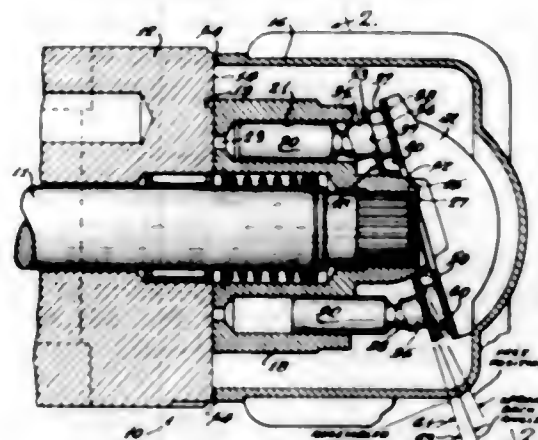
**HYDRAULIC PUMP OR MOTOR**  
George Schauer, Belvidere, Ill., assignor to Sundstrand Corporation, a corporation of Illinois  
Filed Feb. 15, 1966, Ser. No. 527,540  
15 Claims. (Cl. 103-162)



A hydraulic energy translating device in which noise and shock are minimized by equalizing the pressure between the cylinders and the approaching main ports through the use of (a) auxiliary ports for controlling pre-compression and preexpansion in the cylinders by varying the effective main port length, (b) high pressure relief ports for relieving excess pressure in the cylinders, and (c) low pressure relief ports for increasing the pressure in the cylinders when it becomes too low, with all of these functions being operable when the device operates as a pump or a motor in either direction of rotation.

3,382,814

**PISTON HOLDDOWN MEANS**  
John W. Pinkerton, La Salle, Ill., assignor to Sundstrand Corporation, a corporation of Illinois  
Filed May 23, 1966, Ser. No. 552,044  
12 Claims. (Cl. 103-162)

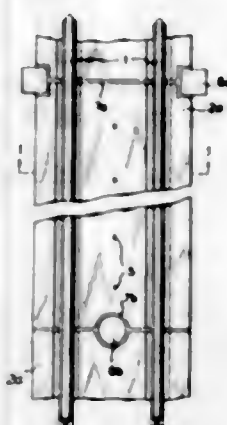


A piston return mechanism for an axial piston hydraulic unit including a plate type spring which has been stressed beyond its proportion limit during assembly of the unit and then relaxed a certain amount so that the spring back or piston return force of the plate is predetermined regardless of tolerance variations from one unit to another.

3,382,815

**METHOD OF CONSTRUCTING RAILWAY TRACK**  
Yoshiro Higuchi and Yutaka Sato, Tokyo, Japan, assignors to Japanese National Railways, Tokyo, Japan, a corporation of Japan

Filed Feb. 7, 1967, Ser. No. 614,429  
Claims priority, application Japan, Feb. 7, 1966, 41/6,738; June 10, 1966, 41/37,058  
3 Claims. (Cl. 104-3)



The disclosure deals with a method of constructing railway track, according to which there is provided a rail assembly of a mounting member or slab and thereto secured rails, arranging the rail assembly above a base in height and direction adjusted position, and applying between the base and rail assembly an intermediate support, such as grout, for the assembly.

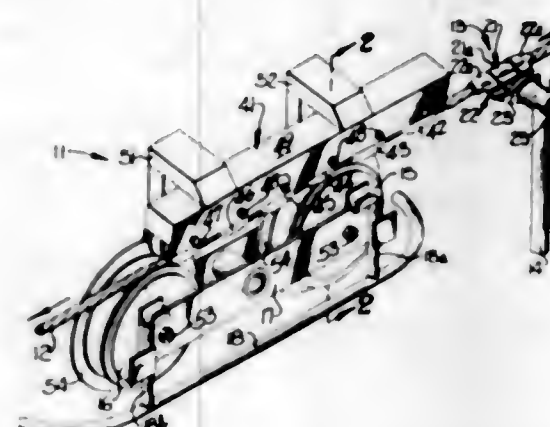
3,382,816

**CABLE-RETAINER FOR CHAIR LIFT ASSEMBLY**  
Samuel P. Goforth and Joseph A. Goforth, Shelby, N.C., assignors to Goforth Brothers, Inc., Shelby, N.C., a corporation of North Carolina

Filed Sept. 28, 1966, Ser. No. 582,611  
11 Claims. (Cl. 104-197)

1. In a chair lift assembly including a cable adapted for longitudinal movement along a predetermined desired path of travel, an elongate clamp secured to the cable and movable therewith and having a projecting portion

extending substantially horizontally outwardly therefrom, a chair-supporting hanger bar connected to the projecting portion of the clamp and extending downwardly therefrom, and at least one circumferentially grooved sheave rotatable about a substantially horizontal axis and positioned beneath and intermediate the length of the desired path of travel of the cable to support the cable and the clamp for movement thereover and to permit passage of the downwardly extending hanger bar along one side thereof; the combination therewith of a cable-retaining device comprising a plurality of serially arranged, circumferentially grooved rollers positioned above said desired path of travel of said cable for movement of the cable and said clamp thereunder, a first of said rollers positioned in relation to the desired path of movement of the cable forwardly of said sheave, a second of said rollers posi-



tioned in relation to the desired path of travel of the cable such that a major portion of said second roller is located between said first roller and a plane perpendicular to the desired path of travel of the cable and containing the axis of rotation of said sheave, the spacing between the circumferential surfaces of said first and second rollers along the path of travel of the cable being such that said clamp is engaged continuously and successively by said first and second rollers from the reception thereof within the circumferential groove of said first roller until the reception thereof within the circumferential groove of said sheave, and said second roller being positioned with respect to said sheave so as to closely confine said projecting portion of the clamp therebetween and thereby restrain pivotal movement of said clamp about the longitudinal axis of the cable.

3,382,817

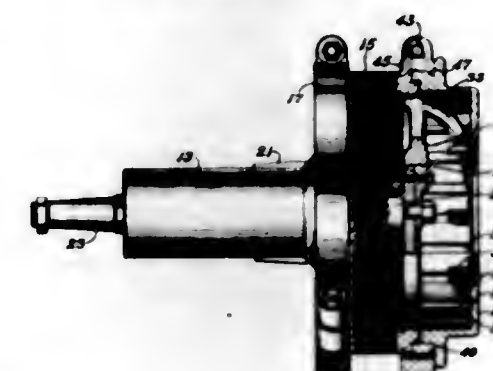
**BOX CAR END WALL**  
Frank Taylor, 273 Eleanor Ave., Otterburn Heights, Quebec, Canada  
Filed Feb. 7, 1966, Ser. No. 540,426  
6 Claims. (Cl. 105-410)



An end wall for box cars made up of a series of sections disposed horizontally in interlocking engagement with each other for the height of the car, and vertically disposed end members closing off the ends of the horizontally disposed members.

3,382,818

**PELLET MILL FEED RECEIVERS**  
Charles R. Landers, Fort Worth, Tex., assignor to Landers Machine Company, Fort Worth, Tex.  
Filed Dec. 5, 1966, Ser. No. 599,119  
5 Claims. (Cl. 107-14)



Following is disclosed a pellet mill having a cylindrical rotatable die with rollers disposed on the interior thereof for extending feed outward through radial perforations in the die. A hollow feed receiver is secured to one end of the die, having a central opening through which is supplied feed to be transformed into feed pellets. A plurality of feed agitator elements are secured to the interior surface of the end wall of the feed receiver, and in addition a plurality of feed carrier grooves are formed in the interior cylindrical surface of the feed receiver. The cooperative action of the feed agitator elements and the feed carrier grooves forcibly urges feed into the interior of the die and between the rollers with further assistance from a stationary feed distributor arm.

3,382,819

**COMBINATION LAMP AND TABLE**  
Martin I. Deutsch, New York, Norman Davidson, Forest Hills, and Julius A. Traum, New York, N.Y., assignors to Sheridan Industries Inc., New York, N.Y., a corporation of New York  
Filed Nov. 1, 1966, Ser. No. 591,323  
8 Claims. (Cl. 108-23)



A table and lamp combination suspended by chains from an overhead support wherein the height of the lamp and/or height of the table can be easily adjusted to a variety of different arrangements by changing the effective lengths of the suspension chains as connected to a common connector consisting of a hook assembly.

3,382,820

**TABLE OR LIKE ARTICLE OF FURNITURE**  
Vincent J. Caffero, Irvington, and William I. Sohl, Chappaqua, N.Y., assignors to Knoll Associates, Inc., New York, N.Y., a corporation of New York  
Filed July 7, 1967, Ser. No. 651,784  
7 Claims. (Cl. 108-27)

A table, desk or the like, having two rigid end frames each formed of two vertical legs welded to a horizontal crossbar and bearing a pair of lugs respectively mounted



at opposite ends of the crossbar, a pair of parallel horizontal rails extending between the end frames and bolted at opposite ends to the end frame lugs, and a table top overlying the rails and secured to the rails by screws. The rails and lugs are offset downwardly with respect to the crossbar so that the top seats between the horizontal

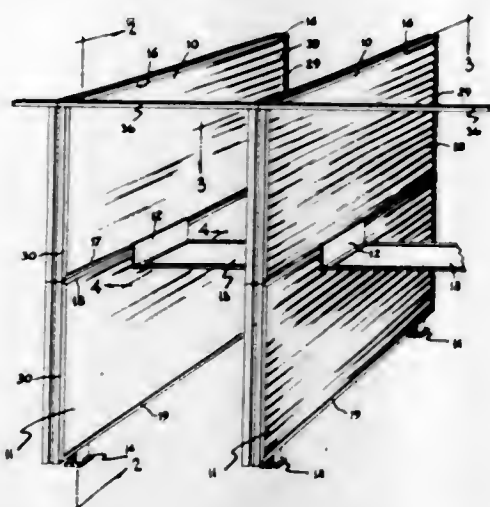


crossbars of the end frames and is flush with the crossbars. The rails and lugs are also offset inwardly with respect to the legs, so as to accommodate side flanges of the top; these flanges extend laterally between the two end frames, being flush with the legs, and project downwardly over the rails and lugs.

3,382,821

**STALLS FOR SHOOTING RANGES**

Otto J. Dunder, La Grange, Ill., assignor to Shooting Equipment, Inc., Chicago, Ill., a corporation of Illinois  
Filed Sept. 3, 1965, Ser. No. 485,005  
8 Claims. (Cl. 109—82)



A protective stall for shooting ranges wherein a pair of spaced generally vertical walls are mounted in interconnected frames, each of the walls including an outer metal panel and an inner metal plate with a body of fibrous material therebetween.

3,382,822

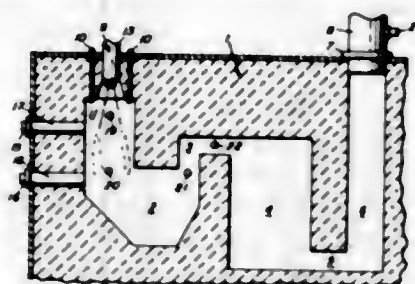
**METHOD OF BURNING COAL**

Daniel Blenstock, Pittsburgh, Robert L. Amsler, Carnegie, and Edgar R. Bauer, Jr., Bethel Park, Pa., assignors to the United States of America as represented by the Secretary of the Interior

Filed Feb. 24, 1967, Ser. No. 619,522  
6 Claims. (Cl. 110—28)

A method of burning pulverized coal comprising combusting said coal with from about 100–110% stoichiometric

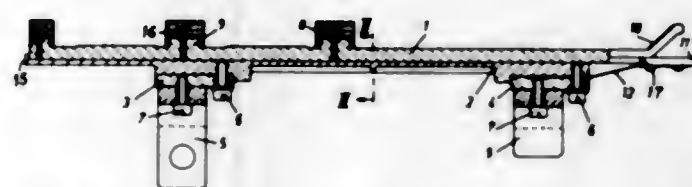
metric air in a first combustion zone and subsequently with about 10–25% stoichiometric air in a 2nd combustion zone. The total air supplied to the coal is from 120–125% stoichiometric.



3,382,823

**SHUTTLE HOLDER FOR QUILTING MACHINES**

Laszlo Varga, Au, Saint Gall, Switzerland, assignor to Oehler AG, Au, Saint Gall, Switzerland, a corporation of Switzerland  
Filed Mar. 4, 1966, Ser. No. 531,724  
Claims priority, application Switzerland, Mar. 10, 1965, 3,374/65  
4 Claims. (Cl. 112—95)

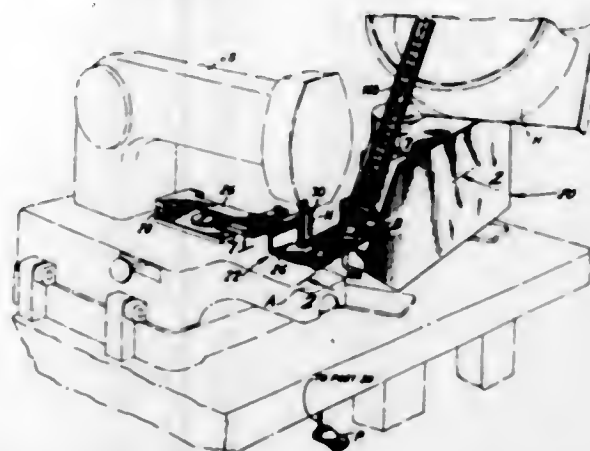


A shuttle holder for a multiple needle quilting machine which is adjustably supported on spaced driver arms transversely thereof, the holder having separable upper and lower portions slidably connected by a dovetail, the lower portion being mounted on the driver arms and the upper portion having a plurality of drive pins for mounting at least two shuttles thereon, the upper and lower portions being held against relative longitudinal movement by a spring tongue on one portion normally engaging a shoulder on the other to prevent longitudinal movement.

3,382,824

**BUTTON FEEDING MECHANISM FOR SEWING MACHINES**

Benjamin Broufman, Baldwin, N.Y., assignor to Rent-Aid Systems, Inc., Oceanside, N.Y.  
Filed June 29, 1965, Ser. No. 468,059  
49 Claims. (Cl. 112—113)



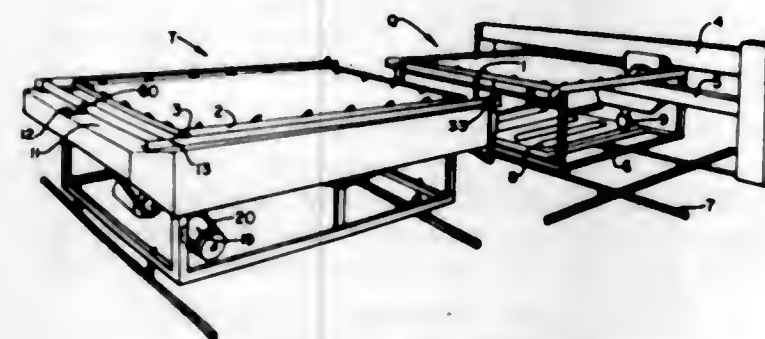
An attachment for a high speed sewing machine automatically feeds properly oriented buttons by applying a perpendicular gripping force to the top and bottom button surfaces near the edges thereof while at the same time applying a pushing force to the button edge that is perpendicular to the button surfaces. The pushing force

overcomes the gripping force so that the combination of both produces a linear advance of the button as well as a rotation of the button about its own vertical axis until the button holes are accurately aligned with suitably positioned hole-finder pins. As one button is moved through the orienting station wherein it is rotated to the sewing station, the next succeeding button is simultaneously moved from a reserve station to the orienting station and still another button is delivered to the reserve station.

3,382,825

**QUILTING APPARATUS HOLDER INTERCHANGING MEANS**

Marion A. Cash, Louisville, Ky., assignor to James Cash Machine, Louisville, Ky., a corporation of Kentucky  
Filed Oct. 20, 1965, Ser. No. 498,907  
11 Claims. (Cl. 112—117)

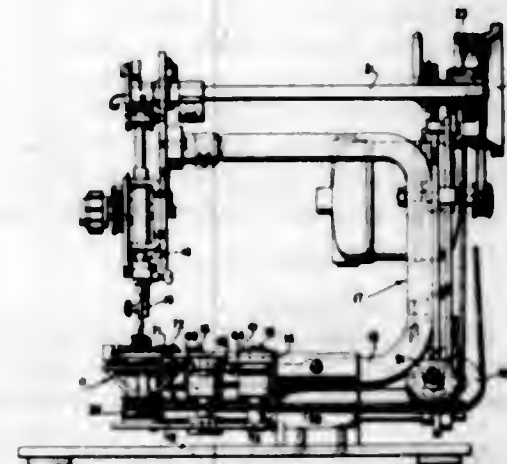


An improved transfer means for interchanging a 1st quilt-holder on a quilting machine with a 2nd quilt-holder on a loading table wherein a 1st holder moving means is operative, when actuated, to move the 1st quilt holder in leapfrog fashion from a ready position on the quilting machine rearwardly upward to and along an elevated clearance level over the 2nd quilt holder and thence rearwardly downward into an operative loading position on the loading table while a 2nd holder moving means is operative, when actuated, to move the 2nd quilt holder from its operative position horizontally forward toward the quilting machine. A control means effects the actuation of the 1st and 2nd moving means in a predetermined time-phase relationship.

3,382,826

**SEWING MACHINE LOOP TAKERS**

Ralph E. Johnson, Boonton, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey  
Filed Mar. 24, 1966, Ser. No. 537,065  
6 Claims. (Cl. 112—184)



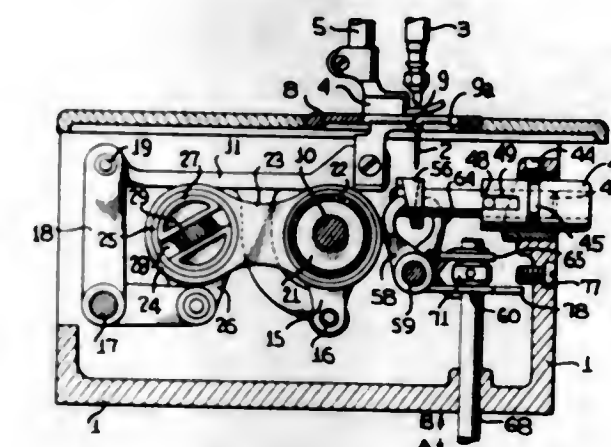
A rotary hook is disclosed for a lockstitch sewing machine in which the bobbin case rests upon a flat bearing surface on the rotating loop taker and in which the constraining means for the bobbin case includes a stationary

tray arranged within a cavity in the rotary hook. Passage of thread loops during sewing between the stationary tray and the stationary bobbin case inconducive to a minimum of abrasion on the threads.

3,382,827

**DIFFERENTIAL MATERIAL FEED REVERSIBLE IN THE FEED DIRECTION, WITH ONE ADJUSTING AGENT EACH FOR THE FEED LENGTH OF THE TWO MATERIAL FEEDERS**

Wolf-Rudiger von Hagen, Grotzingen, Kreis Nürtingen, Germany, assignor to Union Special Maschinenfabrik, G.m.b.H., Stuttgart, Württemberg, Germany  
Filed Sept. 22, 1965, Ser. No. 489,136  
Claims priority, application Germany, Sept. 24, 1964, U 11,052; Nov. 20, 1964, U 11,215  
52 Claims. (Cl. 112—209)

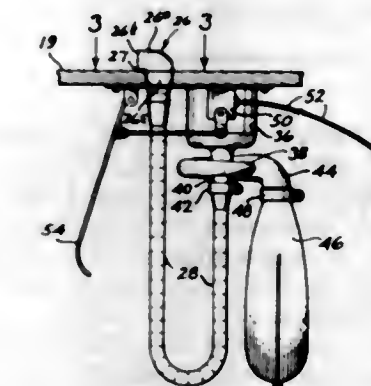


This disclosure relates to differential feed provisions utilizable in a sewing machine employing feed dogs for feeding material past the stitching station of such sewing machine. Movement of the feed dogs is supplied from an eccentric driven pitman which is connected to the feed dogs via a phase variable and length of throw variable connection. Adjustment of the phase variable and length of throw variable connection is provided through rotatable and axially movable shafts having affixed thereto worm gears in engagement with worm wheels connected to the aforementioned connection. The shafts may be rotated to effect rotation of the worm wheel or axially moved to cause the worm gears to serve as racks in engagement with the worm wheels to reverse the phase or increase the length of feed.

3,382,828

**SEWING MACHINE WITH VACUUM-OPERATED MEANS**

Reta G. Denora, 4895 SW. 99th Ave., Beaverton, Ore. 97005  
Filed Oct. 23, 1965, Ser. No. 503,979  
3 Claims. (Cl. 112—218)

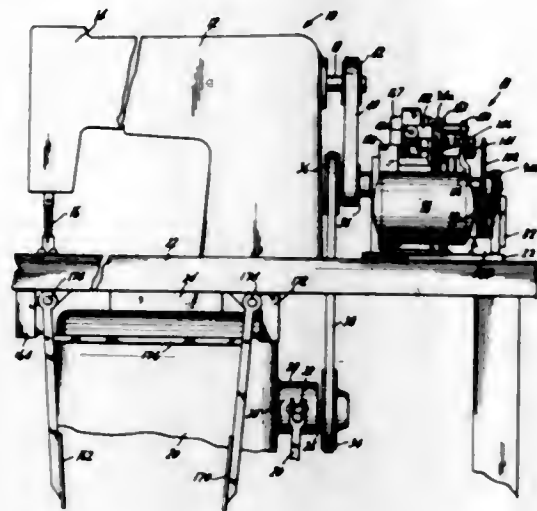


A sewing machine with an evacuator member spaced laterally from the needle in the machine cradled in an aperture provided in the top of the sewing machine table.



The evacuator member is supplied a vacuum through a flexible conduit, and is liftable from its cradled position to clean remote areas of the sewing machine.

**3,382,829**  
**NEEDLE POSITIONER FOR A SEWING MACHINE**  
Ragnar W. Winberg, 115 W. Elder Ave.,  
Floral Park, N.Y. 11001  
Filed Dec. 2, 1964, Ser. No. 415,267  
6 Claims. (Cl. 112-219)



1. In a sewing machine, stitching mechanisms having a needle which enters and is withdrawn from work during successive stitching cycles, a main drive operatively connected to normally power said stitching mechanisms including a driving means and a driven member selectively coupled in driving relation to each other only during operation of said driving means above a predetermined low rotational speed, a manually operated control, and a needle positioner operatively connected to alternatively drive said driven member to power said stitching mechanisms during said low speed of rotation of said driving means of said main drive for moving said needle into a predetermined number of oriented needle positions relative to said work, said needle positioner including plural auxiliary driven means on said driven member of said main drive in a number corresponding to said predetermined number of oriented needle positions, an auxiliary drive including an auxiliary driving member movable into a position adjacent to one of said auxiliary driven means and into and out of driving relation to said auxiliary driven means, said auxiliary driving member and said auxiliary driven means cooperating in one position relative to each other to establish an oriented needle position for said needle, and means responsive to said predetermined low speed of rotation of said driving means of said main drive and to actuation of said manually operated control for moving said auxiliary driving member into a position adjacent one of said auxiliary driven means and into driving relation therewith.

**3,382,830**  
**PRESSER FOOT PRESSURE INDICATING DEVICE FOR SEWING MACHINES**  
George D. La Police, Somerville, and Louis F. Daman, Martinsville, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey  
Filed Feb. 6, 1967, Ser. No. 614,337  
7 Claims. (Cl. 112-235)

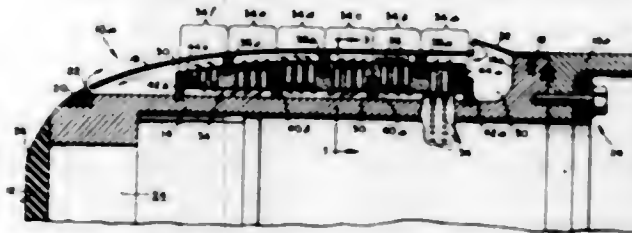
An apparatus for indicating the pressure exerted by a presser foot against work fabric placed on the work-supporting bed of a sewing machine. A pointer is mounted on a conventional presser bar between the coil spring and the pressure-setting thumbscrew. The pointer protrudes through an elongated vertical aperture in the sewing head

and moves upwardly or downwardly when the pressure-setting thumbscrew is moved upwardly or downwardly. The elongated vertical aperture and the end of the pointer



are covered by a transparent cap which has vertically oriented indicia to indicate the pressure set by the thumbscrew and exerted by the presser foot.

**3,382,831**  
**TORPEDO DRAG REDUCTION APPARATUS**  
William F. Madison, Arcadia, Calif., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Aug. 31, 1967, Ser. No. 665,675  
3 Claims. (Cl. 114-20)



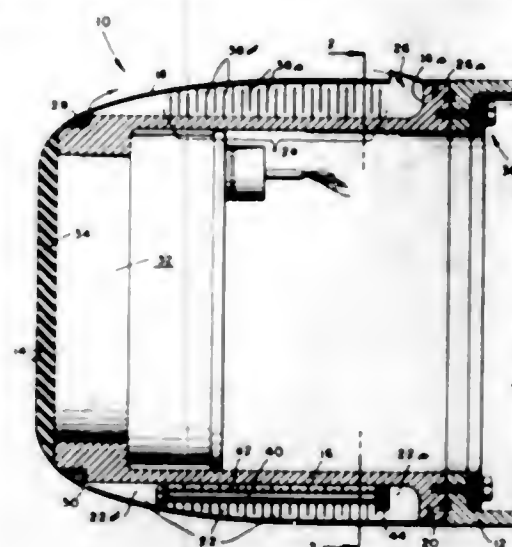
An annular chamber is formed between the nose fairing wall and an inner pressure hull of a torpedo. Ambient seawater, under ram pressure, is ingested by scoops and introduced into the rear end of the chamber. Contained in the longitudinal expanse of the chamber is an annular, radially foraminous, ablative cake of polymer material of the hydrodynamic drag reducing type. The radial thickness of the ablative cake is smaller than that of the annular chamber to allow annular space between the outside surface of the polymer cake and the interior of the fairing wall, and annular space between the inside surface of the annular cake and the outside of the pressure hull. A labyrinth baffle structure is placed in these annular spaces to alternately direct the seawater radially inwardly, and radially outwardly, through successive axial sections of the radially foraminous cake. The front end of the annular chamber is communicated with the exterior of the surface of the torpedo hull by a circumferential slot which extends continuously about the torpedo. The solution of seawater and polymer resulting from the circulation of the water through the labyrinth issues forth through the slot into the boundary layer flow under the ram pressure.

**3,382,832**  
**TORPEDO DRAG REDUCTION APPARATUS**  
Eric D. Swanson, Arcadia, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 31, 1967, Ser. No. 665,685  
6 Claims. (Cl. 114-20)

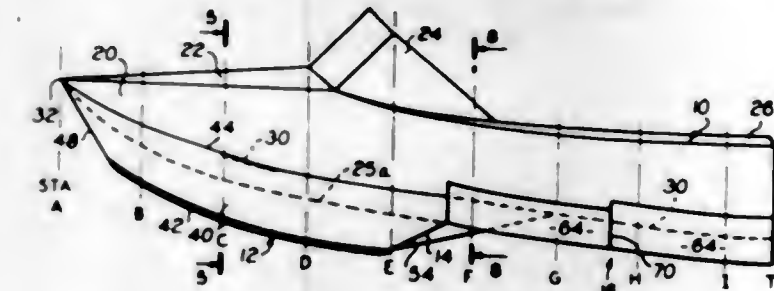
Sheets of an ablative and water soluble material containing a drag reducing polymer agent are mounted on a labyrinth of baffles in an annular cavity underneath the nose fairing of a torpedo. Ambient seawater, under pressure, is ingested by scoops and introduced into the

rear end of the chamber. As the seawater circulates through the baffle labyrinth it dissolves the polymer agent contained in the ablative sheets. The front end of the annular chamber is communicated with the exterior of the surface of the torpedo hull by a circumferential slot which extends continuously about the torpedo. The solution of seawater and polymer resulting from the circulation of the water through the labyrinth issues forth through the slot into the boundary layer flow under the ram pressure.



face of the torpedo hull by a circumferential slot which extends continuously about the torpedo. The solution of seawater and polymer resulting from the circulation of the water through the labyrinth issues forth through the slot into the boundary layer flow under the ram pressure.

**3,382,833**  
**HIGH-SPEED MOTORBOAT HULL**  
Edward Wukowitz, 29 Wells Ave., Congers, N.Y. 10920  
Filed June 8, 1966, Ser. No. 556,000  
12 Claims. (Cl. 114-66.5)



This specification discloses a boat hull having an air chamber formed by a double bottom extending from the stem to an amidship location where the outer bottom terminates in a step. The chamber is open at its forward end at a location above the water line for scooping in air when the boat is under way. The opening slopes rearwardly as it extends downwardly so that as the angle of attack of the hull increases, the effective area of the opening increases and the pressure of the air in the chamber increases correspondingly so that more air is discharged at the step for increasing the buoyancy of the hull beyond the step. The bottom of boat beyond the step is an inverted channel which holds the air trapped as the air travels aft to the end of the channel at the transom of the hull. The sides of the channel are preferably catamaran sections.

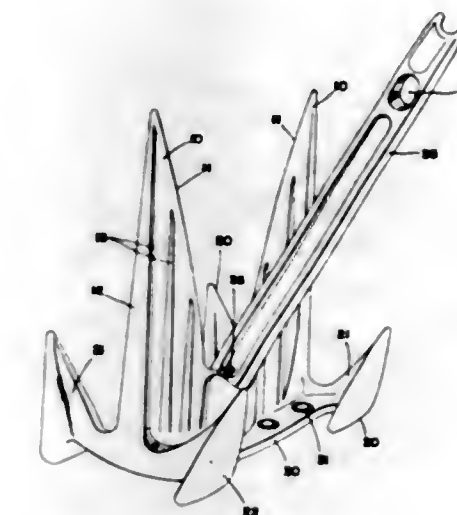
**3,382,834**  
**SHIP STABILIZER**  
Edward V. Lewis, Glen Head, N.Y., assignor to John J. McMullen Associates, Incorporated, New York, N.Y., a corporation of New York  
Original application July 30, 1964, Ser. No. 386,197, now Patent No. 3,269,345, dated Aug. 30, 1966. Divided and this application Mar. 17, 1966, Ser. No. 559,013  
4 Claims. (Cl. 114-125)

A passive free surface tank stabilizer including therein a plurality of upstanding plates extending athwartship with their ends spaced inboard from the tank ends to



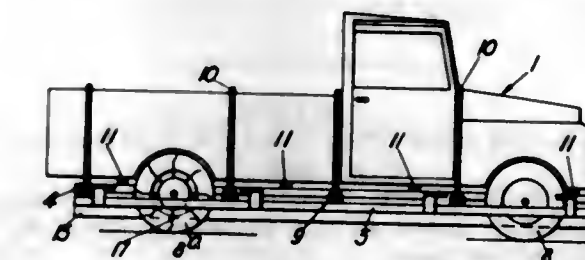
damp tank liquid movement throughout the length of the interconnecting passageways and substantially over the entire roll cycle.

**3,382,835**  
**MARINE ANCHOR**  
Harold E. McGuire, 1752 Mills St.,  
Sandusky, Ohio 44871  
Filed Sept. 23, 1966, Ser. No. 582,709  
10 Claims. (Cl. 114-208)



A lightweight marine anchor having a pair of generally triangular centrally located ribbed primary flukes and smaller, generally triangular secondary flukes extending from the marginal portions of the same face of a perforated crown plate.

**3,382,836**  
**DEVICES FOR RENDERING LAND VEHICLES AMPHIBIOUS**  
Martin Hume, 7 R.D. Masterton,  
North Island, New Zealand  
Filed May 19, 1966, Ser. No. 551,325  
8 Claims. (Cl. 115-1)



A device for rendering a wheeled motor vehicle amphibious in which a frame-work having a central portion adapted to receive the vehicle and with such vehicle being secured thereto is provided with side panels hingedly connected to such central portion and adapted to extend

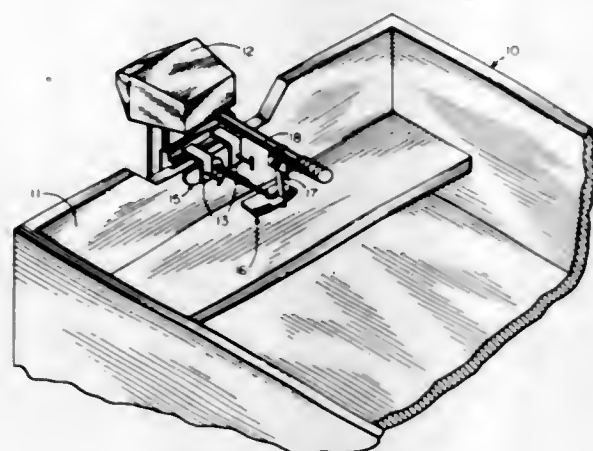


laterally when in the operative position and an end panel also hingedly connected thereto and adapted to extend endwise to the operative position. The side and end panels have associated therewith buoyant means.

In addition, the central portion is formed with openings therein so located that the wheels of the motor vehicle will be positioned therein and protrude below the framework in order to permit the vehicle thus secured to the device to be driven into the water. In addition, propulsion means for the device which are operable by the driving wheels of the vehicle are provided.

Furthermore, the side and end panels are erectable in an upright manner and ground wheels, together with a tow bar arrangement are operably related with the device so that when such device is not in use for permitting the land vehicle to be amphibious, can be employed as a trailer on land.

**3,382,837**  
**OUTBOARD MOTOR STEERING CONTROL**  
Franklin L. Aumack, 620 W. Knox Ave.,  
Spokane, Wash. 99205  
Filed Nov. 7, 1966, Ser. No. 592,630  
2 Claims. (Cl. 115-18)



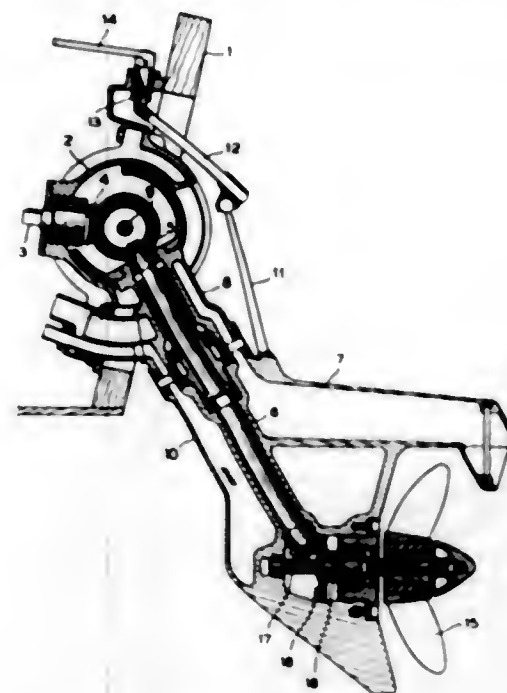
1. A steering device of the nature aforesaid for a boat mounted outboard motor to releasably maintain the steering arm of such motor in predetermined position relative such boat, comprising, in combination:

- a body member adapted to be releasably carried on the stern of said boat with an adjustably extensible mounting arm extending forwardly therefrom;
- a substantially horizontal positioning plate adjustably pivotably carried by the forward extension of said mounting arm, said positioning plate having an arcuate forward edge with plural notches therein adapted to receive a positioning dog; and
- a positioning dog pivotably carried by a body, adapted to be releasably carried by said steering arm of said motor, to operatively communicate with aforesaid plural notches of said positioning plate but be pivotably movable from such communication.

**3,382,838**  
**DEVICE ON THE PROPELLER INSTALLATION FOR BOATS**  
Karl Abdon Bergstedt, Goteborg, Sweden, assignor to Aktiebolaget Volvo Penta, Goteborg, Sweden, a corporation of Sweden  
Continuation of application Ser. No. 431,332, Feb. 9, 1965. This application Jan. 10, 1967, Ser. No. 609,991  
Claims priority, application Sweden, Feb. 14, 1964, 1,828/64

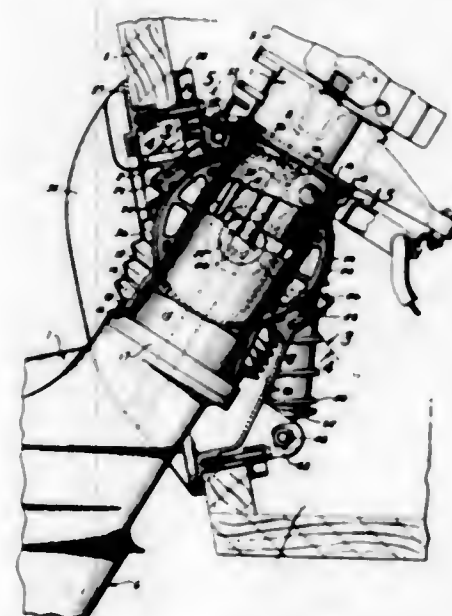
**24 Claims. (Cl. 115-35)**  
A boat drive including an outboard housing with a downwardly and rearwardly inclined drive shaft therein. The outboard housing includes an upper portion and a

steerable lower portion which mounts a propeller on a generally horizontal shaft. The upper housing portion



and drive means for the drive shaft are non-rotatable with the lower housing portion.

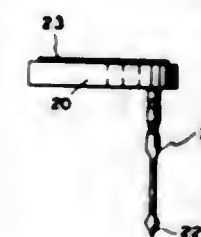
**3,382,839**  
**THROUGH TRANSON MOUNTED DRIVE UNIT FOR WATERCRAFT**  
Elmer Carl Klekhaefer, Winter Haven, Fla., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware  
Filed Feb. 16, 1965, Ser. No. 433,089  
9 Claims. (Cl. 115-41)



A drive unit in which the engine is rigidly connected through an opening in the transom of a boat to the propeller unit. The drive unit is pivoted on horizontal trunnions for tilting movement and is rotatably supported by an intermediate member for steering. Adjustable abutment means between the drive unit and the transom establishes the trim of the boat.

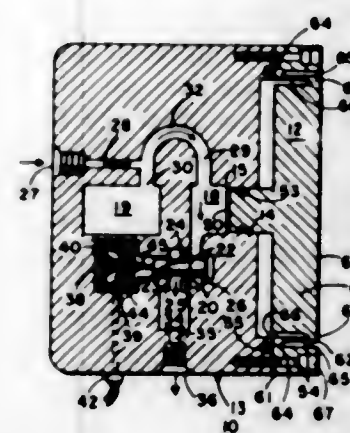
**3,382,840**  
**THERMAL INDICATOR**  
Richard E. Pabst, Houston, Tex., assignor to Pabst Products, Inc., Houston, Tex., a corporation of Texas  
Filed Aug. 18, 1965, Ser. No. 480,682  
6 Claims. (Cl. 116-114.5)  
Disclosed is a thermal fusible control signal or indicator

device for indicating the presence of a selected degree of prior to each deposition run. Said further difference signal is utilized to terminate a deposition run after a pre-



automatic resetting mechanism adapting it for quick repeated uses.

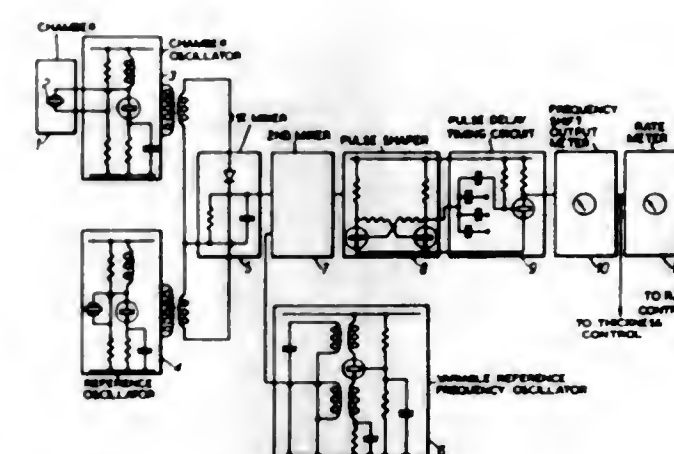
**3,382,841**  
**FLEXURAL DISC TRANSDUCER**  
John V. Bouyoucos, Rochester, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware  
Filed Sept. 14, 1964, Ser. No. 396,168  
7 Claims. (Cl. 116-137)



1. A transducer comprising
  - (a) a disc radiating element of elastic material having a peripheral mounting portion and a disc-like radiating portion,
  - (b) said disc radiating element including coaxial grooves on opposite faces thereof encircling said radiating portion to define a thin cylindrical shell therebetween connected,
  - (c) said thin cylindrical shell providing at one end thereof a lateral compliant edge support for said one edge of said radiating portion, and
  - (d) means coupled to said radiating portion to excite said radiating portion into vibration.

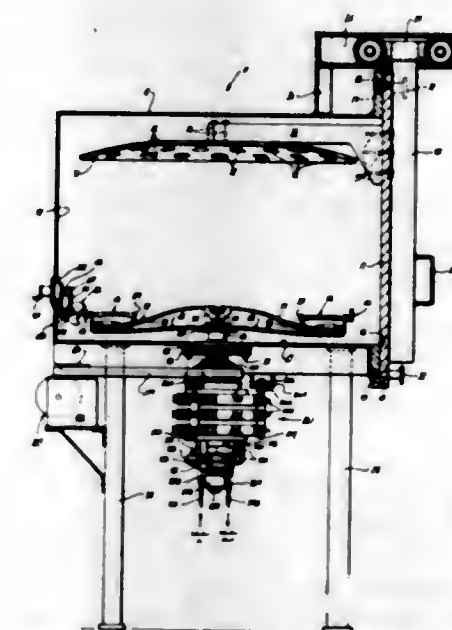
**3,382,842**  
**APPARATUS FOR CONTROLLING VAPOUR DEPOSITION IN A VACUUM**  
Walter Steckelmacher, Ilfeld, Crawley, James English, Pound Hill, Crawley, and Hugh H. A. Bath, Reigate, England, assignors to Edwards High Vacuum International Limited, Crawley, England  
Filed Oct. 14, 1964, Ser. No. 403,772  
Claims priority, application Great Britain, Oct. 16, 1963, 40,882/63  
8 Claims. (Cl. 118-8)

Apparatus for controlling vapour deposition in a vacuum of the type in which deposition occurs on a monitor crystal forming part of the oscillator circuit of a monitor oscillator and in which the frequency of oscillation of said monitor crystal is compared with a fixed frequency oscillator. A difference signal thus derived is compared with a variable frequency oscillator to give a further difference signal which may be brought to zero



determined thickness has been deposited and also to control the rate of deposition during said run.

**3,382,843**  
**VACUUM COATING APPARATUS UTILIZING ROTATING SOURCES**  
Alfred J. Thelen, Nils H. Bergfelt, and Eugene A. Eufusia, Santa Rosa, Calif., assignors to Optical Coating Laboratory, Inc., Santa Rosa, Calif., a corporation of California  
Filed Oct. 23, 1965, Ser. No. 503,116  
10 Claims. (Cl. 118-49.1)



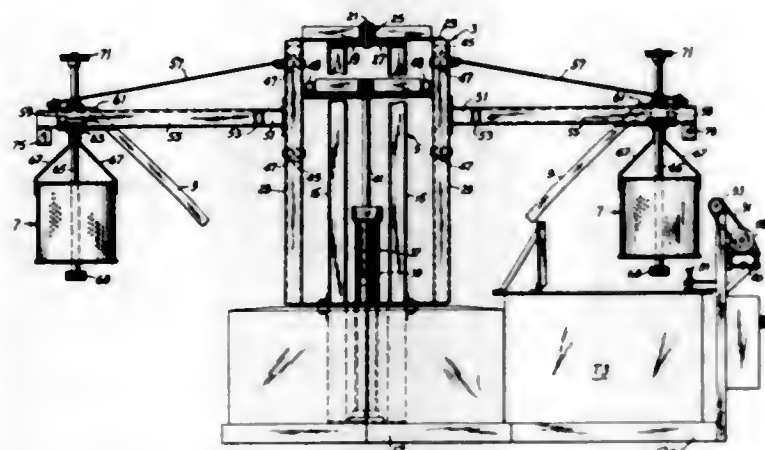
Vacuum coating apparatus having rotating sources with water cooled conductors and having remotely controlled shielding means carried with the sources and operable as the sources are rotated.

**3,382,844**  
**WORK TREATING APPARATUS**  
Leonard P. Kumpf, Afton, Mo., assignor to Lasalco Incorporated, St. Louis, Mo., a corporation of Missouri  
Filed July 1, 1964, Ser. No. 379,590  
35 Claims. (Cl. 118-58)

1. Apparatus for treating work at a series of work stations along an endless path comprising a conveyor mounted for movement around said endless path, a plurality of work carriers open at the top and supported by said conveyor, means for lifting and vertically lowering said carriers at some of said work stations, means for ro-



tating the carriers at certain of the work stations, and means for tilting the carriers from a vertical position as they are lowered, said means causing engagement of the

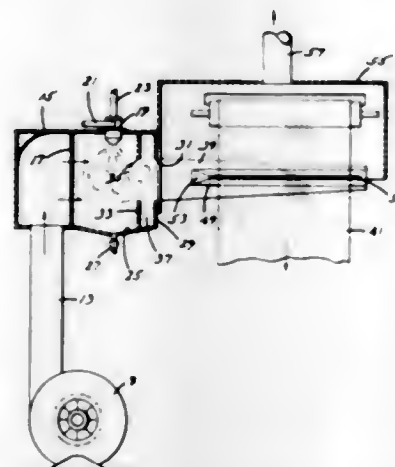


3,382,845

### SEPARATING LIQUID DROPLETS IN SPRAY COATING OPERATION

Edward Jester, Wilmington, Del., assignor to Avisun Corporation, Philadelphia, Pa., a corporation of Delaware

Filed July 21, 1964, Ser. No. 384,073  
2 Claims. (Cl. 118-610)



A film or web is coated by mixing an atomized treating liquid with a stream of carrier gas (e.g., air) in a mixing chamber, the carrier gas then conveying the mist or fog through nozzles to the web. After the mixing, the mist-containing gas stream is allowed to expand, causing liquid droplets to separate out so that they do not reach the web. Prior to the mixing, the carrier gas is caused to have a non-turbulent flow pattern.

3,382,846

### METHOD OF PRODUCING A SPECIFIC GENETIC EFFECT RESULTING IN A LARGER AND EARLIER MATURING DOMESTIC FOWL

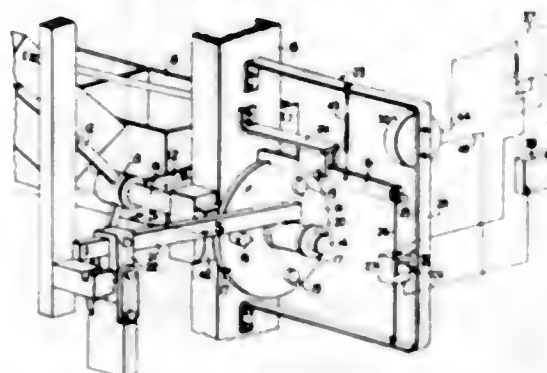
Alexander J. J. Roncarl, David Whiteford, and Richard H. Tomlinson, all % McMaster University, Hamilton, Ontario, Canada

No Drawing. Filed Mar. 28, 1966, Ser. No. 537,658  
Claims priority, application Great Britain, Mar. 29, 1965, 13,255/65

4 Claims. (Cl. 119-1)

The invention relates to a method of producing a genetic effect in a living organism, and more particularly to a method of obtaining certain useful genetic effects by the treatment of egg-laying animal organisms with ultrasonic waves.

3,382,847  
**AUTOMATIC LIVESTOCK FEEDER**  
Ivan D. Clarke, Rte. 2, Cross Plains, Tex. 76443  
Filed Mar. 11, 1966, Ser. No. 533,464  
7 Claims. (Cl. 119-51.11)



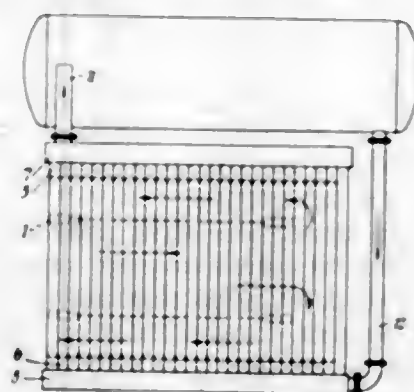
Following is disclosed an automatic livestock feeder which includes a rotating and compartmented metering dispenser which receives animal feed from a hopper and dispenses the feed in metered amounts. The dispenser has a holding wheel, the rotation of which is periodically interrupted by a timed brake means. To protect the brake means a holding wheel is connected with the dispenser and has a plurality of retractable pins urged outward periodically and in response to rotation of the wheel to engage a balance arm. Variable weights on the balance arm act through an engaged pin to offset the force of the feed in the dispenser to relieve the force applied to the brake means. When the brake means is periodically released, a resulting slight rotation of the wheel causes retraction of the pin and release from the influence of the variable weight.

3,382,848

### BOILERS

Reginald Dennis Northcote and Cedric Richard Jones, Dudley, England, assignors to G.W.B. Boilers Limited, Dudley, England

Filed Aug. 29, 1966, Ser. No. 575,804  
8 Claims. (Cl. 122-235)



A plurality of water tube units are positioned in closely spaced relationship by inlet and outlet headers so that the units present a hot gas inflow path and a hot gas return path exposing the whole of both the interior and exterior surfaces of an inner set of tubular rings to the hot gas.

3,382,849

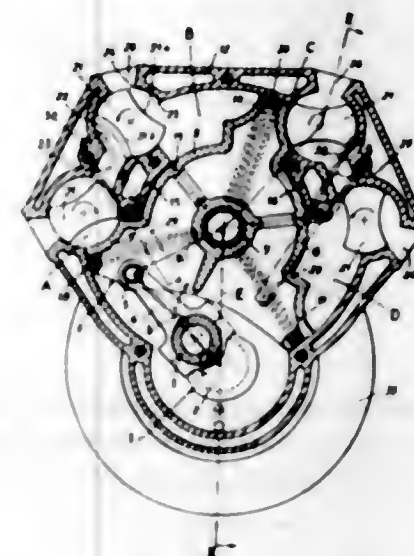
### OSCILLATING VANE INTERNAL COMBUSTION ENGINE

Bernard J. Chaudé, 27 Rue du General Delestraint, Paris, France

Filed Sept. 27, 1966, Ser. No. 582,418  
Claims priority, application France, Sept. 29, 1965, 33,084, Patent 1,466,336  
5 Claims. (Cl. 123-18)

1. An internal combustion engine comprising a casing, a member having an alternating angular motion mounted in said casing about an oscillation axis forming

the centre of the said motion, a crank-shaft having its axis parallel to that of said oscillation axis, a coupling by a motion converter crank between the crank-shaft and the said member, the latter comprising a central drum-shaped portion in the space of at least three angularly-spaced vanes, while the casing forms walls co-operating radially with the arcs described by the extremities of the vanes and with the central drum-shaped portion of the said alternating motion member, and laterally with said



member in such manner as to form therewith a number of working chambers greater by one unit than that of the said vanes, characterized in that the casing is constituted radially by a cover containing, in addition to said member, the crank-shaft and the crank-rod directly mounted between this latter and the said member, and is constituted laterally by two end-plates mounted tightly on each side of the said cover and serving simultaneously as a support for the oscillation shaft of said alternating-motion member and for the shaft of the crank-shaft.

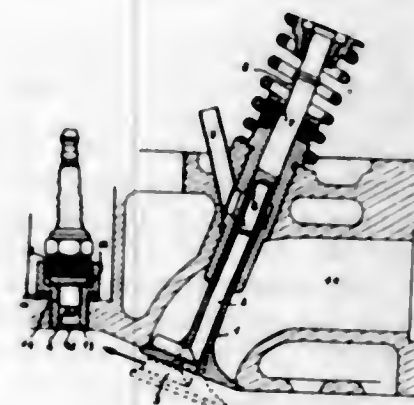
3,382,850

### APPARATUS FOR THE CONTROLLED COMBUSTION OF LEAN MIXTURES IN INTERNAL COMBUSTION ENGINES

Jean Baudry and Jean Chopin, Ruell-Malmaison, France, assignors to Institut Français du Pétrole des Carburants et Lubrifiants, Ruell-Malmaison, Seine-et-Oise, France

Filed Dec. 20, 1965, Ser. No. 514,844  
Claims priority, application France, Dec. 23, 1964, 999,852

2 Claims. (Cl. 123-32)

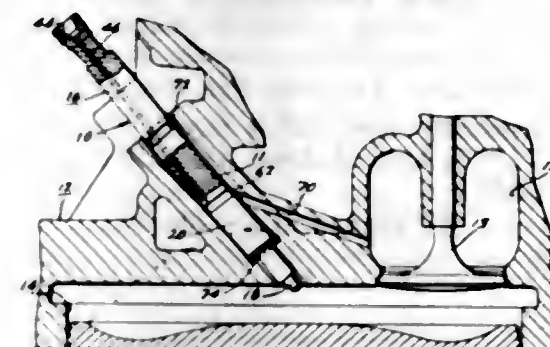


An internal combustion engine having a spark plug ignition and which is fed by two fuel currents of different degrees of richness controlled by a single admission valve, the improvement comprising an engine having a prechamber of small volume containing only the spark plug electrode, the prechamber communicating with the principal chamber by a passageway of limited cross-section and the

end of the inlet pipe for the richer fuel being adapted to direct the latter toward an orifice in the prechamber when the valve is in its open position.

3,382,851

**FUEL INJECTION NOZZLE ASSEMBLY**  
Frank De Luca, Thompsonville, Conn., assignor to American Bosch Arma Corporation, Springfield, Mass., a corporation of New York  
Filed Apr. 26, 1966, Ser. No. 545,290  
9 Claims. (Cl. 123-32)



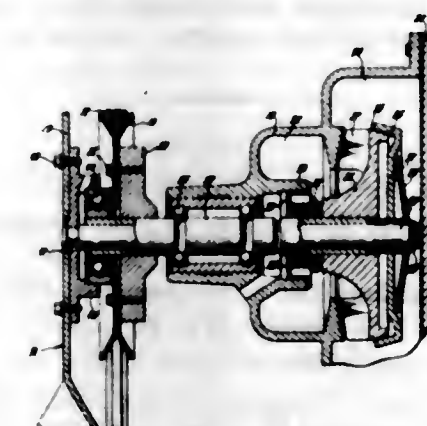
In combination with an engine having an engine cylinder head and at least one combustion chamber, an air intake passage to the valve controlled intake port of the combustion chamber and an elongated bore opening into the combustion chamber for mounting therein a fuel injection nozzle assembly. The fuel injection nozzle assembly includes a nozzle having a tip adapted to direct fuel into the combustion chamber and a holder adapted to be connected to a fuel supply to deliver fuel to the nozzle tip. The assembly further includes a fuel leak-off chamber to collect normal fuel leakage, passageway means directly connecting the leak-off chamber to the air intake passage, and seal means insuring direct discharge of fuel from the leak-off chamber into the air intake passage.

3,382,852

### THERMOSTATICALLY CONTROLLED FAN

John Z. De Lorean, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 30, 1966, Ser. No. 538,725  
2 Claims. (Cl. 123-44.12)



This invention relates to a fan and water pump drive for an engine wherein the water pump is continuously driven by the engine and the fan is intermittently driven at various speeds of rotation relative to water pump speed through a friction clutch wherein the water pump impeller includes one of the friction surfaces and wherein both friction surfaces are located in the pump discharge chamber for cooling of the surfaces when the surfaces are operated in friction slipping engagement. The arrangement is of simple economical construction, conserves space by disposing the clutch elements within the pump discharge chamber, and provides long useful life of the



clutch surfaces, permitting friction slipping surface contact without burning of the surfaces. By placing the friction contact surface on the outer periphery of the impeller and on the axially movable clutch member outwardly of the impeller, maximum torque-transmitting capacity is obtained in minimum required space.

3,382,853

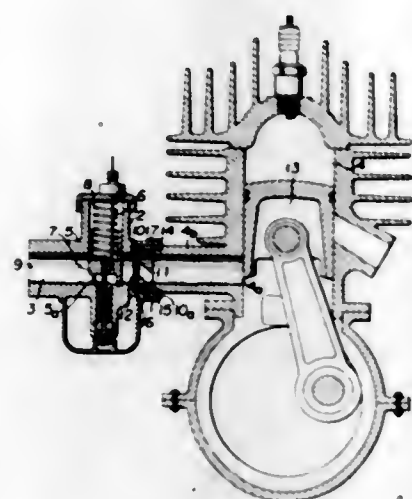
### TWO-CYCLE ENGINE HAVING CRANKCASE SCAVENGING

Isoroku Kinoshita, Hamakita-shi, Japan, assignor to Yamaha Hatsudoki Kabushiki Kaisha, Hamamatsu-shi, Shizuoka-ken, Japan, a corporation of Japan

Filed Dec. 13, 1966, Ser. No. 601,381

Claims priority, application Japan, Dec. 16, 1965, 40/77,019; Apr. 13, 1966, 41/22,951, 41/22,952, 41/22,953

17 Claims. (Cl. 123—73)



1. A two-cycle engine with crankcase scavenging having an inlet port connecting an intake passage which passes mixture or air to a crankcase and an intake valve adapted to close and unclog said inlet port in association with the piston stroke for each piston-cylinder assembly, featuring a blowback preventer consisting of the intake passage and a check valve disposed in said intake passage for preventing blowback of fuel mixture or clean air from the crankcase, said check valve exhibiting small resistance against fuel mixture to be sucked in the crankcase.

3,382,854

### VALVE LIFTER MEANS

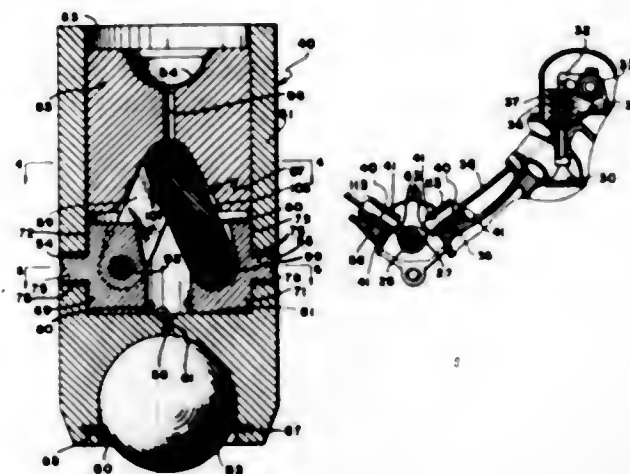
James E. Steiner, 427 N. Quentin, Wichita, Kans. 67208

Filed Jan. 24, 1966, Ser. No. 522,508

9 Claims. (Cl. 123—90)

This invention relates to valve lifters, and more particularly, to a speed responsive valve lifter. Still more specifically, this invention is drawn to a valve lifter connected between a rotating cam shaft and a pusher rod that is responsive to engine oil pressure to increase the normal axial movement of the pusher rod and the resultant lift of the valve member connected thereto. This invention particularly relates to valve lifters used in internal combustion engines whereby the lift of the valve members is variable and a function of the engine speed and oil pressure to provide for economical and efficient operation of the engine. Also, this invention relates to a valve lifter structure including a cylindrical housing having an enlarged bore, a piston means slidably mounted within the bore for movement perpendicular to the axis of the housing, a pusher seat means mounted within the bore engage-

able with a pusher rod for the actuation of a valve member, and linkage means interconnecting the pusher rod



seat means and the piston means whereby the pusher rod is extended varying amounts in response to engine speed by fluid pressure supplied to the piston means.

### ERRATUM

For Class 123—119 see:  
Patent No. 3,382,879

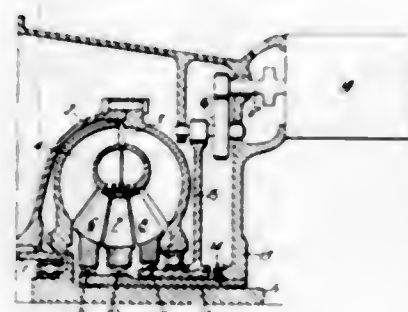
3,382,855

### TORQUE CONVERTERS AND POWER PLANTS

Wilhelm Glamann, 5a Leimbacher Weg, Forsbach, Bezirk, Cologne, Germany

Filed Sept. 16, 1965, Ser. No. 487,707

6 Claims. (Cl. 123—119)



1. A power plant comprising in combination a supercharged combustion engine with a Föttinger fluid torque converter, the latter including impeller, turbine and reaction members, a main driving shaft from the engine connected to an impeller member of the converter, a main driven shaft connected to a first turbine member of the converter and driving the load of the power plant, an auxiliary driven shaft connected to a second independent turbine member of the converter and driving the supercharger of the combustion engine.

3,382,856

### ENGINE FUEL INDUCTION SYSTEM

Robert McIlroy, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

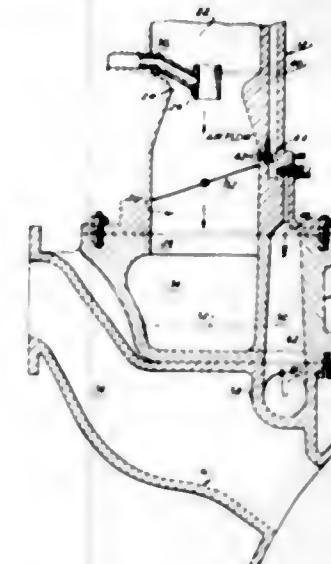
Filed Oct. 22, 1965, Ser. No. 500,553

9 Claims. (Cl. 123—127)

A dual induction system for an internal combustion engine, one portion of the system operating as a conven-

tional downdraft venturi carburetor, a second portion of the system combining fuel and heated air in a mixing

between the wall of a cylindrical bore in the crankcase and the lower base of a cylinder fitted therein, comprising a ring seal recessed in a groove formed in the lower base



chamber of the intake manifold to provide improved combustion at low engine speeds.

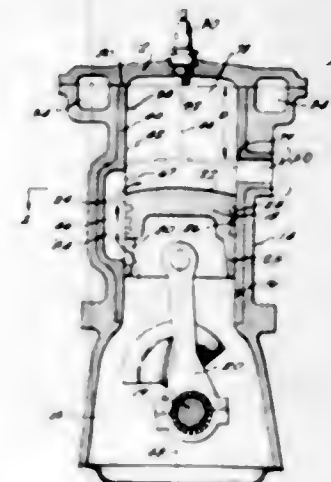
3,382,857

### ENGINE

Leslie W. Foster, Lake Bluff, and John M. Whalen, Zion, Ill., assignors to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,311

12 Claims. (Cl. 123—193)



Disclosed herein is a cylinder liner having at least two depressions which are open only to the interior of the liner. The liner also includes, remote from the depressions, a circumferential projection or crush ring. The invention disclosed herein also includes the method of making an engine comprising the steps of die casting an engine block around a cylinder liner of the type described above, and machining the engine block and the liner to form a port wholly defined by the walls of the liner.

3,382,858

### DEVICES FOR MOUNTING CYLINDERS IN RECIPROCATING ENGINES

Jacques Gallols, Paris, and Karl Kühn, Saint-Germain-en-Laye, France, assignors to Societe d'Etudes de Machines Thermiques, Saint-Denis, Seine, France, a corporation of France

Filed Nov. 12, 1965, Ser. No. 507,329

Claims priority, application France, Nov. 17, 1964, 995,230

4 Claims. (Cl. 123—193)

A device for preventing a lubricant contained in the crankcase of an engine from being sucked and laminated



of the cylinder and at least one lubricant pressure releasing recess provided on the portion of the cylinder which is comprised between the ring seal and the inner space of the crankcase.

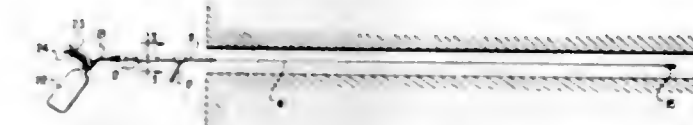
3,382,859

### LINE-THROWING GUN

Klingman Edward Myers, 7216 Poplar St., Annandale, Va. 22003

Filed Oct. 19, 1965, Ser. No. 497,624

5 Claims. (Cl. 124—11)



1. In combination, a line-throwing gun comprising an elongated tubular barrel having a forward discharge end and a rear end and having a breech opening adjacent the rear end thereof, a cylindrical line package having a diameter less than the internal diameter of the barrel, said breech adapted to receive said cylindrical line package, an annular tubular breech cover having a length greater than the longitudinal length of said breech opening slidably mounted on said barrel, said breech cover in operative position adapted to cover said breech opening and seal the same and to clamp an end of the line from said line package between said cover and said barrel to restrain it against movement, and means carried by and communicating with said rear end of the barrel for attachment to a compressed fluid source.

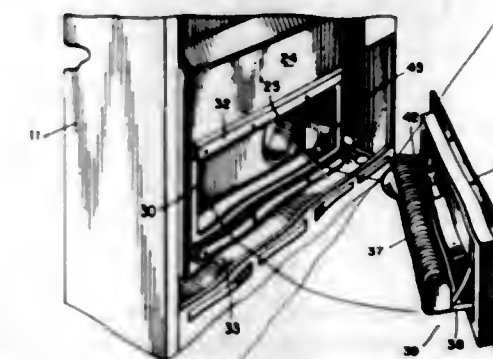
3,382,860

### GAS WALL HEATER

Robert R. Cooper and Anthony M. Castello, Wichita, Kans., assignors to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas

Filed May 17, 1966, Ser. No. 550,825

4 Claims. (Cl. 126—85)



A sealed combustion gas wall heater. The heater includes a combustion chamber having a burner access

A sealed combustion gas wall heater. The heater includes a combustion chamber having a burner access



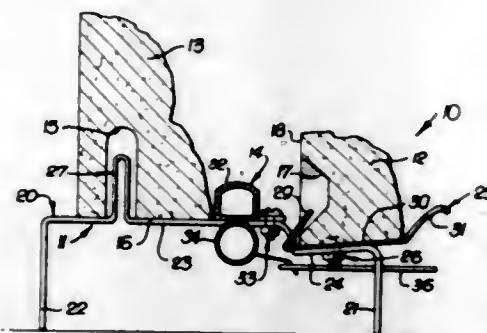
opening. A burner access door is attached to the combustion chamber and seals the burner access opening. The main burner is mounted on the burner access door and is provided with a gas inlet opening which is slidably received on the gas supply tube when the door is attached to the combustion chamber.

3,382,861

**HEARTH LOG APPARATUS**

Robert H. Peterson, Altadena, Calif., assignor to International Products, Inc., Pasadena, Calif., a corporation of California

Filed Nov. 23, 1965, Ser. No. 509,270  
8 Claims. (Cl. 126—92)



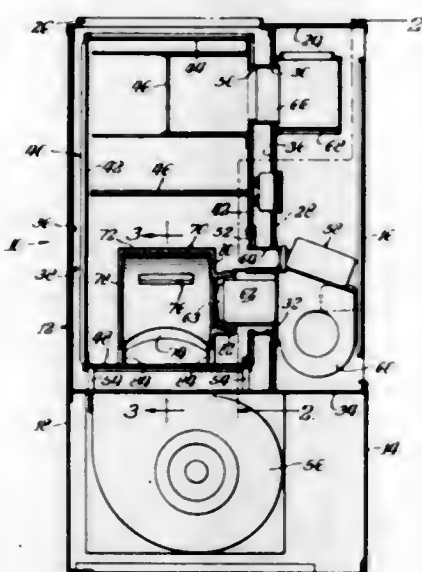
The disclosure concerns hearth log apparatus incorporating a refractory log or logs and a supporting cradle constructed to be easily assembled to conceal a gas releasing burner, and which effects production of sheets of flame rising from between the logs.

3,382,862

**FURNACE CONSTRUCTION**

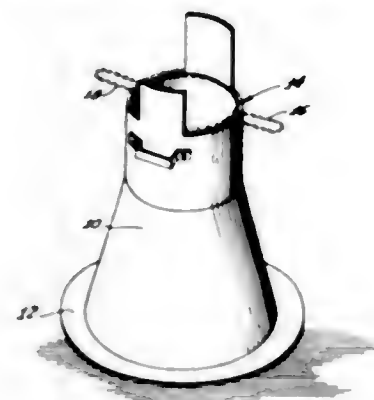
Roger G. Martz, Lebanon, Ind., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Oct. 19, 1966, Ser. No. 587,858  
9 Claims. (Cl. 126—110)



The following specification describes a combustion chamber having a generally cylindrical body with an inlet at one end and a closed end opposite the inlet. A downwardly directed outlet in the cylindrical wall, communicating directly with a target plate, serves to provide improved heat exchange.

3,382,863  
**FUEL SAVER**  
Jack Katz, 6630 W. Colgate Ave.,  
Los Angeles, Calif. 90048  
Filed Oct. 24, 1966, Ser. No. 588,964  
5 Claims. (Cl. 126—242)



1. An assembly for extinguishing glowing coals, and the like, including: a container for holding an extinguishing fluid and having an open top; and a removable receptacle for the glowing coals supportable on said container in a first quenching position in which the receptacle extends down through said open top into the interior of said container and in a second draining position in which said receptacle is displaced up from said first position.

3,382,864

**AGRICULTURAL INCINERATOR**

Ray B. Fannin, 226 E. McKinley, Tempe, Ariz. 85281, and William E. Bush, Scottsdale, Ariz.; said Bush assignor to said Fannin

Substituted for abandoned application Ser. No. 453,996, May 7, 1965. This application Sept. 5, 1967, Ser. No. 675,996

1 Claim. (Cl. 126—271.2)



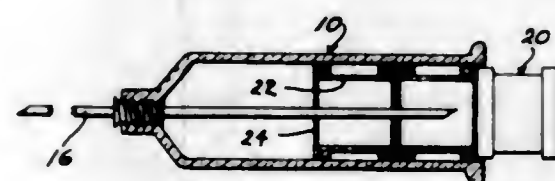
An agricultural incinerator traveling over a field surface to treat, burn and destroy insects and infected trash in a field surface to prevent recurrent infestations of harmful insects on subsequent crops.

3,382,865

**DEVICE FOR TAKING MULTIPLE BLOOD SAMPLES OR THE LIKE**

Ashton L. Worrall, Jr., 325 Edison-Furlong Road, R.D. 3, Doylestown, Pa. 18901

Filed Oct. 18, 1965, Ser. No. 497,309  
4 Claims. (Cl. 128—2)



A device for taking a plurality of separate blood samples is provided and it includes a plurality of hollow cartridges having self-sealing but puncturable ends there-

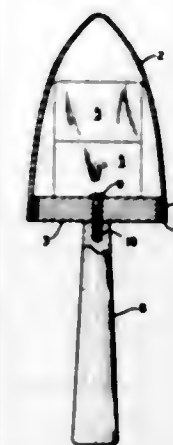
on received in a tube larger in diameter than the cartridges. A hollow needle sharpened at both ends engages a closed end of the tube with a portion of the needle extending outwardly of the tube and a portion extending inwardly of the tube and terminating adjacent the other end of the tube to puncture the individual cartridges as moved axially of the tube.

3,382,866

**MESSAGE DEVICE WITH HOLLOW APPLICATOR FOR HOLDING HEATING OR COOLING MEDIA**

Jack Ramsay Harris, 245 Race St.,  
Denver, Colo. 80206

Filed Oct. 20, 1965, Ser. No. 498,882  
7 Claims. (Cl. 128—24.3)



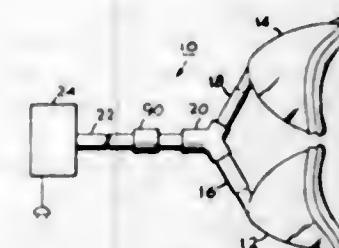
Massage device for hot or cold body treatment inclusive of container of paraboloid shape having double curved smooth exterior surface and formed of thin material of high heat conductivity and flat wall closure transverse of axis of paraboloid shape with handle projecting from wall closure on paraboloid axis. Handle detachable from container and of sectional construction joined by swivel coupling for rotary movement of skin contacting container during use. Sectional or two piece construction with one section having open end of paraboloid shape forming one mating surface of liquid sealing joint and other section outer annular surface having flexible member forming other mating surface to permit assembly and disassembly. Handle including hollow portion for heating element and power supply for heating element.

3,382,867

**BODY PORTION DEVELOPING DEVICE WITH COMBINED VACUUM AND VIBRATING MEANS**

Ruby L. Reaves, 2736 W. Artesia Blvd.,  
Torrance, Calif. 90504

Filed Mar. 22, 1965, Ser. No. 441,547  
10 Claims. (Cl. 128—38)



There is disclosed herein an improved body portion developing arrangement in which a controlled vacuum and air flow is applied to preselected portions of the body. The vacuum tends to stimulate the flow of blood

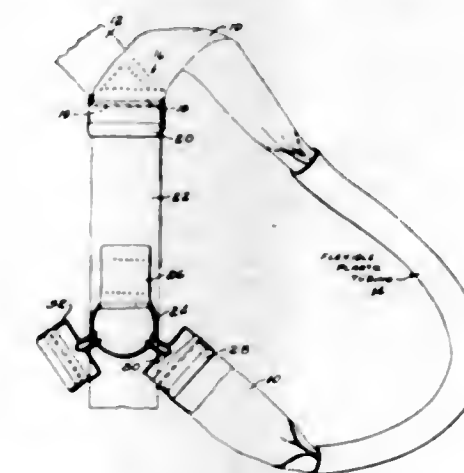
to the tissue subjected to the vacuum and the air flow is carefully controlled and directed so as to induce a vibratory action in the bodily portion subjected to the air flow. The vacuum is achieved by conventional pump and a generally cup shaped arrangement is utilized to be clamped over the preselected body portion. Air flows through an outer of two concentrically mounted cups forming the cup arrangement and the edges thereof are sealed to the body to provide an enclosed portion of the body. Air flows into the space between the two cups and then through orifices in the inner cup to provide directed air flow around the preselected bodily portion and then to the vacuum pump. The air flow pattern is controlled to provide the desired vibratory action and the desired degree of vacuum is achieved by control of a bleed orifice.

3,382,868

**UNIVERSAL CLAVICLE SPLINT**

Henry K. Stiefel, Bourbon, Ind., assignor to Orthopedic Equipment Company, Inc., Bourbon, Ind., a corporation of Illinois

Filed Dec. 22, 1964, Ser. No. 420,269  
3 Claims. (Cl. 128—87)



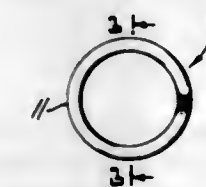
An orthopedic clavicle brace which is universally applicable to patients regardless of body size and which can be removed and replaced by the patient or another without loss of the size adjustments provided at the original professional fitting. An adjustable-length and flexible but inextensible connector strap lies along the upper spine, and from its upper end diverge respective adjustable-length straps which encircle the shoulders and armpits and connect detachably by hooks to a ring at the lower end of the connector strap. These diverging straps are slidably enclosed in soft tubular protectors which can be cut to fit according to patient size.

3,382,869

**INTRAUTERINE CONTRACEPTIVE DEVICE**

William R. Rigney, Watchung, and Edmund A. Jones, Somerville, N.J., assignors to Ortho Pharmaceutical Corporation, a corporation of New Jersey

Filed Feb. 2, 1966, Ser. No. 524,427  
3 Claims. (Cl. 128—130)

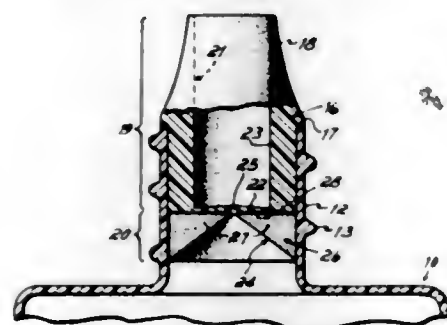


1. An intrauterine contraceptive device comprising a ring, said ring being formed from at least one convolution of a single strand of resilient material having beveled ends, said ends overlapping at least a portion of said ring.



### 3,382,870 NEBULIZER

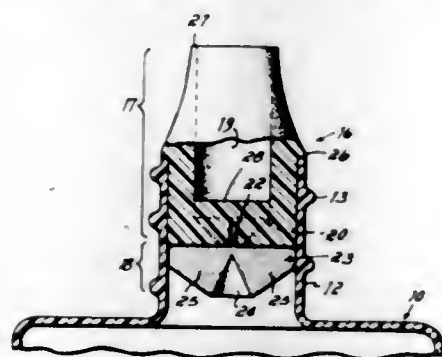
Robert D. Parry, 7240 Algonquin Drive,  
Cincinnati, Ohio 45243  
Filed Oct. 18, 1965, Ser. No. 496,766  
16 Claims. (Cl. 128-173)



A nebulizer is disclosed including a plastic squeeze bottle having a neck in which is seated a nebulizing device, the lower portion of which is exposed to the inside of the bottle. The nebulizing device has a small straight unobstructed passage through its center, and further has a cavity radiating from a side of the passage. The cavity has a configuration to hold liquid therein by capillary action, and communicates with the passage and the air inside the container when the container is in its operative nebulizing position with the neck uppermost.

### 3,382,871 NEBULIZER

Robert D. Parry, 7240 Algonquin Drive,  
Cincinnati, Ohio 45243  
Filed Oct. 18, 1965, Ser. No. 497,030  
8 Claims. (Cl. 128-173)

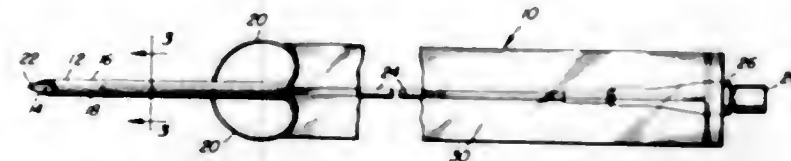


A pocket size nebulizer is disclosed which is adapted to produce a smoke-like mist from an oil-based liquid. The nebulizer includes a resilient walled container having a neck projecting from the top into which is fitted a nebulizing device. The nebulizing device has an upper portion configured to provide a large diameter hollow barrel projecting from the neck and a lower portion configured to provide an inverted conical cavity, the apex of which communicates with the bottom of the hollow barrel via a straight small diameter passage. The nebulizing device further includes a diametrically extending cross-slot communicating with both the conical cavity and the passage, and having a width dimensioned to hold an oil-based liquid therein by capillary action. An impingement member is located in the hollow barrel providing an obstruction to flow from the passage through the barrel.

In operation, the nebulizer is momentarily tipped to allow a major supply of liquid contained in the container to be exposed to the diametral capillary cross-slot for the purpose of filling the cross-slot with liquid thereby establishing a minor liquid source. The container is then squeezed to produce an air stream flowing from the conical cavity through the passage into the hollow barrel. The air stream shears minute quantities of oil-based liquid

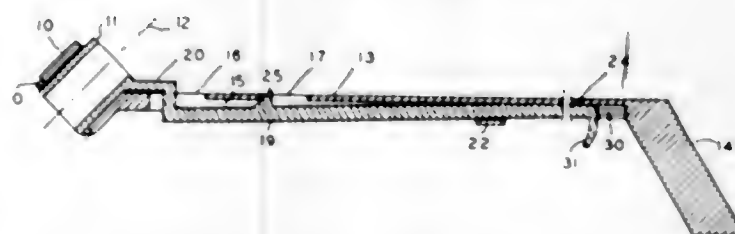
from the liquid in the capillary slot entraining liquid in the stream. The high speed stream then strikes the impingement member. The striking of the high speed stream on the impingement member and the fact that the barrel is many times larger than the opening of the passage serves to insure that only a mist in the form of a cloud leaves the nebulizer. The minute quantity of liquid pulled from the capillary slot with each squeeze of the bottle is immediately replaced by capillary action.

3,382,872  
**VENOUS CATHETER AND NEEDLE**  
Melvin L. Rubin, Baltimore, Md. (Fort Howard Veterans' Hospital, Fort Howard, Md. 21052)  
Filed June 7, 1965, Ser. No. 461,740  
5 Claims. (Cl. 128-214.4)



A hypodermic needle is constructed from a hollow needle which can contain a catheter tube, with the needle being longitudinally splittable into two sections each having a handle for gripping to longitudinally split the needle enabling it to be removed from an implanted catheter tube. A plastic sac is provided enveloping the catheter tube to maintain it sterile and having one end cemented to the handles of the needle sections, with the sac being longitudinally splittable along lines extending from the junction of the needle sections so as to split when the needle is split.

3,382,873  
**ANGULATED HEMORRHOID LIGATOR**  
Francis Edward Banich, 224 Burton Ave., Waukegan, Ill. 60085, and Ralph C. Jordan, 11349 S. Westwood Drive, Palos Hills, Ill. 60465  
Filed June 30, 1965, Ser. No. 469,368  
6 Claims. (Cl. 128-326)

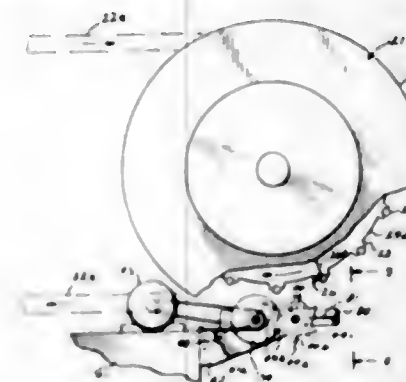


This invention relates to an improved surgical instrument having a pair of coaligned cylindrical members mounted at an angle to its support member actuable for depositing elastic members about human tissue such as hemorrhoids.

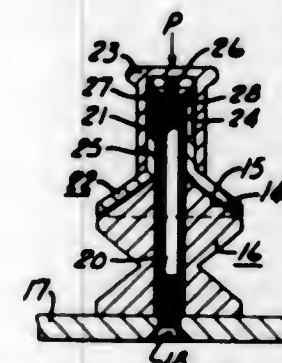
3,382,874  
**MEANS FOR DISASSEMBLING CIGARETTE AND FILTER ASSEMBLIES**  
Jesse R. Pinkham, Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey  
Filed June 4, 1965, Ser. No. 461,477  
10 Claims. (Cl. 131-20)

A disassembling and segregating means for severing each of two cigarette sections from an intermediate double filter section, upon free fall receipt from an overhead transporting means which releases the assemblies at a station immediately over the disassembling and segregation apparatus, the exact point of release and free fall tending to vary slightly from assembly to assembly, characterized by a pair of spaced generally parallel rotatable

circular knives for severing the assemblies just outside the ends of the filter section, and rotatable ledger means for driving the assemblies to and through the knives, the ledger means including a plurality of arms around the periphery thereof, each arm having a leading face which is



3,382,875  
**CIGARETTE EXTINGUISHER**  
Frank P. Lackinger, 610 Washington Road,  
Pittsburgh, Pa. 15228  
Filed Sept. 16, 1965, Ser. No. 487,755  
3 Claims. (Cl. 131-237)

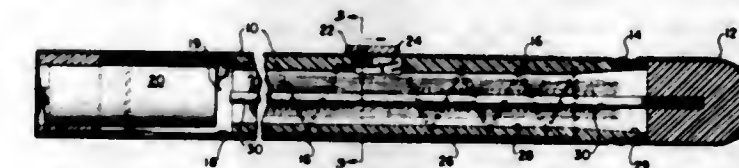


This novel cigarette extinguishing ash tray is provided with an upwardly extending anvil having a sloping surface to contact and cooperate with a complementary sloping surface on a movable cap supported from the base. These complementary contacting sloping surfaces when deviating from the point of contact with each other provide a progressive positive grinding action that shortens the time of extinguishing the cigarette as by the twisting action of the foot on a pavement. The sloping surfaces may lie in flat planes or be frusto conical. The latter when provided with an outer cylinder on the cap can be employed to hold or support the cigarette on the sloping anvil surface.

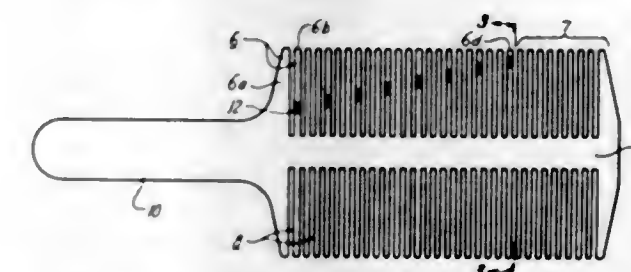
3,382,876  
**ARTIFICIAL EYELASH CURLER**  
Grace I. Spier, 61 Elwood Ave.,  
Kenmore, N.Y. 14217  
Filed Mar. 23, 1966, Ser. No. 536,680  
4 Claims. (Cl. 132-31)

1. A device for curling artificial eyelashes comprising a tubular-shaped container open at one end, an end closure for said container of handle-like form, a mandrel

carried by and extending from said closure member and receiving in coiled relation thereon a convolute assembly comprising a moistened sheet having an artificial eyelash

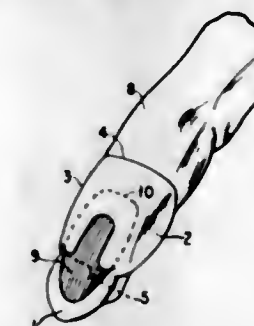


3,382,877  
**CLIPPER GUIDE DEVICE**  
Daniel Cercone, 4720 Liberty Ave.,  
Pittsburgh, Pa. 15224  
Filed Feb. 17, 1966, Ser. No. 528,196  
8 Claims. (Cl. 132-45)



1. A barbering comb having a substantially flat planar configuration comprising a thin base piece formed as an elongated rectangle; two sets of teeth extending from opposite sides of said rectangular base piece of 180° to each other to form two substantially flat and directly opposite faces on said comb, with each of said sets comprising a plurality of parallel teeth of equal length; the teeth of the first of said sets having nodule projections spaced inwardly from the free ends of the comb, protruding perpendicular to one face of said comb and defining a straight line thereover, with said line defining an acute angle greater than zero degrees in relation to the longitudinal axis of said base piece.

3,382,878  
**SHIELDING DEVICE FOR NAIL-HARDENING COMPOSITIONS**  
Ben Dierstein, 40 E. 9th St.,  
New York, N.Y. 10003  
Filed July 29, 1964, Ser. No. 385,962  
1 Claim. (Cl. 132-88.5)



1. A nail-shielding device of unitary construction for use in applying a formaldehyde-containing liquid nail-hardening composition to human fingernails while protecting the cuticle and surrounding skin tissue from contact with said liquid composition, said nail-shielding device consisting of a main body of flat, pliable, liquid-impermeable sheet material having a projecting forward portion and a rearward portion; a transverse slit in said sheet material at approximately one-third the distance from the forward



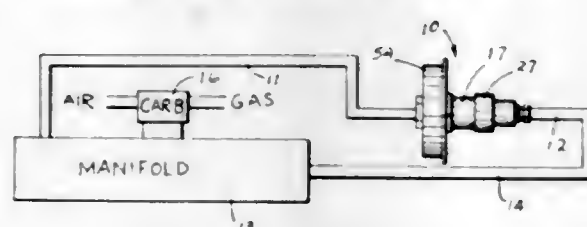
edge of said forward portion to the rear edge of said rearward portion slit means including a transverse slit having a length adapted to accommodate the width of a human fingernail; means for exposing a portion of the nail center, said means comprising a U-shaped aperture in said sheet material extending rearward from said transverse slit, the width and length of said aperture being such that said aperture is adapted to expose only the center portion of a human fingernail; and adhesive means on the underside of said shielding device for holding it in place on the finger.

3,382,879

## VALVE DEVICE FOR CONTROLLING EXHAUST GASES

Howard J. Blonde, White Pigeon Township, St. Joseph County, and John P. Hill, Detroit, Mich., assignors to Blonde Products Inc., Sturgis, Mich., a corporation of Michigan

Filed Feb. 14, 1966, Ser. No. 526,995  
6 Claims. (Cl. 123-119)

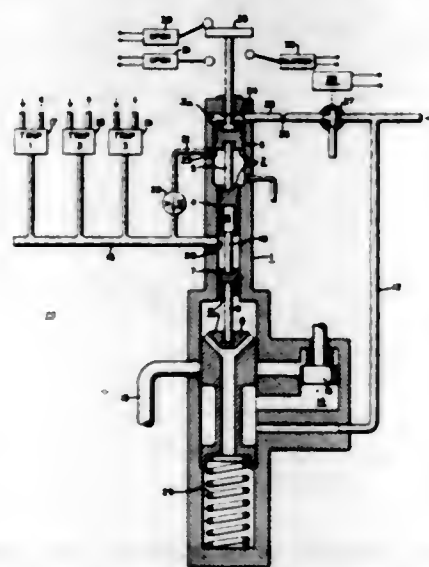


A valve device having two piston chambers and interconnected pistons disposed respectively within said chambers, said chambers also being connected to the manifold of a combustion engine. The valve device has resiliently flexible means urging the piston means into positions where one piston blocks the flow of ambient air into the manifold. However, when the manifold pressure drops a predetermined amount, the resilient means is overpowered by ambient pressure and ambient air can then flow into the manifold until the manifold pressure returns to a predetermined value.

3,382,880

## AUTOMATIC TRIP TEST SYSTEM

James B. Wagner, Lynnfield, Mass., assignor to General Electric Company, a corporation of New York  
Filed Dec. 1, 1965, Ser. No. 510,781  
6 Claims. (Cl. 137-24)



1. In a fluid control system having a plurality of resettable tripping devices maintaining fluid pressure in a header associated with a main shutdown device, a trip test layout comprising:

a valve casing having first and second separately movable valve assemblies disposed therein, the second

valve assembly being arranged to actuate the main shutdown device in a normal tripping position, said casing having a first chamber between valve assemblies and connected to the header so as to urge the assemblies apart, and also having a second chamber on the opposite end of the first valve assembly from said first chamber,

first means for moving the first valve assembly in contact with the second valve assembly in a testing position when testing is initiated,

second means acting in opposition to the first means for causing the first and second valve assemblies to move toward an intermediate resetting position when one of said tripping devices is actuated to evacuate the header, said intermediate resetting position being short of the normal tripping position of the second valve assembly,

third means associated with said first means returning the first and second valve assemblies to the testing position when pressure is re-established in the header by resetting the actuated tripping device, and,

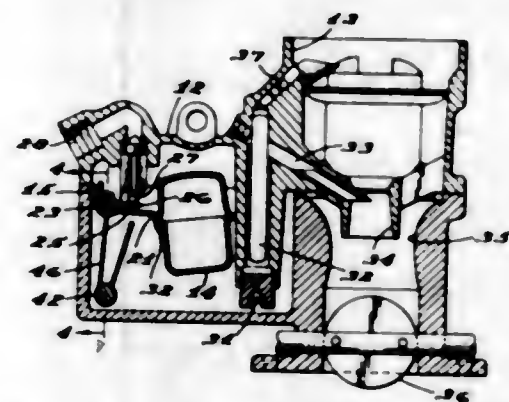
fourth means deactivating the first means when testing is completed.

3,382,881

## FLOAT MECHANISM FOR A CARBURETOR

William Warren Charron, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed May 25, 1966, Ser. No. 552,785  
2 Claims. (Cl. 137-39)



A pendulum assembly independently mounted on the shaft supporting the float in the carburetor fuel bowl exerts a closing force on the valve admitting fuel to the bowl when the carburetor is tilted in one direction, as when the vehicle is climbing a steep grade, but does not interfere with normal float operation during other carburetor attitudes. A bore is formed in the float support shaft and the ends of a wire holder fit into the bore. The wire holder projects downward, loops around a weight, and then projects upward, terminating in a horizontal portion adjacent the float support arm. When gravity moves the weight rearward, the horizontal portion contacts the arm to close the inlet valve despite the reduced buoyant forces acting on the float. When gravity moves the pendulum in the other direction, the float functions in the normal manner without interference from the pendulum assembly.

3,382,882

## CENTRIFUGALLY OPERATED VALVE SEDIMENT EXTRACTOR

Meakin E. McLawhorn, Box 522, Farmville, N.C. 27828  
Filed Nov. 17, 1965, Ser. No. 508,287  
11 Claims. (Cl. 137-53)

1. A tub sediment extractor for a rotatable tub comprising: bracket means for securing the extractor to a tub; shaft mounted on said bracket for reciprocation along its own longitudinal axis; a valve assembly including

a valve body mounted on said shaft for closing a port on the tub; spring means mounted on the bracket resiliently urging said valve body toward a closed position; a weight mounted on said shaft rearwardly of said valve

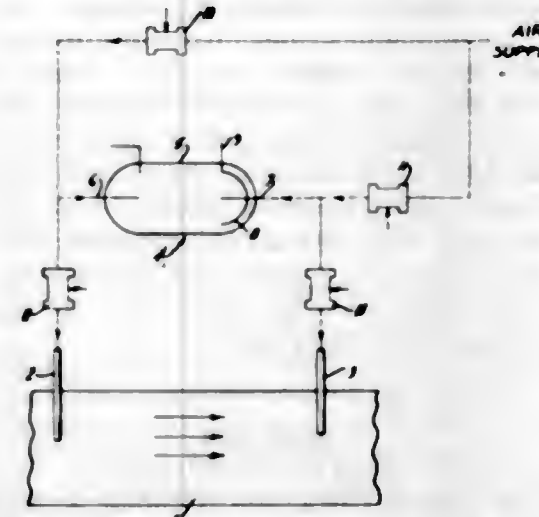


body, whereby when the tub is rapidly rotating centrifugal force pulls said weight, said shaft and said valve body radially outwardly from the tub port against compression of said spring.

3,382,883

## DIFFERENTIAL PURE FLUID PRESSURE SENSOR

Richard N. Lankiemt, South Milwaukee, Thomas J. Lechner, Jr., Menomonee Falls, and Frank A. Kuczkowski, Glendale, Wis., assignors to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin  
Filed Jan. 25, 1965, Ser. No. 427,678  
5 Claims. (Cl. 137-81.5)



A pure fluid impact modulator is provided having a pair of opposed orifices establishing directly engaging and impacting streams. The orifices are connected to an air supply to establish opposing streams. Additionally, the orifices are each connected to a static pressure probe through an adjustable restrictor. The probes are connected in a fluid flow line to sense the static pressure and modulate the relative strengths of the streams from the orifices. The supply pressure is selected to be above the maximum sensed pressure such that the fluid flow through the sensing probes is always outwardly with respect to the impact modulator.

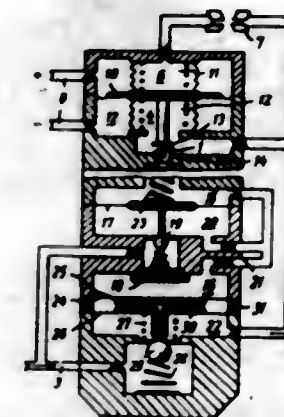
3,382,884

## PNEUMATIC COMPENSATOR

Victor Vasiljevich Kerbasov, Moscow, U.S.S.R., assignor to Nauchno-Issledovatel'skiy Institut Teploenergeticheskogo priborostroyeniya, Moscow, U.S.S.R.  
Filed Dec. 29, 1964, Ser. No. 421,824  
3 Claims. (Cl. 137-86)

1. A pneumatic compensator comprising: a sensitive element capable of transforming an action of a parameter being controlled in to a force; a null-indicator having a movable element rigidly connected with said sensitive element; a stationary nozzle relative to which said movable

element travels thus causing a variation of pressure in the passage of said nozzle; a pneumatic amplifier for a pressure signal developing in the passage of said nozzle during the travel of said movable element; said pneumatic amplifier having an output; a compressed air supply source connected to said pneumatic amplifier; main feedback means receiving pressure from the output of said pneumatic amplifier and acting upon said sensitive element; auxiliary feedback means connected to the output of said

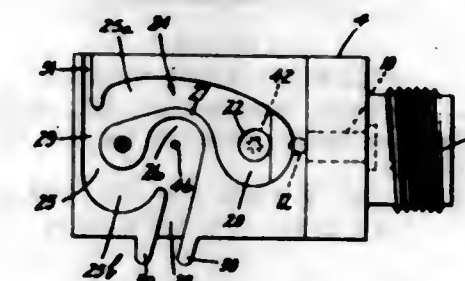


pneumatic amplifier in parallel to said main feedback means and also acting upon said elastic sensitive element; two nozzles series connected to said auxiliary feedback means in connection between the auxiliary feedback means and the output of the pneumatic amplifier; said two nozzles being mounted co-axially one opposite the other with a gap therebetween; means for venting the gap to atmosphere; and means to adjust said gap between said nozzles whereby balancing of the pneumatic compensator is effected.

3,382,885

## ANTI-SIPHON VALVE

Leon H. Cutler, New Haven, Conn., assignor to General Electric Company, a corporation of New York  
Filed May 22, 1963, Ser. No. 282,466  
1 Claim. (Cl. 137-216.1)



1. An anti-siphon mixing valve for controlling the flow of liquids, comprising a valve body including a pair of valve seats, a pair of inlets leading respectively to said valve seats, a pair of diaphragms supported by said valve body and arranged to engage said valve seats to shut off the flow from said inlets through said valve seats, separate pilot means for controlling the opening and closing of each of said diaphragms on its respective valve seat, a mixing chamber formed in said valve body and receiving the flow from both of said valve seats, and a discharge passageway leading from said mixing chamber, said discharge passageway including a reverse bend section connected to said valve seat, an outlet from said valve body and a curved section joining said reverse bend section to said outlet, whereby a roughly S-shaped path is formed for fluid flow between said mixing chamber and said outlet, a vent opening connected to said discharge passageway adjacent the apex of said reverse bend section and extending to the surface of said body, whereby if a suction pressure should occur at said valve inlet, air is drawn into said valve through said vent opening to prevent reverse siphoning of liquid or foam from said outlet, said valve body having a top, bottom and back surface and said outlet and said vent opening extend respectively through the bottom and top surfaces of said valve body, said dia-

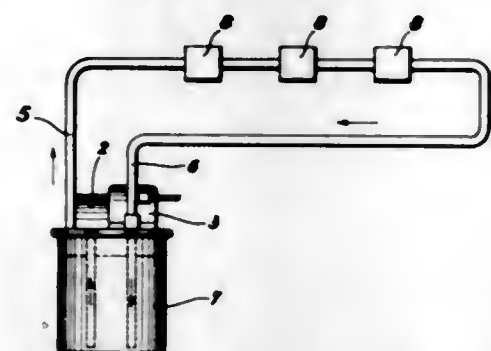


phragms and said valve seats are positioned at opposite ends of said mixing chamber, said inlets both open through the back surface of said valve body to said valve seats, said valve body including a pair of molded plastic parts which are joined together to form said mixing chamber and said discharge passageway, each of said plastic parts having one of said valve seats formed therein.

3,382,886

# APPARATUS FOR CIRCULATING VISCOUS SUBSTANCES WITH CLEANING PROVISIONS

Willy Hesselmann, Herbstrasse 27, Rosenheim, Upper Bavaria, Germany  
Filed Dec. 15, 1965, Ser. No. 514,018  
9 Claims. (Cl. 137-240)

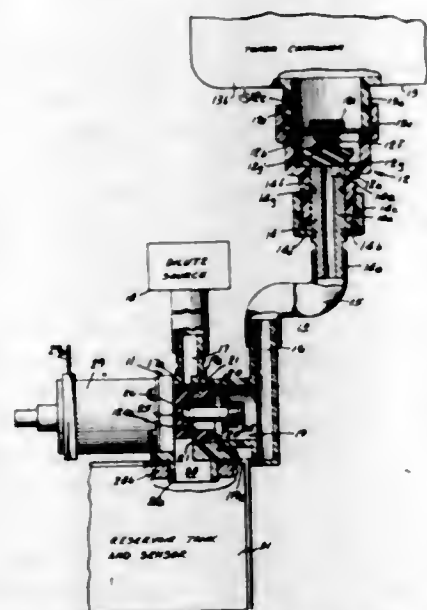


1. Apparatus for circulating liquids, particularly glue and similar viscous substances, comprising a container for a supply of liquid and having an opening; a cover detachably connected to said container so as to overlie said opening; a conduit having an inlet and an outlet connected to said cover, said inlet dipping into the supply of liquid when said cover overlies said opening; liquid-circulating means mounted on said cover for circulating said liquid from said container through said conduit in the direction from said inlet toward said outlet; and at least one consumer device for said liquid connected with said conduit intermediate said inlet and said outlet thereof.

3,382,887

# PHOTOCOPIER VALVE

Howard L. Erickson, Bensenville, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois  
Filed Oct. 3, 1966, Ser. No. 583,640  
4 Claims. (Cl. 137-263)



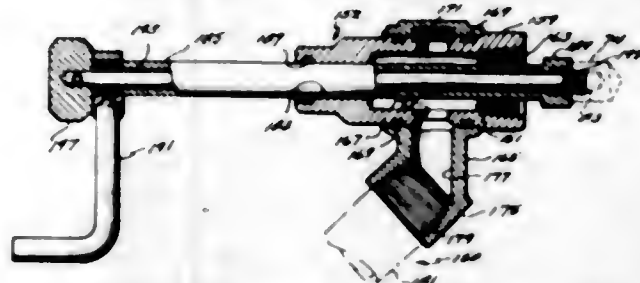
A photocopier valve having a first inlet for conducting concentrated toner fluid to a reservoir tank and a second inlet for conducting dilute toner solution to the tank. A slug valve is disposed between the two inlets and the outlet leading to the tank so as to allow a measured quantity of concentrated fluid to enter the tank in response to

the proper signal indicating the need for additional fluid concentrate in the fluid solution. The head of the slug valve which normally congeals due to the viscous nature of the toner concentrate fluid is disposed directly in line with the normal flow of dilute fluid to the reservoir which contains the photocopier fluid solution. This allows the continuous washing of the head of the slug valve and prevents congealing thereof.

3,382,888

# TAMPER-PROOF PLUG AND TOOL FOR FLUID LINE

Frank H. Mueller and John J. Smith, Decatur, Ill., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois  
Original application Dec. 7, 1963, Ser. No. 331,212, now Patent No. 3,296,861, dated Jan. 10, 1967. Divided and this application Aug. 8, 1966, Ser. No. 571,110  
7 Claims. (Cl. 137-327)

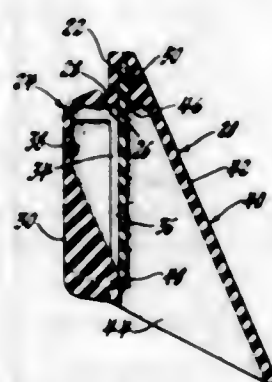


A tamper-proof plug and special tool for a fluid line wherein the driving connection between said plug and tool is characterized by cooperating uneven surfaces with no sharp protrusions, angles, or edges which may be grasped or wedged by pliers or other simple tools, and wherein the plug may be turned only after the tool has been securely affixed to said plug so as to make slippage impossible. Means for securing the tool to the plug are also disclosed. The preferred means being an internal bore in the plug with threads to cooperate with external threads of a center rod within the special tool and extendable therefrom through the center of the surface which cooperates with the plug.

3,382,889

# SEALING MEANS

Walter W. Heinz, Utica, and Nicholas A. Schneider, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Aug. 30, 1965, Ser. No. 483,426  
4 Claims. (Cl. 137-525.3)

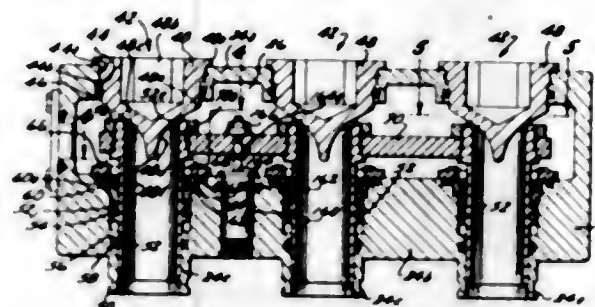


A vehicle body drain valve includes a body portion seating against one surface of a body panel and an annular undercut rib projecting through an opening in the panel to the other side thereof to mount the body portion on the panel. One end of the mounting portion is traversed by a central web and the other end of the mounting portion is traversed by chordal webs. A flap valve includes a rib interengaged with a rib on an integral shield of the body portion and covers the other end of the annular mounting portion.

3,382,890

# CONICAL SHAPED VALVE MEMBERS WITH COACTING TUBULAR MEMBERS

Donald C. Howland, Costa Mesa, Calif., assignor, by mesne assignments, to Cadillac Gage Company, Warren, Mich., a corporation of Michigan  
Filed Sept. 18, 1964, Ser. No. 397,570  
4 Claims. (Cl. 137-554)

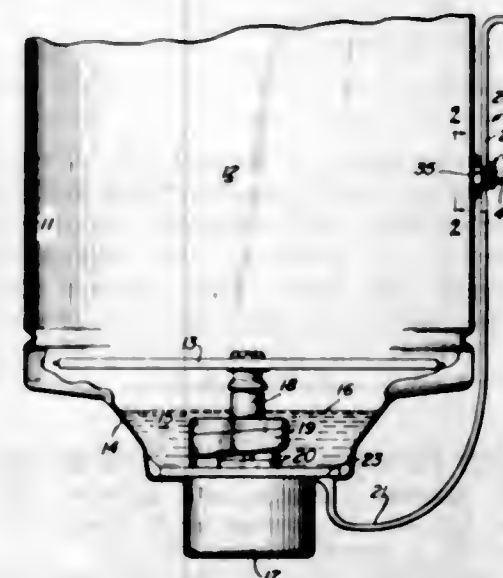


4. A flow control device comprising in combination, a housing formed with a fluid chamber having an inlet and a plurality of outlets, a valve member for each outlet removably fixed to said housing and formed with fastening means for operation externally of said chamber to individually remove and replace said valve members, each of said valve members having a conically shaped portion projecting into said fluid chamber and a continuous side wall which is arcuate in shape from the apex to the base of said conical shape to provide a relatively uninterrupted path for the flow of fluid from said chamber to said outlet, a tubular valve seat member for each valve member mounted in the corresponding outlet of said housing for movement between flow preventing position in engagement with said conical portion of said respective valve member to flow permitting position in spaced relation thereto, interconnecting means for said valve seat members to insure simultaneous movement thereof, and electrical means connected relative to said interconnecting means to provide a signal indicative of the position of said valve seat members within said housing.

3,382,891

# LIQUID FLOW CONTROL FOR USE IN DISHWASHERS AND THE LIKE

Jack F. Clearman, White Bear Lake, Walter C. Barnard, St. Paul, and Ival G. Dutcher, White Bear Lake, Minn., assignors to Whirlpool Corporation, a corporation of Delaware  
Filed June 22, 1965, Ser. No. 465,970  
6 Claims. (Cl. 137-563)

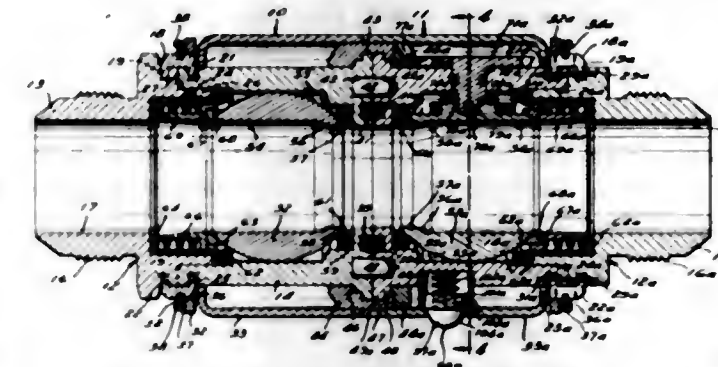


A washer having a washing chamber, a pump and a fluid valve having an inlet and a pair of outlets with a solenoid-operated deflector for selectively pivoting the deflector between the inlet and one of the outlets leading

3,382,892

# QUICK-DISCONNECT COUPLING

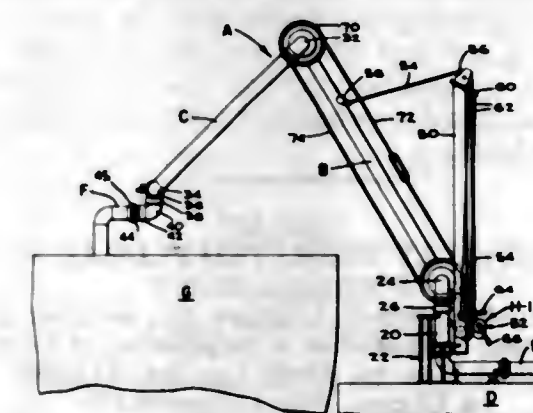
William G. Cerbin, Willowick, Ohio, assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio  
Filed Mar. 8, 1965, Ser. No. 437,800  
11 Claims. (Cl. 137-614.02)



A quick-disconnect coupling including two identical coupling halves each provided with rotary valves operable to close the associated coupling half when the halves are disconnected. Each half including a lock ring which rotates with the ring of the other half in either direction from a released position to one of two coupled positions. When in either coupled position the ring cooperates to provide a locking structure completely encircling the coupling. The valves are closed by movement of the associated ring to the release position and are opened by rotation of the associated ring to either coupled position with the valves opening only after the rings connect the coupling halves. Each half is provided with two detents. One detent locks the valve closed when the coupling halves are separated and the second detent locks the rings in one coupled position. The second detent of one half locks both rings in one coupled position and the second detent of the other half locks both rings in the other coupled position, so only one detent need be released when the coupling is disconnected.

3,382,893

Peter J. Bily, Sunset Beach, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware  
Filed Feb. 8, 1962, Ser. No. 171,841  
20 Claims. (Cl. 137-615)



1. Apparatus for conveying fluid from one fluid handling means to another, comprising a rigid inner conduit member, means mounting the inner conduit member for pivotal movement about a horizontal axis, a rigid outer



conduit member pivotally connected at one of its ends to the outer end of the inner conduit member for movement about a horizontal axis, and a drive mechanism connected between said mounting means and said outer conduit member for changing the attitude of said outer conduit member with respect to said inner conduit member, said drive mechanism being operable throughout its full range of operation independently of movement of the inner conduit member.

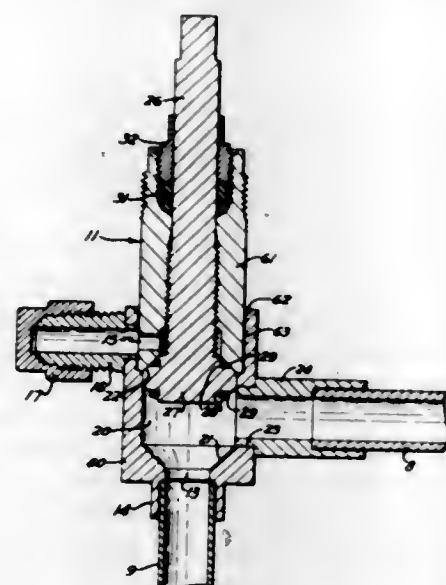
3,382,894

# REFRIGERATION VALVE AND METHOD AND APPARATUS FOR MAKING IT

Louis Charles Shurtleff and O O Shurtleff, Austin, Tex., assignors to Chatleff Controls Inc., Austin, Tex., a corporation of Texas

Filed Apr. 11, 1966, Ser. No. 541,687

4 Claims. (Cl. 137-625.5)



1. A refrigeration valve comprising a tubular body having an axial port in its front end and a side port behind the end port, the inside of said body being enlarged between said ports to form a valve chamber having front and rear valve seats facing each other between the ports, a rotatable valve stem threaded in the tubular body behind the rear valve seat and projecting from the rear end of the body, a one-piece head in said chamber joined to the front end of said stem and having a pair of axially spaced annular grooves therein with inner and outer radial side walls connected by circular inner end walls, and tetrafluoroethylene resin sealing rings mounted in said grooves in engagement with said inner end walls and projecting radially from the grooves, one of said rings being engageable with the rear valve seat to close said side port when the stem head is moved to the back of said chamber, and the other ring being engageable with the front valve seat to close said end port when said head is moved forward in the chamber, said body having a second side port opening into said chamber between the front and rear positions of the stem head.

3,382,895

# SEQUENTIALLY OPERATED PLURAL VALVES FOR GAS DUCT

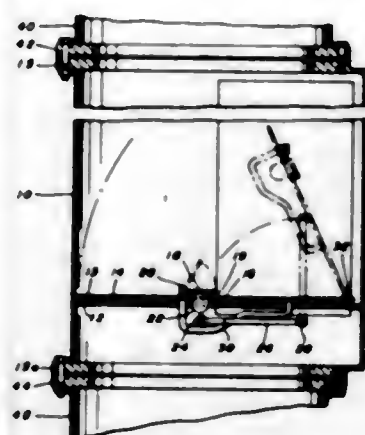
Marshall J. McCullough, Chicago, Ill., assignor to United States Steel Corporation, a corporation of Delaware

Filed Dec. 10, 1965, Ser. No. 512,999

4 Claims. (Cl. 137-630.15)

1. A valve, adaptable for use in a vacuum line, comprising a housing, a valve plate seat fixedly disposed within said housing and surrounding a passageway there-through, a valve plate pivotally secured at one end thereof and adapted to engage said valve plate seat in gas-

tight relationship, at least one pilot valve positioned within said valve plate, said pilot valve comprising a pivotally mounted pilot valve plate and a corresponding pilot valve plate seat surrounding an aperture in said valve plate, said pilot valve plate having a cam surface connected thereto and adapted to extend through said aperture when



said pilot valve is closed and said pilot valve plate is in gas-tight relationship with said pilot valve plate seat, means to urge said cam through said aperture thereby disengaging said pilot valve plate from said pilot valve plate seat and opening said pilot valve, said last named means also being adapted to urge said valve plate away from said valve plate seat after opening said pilot valve.

3,382,896

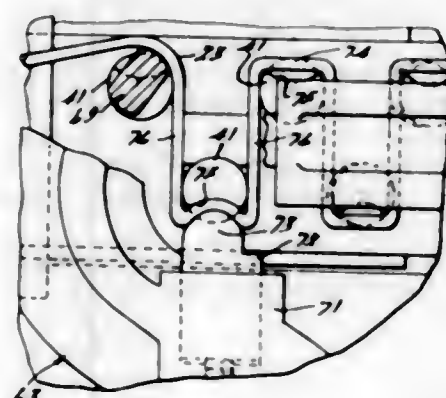
# SINUOUS SPRING FORMING MACHINE

Henry Hopkes, Jr., Ales Land Ste 17,

Kuesnacht, Zurich, Switzerland

Filed Oct. 19, 1965, Ser. No. 497,872

9 Claims. (Cl. 140-71)



Sinuous spring strips are formed to have spaced parallel bars joined by alternate oppositely disposed arcuate loops. As the next adjacent bar is folded into position, a striking element on the forming arm engages the earlier formed arcuate loop and reshapes it to a different form such as a straight section disposed normal to the parallel bars.

3,382,897

# BLENDED BEVERAGE DISPENSING MACHINE

Richard J. Skiera, Chicago, and Edward W. Melchior, Hoffman Estates, Ill., assignors to Karma Corporation, Addison, Ill., a corporation of Illinois

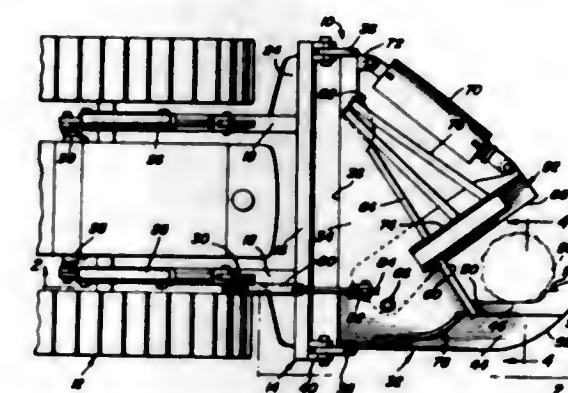
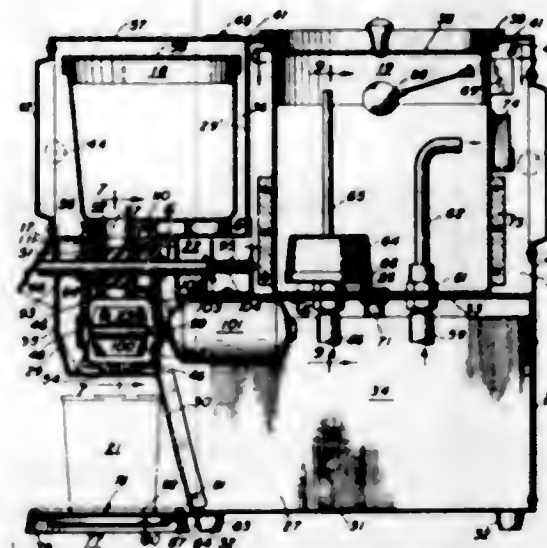
Filed May 25, 1965, Ser. No. 458,732

4 Claims. (Cl. 141-107)

A beverage-concentrate measuring-blending-whipping receptacle juxtaposed to a beverage-concentrate reservoir and a heated liquid diluting reservoir from which measured quantities of the concentrate and liquid are

delivered to and whip-blended in an agitator chamber to permit the manual control of repeated dispensing of cups

as to shear a tree located therebetween. This device is mounted on a tractor or similar vehicle and hydraulically controlled for vertical adjustment in a cutting orienta-



of hot beverage in a uniform blend and quantity for immediate consumption, as desired.

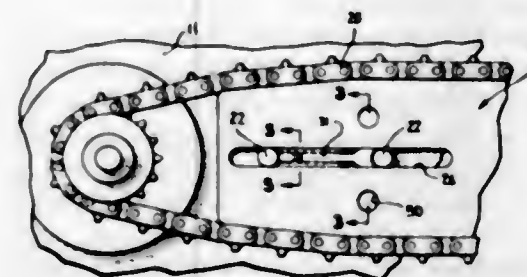
3,382,898

# CHAIN SAW ATTACHMENT

Charles M. Walker, Rte. 1, Greensburg, Ind. 47240

Filed May 16, 1966, Ser. No. 550,339

4 Claims. (Cl. 143-32)



1. In a chain saw including an endless toothed chain, a frame, a drive sprocket rotatably mounted on said frame and supporting said chain, a pair of spaced threaded studs fixed to said frame, a blade having an elongated slot and received on said studs with the studs projecting through said slot and a guard cover received on said studs, the improvement which comprises an adjustable spacer having a thickness greater than the thickness of said blade and received between said frame and cover and spacing said cover from said frame a sufficient distance to permit reciprocation of said blade on said studs, said spacer including:

- (a) a first, substantially rectangular element having a longitudinally extending groove along one side thereof, said first element having a first concave end adapted to abut against one of said studs;
- (b) a second element adapted to be slidably mounted within said groove of said first element; and
- (c) means for securing said first and second elements in a fixed relationship, said means being releasable to allow adjustment of the length of said spacer.

Pineapples are contour peeled in two stages, a mill cut (shell) and a juice cut (flesh with eyes) by a dual head orbital peeler. The pineapple is held from rotation by four slitting knives as it is fed through the peeler heads, the blades of which are universally mounted. The heads are spring biased toward the pineapple and are centrifugally counterbalanced.

3,382,901

# CABBAGE TRIMMER

Irving Photerson, 16780 Skillington Road, Holley, N.Y. 14470

Filed June 17, 1966, Ser. No. 558,491

8 Claims. (Cl. 146-52)

3,382,899

# SHEARING MACHINE

Idas B. White, White Variety Shop, Blountstown, Fla. 32424

Filed July 10, 1967, Ser. No. 652,295

10 Claims. (Cl. 144-34)

A device for felling trees utilizing a hydraulically driven cutter blade movable toward a jaw member so

The machine disclosed herein includes a driven spur for cutting around the core of a cabbage, thereby sever-



ing the outer leaves therefrom, a cutter disposed within said spur for cutting away the core and arms disposed

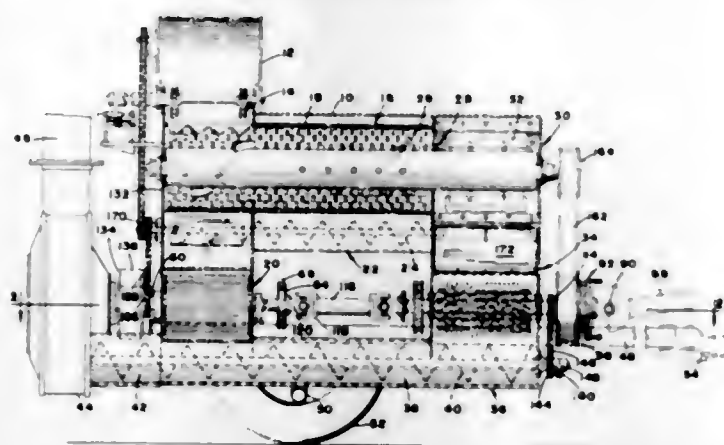


radially outwardly from said spur for loosening and removing the leaves severed from the core.

3,382,902

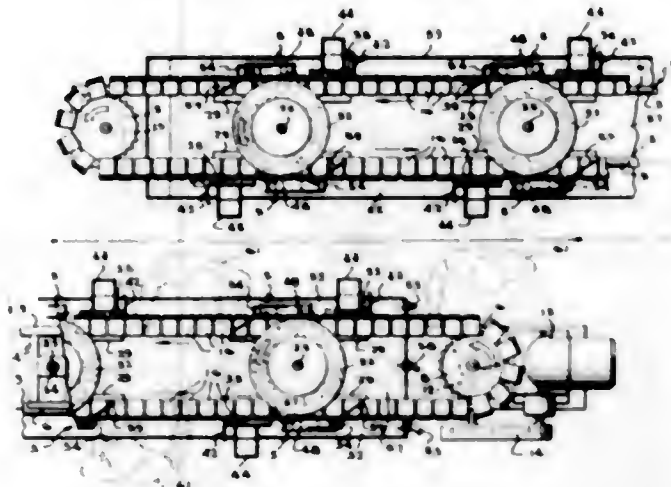
**DRIVE MEANS AND SAFETY PROVISIONS**

Allison W. Blanshine, Litz, and Robert E. Wallin, New Holland, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware  
Filed Aug. 15, 1966, Ser. No. 572,427  
5 Claims. (Cl. 146—71)



1. A corn processing machine to prepare ears of corn for livestock feeding comprising corn shelling means operable to receive ears of corn and shell the kernels of corn from the cobs, means to separate said shelled kernels from the cobs, corn cracking means arranged to receive said shelled corn kernels and crack the same a minimum amount, chopping and shredding means operable to chop and shred said cobs into a predetermined shredded size, and conveyor means operable to receive said shredded cob material and mix it with said cracked corn kernels to produce a substantially homogeneous mass, in combination with substantially in-line drive mechanism for said aforementioned means in said processing machine comprising a drive shaft adjacent one end of said machine connectable to a source of power, a slip-type clutch connected between said shaft and said shredding means, a connecting drive shaft extending from said shredding means axially toward said cracking means, and a shear bolt safety connection between said connecting shaft and cracking means, whereby accidental jamming of said shredding mechanism causes said clutch to slip and said connecting shaft to stop or decrease in speed while momentum of said cracking means may sever said shear bolt safety connection and thereby prevent damage to said shredding means.

3,382,903  
**MUSHROOM CUTTER AND TRIMMER**  
Louis E. Kibler, Sr., and Louis E. Kibler, Jr., Towson, Md., assignors to A. K. Robins and Company, Incorporated, Baltimore, Md., a corporation of Maryland  
Filed Feb. 23, 1966, Ser. No. 529,587  
8 Claims. (Cl. 146—78)

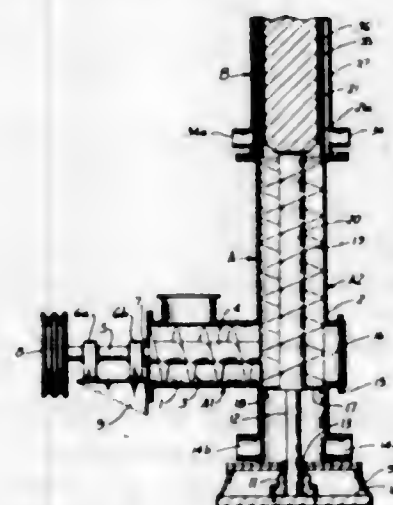


1. A mushroom cutter and trimmer comprising, a frame, endless conveyor means forming an orbital path along the frame, mushroom holders carried by the conveyor means, at least a portion of the conveyor orbital path being linear, mushroom positioning means having a surface contacting and movable with the conveyor means and forming with the linear portion of the conveyor means a converging throat, the positioning means surface contacting the conveyor means at the apex of the throat, a root knife on the frame adjacent the mushroom holders adjacent the entrance to the throat, and a stem knife on the frame adjacent the mushroom holders adjacent the area of contact between the conveyor means and positioning means, the conveyor means having opposed linear portions, and the mushroom positioning means contacting and forming a converging throat with both opposed linear portions of the conveyor means, and root knives and stem knives adjacent both throats.

3,382,904

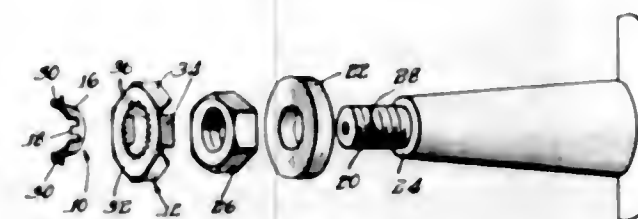
**VERTICAL UPFLOW MILL**

Truman B. Wayne, P.O. Box 13086,  
Houston, Tex. 77019  
Filed Oct. 16, 1964, Ser. No. 404,315  
10 Claims. (Cl. 146—256)



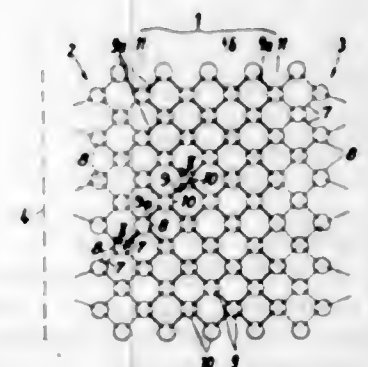
An improved vertical upflow mill for milling grains such as rice and barley. It is particularly adapted for milling brown rice. It may also be used to carry out a solvent extraction process on the grain during the milling operation.

3,382,905  
**NUT LOCKING DEVICE**  
Charles E. Gutshall, Roselle, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware  
Filed Dec. 2, 1966, Ser. No. 598,797  
7 Claims. (Cl. 151—29)



The embodiment of the invention disclosed herein consists of sheet metal arcuate arm means of substantially semi-circular configuration, the intermediate portion of which is provided with a prong adapted to be accommodated by a peripheral aperture of a complementary screw member such for example as the peripheral extremity of a transverse screw aperture for receiving a conventional cotter pin. The opposite free extremities of the arcuate arm means are provided with notch interlocking means for lockingly engaging the inner notched margin of an annular plate member adapted to superimpose the exposed end of a complementary nut. Flange means along the outer margin of said plate are adapted to overlie the side surfaces of a nut. Thus, when the sheet metal nut locking device is secured in position the free extremities of the arms will interlock with the inner notched periphery of the plate member and the outer flange means of the plate will lockingly engage the complementary sides of a nut, while the intermediate prong will interlock with the peripheral aperture of the screw member.

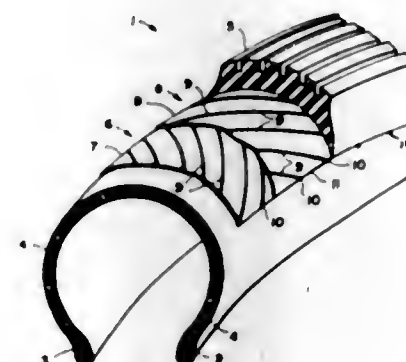
3,382,906  
**TIRE CHAIN FOR VEHICLE TIRES**  
Anton Müller, Unterkochen, and Hubert König and Alfred Kraus, Aalen, Germany, assignors to Eisen- und Drahtwerk Erlau A.G., Aalen, Germany  
Filed Aug. 12, 1965, Ser. No. 479,180  
Claims priority, application Germany, Aug. 14, 1964, E 27,607  
4 Claims. (Cl. 152—243)



1. A tire chain for vehicle tires, which includes: an annular tread section to be placed over the tread area of a tire and having side edges, said tread section comprising a plurality of link means pivotally engaging each other to form an open mesh net-like member, and two side sections to be placed over the side walls of a tire and likewise comprising link means pivotally interengaging each other to form an open mesh flexible net-like member and each having an edge adjacent one of the said side edges of said tread section, hook-shaped longitudinal

members distributed along and pivoted to one of each of the side edges of said tread portion and the adjacent edge of the said side member and adapted selectively to be engaged with and disengaged from the other of each adjacent pair of said edges, said hooked shaped members being formed by single hooks.

3,382,907  
**VEHICLE TIRE ANTI-SKID TREAD**  
Dean R. Hough, 3901 Nantasket St.,  
Pittsburgh, Pa. 15207  
Filed Oct. 20, 1965, Ser. No. 498,832  
3 Claims. (Cl. 152—330)



This invention relates to a vehicle tire construction having a venting and reinforcing layer interposed between the casing ply layers and tread layer. The venting layer is composed of closely spaced cords encased in a rubber sheet with widely spaced bleeder cords attached along the top and bottom surface thereof to provide a continuous venting path between the casing ply cords and the sidewall of the tire adjacent the shoulder portion.

3,382,908  
**REFLEX-REFLECTIVE TIRES**  
Phillip V. Palmquist, Maplewood, and Nelson Jonnes, Stillwater, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware  
Filed Nov. 5, 1965, Ser. No. 506,530  
11 Claims. (Cl. 152—353)



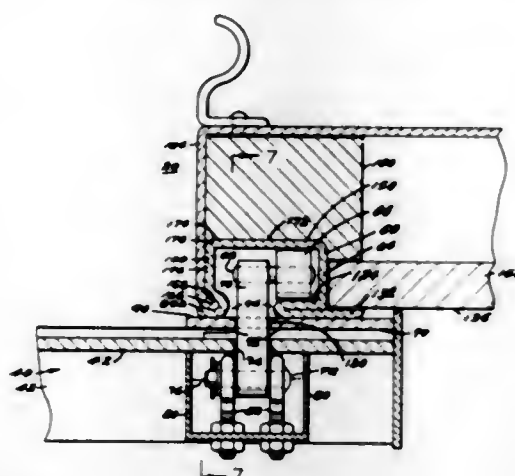
A tire having a monolayer of reflex-reflective elements partially embedded in an outside sidewall to provide a night-time signal of the location or movement of the tire.

This invention provides pneumatic tires that have reflex light-reflective exterior sidewall portions, particularly tires that have a layer of reflex-reflective elements supported on the tire sidewall, and also provides new materials and methods for forming such tires. When in place on



a vehicle and illuminated by oncoming traffic at night time, these tires provide a bright, cone-shaped, substantially coaxial reflection of light back to the source of illumination, with sufficient spreading of the cone of returned light to make it visible to drivers of the oncoming vehicles.

**3,382,909**  
RAILROAD CAR BULK CARGO DOOR  
Jimmie S. Gardner, Box 341, Washington, N.C. 27889  
Filed Oct. 11, 1965, Ser. No. 494,810  
10 Claims. (Cl. 160-201)



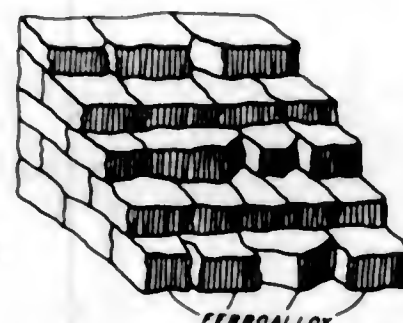
1. In combination: a bulk load carrying vehicle, said vehicle having side walls and a roof, at least one of said side walls having a doorway opening therethrough, a bulk cargo door disposed across said opening, said door having a plurality of horizontally elongated panels disposed one above another, means interconnecting adjacent ones of said panels along their adjoining edges for pivoting with respect to each other about respective horizontally extending axes, trackways having vertically extending portions on each side of said doorway opening, trackway protection means attached to the respective side wall at each side of said doorway and disposed in the area between said doorway opening and a respective side of said trackway, those parts of said trackway protection means which are exposed so that they could be struck by implements traveling through said doorway and could possibly be damaged thereby being spaced a sufficient distance from said trackway means that such spacing will substantially reduce the likelihood of damage to said trackway means at a time when a substantial force strikes said exposed parts of said protection means, and said protection means being of a sufficient strength for substantially protecting the respective portion of said trackway means from damage as a result of engagement by implements commonly used to remove cargo from such a vehicle, and track follower means attached to said panels for attaching said panels slidably to said trackway means.

**3,382,910**  
PORE-FREE DIE CASTING  
Schrade F. Radtke, New Canaan, and Samuel E. Eck, Norwalk, Conn., assignors to International Lead Zinc Research Organization, Inc., New York, N.Y., a corporation of New York  
No Drawing. Filed June 30, 1966, Ser. No. 561,744  
4 Claims. (Cl. 164-55)

1. A die casting method comprises purging air from within the die cavity by flushing said cavity with a reactive gas, and subsequently injecting molten metal into the reactive gas-filled cavity, whereby the reactive gas combines with the molten metal, thereby reducing the tendency for voids to form in said casting.

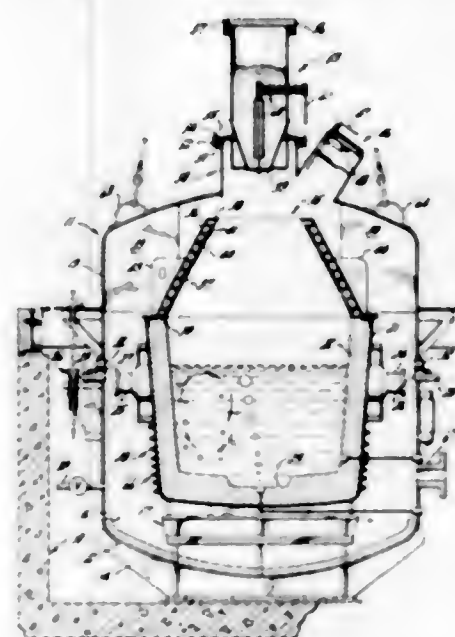
**3,382,911**  
CASTING FERROALLOYS  
Lloyd M. Malone, Birmingham, Ala., assignor to United States Steel Corporation, a corporation of Delaware  
Continuation-in-part of application Ser. No. 540,702, Apr. 6, 1966. This application July 3, 1967, Ser. No. 650,845

9 Claims. (Cl. 164-70)



A method of casting ferroalloys such as ferromanganese or ferrosilicon by pouring molten ferroalloy into a confined area in a plurality of layers with each layer being solidified before pouring a succeeding layer. The last and uppermost layer of ferroalloy is water cooled and, when solidified, the cast ferroalloy may be removed as sized pieces.

**3,382,912**  
APPARATUS FOR CONSERVING HEAT, DEGASSING AND CASTING MOLTEN METAL  
Herbert S. Philbrick, Jr., Chicago, Ill., assignor to John Mohr and Sons, Chicago, Ill., a corporation of Illinois  
Filed Nov. 18, 1964, Ser. No. 412,033  
7 Claims. (Cl. 164-254)

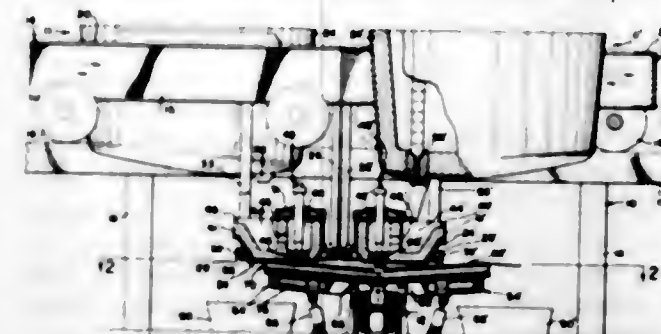


A method of degassing and casting molten metal including the steps of subjecting molten metal contained in a receptacle to a vacuum, applying a positive pressure against the surface of the molten metal to force said metal out of the receptacle and into a molding apparatus, and reducing the radiant heat loss from the surface of the molten metal during the above steps by positioning a radiant heater above the surface of the molten metal to direct radiant heat to a substantial portion of the surface of the molten metal.

An apparatus for degassing and casting molten metal having a first tank part adapted to receive a receptacle containing the molten metal and close in sealing engagement with both a second and third tank part to form hermetically sealed enclosures for the receptacle. The first tank part contains conduits which may be placed in communication with a source of vacuum and a source

of fluid pressure. The second and third tank parts respectively carry on inductively heated radiant heater adapted to be positioned above the surface of the molten metal when either such tank part is engaged with the first tank part; the third tank part also carries a tube which extends into the molten metal and communicates with a molding apparatus so that when the enclosure is pressurized, the molten metal is forced through the tube and into the molding apparatus.

**3,382,913**  
APPARATUS FOR UNINTERRUPTED CONTINUOUS CASTING  
Anatol Michelson, Glenolden, Pa., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware  
Filed Aug. 25, 1965, Ser. No. 482,360  
5 Claims. (Cl. 164-281)

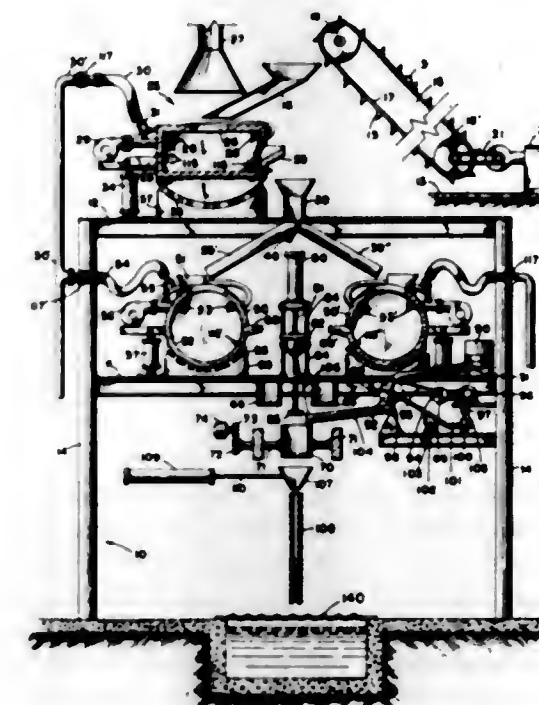


This disclosure pertains to the art of continuous casting and more particularly to apparatus for supplying molten metal to a casting mold without interruption. In the disclosure a pair of tundishes is adapted to contain a quantity of molten metal to be cast. Each tundish is movable along a common line of movement intercepting the mold. The line of movement extends from a pouring location above the mold in opposite directions to idle positions on either side thereof. As one tundish is in the pouring location supplying metal to the mold, the other, a full one, is in an idle position alongside. An open trough extends outwardly from the mold axis along the line of movement above the mold. The trough is inclined toward the mold so as to direct the flow of metal into the mold. During the transition movement of the tundishes, the full for the empty between the idle and pouring positions, the molten metal is conducted to the mold from the full tundish by the trough until such time as its location coincides with the pouring position vacated by the empty tundish. The disclosure further contemplates a trough extending outwardly in opposite directions on each side of the mold so that pouring may commence from either tundish from the idle position. Also, either or both troughs may be pivoted adjacent the mold so that its outer end can be tilted below the top of the mold or extended laterally to interrupt flow to the mold so as to discard metal from either tundish when desired.

**3,382,914**  
APPARATUS FOR MELTING AND CASTING FOAM METAL  
William S. Fiedler, Racine, and Robert Paul Ammen, Madison, Wis., assignors to Lor Corporation, Enid, Okla., a corporation of Delaware  
Continuation of application Ser. No. 407,269, Sept. 17, 1964, which is a continuation of application Ser. No. 134,791, May 8, 1961. This application Feb. 21, 1966, Ser. No. 534,605  
9 Claims. (Cl. 164-337)

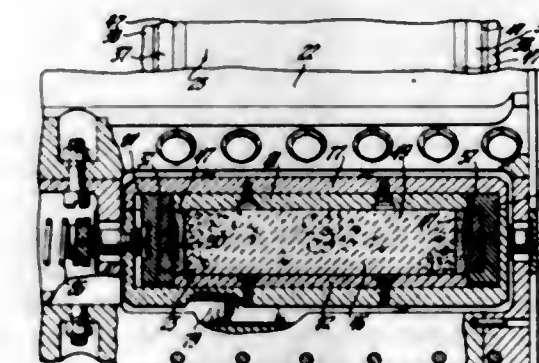
8. Apparatus for providing castings of metal foam comprising the combination of:  
means to provide a mixture of a measured quantity of molten metal and a measured quantity of foaming agent,

mold means comprising a first side plate member and a second side plate member,  
a pouring station,  
means to preheat at least one of said side plate members,  
means to press together said side plate members as parts of a mold at said pouring station,  
means to introduce said mixture between said side plate members at said pouring station,



means to quench at least one of said side plate members at said pouring station to aid in solidifying said mixture to provide a casting,  
means to disassemble one of said side plate members from said mold, and  
means to remove said casting from said mold after disassembly of said side plate member.

**3,382,915**  
ROTARY REGENERATOR  
William A. Turunen, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed May 17, 1965, Ser. No. 456,274  
31 Claims. (Cl. 165-9)



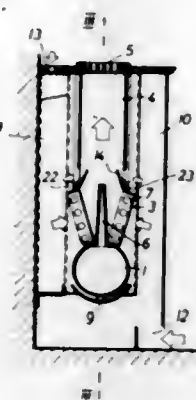
A rotary regenerator matrix has a ceramic main body and metal end rings or rims, the latter providing the drive for and support of the ceramic body. The rims are connected to the body by splines so that relative radial expansion is provided for. The rims may be held to the matrix by internal bolts or by structure external to the matrix such as springs which bias by-pass seals or by biased rollers engaging the rims.



3,382,916

**AIR-CONDITIONING APPARATUS**

Hartmut Laux, Lowenich, near Cologne, Germany, assignor to Rox Lufttechnische Gerätebau G.m.b.H., Cologne-Braunsfeld, Germany  
 Filed Aug. 26, 1965, Ser. No. 482,762  
 Claims priority, application Germany, Sept. 2, 1964, R 38,703  
 12 Claims. (Cl. 165—36)

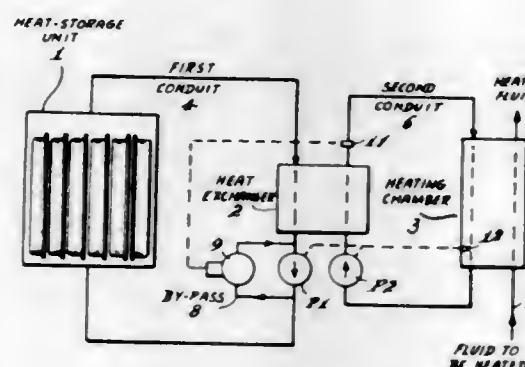


An air-conditioning apparatus is provided utilizing a primary and a secondary source of air, the primary air passing through nozzles to a mixing chamber and the secondary air passing through heat exchangers disposed at the bottom of a mixing duct or shaft to receive substantially all air inflow in a lateral direction. Air flaps are provided for directing quantities of outside air to the shaft, by-passing the heat exchangers.

3,382,917

**HEATING SYSTEM**

Richard E. Rice, Arlington, Mass., assignor to Comstock & Wescott Inc., Cambridge, Mass., a corporation of Massachusetts  
 Filed Apr. 9, 1965, Ser. No. 446,955  
 2 Claims. (Cl. 165—39)

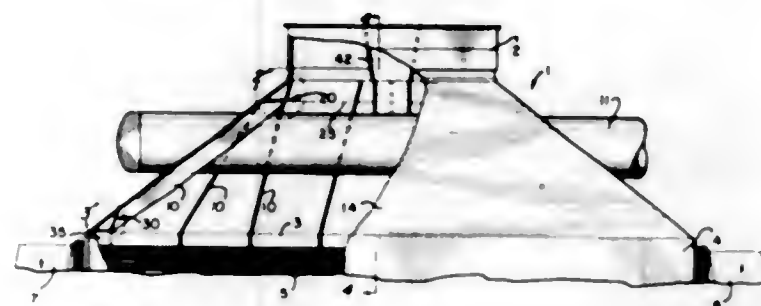


1. A heat transfer system comprising a source of heat of widely-varying temperature means operated by heat from said source, a heat exchanger between said source and means, a conduit leading from said source to said exchanger and back to said source through which fluid may be circulated to transfer heat from the unit source to the exchanger, a second conduit leading from the exchanger to said means and back to said exchanger for transferring heat from the exchanger to said means, regulating means in said first conduit for varying the rate of heat transfer from the source to the exchanger, and thermostatic means in said second conduit for controlling said regulating means, whereby wide variations in the temperature of said source do not substantially affect the rate of heat transfer to said means.

3,382,918

**REINFORCING STRUCTURE FOR DIRECT FLOW STEAM DOME FOR CONDENSERS**

Robert J. Stoker, Phillipsburg, Burton Paul, Princeton, and Alan I. Soler, Cherry Hill, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey  
 Filed Aug. 1, 1966, Ser. No. 569,439  
 11 Claims. (Cl. 165—67)

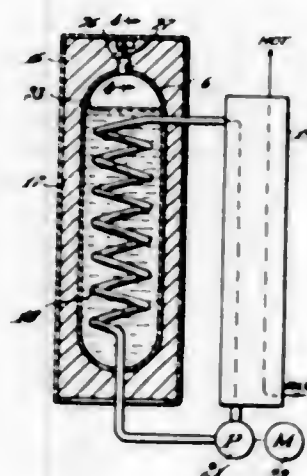


For use with a condenser, a steam dome which includes a frame for supporting the shell of the steam dome which does not interfere with, but guides the flow of steam. There is a closed supporting ring adjacent the inlet and a support beam adjacent the outlet. Ribs extend between these two supporting structures. A load on the steam dome shell is transferred through the ribs to the closed supporting ring at the top and the supporting beam at the bottom of the steam dome.

3,382,919

**HEAT-STORAGE BREATHING SYSTEM**

Richard E. Rice, Arlington, Mass., assignor to Comstock & Wescott, Inc., Cambridge, Mass., a corporation of Massachusetts  
 Filed June 8, 1966, Ser. No. 556,230  
 10 Claims. (Cl. 165—105)



1. In a heat-storage system comprising a container, heat-storage material in said container with a space above the material in the upper part of the container, said material being absorptive of carbon dioxide to form carbonates having melting points higher than that of the material, conduit means through which fluid may be circulated past the container to draw heat from the material, a wall of insulation around the container, and tubular breather means extending from said space through said wall, said tubular means including a tube of small diameter and a tube of relatively large diameter, the outer end of the large tube being closed except for an opening which is sealed around the small tube and the container being closed except for an opening sealed

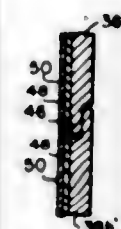
around the large tube, said material tending to creep outwardly along the surface of said large tube when molten, the large tube extending into said wall beyond the location where its temperature reaches the melting point of said material, whereby in creeping along said large tube the material cannot enter the small tube.

fluid past the hanger and a valve sleeve slidably mounted on the body for controlling the fluid flow through the passages, a tubing hanger that seats and locks in the casing hanger and yet is readily withdrawable therefrom for pulling the suspended tubing, and a method for completing an underwater well using the aforementioned apparatus.

3,382,920

**RADIATOR STRUCTURE WITH VARIABLE EMISSIVITY**

Walter H. Eselman and Walter G. Roman, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed Mar. 16, 1965, Ser. No. 440,113  
 13 Claims. (Cl. 165—133)

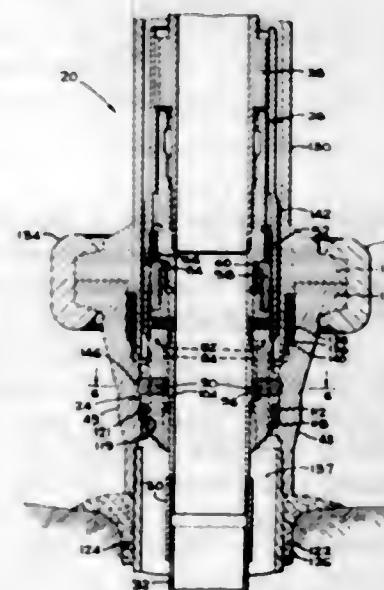


8. A composite radiative member shaped for use in a radiator structure, said member comprising a first thermally emissive material having a relatively low vapor pressure forming at least part of said member and substantially coextending with the radiative surface thereof, a second emissive material coated upon said first material and substantially coextending therewith, the coefficient of emissivity of said second emissive material being substantially lower from that of said first emissive material, and said second emissive material having the property which causes it to evaporate in a vacuum environment to expose said first emissive material, when said member is placed in a vacuum environment.

3,382,921

**METHOD AND APPARATUS FOR INSTALLING AN UNDERWATER WELL**

William L. Todd, Pasadena, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware  
 Filed Nov. 13, 1964, Ser. No. 411,042  
 11 Claims. (Cl. 166—88)

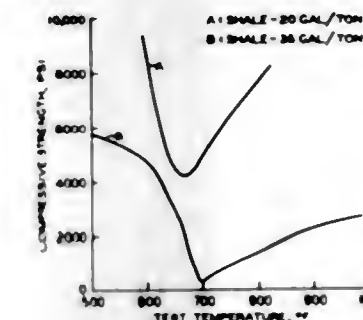


A well completion apparatus specially adapted for remote installation in an underwater well, including a casing hanger with a body having passages for conducting

3,382,922

**PRODUCTION OF OIL SHALE BY IN SITU PYROLYSIS**

Riley B. Needham, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
 Filed Aug. 31, 1966, Ser. No. 576,271  
 4 Claims. (Cl. 166—11)



1. A process for producing oil from subterranean oil shale in situ comprising the steps of

- establishing gas flow thru at least one fracture at an intermediate level in said shale between at least a pair of wells therein;
- providing a sufficient amount of particulate propping agent in said fracture to prop same open;
- passing hot gas substantially free of  $O_2$  at a temperature of at least 500° F. thru said fracture from one of said wells to another as a production well for a sufficient time to pyrolyze and harden the pyrolyzed area adjacent each fracture surface and produce oil therefrom, utilizing a selected gas pressure,
  - when said shale has an oil content of less than 20 gallons per ton of shale, only sufficient to provide adequate flow thru the fracture without substantial backpressure on said production well;
  - when said shale has an oil concentration in the range of about 20 to 35 gallons per ton of shale, an elevated pressure less than propping pressure but sufficient to prevent closing of said fracture by embedding of said propping agent; and
  - when said shale has an oil concentration greater than about 35 gallons per ton of shale, at least propping pressure to hold said fracture open until hardening is completed;
- following step (c), passing hot gas thru said fracture at pressures substantially lower than propping pressure and at a higher temperature than that of step (c) to extend the pyrolysis zone and produce additional oil; and
- recovering the produced oil from said production well.

3,382,923

**EMERGENCY CONTROL OF INJECTION OF COOLING WATER INTO A HOT PRODUCTION WELL**

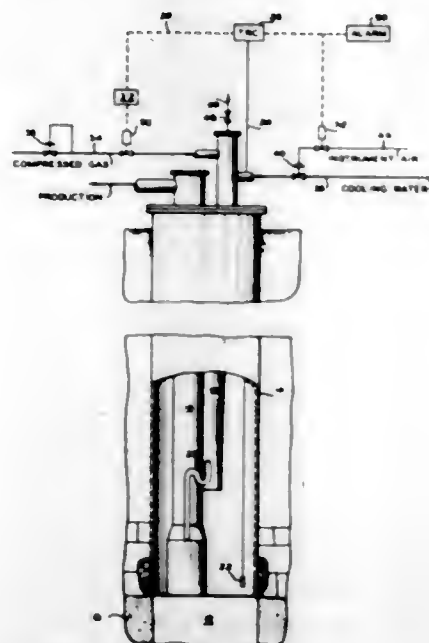
Harry W. Parker and Robert F. Moldan, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 13, 1965, Ser. No. 513,469  
 4 Claims. (Cl. 166—39)

In controlling downhole temperature in an in situ combustion production well to prevent damage to the



downhole equipment, water is injected at a controlled rate thru a water conduit extending to the downhole area in response to sensed pressure or temperature downhole. When a sudden temperature and pressure condition occurs downhole in a deep well and the demand for water is suddenly greatly increased, the pressure downhole prevents flow of water into the downhole area for a substantial period and damage to the casing and production tubing is



apt to occur. To assure almost immediate delivery of the required water under emergency conditions of this nature, high pressure gas is injected into the upper end of the water conduit at sufficient pressure to overcome the downhole pressure and force water out of the lower end of the water conduit.

3,382,924

#### TREATMENT OF EARTHEN FORMATIONS COMPRISING ARGILLACEOUS MATERIAL

Carl D. Velez and Albert W. Coulter, Jr., Tulsa, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 6, 1966, Ser. No. 577,186  
13 Claims. (Cl. 166—42)

1. The method of conditioning an earthen formation, including both surface and subsurface strata, which is composed at least in part of argillaceous material, to prevent the blockage of fluid flow through said formation when subsequently contacted with water or alkali metal brines which comprises: contacting at least a portion of said argillaceous material with an effective amount of a salt of a hydrous oxide-forming metal dissolved in a carrier liquid, selected from the class consisting of water, brines, acids, polar organic liquids, and mixtures thereof, said salt having a solubility and being present in an amount of at least 0.01 percent by weight of said carrier liquid.

3,382,925

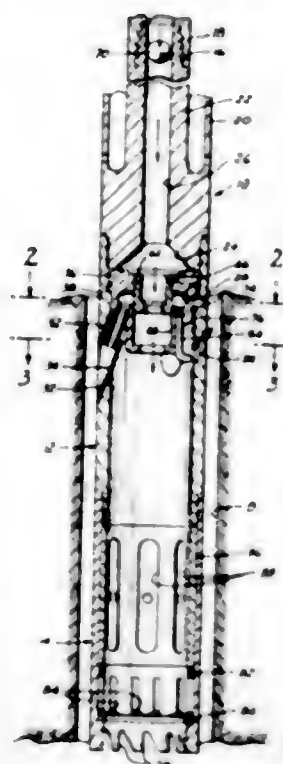
#### REVERSE CIRCULATING JUNK BASKET

James R. Jennings, P.O. Box 1904, Odessa, Tex. 79760

Filed Jan. 17, 1966, Ser. No. 520,976  
3 Claims. (Cl. 166—99)

A reverse circulating junk basket for use in well bores in which a circulating fluid is used which flows downwardly through a string of well pipe and upwardly in the well bore about the pipe to whose lower end a junk basket is attached. Means is provided for reversing the circulation

of the fluid through the junk basket to cause cuttings to be swept upwardly into the basket while maintaining the



downward flow in the string and upwardly in the bore about the string.

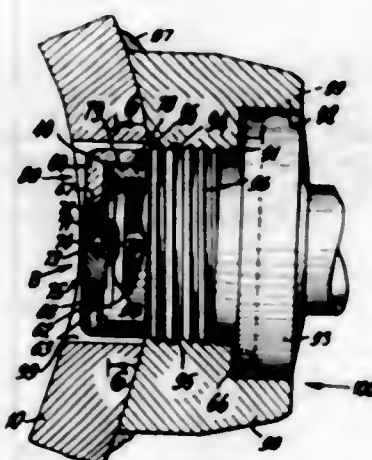
3,382,926

#### WELL COMPLETION DEVICE WITH ACID SOLUBLE PLUG

Solis Myron Zandmer, 111 Glen Ave., Banff, Alberta, Canada

Continuation-in-part of application Ser. No. 457,290, May 20, 1965. This application Jan. 5, 1966, Ser. No. 518,884

15 Claims. (Cl. 166—100)



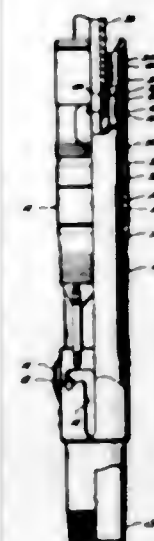
1. In well completion apparatus of the kind wherein a bore hole casing is adapted to be positioned in a bore hole and duct-forming devices of acid-resistant metal are secured to the casing in alignment with holes machined in the casing wall, each duct-forming device being capable of being laterally extended from the casing for making contact with a producing formation and wherein each duct-forming device includes a terminal sleeve whose outer end is blocked and closed by an acid-soluble metal plug which upon introduction of acid into the sleeve is at least partially dissolved to become dislodged from its associated sleeve, the improvement which comprises that the acid-soluble metal plug is in the form of a generally cylindrical, externally threaded body having a front end and a rear end and being formed with an axial bore extending frontwardly from its rear end but terminating short of its front end to define an open rear end and a

closed front end, the peripheral wall defining said bore having an annular zone of substantially reduced radial thickness between said rear and front ends; whereby, upon introduction of acid into said casing and said bore, the acid will rapidly eat away said annular zone for penetration of the acid externally of the plug to eat away the threads of said plugs.

3,382,927

#### LINER HANGER PACKER

Philip E. Davis, Jr., Houston, Tex., assignor to Texas Iron Works, Houston, Tex., a corporation of Texas  
Filed Feb. 23, 1966, Ser. No. 529,378  
5 Claims. (Cl. 166—124)



A liner hanger packer having a sealing member about a tubular body with hanging slips positioned below the sealing member, said holddown slips positioned above the sealing member with a hanger support member slidably connected to the body and connected to the holddown slips including a threaded connection for support from a setting tool with the threads extending adjacent the upper end of the body whereby a downward force can be directed through the body by the setting tool without setting the holddown slips. Shear means between the holddown slips and the body and second shear means between the holddown slips cone having a higher shearing strength than the first shear means, and shoulder means between the body and the holddown slips whereby when the body is raised relative to the holddown slips the holddown slips are retracted, and releasing means connected between the body and the hanging slips normally holding the hanging slips in a retracted position.

3,382,928

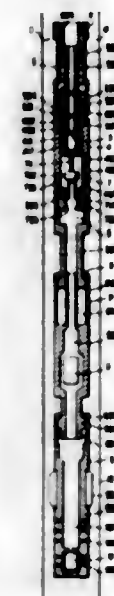
#### APPARATUS FOR USE IN MEASURING THE PRESSURE OF FLUIDS IN WELLS

Travis F. Phillips and Arnold G. Edwards, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Aug. 4, 1966, Ser. No. 570,367  
7 Claims. (Cl. 166—145)

1. Apparatus for controlling fluid flow in a well tool, said apparatus comprising:  
body means;  
first valve means mounted for axial movement in said body means;  
second valve means mounted for axial movement in said body means;  
connecting means between said first and second valve means, said connecting means allowing limited axial movement of said first valve means relative to said second valve means in response to an axial force

exerted thereon followed by concurrent axial movement of said first and second valve means in response to the continued application of axial force to said first valve means; and



yieldable detent means releasably securing said second valve means to said body means.

3,382,929

#### OIL WELL TOOLS

Rowe A. Plank, P.O. Box 1167, Midland, Tex. 79701  
Filed Nov. 22, 1965, Ser. No. 509,059  
8 Claims. (Cl. 166—214)



An anchoring device, for wire line tool string, has dogs on a toggle that are held retracted by wire-line tension. The dogs are spring actuated outward to prevent the tool from being blown out or to anchor the tool in routine operation.

3,382,930

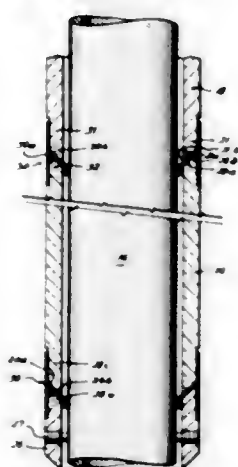
#### BLAST JOINT

Joseph Paul Ribb, deceased, late of Houston, Tex., by Virginia S. Ribb, legal representative, Houston, Tex., and Arthur H. Snell, Jr., and Dale E. Fulmer, Houston, Tex., assignors to Keystone Valve Corp., Houston, Tex.  
Filed Mar. 9, 1966, Ser. No. 534,987  
9 Claims. (Cl. 166—242)

1. A ceramic blast joint to be installed in a tubing string opposite a producing zone in a well, comprising a joint of tubing, a plurality of tubular members of ceramic material of the isostatic type positioned on said joint in end to end relationship with their end surfaces facing to form



a protective sleeve covering the outside surface of at least a portion of said joint, means for holding said sections in end to end relationship, and means for protecting the ceramic members from being chipped or broken by having the outer edges of their end surfaces hitting obstructions while the joint is being positioned in the well, said means

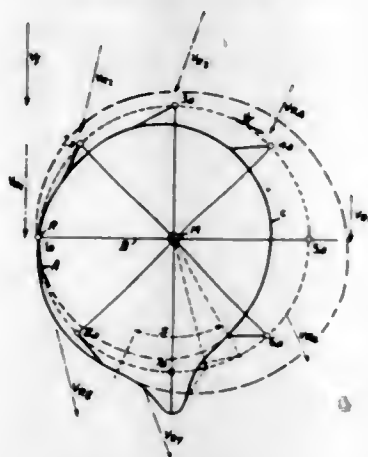


being impact resistant and positioned to encircle the outer edges of each two facing end surfaces and a portion of each member adjacent said facing end surfaces, said encircled portions being of reduced diameter to form an annular groove to receive said means and hold it over the outer edges of the facing end surfaces.

**3,382,931**  
**FLUID-DRIVEN ENGINE HAVING ANGULARLY ADJUSTABLE BLADES**

Pierre Dejussieu-Pontcarra, 66 Blvd. Raspail; René Joffre, 2 bis Rue Tardieu; and Maurice Savignac, 2 Rue Navarin, all of Paris, France

Filed Mar. 11, 1965, Ser. No. 438,917  
Claims priority, application France, Mar. 12, 1964, 967,211  
2 Claims. (Cl. 170—24)

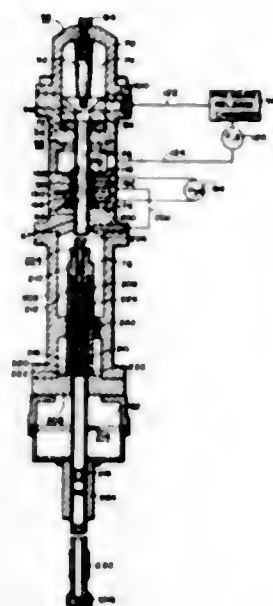


A fluid-driven engine whose axis is perpendicular to the direction of fluid flow, has an eccentrically mounted rotatable blade swingable about a second axis parallel to the first axis. The blade is guided to swing so that it is substantially perpendicular to the fluid flow when it is being pushed about the downstream side of its path, and feathers on the return side. To do this, the blade flops over to reverse its position at the most downstream point in its path.

**3,382,932**  
**ACOUSTIC IMPACT DRILLING APPARATUS**  
Boyd A. Wise, Penfield, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware  
Filed May 24, 1965, Ser. No. 458,045  
15 Claims. (Cl. 173—135)

An impact device is disclosed which is specifically suitable for use in a percussive tool which utilizes a hammer that impacts an anvil to force pulses to a load. The

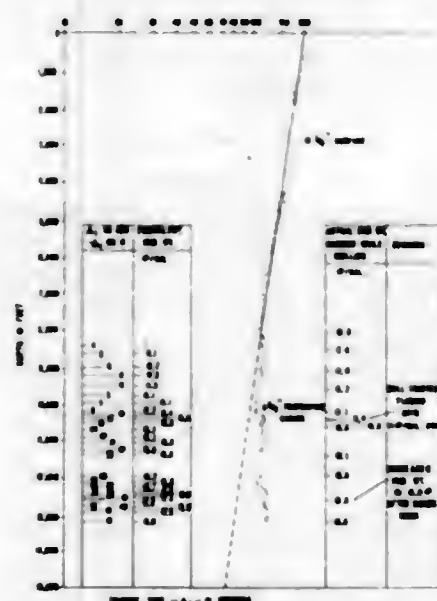
anvil system has the feature of transmitting the force pulses in a manner such that they are efficiently utilized by the load. Specifically, the anvil system includes at the end thereof which receives impacts from the hammer, an elastic member which has a stiffness compatible with the stiffness of the load which utilizes the force pulse, such, for example as an earth formation. The characteristics of elastic member shape the force pulses so that it will be



readily absorbed by the formation and reflection of the pulses, backward towards the hammer, are reduced. The anvil system also includes a section which matches the impedance of the load thereto the anvil system more closely so that energy is better transferred to the load. In addition, the anvil system includes a hydraulic arrangement which utilizes existing structure for hydraulically balancing the anvil or urging it in a desired direction with respect to the load.

**3,382,933**  
**PROCESS FOR DRILLING GEOPRESSURED FORMATIONS WITHOUT ENCOUNTERING A KICK**  
Clarence E. Hottman, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 144,685, Oct. 12, 1961. This application Jan. 21, 1966, Ser. No. 522,215  
2 Claims. (Cl. 175—50)

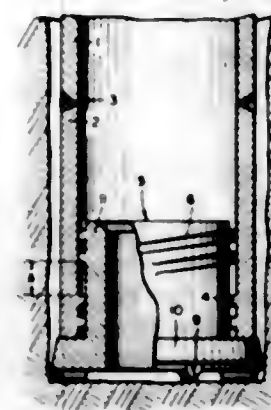


A process for drilling a borehole in a region that is apt to contain geopressured formations. The section of the borehole penetrating the hydro-pressured formations is drilled using a mud weight equivalent to the hydro-

pressure plus a swabbing factor. At frequent intervals the borehole is logged to measure a porosity property of the shale sections with the logged data being used to determine the trend with depth of the property. The drilling is continued until the property diverges from the predicted trend. When the property diverges, the drilling is stopped and the borehole cased at least to the depth at which the property diverged.

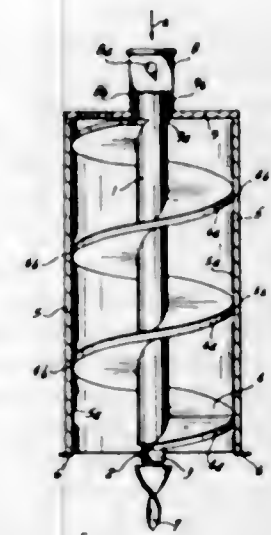
**3,382,934**  
**DOWNHOLE DRILL FOR SUBMARINE DRILLING**  
Richard W. Spear, Woodstock, Vt., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 3, 1966, Ser. No. 531,584  
4 Claims. (Cl. 175—171)



Apparatus for drilling wherever a loose formation is likely to be encountered such as in submarine drilling. The apparatus provides a kerf drill bit rotatably connected to the drill casing and a primary percussive bit. The kerf bit drills a hole sufficiently large to permit the casing to follow the bit down the hole. Impacts delivered to the percussive bit are transferred to the kerf bit.

**3,382,935**  
**EARTH DRILLING AUGER**  
James P. Watts, 6930 E. Pinchot, Scottsdale, Ariz. 85251  
Filed June 28, 1966, Ser. No. 561,114  
1 Claim. (Cl. 175—313)

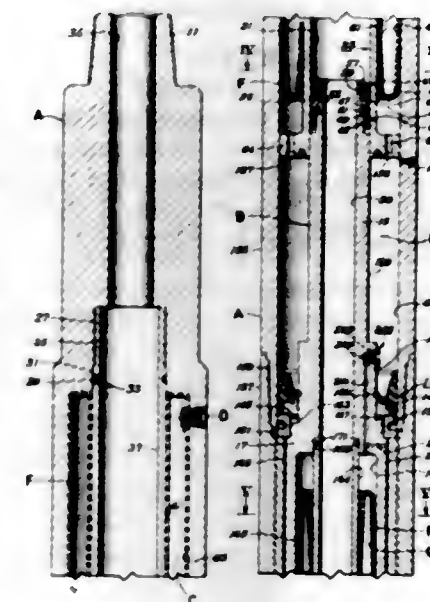


1. An earth drilling auger especially adapted for boring holes in wet soil comprising:

- (a) a rotatable central vertical shaft;
- (b) a cutter bar extending radially outwardly from said shaft adjacent the lower end thereof;

- (c) a spiral screw flight carried by said shaft and extending upwardly from said cutter bar;
- (d) a cylindrical casing coaxially disposed around and enclosing said screw flight, the interior vertical surfaces of said casing slidably frictionally engaging the periphery of said screw flight;
- (e) cutter elements carried by the lower edge of said casing and extending outwardly therefrom;
- (f) a cover member normally closing the top of said cylindrical casing, said cover member having a perforated hinged portion adapted to be displaced from said normally closed position.

**3,382,936**  
**SHOCK ABSORBING AND STATIC LOAD SUPPORTING DRILL STRING APPARATUS**  
Edward M. Galle, Houston, Tex., assignor to Hughes Tool Company, Houston, Tex.  
Filed Mar. 28, 1966, Ser. No. 537,920  
16 Claims. (Cl. 175—321)



1. In an apparatus for insertion into a drill string and having utility for absorbing shock loading and for supporting static loading existing in the drill string, said apparatus comprising:

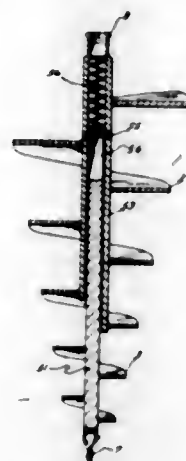
- a tubular body having one end portion adapted to be secured to a drill string member;
- a piston member having one end portion also adapted to be secured to a drill string member, said piston member being reciprocally carried by said body to define therewith a sealed pressure transmitting liquid chamber and an axial passage through which drilling fluid may flow toward the bore hole bottom;
- a sealed gas cavity formed internally in a selected one of said tubular body and said piston member to communicate with said liquid chamber;
- a movable separation element separating the gas in said gas cavity and said liquid to prevent the intermingling of gas liquid and to transmit by movement the fluid pressure of the liquid to the gas; and valve means extending through said tubular body and into said sealed gas cavity whereby the pressure in the gas cavity may be selectively varied.

**3,382,937**  
**DRILLING AUGER**  
James P. Watts, 6930 E. Pinchot, Scottsdale, Ariz. 85251  
Filed May 2, 1966, Ser. No. 546,980  
1 Claim. (Cl. 175—323)

A drilling auger having a continuous spiral screw flight divided into an upper and lower portion axially movable



relative to each other; the flights are spring-biased to permit the lower flight vertical movement relative to the



upper flight in keeping with the soil conditions in which the auger is being used.

3,382,938

## DRILL COLLAR

Edward B. Williams, Jr., Greenville, Tex., assignor of one-third each to Edward B. Williams III, Joseph W. Williams, and David B. Williams, all of Greenville, Tex.  
Filed Oct. 3, 1966, Ser. No. 583,698  
10 Claims. (Cl. 175-325)

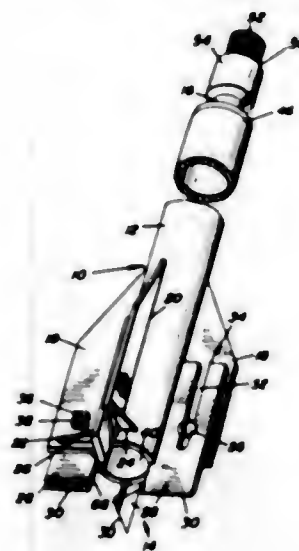


1. A drill collar for minimizing deviation of a borehole being drilled by a drill bit of a drilling string which includes a column of drill pipe under rotation in the borehole, said drill collar comprising

a drill pipe having ends for connection into the drilling string between the drill bit and the column of drill pipe to provide a stem for the drill bit, said drill collar having a curvature extending longitudinally thereof to provide a convex side in the direction of a wall of the borehole and assure that any bend of the drill collar under weight of the column of drill pipe takes place in the direction of curvature, and

pads on the convex side of the drill collar and having virtually aligning faces for wiping contact with the wall of the borehole to provide support of the drill collar substantially along the full length thereof under weight of said column of drill pipe and to minimize bending that produces deviation of the drill bit.

3,382,939  
BORING CYLINDER AND BIT  
Artis McLendon, Sr., 101 Lang Ave.,  
Long Beach, Miss. 39560  
Filed Dec. 13, 1965, Ser. No. 513,263  
5 Claims. (Cl. 175-382)

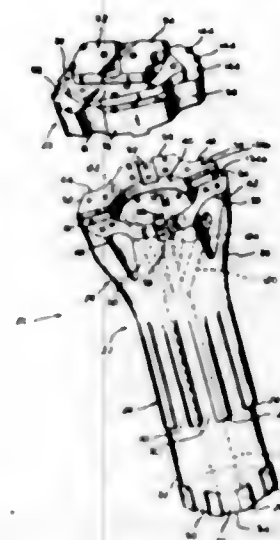


A boring tool adapted to be power driven to salvage used, generally abandoned, sections of well casing with production pipe lodged therein, which casing sections have generally been removed from a well bore. The casing sections have generally become partially or wholly constricted by an incrustation occurring in the annulus between the casing and the pipe which is generally centrally positioned therein. The tool includes a body member sized so as to be rotatably and slidably engageable about the pipe and having a plurality of radially and longitudinally disposed cutter support members sized so as to closely fit within the casing thereby substantially bridging the annular space between the exterior of the pipe and interior of the casing. The cutter support members each carry an axially adjustable cutter member of generally the same, but slightly lesser, width than the radius of the aforementioned annular space whereby the incrustation therein is effectively removed without undue cutting of the exterior of the pipe or interior of the casing. The tool is also provided with fluid inlet conduit means to permit utilization of a fluid to flush away cuttings being removed by the cutter members.

3,382,940  
PERCUSSION DRILL BIT  
Frank E. Stebley, 3815 Nemesis Ave.,  
Gurnee, Ill. 60031  
Filed Oct. 21, 1965, Ser. No. 499,382  
8 Claims. (Cl. 175-410)

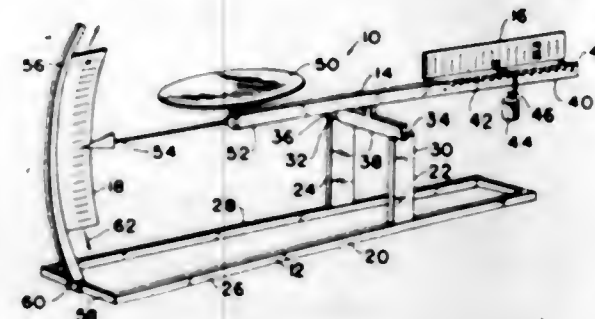
A percussion drill bit includes a body and a head removably secured to the body to provide a working face on one end of the bit. The head may be secured by screw means countersunk therein and having protective plugs removably insertable above the screw means. Wear-resistant inserts such as tungsten carbide inserts are force-fitted in openings extending through the head from the working face to the body, and the inserts are rigidly supported on the body. The inserts may be supported by rigid supporting elements interposed between the inner ends of the inserts and the body. The inserts may have enlarged rounded impact ends on elongated circular body portions inserted in the insert openings, with the impact ends engaging the internal surfaces of the rims of the openings. The bit head may have a stepped surface providing an inwardly widening multilevel, e.g., trilevel, working face, insert openings extending through the head from successive levels of the working face to the body,

and inserts in the openings for generating successively greater circles of revolution from successive working face levels, at least one working face level being recessed from the circle generated therefrom adjacent to an insert on an inwardly adjacent level for increased fragmentation by



the adjacent insert. Bores may be provided in the body, opening to the head and to the outer periphery of the body, for loosely seating inserts in the bores for partially abutting on the head and partially projecting from the outer periphery of the body.

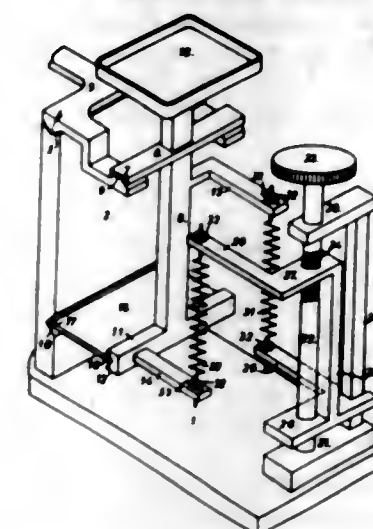
3,382,941  
CALORIE WEIGHING DEVICE  
Stanley Novak, St. Clair Shores, Mich., assignor to  
Thomas Novak, St. Clair Shores, Mich.  
Filed Mar. 21, 1966, Ser. No. 535,847  
7 Claims. (Cl. 177-1)



Structure for directly determining the calorie content of different portions of selected foods including weighing means for receiving the portion of the selected food the calorie content of which it is desired to determine, means for compensating the weighing means for the type of food selected, a scale for directly reading the calorie content of the food placed on the weighing means and means for adjusting the scale to provide a zero indication with no food on the weighing means and the weighing means compensated for the selected food the calorie content of which it is desired to determine and the corresponding method of directly determining the calorie content of a quantity of a particular food including compensating the weighing means for the selected type of food, adjusting the scale to provide a zero indication with no food on the weighing means, placing the desired portion of selected food on the weighing means and reading directly the calorie content of the desired portion of food from the scale.

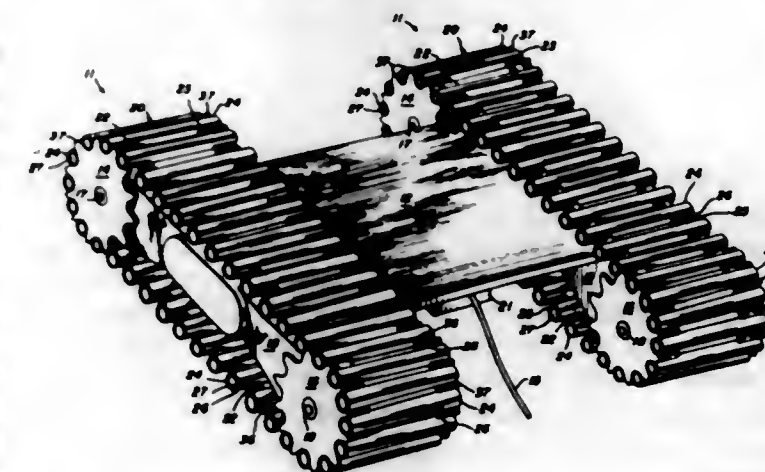
In one modification the weighing means comprises a beam balance having an arcuate read-out scale which is movable arcuately about the pivot of the balance to provide a zero indication in any compensated condition thereof. In a second modification the weighing means is a spring scale.

3,382,942  
PRECISION BALANCE WITH TARING DEVICE  
Albert Schmittler, Feldbach, Switzerland, assignor to  
Mepag A.G., Zollikon, Switzerland, a corporation of  
Switzerland  
Filed Feb. 24, 1966, Ser. No. 529,858  
Claims priority, application Switzerland, Aug. 30, 1965,  
12,136/65  
4 Claims. (Cl. 177-170)



1. A precision balance with taring device, said balance having a balance frame, a balance beam fulcrumed on said balance frame, a pan carrier seated on a knife edge provided on one arm of said balance beam, and a steering lever acting between said balance frame and said pan carrier, and said taring device having a tensioning member movably mounted on said balance frame, means for adjusting the level of said tensioning member relative to said balance frame, and a plurality of tension springs connecting said pan carrier to said tensioning member in such a manner that in each level inside the normal adjusting range of said tensioning member one of said tension springs is urging said pan carrier downwards and another of said tension springs is urging said pan carrier upwards.

3,382,943  
REMOTE UNDERWATER POSITIONING AND  
MANIPULATION MODULE  
Victor C. Anderson, 2325 Polansettin Drive,  
San Diego, Calif. 92106  
Filed Apr. 1, 1966, Ser. No. 547,384  
5 Claims. (Cl. 180-2)



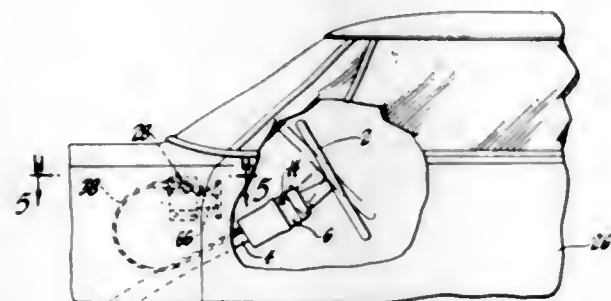
A remote underwater positioning and manipulation module carrying a pair of drive wheels on one end and a pair of idler wheels at the other end with an electric motor mounted within the housing and coupled to the drive wheels, and an endless track coupled to the drive and idler wheels and completely surrounding the module, the module carrying the wheels via a pair of axles which are mounted in circular bellows having concentric convolutions located in the sides of the module effecting a



flexible coupling of the wheels to the housing as well as providing flexible diaphragms to accommodate pressure changes due to varying depths of operation.

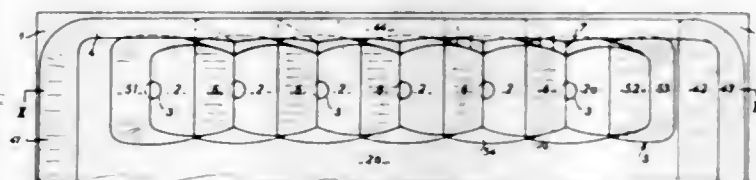
### 3,382,944 AUTOMATIC CONTROL FOR ADJUSTABLE STEERING COLUMN

Philip B. Zeigler, Saginaw, and Floyd A. Schluckebier, Frankenmuth, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Mar. 17, 1966, Ser. No. 535,183  
4 Claims. (Cl. 180-111)



Mechanism for releasing a normally latched multiple increment tilt steering wheel assembly for movement to its uppermost tilt position upon initial door opening movement and including overtravel mechanism enabling restoration of latching during subsequent opening and closing movement of the door.

3,382,945  
DEVICES SUPPORTED BY AIR CUSHIONS  
Jean Henri Bertin, Neuilly-sur-Seine, and Paul François Guienne, Paris, France, assignors to Bertin & Cie, Paris, France, a company of France  
Filed July 12, 1965, Ser. No. 471,243  
Claims priority, application France, July 23, 1964, 982,800  
10 Claims. (Cl. 180-121)

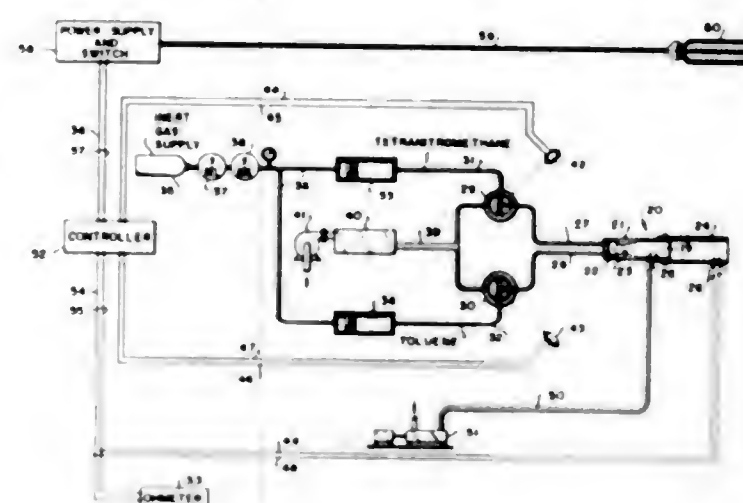


1. A multi-cushion vehicle or like movable body comprising a plurality of cushion bounding skirts made of flaccid, fluidtight material, one of said skirts extending peripherally all around the others and said others being lined up along at least two longitudinal rows substantially parallel to the normal direction of motion of said body, said skirts having transverse portions extending parallel to each other and generally perpendicular to said direction and said transverse portions inclined rearwardly from top to bottom.

3,382,946  
LIQUID SEISMIC EXPLOSIVE AND METHOD OF USING  
Noyes D. Smith, Jr., and William L. Roever, Bellaire, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware  
Filed Oct. 20, 1966, Ser. No. 588,053  
10 Claims. (Cl. 181-5)

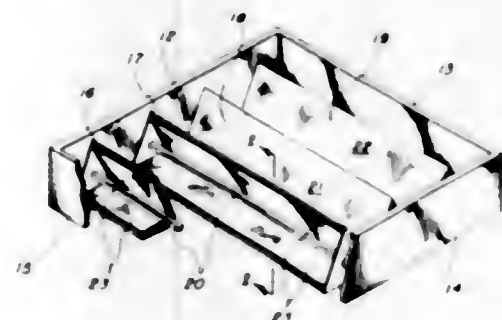
A source of seismic energy for exploring water-covered

areas wherein materials that are relatively explosively insensitive are mixed to form a sensitive water-immiscible



liquid explosive. The mixed materials are discharged into the water and detonated to generate seismic waves.

3,382,947  
ACOUSTICAL CONTROL DEVICE  
Millard R. Biggs, 4911 Campanile Drive, San Diego, Calif. 92115  
Filed June 6, 1967, Ser. No. 644,467  
2 Claims. (Cl. 181-30)

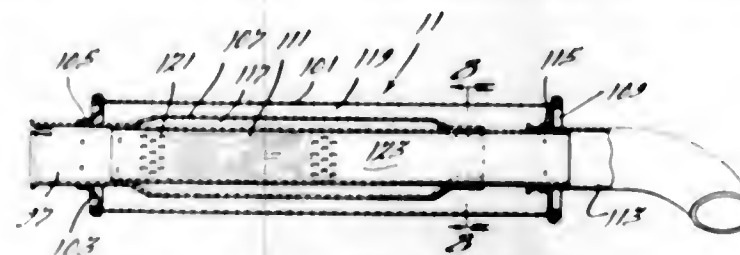


An acoustical control device comprising a plurality of triangular cylinders rotatably mounted in a parallel adjacent relationship where each triangular cylinder has one side with a sound reflecting surface such as fiberboard, a second side having a surface for medium sound absorptions such as acoustical tile, and a third surface having a high sound absorption such as fiberglass insulation, each of said sections being individually rotatable for the exposure of any combination of these three surfaces as dictated by the acoustical parameters of its environment and the sound source exposed thereto.

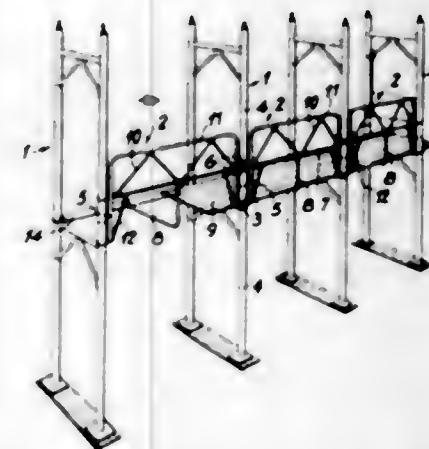
3,382,948  
MUFFLERS WITH SIDE BRANCH TUNING CHAMBERS  
John C. Walker and Paul F. Jettinghoff, Jackson, Mich., assignors to Walker Manufacturing Company, a corporation of Delaware  
Continuation of application Ser. No. 320,212, Oct. 30, 1963. This application Oct. 13, 1965, Ser. No. 505,097  
2 Claims. (Cl. 181-48)

A dual exhaust system for a V-type engine comprised of two separate individual systems. Each system comprises three units, one of which silences high frequency sounds, the second of which attenuates a broad band of high frequency sounds, intermediate frequencies and a selected low frequency, and a third unit that attenuates a higher frequency than the second unit as well as other high frequencies. The insertion of the units into the

length of pipe and particularly the insertion of the second and third units results in the formation of a resonant frequency for the system which is so formed that the anti-nodes of the respective frequencies silenced by the second and third units occur at these units.

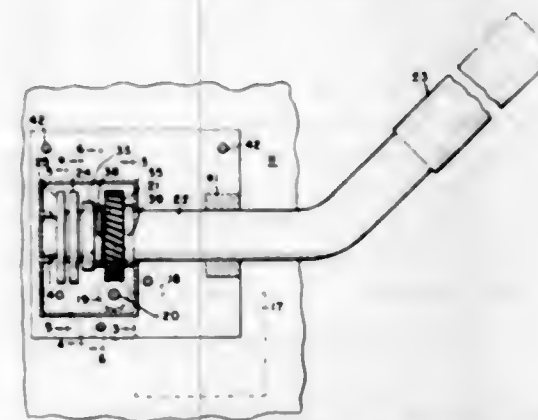


3,382,949  
SAFETY RAILING FOR TUBULAR SCAFFOLDING  
Jean Bloch, Paris, France, assignor to Le Materiel d'Entreprise et de Travaux Publics "L.A.H.O." Societe Anonyme, Bagneux, Hauts-de-Seine, France, a French company  
Filed Mar. 20, 1967, Ser. No. 624,570  
Claims priority, application France, Mar. 24, 1966, 54,828, Patent 1,479,521  
1 Claim. (Cl. 182-113)



It is the object of the present invention to provide a safety railing for tubular scaffoldings which comprises as usual two rings disposed respectively at the lower corners thereof, and at least one ring secured at a relatively short distance above these corners, preferably at mid-height of the lateral vertical elements of the railing or balustrade.

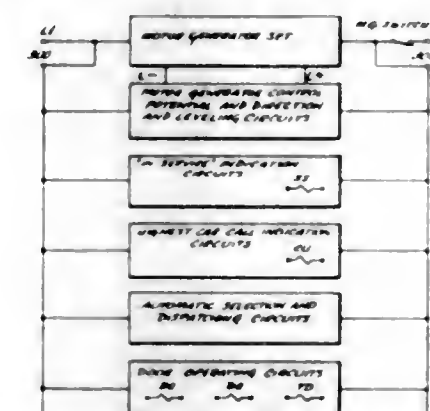
3,382,950  
MOTORIZED OUTRIGGER OR ANTENNA HOLDER  
Robert W. Sawyer, 1013 Guava Isle, Fort Lauderdale, Fla. 33315  
Filed Mar. 1, 1966, Ser. No. 530,952  
5 Claims. (Cl. 185-37)



A motorized outrigger or antenna holder with an auxiliary mechanical means for automatically adjusting the amount of load on the motor so that the load at any one time is practically the same along the entire path of travel.

### 3,382,951 ELEVATOR CONTROL IN WHICH THE PREFERRED SERVICE TIME INTERVAL IS VARIABLE

Stephen A. Hornung and Carl F. Clark, Louisville, Ky., assignors to K. M. White Company, Inc., Louisville, Ky., a corporation of Kentucky  
Filed Feb. 12, 1964, Ser. No. 344,295  
11 Claims. (Cl. 187-29)

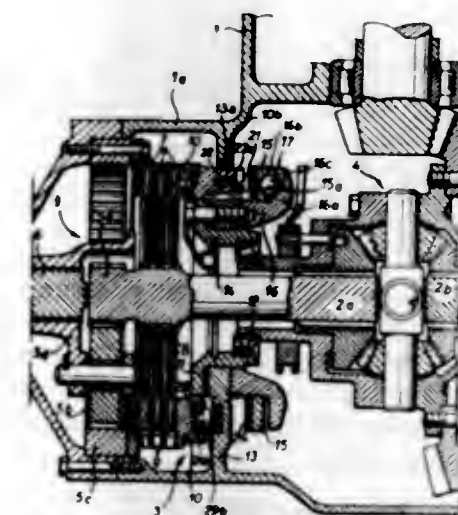


An elevator control system in which hall calls achieve a preferred status over a variable period of time, and in which the movement of the cars is influenced by the presence and position of such preferred calls.

Variable time delay relays, initiated simultaneously with each hall call, establish its preferred status. As each such relay trips, establishing a preferred call, the voltage across its companion relays is reduced; thereby increasing their time to actuation. As each preferred call is answered the voltage across such relays is increased, thereby reducing their time to actuation and shortening the interval to preferred status.

Interlocking control circuitry responding to preferred calls, can reverse one or more up-traveling cars, and by-pass non-preferred down calls to service preferred down calls. However, an existing preferred up-call can prevent such a reversal.

3,382,952  
SELF-ENERGIZING MULTIPLE DISC BRAKES  
Giorgio Grattapaglia, Turin, Italy, assignor to Fiat Societa per Azioni, Turin, Italy  
Filed Mar. 24, 1967, Ser. No. 627,585  
Claims priority, application Italy, Mar. 28, 1966, 7,332/66  
10 Claims. (Cl. 188-72)



The annular brake discs of a multidisc brake, one part of which is splined on the shaft to be braked are pressed therebetween and against a stationary annular surface by axially displacing towards said brake discs an annular pusher member. The axial displacement of the latter is obtained by rotating an annular operating disc abutting at one side said pusher member and at its other side a

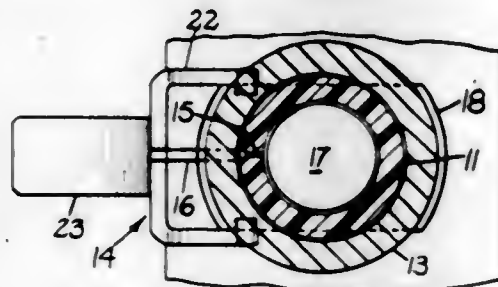


series of balls arranged in conical seatings provided in said operating disc and respectively in a radial annular shoulder adjacent said disc. The braking effect is enhanced by the action of a second series of balls arranged in conical seatings provided at the side of said pusher member opposite said annular brake discs and, respectively, in an annular stationary shoulder adjacent said pusher member.

3,382,953

**DEFORMABLE ANNULAR BRAKE**

Jack Wilkinson, Royton, England, assignor to Ernest Scragg & Sons (Holdings) Limited  
Filed Feb. 4, 1965, Ser. No. 433,250  
Claims priority, application Great Britain, Feb. 4, 1964, 4,662/64  
4 Claims. (Cl. 188—78)

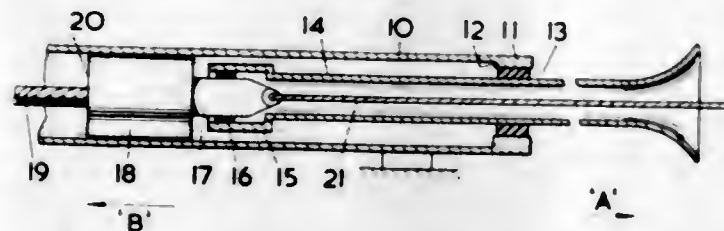


A rotary member having an axis of rotation is provided with an axial recess bounded by an inner circumferential face. A deformable annular friction member comprising at least a portion received in the recess is provided on said portion with an outer circumferential face. This outer circumferential face circumferentially parallels the inner face of the rotary member with spacing therefrom. Actuating means is associated with the annular member and is operative for deforming the same and for thereby displacing the outer face substantially in its entirety into frictional engagement with the inner face bounding the recess.

3,382,954

**ARRESTER GEAR FOR AIRCRAFT**

William Charlson, North Bedford, England, assignor to Minister of Aviation in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England  
Filed Sept. 2, 1966, Ser. No. 577,096  
3 Claims. (Cl. 188—94)



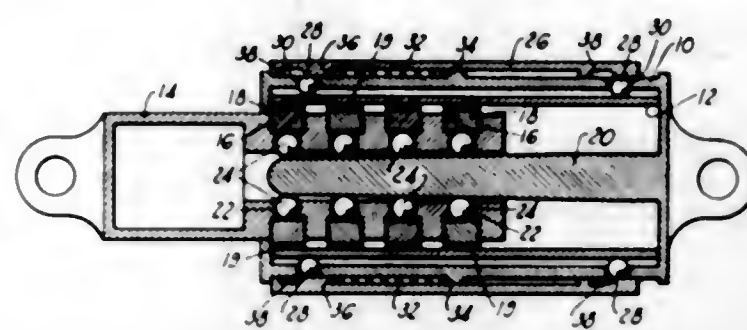
An arresting mechanism for landing aircraft where a piston traveling in a water filled tube forces the water through valves to resist the force of the landing aircraft is provided with a piston retracting mechanism together with the sealing means between the retracting mechanism and the water filled tube.

3,382,955

**TELESCOPIC FRICTIONAL SHOCK ABSORBER**

Gerard P. Deyerling, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware  
Filed Sept. 26, 1966, Ser. No. 581,955  
2 Claims. (Cl. 188—129)

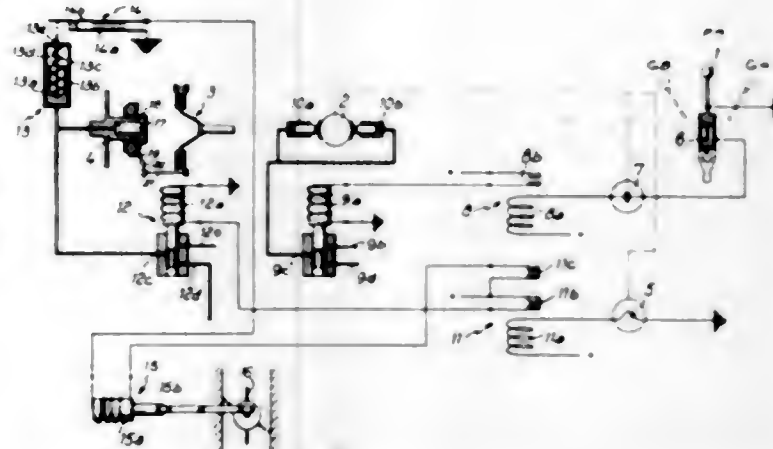
A telescopic dry friction-type shock absorber which includes an outer tubular member having an inner cylindrical braking surface located therein, an inner tubular member located within and axially movable relative to said outer tubular member, split rings for frictionally engaging the inner cylindrical braking surface, and force-transmitting means for urging the rings radially outwardly against the cylindrical braking surface upon relative movement between the inner and outer tubular members. A shock absorber can also include restraining means for preventing further relative movement between the inner and outer tubular members after a predetermined amount of relative movement therebetween.



3,382,956

**FLUID PRESSURE ENGAGED CLUTCH WITH THROTTLE CLOSING MEANS**

Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France  
Filed Feb. 15, 1966, Ser. No. 528,959  
Claims priority, application France, Feb. 22, 1965, 6,552  
4 Claims. (Cl. 192—084)



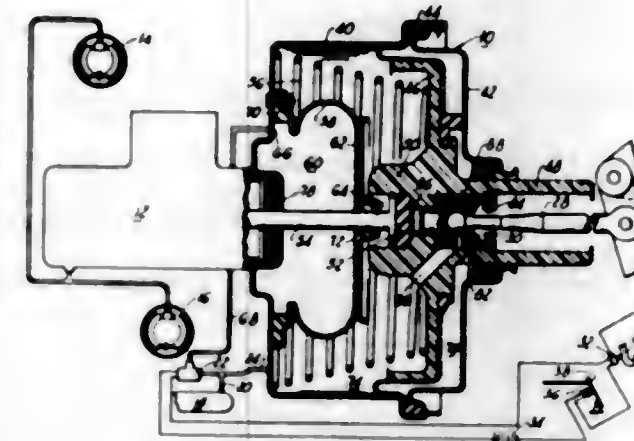
An automatic gear box having a hydraulically operated clutch located at the input and an electromagnetically operated auxiliary throttle valve coacting with the clutch to reduce the torque from a motor when the clutch is engaged. The gear box has at least one pair of electrical contacts in the electrical supply circuit of the auxiliary valve, a hydraulic cylinder for actuating at least one of the pair of contacts in response to the action of pressurized fluid supplied to control the clutch and means located in the pressurized fluid supply, for delaying the operation of one of the pair of contacts.

3,382,957

**POWER BRAKE SERVOMOTOR**

Charlie N. French, Robert R. Hager, and Chester A. Martin, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware  
Filed Feb. 14, 1966, Ser. No. 527,253  
A pressure generating mechanism to increase force re-

quired to operate a servomotor for a braking system

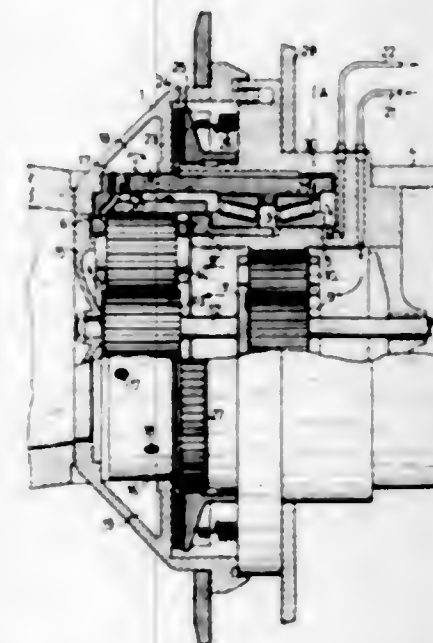


whenever an accelerator control is being actuated simultaneously with a brake control for the servomotor.

3,382,958

**SPROCKET WHEEL FOR CRAWLER TYPE VEHICLE HAVING INCORPORATED SPEED-REDUCING GEARS AND BRAKES**

Roger A. J. Fagel, Marcinelle, Belgium, assignor to Ateliers de Constructions Electriques de Charleroi (ACEC), Charleroi, Belgium  
Filed June 20, 1966, Ser. No. 558,855  
Claims priority, application Belgium, June 23, 1965, 665,796  
2 Claims. (Cl. 192—4)



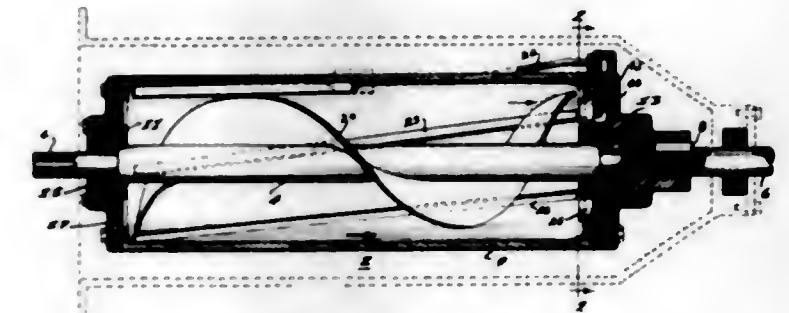
A sprocket-wheel for crawler type vehicle, equipped with a speed reduction gear system located inside a spindle, comprising roller-bearings on which rotates the sprocket-wheel, characterized in that the sprocket-wheel has a hub possessing a cylindrical part perforated by two circumferential series of radial openings, externally emerging in an annular chamber forming one piece with the hub, having a wall whose external flat surface which is perpendicular to the axis of rotation of the sprocket-wheel forms a disc-brake, the said two series of openings communicating on one hand with the internal surface of the cylindrical part surrounding the spindle, the external surface of the said cylindrical part being surrounded by an annular bead forming a baffle, separating the two series of openings, and delimiting two enclosures for the passage of lubrication oil respectively of the speed reduction gear system and the roller-bearings, means for cir-

culating said oil from one enclosure to the other while passing successively through the two series of the openings so that the said oil is used as a cooling fluid for the wall of the annular chamber forming a disc-brake, the said oil being circulating in a closed circuit through external means.

3,382,959

**AUTOMATIC VARIABLE FLUID COUPLING**

Lee Bemis, El Paso County, Colo.  
(1100 Glen Ave., Colorado Springs, Colo. 80905)  
Filed Jan. 17, 1966, Ser. No. 521,156  
3 Claims. (Cl. 192—58)

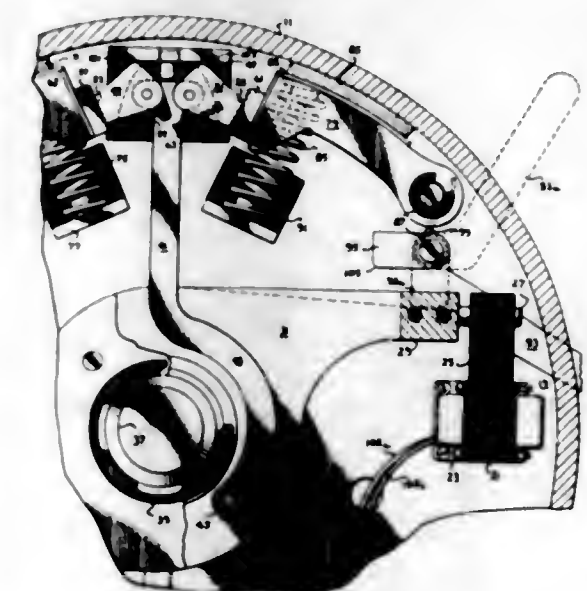


This invention relates to a fluid transmission having a rotor and stator and provided with a plurality of fluid bypass valves whereby fluid may be bypassed from a high pressure point in the transmission to a lower pressure point in order to effect a change of transmission output speeds.

3,382,960

**SELF-ADJUSTING FRICTION COUPLING WITH MAGNETIC RELEASE**

Dale E. Willey, Salem, Va., assignor to General Electric Company, a corporation of New York  
Filed Jan. 16, 1967, Ser. No. 609,485  
7 Claims. (Cl. 192—90)



An electromagnetic brake or clutch having brake shoes mechanically coupled to a solenoid through a movable drawbar having pawls pivotally mounted thereon. The pawls engage serrated surfaces on brake shoe mounting members and cause the drawbar, pawls and brake shoes to move as a unit except when the brake shoes are being set. Due to inertia, the pawls pivot free temporarily of contact with the mounting members to permit the brake shoes to be set in a wear-compensated position. The pawls resume contact with the mounting member at a slightly different position to complete the self-adjusting procedure.



3,382,961

**COIN-OPERATED CONTROL MECHANISM FOR VENDING MACHINES**

Arthur W. Cunningham, Charlotte, N.C., assignor to Lance, Inc., Charlotte, N.C., a corporation of North Carolina

Filed Mar. 16, 1967, Ser. No. 623,581  
7 Claims. (Cl. 194-61)



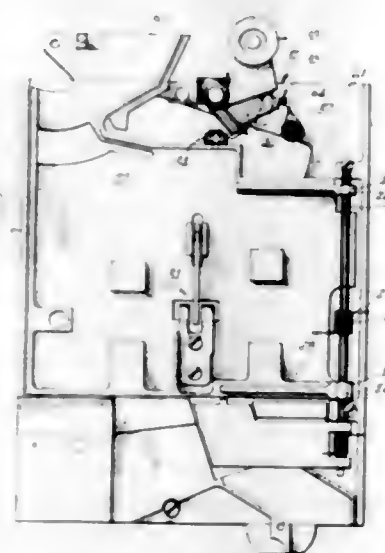
A coin-operated control mechanism for a vending machine suitable for two-nickel or single-dime operation and in which a predetermined coin-array inserted in the control mechanism is moved by a motion-amplifying member a sufficient arcuate distance to unlock and permit full activation of the goods-delivery mechanism of the machine and discharge of the coin-array from the control mechanism.

3,382,962

**GATE OPENING MECHANISM FOR COIN TESTING DEVICE**

Helmer B. Nielsen, 12 Ellen St., P.O. Box 760, Streetsville, Ontario, Canada

Filed May 31, 1967, Ser. No. 642,599  
Claims priority, application Canada, Apr. 13, 1967, 987,775  
28 Claims. (Cl. 194-97)



A mechanism for applying a force to a gate of a coin testing device for opening the gate with a snap action. A spring means is provided between a manually operable actuating member and a gate opening cam which is normally latched in an inoperative position, the spring being arranged to store energy by movement of the actuating member during initial movement of the actuating mem-

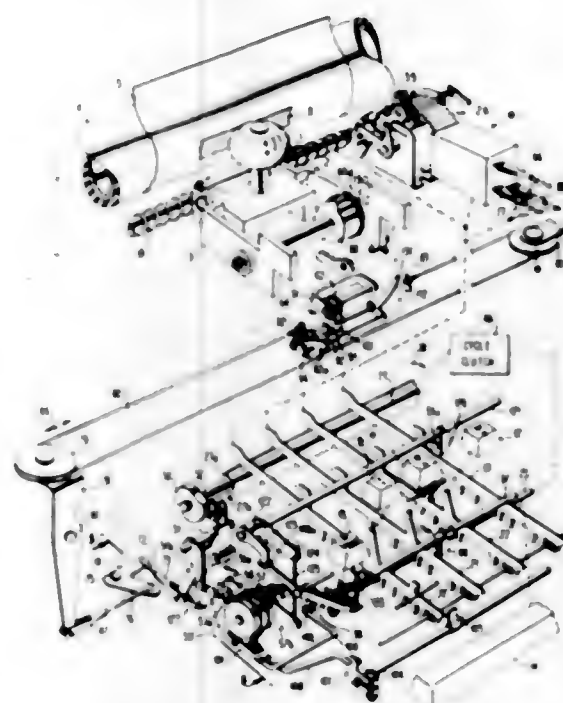
ber and to transmit the energy to the cam and force it quickly to a gate opening position when the actuating member reaches a position to cause unlatching of the cam.

3,382,963

**PRINTING APPARATUS WITH NO-PRINT FEATURE**

Walter O. Cralle, Jr., Georgetown, and George T. Slaughter, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 17, 1966, Ser. No. 573,020  
12 Claims. (Cl. 197-16)



The invention relates to control mechanism for a printer to establish several degrees of print impression, as well as a "No Print" condition under certain circumstances, such as a space operation. A print head is actuated against a document with several degrees of impression controlled by a print cam. A No Print condition is established by a No Print cam. The action is determined by the position of a cam roller that is moved back and forth adjacent one of the cams by a pulley and cable. The printer keyboard has character keys, a spacebar, and a No Print key. The keys operate velocity stops of differing lengths which control the extent of movement of a cam follower and therefore, the positioning of the cam roller. The character keys establish low, medium, and high print velocities. When the spacebar is operated, all of the velocity stops are moved out of contact with the follower and the roller is then positioned adjacent the No Print cam. Another key is operated manually to retain the stops out of print control position, thereby establishing a No Print condition for an extended period of time. The apparatus also has undershoot and overshoot control means associated with the cam roller. A pinwheel memory stores escapement values.

3,382,964

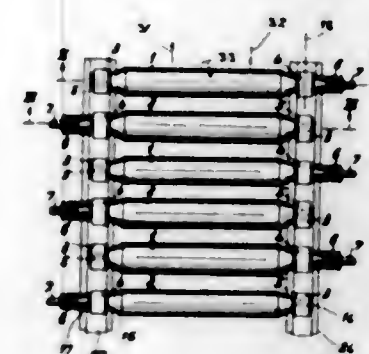
**TRANSPORT SYSTEM FOR ROLLING MILLS AND THE LIKE**

Willi Bonhoff and Ernst L. Ullmann, Essen, Germany, assignors to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany, a corporation of Germany

Filed Dec. 22, 1965, Ser. No. 515,637  
Claims priority, application Germany, Dec. 24, 1964, B 79,884  
10 Claims. (Cl. 198-33)

1. A transport system for rolling mills and the like, comprising a plurality of spaced-apart generally parallel

longitudinally extending rollers having respective longitudinal axes of rotation; means at one end of some of said rollers and at the other end of others of said rollers for supporting the respective rollers for swinging movement about respective pivotal axes perpendicular to the respective longitudinal axis at said ends; actuating means for swinging said rollers about said pivotal axes between



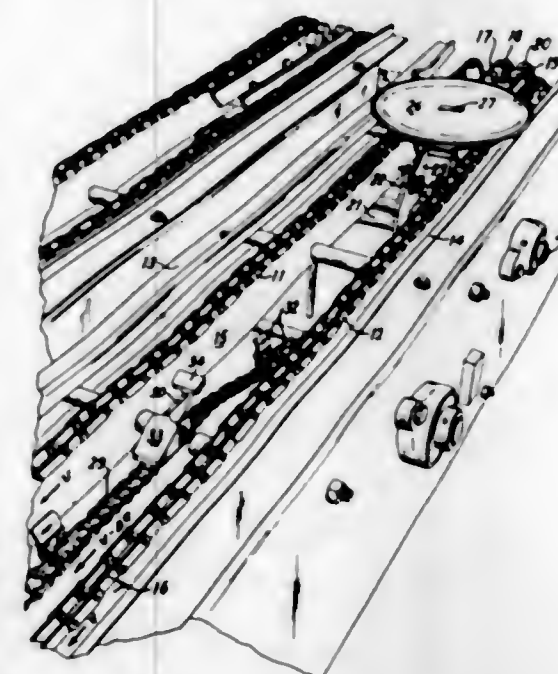
a first position wherein the longitudinal axes of said rollers lie in a plane and a second position wherein the longitudinal axes of said rollers are inclined to said planes; and drive means coupled with said rollers for selectively rotating same about said longitudinal axes in the same and opposite senses.

3,382,965

**METHOD OF AND DEVICES FOR CONVEYING, SPACING, AND TIMING BEVEL-WALLED RECEPTACLES**

Chester J. Pierce, Jr., Palo Alto, and Lawrence J. Pagendam, Redwood City, Calif., assignors to Klitlok Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 21, 1966, Ser. No. 603,488  
7 Claims. (Cl. 198-34)

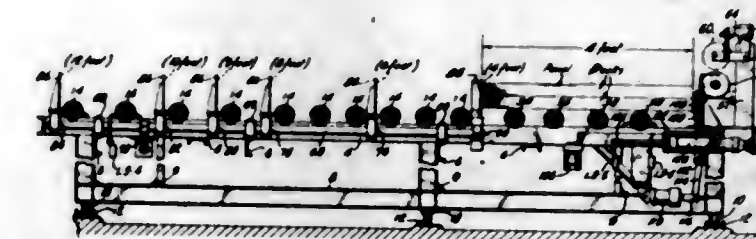


The present improvements deal with the problem of articles with tapered sides overriding moving indexing lugs against which the articles are pressed by a conveyor which frictionally engages the articles. The frictional engagement is progressively reduced as the articles assume tilt with respect to the supporting surface of the conveyor, for example by transferring a portion of the article weight to an element which moves no faster than the indexing lug.

3,382,966

**STACKING APPARATUS**

Frank L. Califano, Hackensack, and Robert Ulrich, Montvale, N.J., assignors to The Flintkote Company, New York, N.Y., a corporation of Massachusetts  
Filed Apr. 13, 1966, Ser. No. 542,403  
5 Claims. (Cl. 198-35)

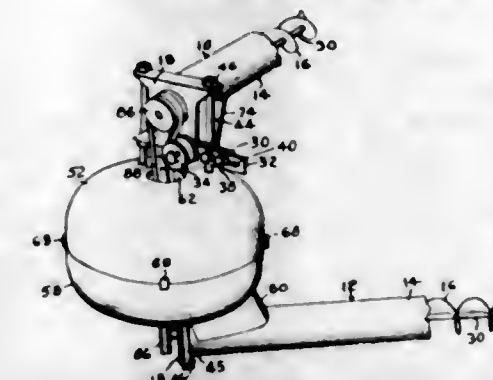


1. Apparatus for stacking and squaring panels and the like of various sizes, comprising a length of driven conveyor, conveyor driving and controlling means operable to turn said conveyor on and off, means for delivering panels onto said conveyor in succession from one end thereof, a stop member spaced from said end, means extending lengthwise adjacent said conveyor for mounting said stop member selectively at different points along the length of said conveyor, means operably connected to said stop member-mounting means to move said stop member into and out of the path of panels being delivered to said conveyor, a stationary side squaring abutment extending along the side of said conveyor, adjustable means for mounting said side squaring abutment at a plurality of stationary positions relative to said conveyor, side squaring means at the side of said conveyor opposite said side squaring abutment, end squaring means spaced rearwardly from said stop member toward said one end of the conveyor, means operating said side and end squaring means repetitively whereby panels are pushed against said stop member and side squaring abutment to form a squared stack, a pusher member movable against the rearward end of said stack to initiate movement thereof along said conveyor, means for operating said pusher member, control means responsive to delivery of a predetermined number of said panels unto said stack to operate said stop-member mounting means to remove said stop member out of the forward path of movement of said stack and to activate said pusher-operating means, said conveyor driving and controlling means being operative to turn said conveyor on responsive to the removal of said stop member and the beginning of operation of said pusher member.

3,382,967

**VARIABLE-ANGLE AUGER CONVEYOR**

Martin Mayrath, 10707 Lennox Lane, Dallas, Tex. 75229  
Filed Feb. 13, 1967, Ser. No. 615,666  
9 Claims. (Cl. 198-92)



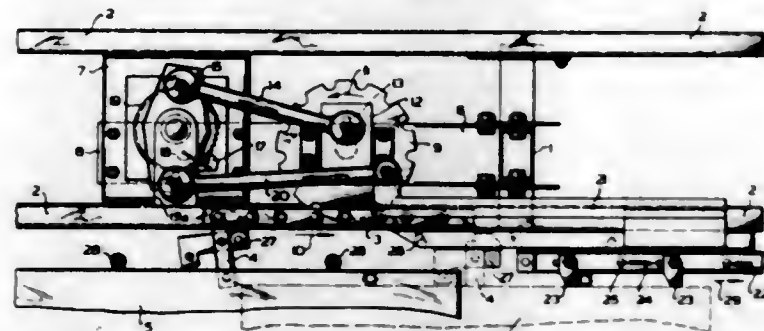
Two auger conveyors mounted to swing in parallel planes relative to each other are connected by relatively rotatable hollow, generally hemispherical bells within which, and about whose common axis, lies a hollow tube through which passes an auger drive connecting belt; the



material being conveyed passes from bell to bell outside of the tube.

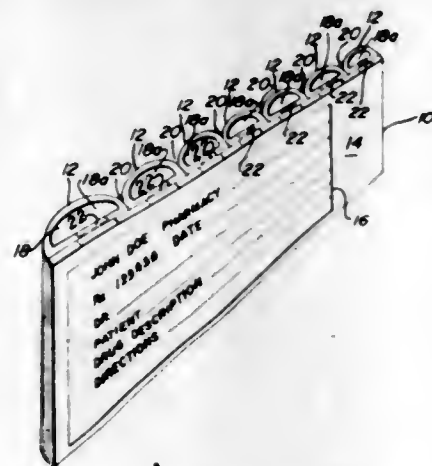
**3,382,968**  
**ARRANGEMENT IN CONVEYOR SYSTEMS FOR DECREASING THE ADVANCING SPEED OF CARRYING CASES**

Robert Klein, Jr., Landauer Strasse 56, Pirmasens, Pfalz, Germany  
Filed Oct. 12, 1966, Ser. No. 586,156  
Claims priority, application Germany, Oct. 12, 1965, P 37,851; June 22, 1966, K 59,561  
5 Claims. (Cl. 198-110)



An arrangement in a conveyor system for decreasing the advancing speed of carrying cases or the like which are connected for normal transportation to a conveyor chain and transferred for advancing at a retarded speed to a feed rail which derives slow motion from the conveyor by way of a mechanism which includes a chain wheel in engagement with the conveyor and devices including push rods which convert the rotary motion of the chain wheel to reciprocating movement of the feed rail.

**3,382,969**  
**DOSAGE DISPENSER**  
Henry L. Cerniak, 2101 Manchester Ave., Westchester, Ill. 62663  
Filed Dec. 19, 1966, Ser. No. 602,765  
3 Claims. (Cl. 206-42)

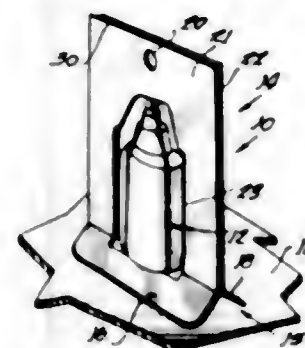


A dosage dispenser for use primarily in dispensing medicines, having one compartment for each predetermined dosage, such as one day's dosage, and a frangible cover enabling removal of the cover portions of exhausted compartments. The dispenser includes a flat surface for attaching instructions and has a size and shape for convenient carrying.

**3,382,970**  
**DISPLAY CARD AND SUPPORTING EASEL**  
Thomas J. Sellors, Chicago, Ill., assignor to The Finn Industries, Chicago, Ill., a corporation of Delaware  
Filed Mar. 2, 1967, Ser. No. 620,171  
10 Claims. (Cl. 206-45.24)

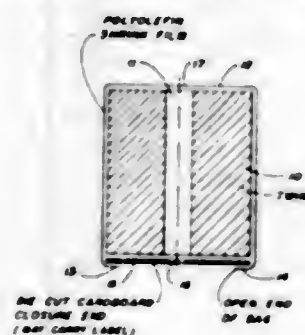
The disclosure relates to a display card having at least one transparent formed window therein for retaining merchandise such as small plastic bottles and the like,

the display card being formed of a reversely folded paper-board-like structure having a pair of lateral feet extending out from the base. Alternative embodiments showing two transparent windows with the merchandise sandwiched in between, and a single transparent window are



shown. The structure at the base of the easel in one embodiment permits squeezing the sides of the cards to remove the merchandise. In another embodiment, an additional flap is provided for closing the open portion of the two feet of the easel to seal the merchandise in place.

**3,382,971**  
**PACKAGING TWINE**  
William Lee Johnson, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
Filed Oct. 16, 1964, Ser. No. 404,284  
6 Claims. (Cl. 206-46)

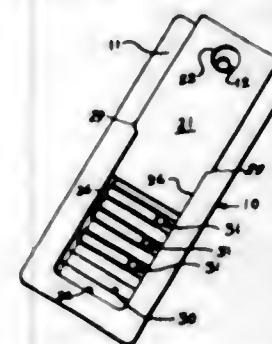


1. A method for packaging a synthetic twine product comprising the steps of:
  - (a) winding an elongated twine product of synthetic material into a cylindrical, open core, relatively loose twine package subject to telescoping and collapse upon handling;
  - (b) placing said cylindrical, open core, twine package into an open-ended bag formed of non-heatset, low density polyethylene sheeting having sufficient molecular orientation to result in a contraction value of about 35% in the transverse direction and about 45% in the machine direction with respect to the line of extrusion of the sheeting from which the bag is formed;
  - (c) tucking the open end of said bag into the open core of said twine package;
  - (d) subjecting said twine package to a temperature of about 400° F. for about 3 to 5 seconds to thereby shrink said bag about said twine package and form a tight package having no tendency to telescope or collapse.

**3,382,972**  
**BUBBLE PACKAGE WITH PERMANENT SLIDING LID**  
Cornelius M. Phipps, 511 N. Stoddard, Wheaton, Ill. 60187  
Filed Sept. 29, 1966, Ser. No. 582,969  
5 Claims. (Cl. 206-78)

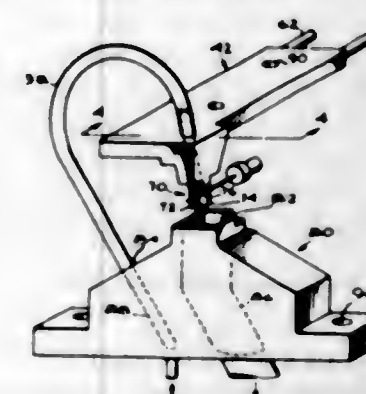
A package for consumer product is formed of a cardboard backing member and a plastic bubble member. The plastic bubble has a peripheral flange in face to face

relationship with the cardboard backing member and affixed thereto. Between the flange and the central part of the bubble the plastic defines a step which in conjunction with the backing member forms a peripheral groove. A lid is slideably received in this groove. The backing



member has a closed line of perforations which define a removable closure, which when removed leaves an opening exposing the lid. This opening is enlarged at one end so that the lid will slide through the opening to expose the contents of the package.

**3,382,973**  
**ARTICLE SELECTION APPARATUS**  
Bernard J. Szmereta, Huntington Beach, John A. Connor, Los Angeles, and Donnie G. Hurley, Granada Hills, Calif., assignors to Electronic Memories, Incorporated, Hawthorne, Calif., a corporation of California  
Filed Nov. 10, 1965, Ser. No. 507,201  
9 Claims. (Cl. 209-73)

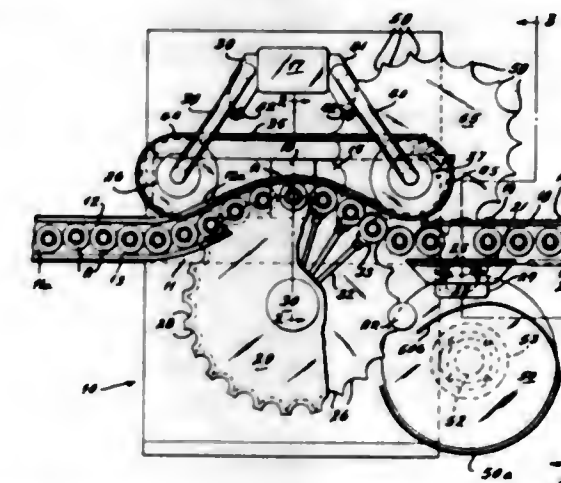


An apparatus for separating small articles such as magnetic cores. The apparatus includes a substantially vertically oriented tubular passageway having an entrance opening at the lower end thereof. First and second openings, respectively directed upwardly and downwardly, are provided in the tubular passageway. The first and second openings communicate with a fluid source (e.g. an air supply) through a valve. In one position of the valve, fluid is forced into the passageway through the first opening to develop a low pressure region so as to draw an article at the entrance opening up through the passageway. In another position of the valve, fluid is forced into the passageway through the second opening to thus drive the article at the entrance opening downwardly.

**3,382,974**  
**ROTARY POCKETED WHEEL CONVEYOR APPARATUS**  
Robert F. Mayeux, Homewood, Ala., assignor to Barry-Wehmiller Company, St. Louis, Mo., a corporation of Missouri  
Filed Feb. 11, 1966, Ser. No. 526,887  
7 Claims. (Cl. 209-73)

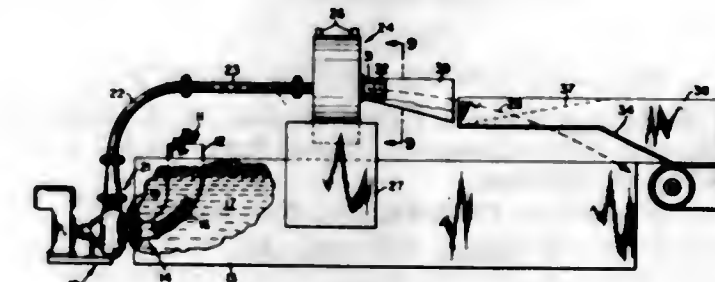
Container conveyor and handling apparatus which smoothly and rapidly passes successive containers through a processing zone and onto a discharge, with means to select rejected containers for passage through the discharge zone and onto an accumulator for collecting the rejected

containers separately from the flow of acceptable containers through the discharge zone, and further including



discharge control gate means which is arranged to prevent jamming of containers upon blockage in the discharge area.

**3,382,975**  
**APPARATUS FOR SORTING COMESTIBLE AND OTHER OBJECTS**  
Michael C. Hoover, Houston, Tex., assignor to Mandrel Industries, Inc., Houston, Tex., a corporation of Michigan  
Filed Aug. 24, 1966, Ser. No. 574,664  
16 Claims. (Cl. 209-73)



1. An apparatus for processing a plurality of objects, comprising:
  - means for moving said objects on a predetermined path through a predetermined viewing zone in serial order, and at a predetermined velocity;
  - means for viewing said objects at said viewing zone and for producing a deflecting signal in response to passage of objects having a predetermined characteristic;
  - means downstream on said path from said viewing zone for receiving said deflecting signal and for thereupon deflecting the corresponding object from said path;
  - means for detecting the departure of an object from said viewing zone and for causing said deflecting signal to be transmitted to said deflecting means; and
  - means for normalizing said viewing means, said normalizing means being coupled to said detecting means for causing said normalizing each time one of said objects departs from said viewing zone.

**3,382,976**  
**METHOD FOR PREVENTING ACTIVATION OF SILICA IN ORE FLOTATION**  
Venancio Mercade, Metuchen, N.J., assignor, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Edison, N.J., a corporation of Delaware  
No Drawing. Filed May 19, 1965, Ser. No. 457,182  
7 Claims. (Cl. 209-167)

A small amount of a water-soluble ferrocyanide or ferricyanide salt is added to a flotation pulp in order to prevent activation of quartz by iron sols when the pulp is floated in the presence of a fatty acid collector.

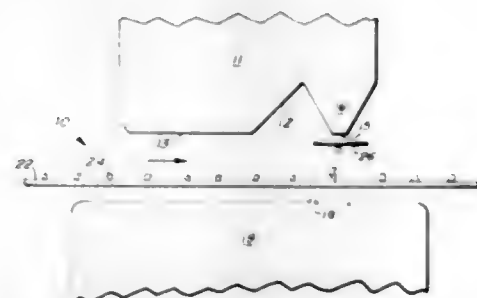


3,382,977

**MAGNETIC SEPARATOR WITH A COMBINATION FIELD**

Foster Fraas, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Interior

Filed Mar. 8, 1965, Ser. No. 438,132  
7 Claims. (Cl. 209—214)



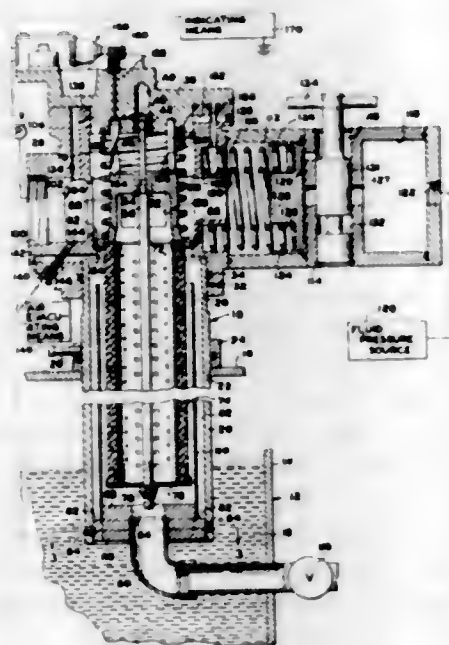
Beneficiation separation of mineral substances having relatively low magnetic susceptibilities is effectuated by passing the substances in a stream through a non-tractive, homogeneous magnetic field for a magnetization pretreatment, and directly thereafter passing the stream of pretreated substances through a tractive non-homogeneous magnetic field for separation of the more magnetically susceptible substances from the stream.

3,382,978

**SELF-CLEANING FILTER DEVICE**

Oscar E. Rosaen, Grosse Pointe Shores, Mich., assignor to Rosaen Filter Company, Hazel Park, Mich., a corporation of Michigan

Filed May 17, 1965, Ser. No. 456,400  
4 Claims. (Cl. 210—90)

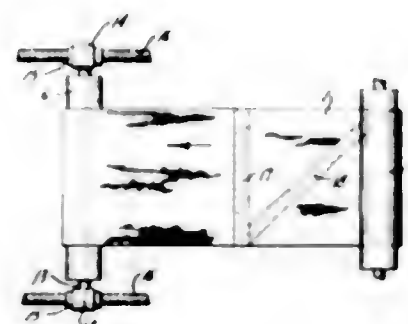


A filter device for a fluid reservoir having an in place self-cleaning arrangement for reversing the flow of fluid through the filter element with a valved conduit communicating between the filter housing and the exterior of the reservoir for the carrying out of the fluid system the particles dislodged from the filter element. Further the reverse flow system incorporates a piston located on the outlet side of the filter element for increasing the force with which the system fluid is directed through the filter element in a reverse direction.

3,382,979  
**ADJUSTABLE WOVEN FILTERING MATERIAL HAVING ANGULARLY DISPOSED GUIDE LINES**

Howard M. Helland and Frank H. Orbison, Appleton, Wis., assignors to Appleton Mills, Appleton, Wis., a corporation of Wisconsin

Filed Apr. 17, 1967, Ser. No. 631,380  
11 Claims. (Cl. 210—91)



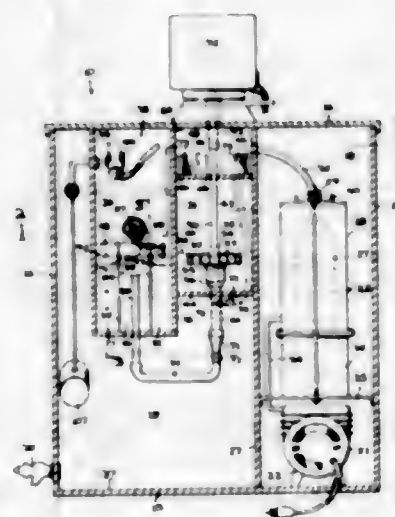
A woven fabric, such as a papermaker's felt, composed of a series of generally parallel warp yarns and a series of cross yarns which are disposed at an acute angle with respect to a line normal to the warp yarns and are freely adjustable with respect to a line normal to the warp yarns. The endless felt is provided with a pair of guide lines, with one of said guide lines extending transversely between the side edges of the felt and the second guide line being disposed at an acute angle to the first guide line and located in alignment with the cross yarns. The transverse guide line is used to set up and maintain alignment of the felt on the papermaking machine, while the diagonal guide line provides an indication of the angularity of the cross yarns.

3,382,980

**OZONE WATER TREATMENT PLANT**

Rene N. Silva, Philadelphia, Pa., assignor to The Welsbach Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Oct. 29, 1964, Ser. No. 407,486  
5 Claims. (Cl. 210—123)



A plant for treatment of water with ozone has a chamber for storing raw water, a mixing chamber, a storage chamber for heating water and an ozone generator. The flow of raw water to the mixing chamber and the flow

of water from the mixing chamber to the storage chamber is slow at start-up until full ozone production is obtained. Structure to slow the feed of raw water may comprise a number of compartments interconnected by restricted orifices which regulate the flow of raw water between the compartments.

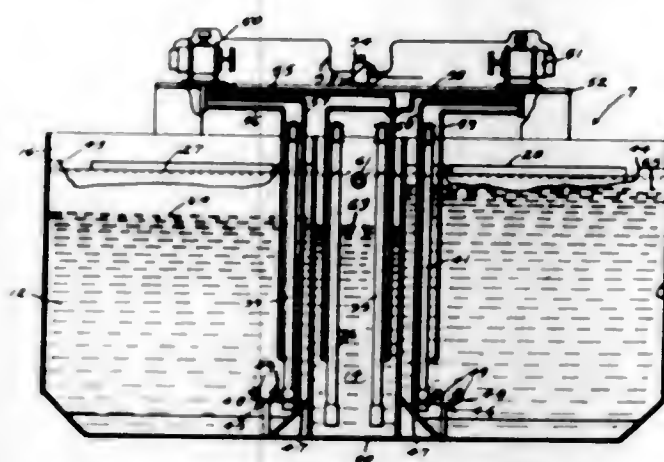
ing plates so that the plates of each layer are spaced from those of the intermediate layer, and teeth on one longitudinal edge of each plate which teeth together with the spaces between the plates defining a filtering area which intercept contaminants in a fluid passing between the layers.

3,382,981

**SEWAGE TREATMENT PLANT**

Quentin L. Hampton, 64 Kent Drive, Ormond Beach, Fla. 32020

Filed Aug. 5, 1966, Ser. No. 570,619  
1 Claim. (Cl. 210—142)



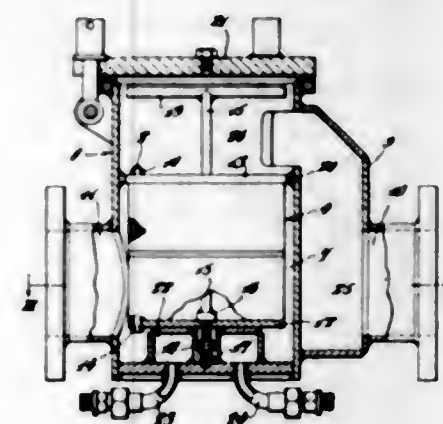
A sewage treatment plant for the treatment of sewage by the activated sludge process of sewage purification and which utilizes two tanks or basins with either functioning as an aeration tank and while the other functions as a separation tank. The purified liquid is separated from the sludge mixture and drawn off from the separating tank. The remaining sludge mixture is utilized in the treatment process when said separation tank is thereafter employed as the aeration tank.

3,382,982

**STRAINERS FOR FLUIDS**

Ronald John Stevens, 30 Coombe Lane W., Kingston-upon-Thames, England

Filed Feb. 9, 1966, Ser. No. 538,113  
3 Claims. (Cl. 210—184)



A fluid filter comprising layers of similar plates assembled in the form of a stack, each of the layers comprising a plurality of elongated plates connected together at their ends to define an interior space, the ends of alternate plates being interleaved between the ends of adjoin-

3,382,983

**MULTI-LAYERED FILTER APPARATUS**

Warren G. Stewart, Las Vegas, Nev., assignor to Dixie Enterprises, Inc., Las Vegas, Nev., a corporation of Nevada

Filed Mar. 16, 1964, Ser. No. 352,255  
9 Claims. (Cl. 210—266)



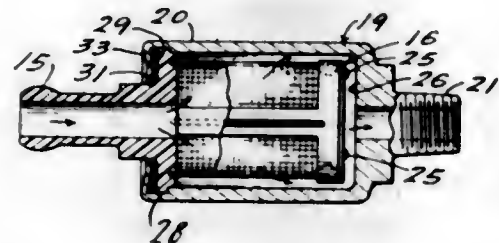
1. A filter for water comprising:
  - (A) a cylindrical container open at the upper end and closed at the lower end by a lower end wall bulging downwardly and having an outlet conduit communicating with the lower end of said container by means of a port in said bottom wall;
  - (B) a screen normal to the axis of said container and positioned adjacent the lower end of said container, said screen being of relatively fine mesh;
  - (C) water softening material in permeable form forming a layer above said screen;
  - (D) a layer of filtering material of approximately 40-mesh above said water softening material in permeable form and extending in thickness approximately  $\frac{1}{4}$  of that portion of the container containing filtering material;
  - (E) a layer of filtering material above said 40-mesh material of approximately 30-mesh and of a thickness approximately  $\frac{1}{4}$  of that portion of the container having filtering material;
  - (F) a layer of filtering material above the last mentioned layer of filtering material, said layer of material being of approximately 20-mesh and extending in thickness of approximately  $\frac{1}{4}$  of that portion of the container having filtering material;
  - (G) a top layer of filtering material of approximately 10-mesh, said top layer being of a thickness approximately  $\frac{1}{4}$  the extent of the portion of the container having filtering material, said filtering material comprising a mixture of 15 to 20 percent of granite,  $\frac{1}{2}$  to 1 percent of nickel, 1 to 2 percent manganese, 2 to 5 percent magnesium, 1 to 3 percent titanium, 10 to 20 percent of iron, 10 to 15 percent of aluminum and 20 to 30 percent of silicon;
  - (H) and a top screen of relatively coarse mesh and disposed on the top of the top layer of filtering material.



3,382,984

**FILTER CONSTRUCTION**

Ralph L. Kuss, Findlay, Ohio, assignor to R. L. Kuss & Co., Inc., Findlay, Ohio, a corporation of Ohio  
Filed Oct. 4, 1965, Ser. No. 492,685  
6 Claims. (Cl. 210-448)

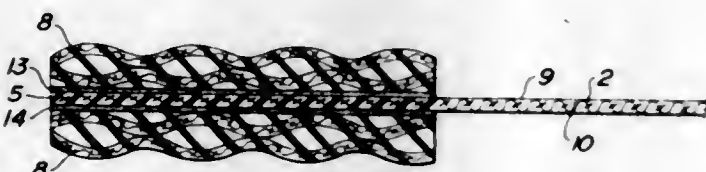


A liquid filter comprising a hollow outer body and a filter element within the body. The body has an open end and a closed end. The filter element comprises spaced apart end plates joined by reinforcing members and a screen encircling the plates and embedded in the edges of the plates and reinforcing members. The filter element is held within the body by securing one end plate to the edges of the open end. The other end plate includes a removable cap which can be displaced to allow direct liquid flow from the filter inlet to the outlet.

3,382,985

**FILTER ELEMENTS HAVING INTEGRAL GASKET MEANS**

Joseph A. Muehl, Milwaukee, Wis., assignor to Pabst Brewing Company, Milwaukee, Wis., a corporation of Delaware  
Filed Jan. 4, 1966, Ser. No. 518,720  
3 Claims. (Cl. 210-495)



A filter element embodying a woven cloth body portion having impregnated, liquid impervious supporting portions with resilient gasket strips secured to the respective faces of the supporting portions.

3,382,986

**PIPE RACK**

Robert W. Pfeiffer, Brounville, N.Y., assignor of one-half to Wayne C. Jaeschke, Dobbs Ferry, N.Y.  
Filed Oct. 21, 1965, Ser. No. 499,590  
4 Claims. (Cl. 211-60)



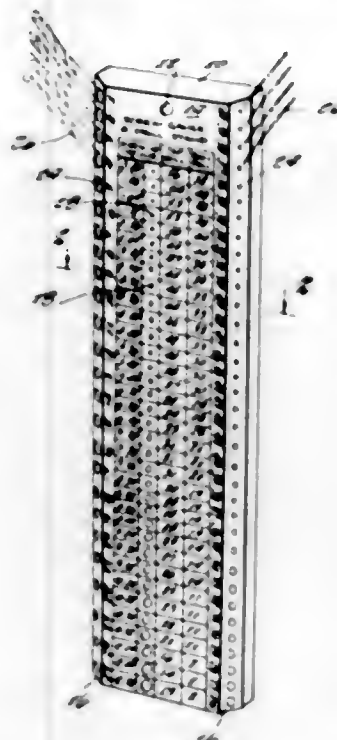
A collapsible pocket-sized pipe rack comprising in combination: a relatively thin sheet forming a table, an elongated aperture cut in the table, the edges of said aperture providing support ledges for a smoker's pipe, leg means in hinged connection with said table for supporting said table while in use, said leg means being foldable and shaped so as to closely embrace said table to form a compact configuration suitable for pocket insertion. Elongated blanks having relatively smaller elongated apertures cut therein, which are insertable within the elongated aperture to provide means for adapting the pipe rack to support relatively smaller pipes.

Elongated blanks having relatively smaller elongated apertures cut therein, which are insertable within the elongated aperture to provide means for adapting the pipe rack to support relatively smaller pipes.

3,382,987

**SCREW GAUGE AND DRILL STAND**

Richard Bagian and Joseph Zierau, both of 86-19 Britton Ave., Elmhurst, N.Y. 11373  
Filed July 5, 1966, Ser. No. 562,781  
1 Claim. (Cl. 211-69)

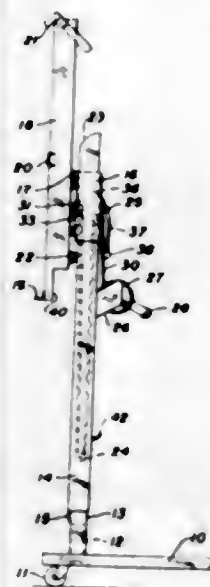


A screw gauge and drill stand for rapidly determining the appropriate body and top drills for various screw sizes and providing convenient storage for said drills.

3,382,988

**PORTABLE PANEL HOIST**

Noel A. O'Reilly, 915 Heather Road, Colma, Calif. 94015  
Filed Mar. 6, 1967, Ser. No. 620,712  
7 Claims. (Cl. 214-1)



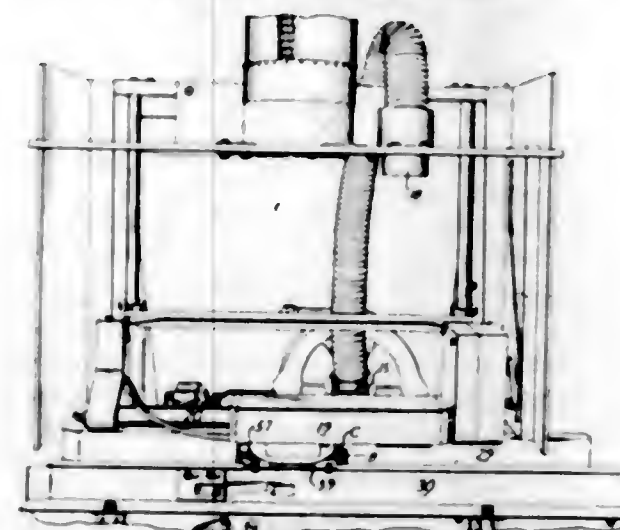
A portable hoist for elevating wallboard panels, plywood sheets or the like, having a vertically adjustable upright panel supporting carrier which is adapted to be elevated to a suitable side wall unloading area by winch motivated means, and which upon being further elevated is adapted to automatically swing to a horizontal position.

is adapted to automatically swing to a horizontal position so the panel mounted thereon may also be positioned horizontally and then further elevated to an unloading area near a ceiling to reduce to a minimum the manual effort required in attaching the panel to the ceiling.

3,382,989

**DEVICE FOR SEPARATING AND FEEDING CUPS SUPPLIED AS A NESTED STACK**

Willard E. Cartwright, Los Altos, and Boyd D. Gods and William H. Hittenberger, Santa Clara, Calif., assignors to Kiklok Corporation, New York, N.Y., a corporation of Delaware  
Filed May 12, 1966, Ser. No. 549,704  
3 Claims. (Cl. 214-8.5)

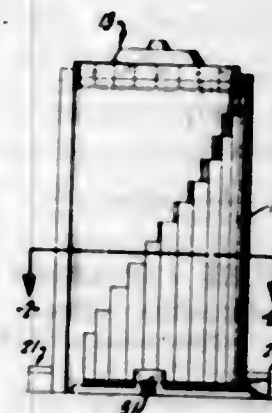


The present improvements deal with the separation and feeding of fluted cups supplied as a nested stack and involves the gripping of the endmost cup of the stack and the contraction of its fluted rim about a mandrel to effect separation of the cup from the stack and to permit its withdrawal through a restricted magazine gate. The cup is mainly gripped by a vacuum cup engaging the cup bottom and the grip is maintained from the moment of withdrawal of the cup to the moment of deposit. The vacuum acting on the fluted cup wall is relieved immediately after withdrawal of the cup from the gate and the flared-out relaxed cup passes through a strip-off device at the deposit station which engages the rim of the flared cup and positively prevents it from following the mandrel returning to the magazine for the next cup.

3,382,990

**AUTOMATIC CIRCULAR PARKING TOWER**

Charles R. Salloum, 552 Columbus, San Francisco, Calif. 94133  
Continuation-in-part of application Ser. No. 404,622, Oct. 19, 1964. This application June 16, 1967, Ser. No. 646,671  
11 Claims. (Cl. 214-16.1)



The invention disclosed and claimed herein comprises a building construction for the parking of automobiles. The structure hereof is basically annular and comprises

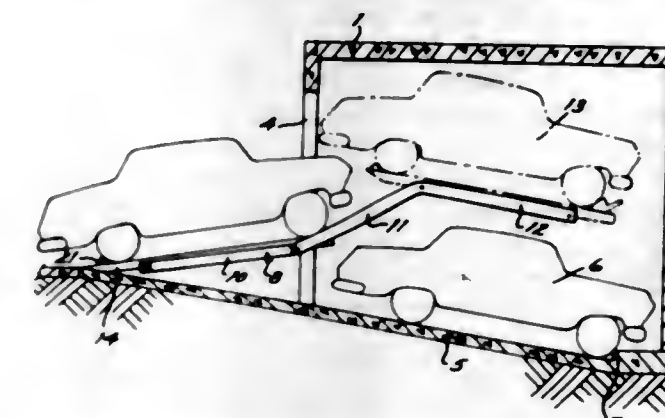
concentric annular platforms with alternate platforms being rotatably mounted for readily positioning individual parking stalls thereon in proper location for direct access to and from by an automobile. Automatic parking stalls are also provided.

The structure hereof is particularly directed to multiple-storey units incorporating a plurality of elevators with alternately stationary and rotatable annular platforms upon each floor, together with control and indexing means on each floor for movement of the rotatable platforms into position for use of each individual parking stall of the floor by the automobile operator.

3,382,991

**VEHICLE STORAGE APPARATUS**

Donald A. Davis, Jr., 39 Nieto Ave., Long Beach, Calif. 90803  
Filed Sept. 21, 1965, Ser. No. 488,932  
2 Claims. (Cl. 214-16.1)

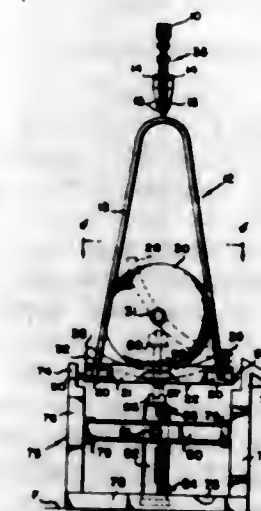


In order to store automobiles within a limited space the vehicles are positioned one immediately above the other, and the uppermost vehicle resting upon an inclined track, which permits the uppermost vehicle to rest safely in a superimposed position to the lower vehicle and still permitting either of the vehicles to be moved into or out of parked position without interfering with the adjacent vehicle.

3,382,992

**MATERIAL TRANSPORTING AND DISCHARGING SYSTEM**

Charles E. Couchman III, Silver Spring, Md., assignor to C & M Industrial Associates Inc., Washington, D.C., a corporation of Pennsylvania  
Filed Aug. 17, 1966, Ser. No. 573,001  
8 Claims. (Cl. 214-64)

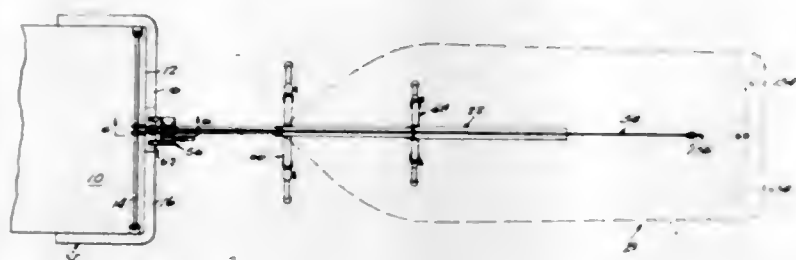


1. A material handling system of the character described including a load carrier suspended from and movable along an elevated track to and from an unloading station, said load carrier comprising a horizontal substantially rectangular open-centered frame including a pair of spaced



side members joined to a pair of spaced end members, a downwardly bowed substantially rectangular tray having an upper side, an underside, opposite lateral sides and opposite ends with one of said sides of said tray overlying one of said side members and the other of said sides overlying and resting on supporting portions on the other side member when said tray is in load carrying position, means pivotally connecting said one side of said tray to said one side member whereby said other side of said tray can be swung upwardly to overlie said open center of said frame to cause a load resting on said tray to be discharged laterally therefrom under the influence of gravity, and means located on said underside of said tray between said opposite sides thereof, when said tray is in its load carrying position, adapted to cooperate with tray tilting means incorporated in said unloading station.

**3,382,993**  
**ONE-MAN BOAT LOADER**  
David F. Bahrs, 8941 Madison Ave.,  
Fair Oaks, Calif. 95628  
Filed June 3, 1966, Ser. No. 555,087  
6 Claims. (Cl. 214-450)

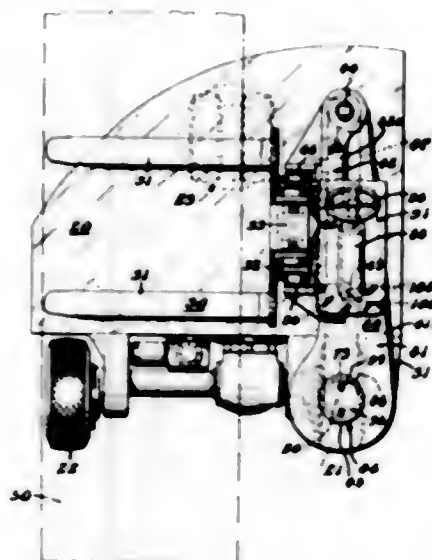


Means for loading a boat from the ground onto the roof of a vehicle-body, said means comprising: a rail having a forward end secured on the roof at one end of the body, said rail being disposed at a downward angle relative to the roof, said rail having a rear end adapted to rest upon the ground, said rail having a pulley wheel journaled thereon adjacent to its forward end, a winch mounted on the end of the body below the forward end of the rail, a winch cable wound on the winch and trained over and extending rearwardly from said pulley wheel along the top of the rail, front and rear roller assemblies adapted to rest and roll upon the top of said rail, said assembly being adapted to be secured to front and rear parts of a boat, and winch cable-attaching means on the rear end of the cable adapted to be secured to a rear part of the boat, whereby the boat may travel up said rail to said roof by actuation of the winch.

**3,382,994**  
**FORKLIFT TRUCK**  
Edwin A. Hollenbach, Paoli, Pa., assignor to Drexel Dynamics Corporation, Horsham, Pa., a corporation of Pennsylvania  
Filed Dec. 14, 1965, Ser. No. 513,713  
12 Claims. (Cl. 214-671)

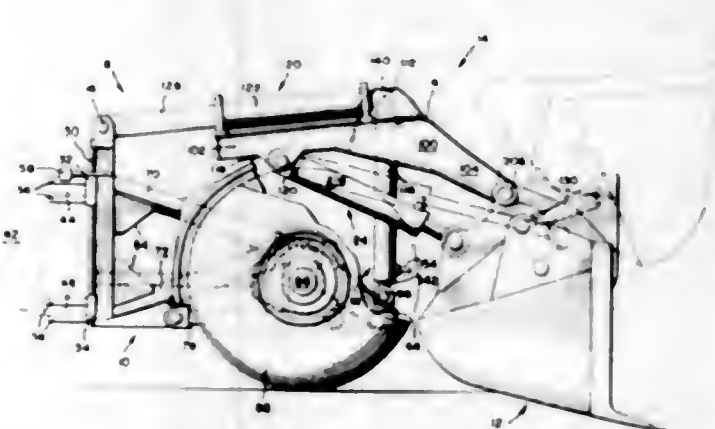
A load-lift vehicle is disclosed having two powered spaced-apart non-steerable front wheels and a single non-powered steerable rear wheel assembly. The load-lifting fork and mast are supported on the outer section of a two-section articulated support arm, the inner section of which pivots horizontally about a vertical support shaft located at the front corner of the vehicle, preferably over the left front wheel. The outer section pivots about the outward end of the inner section. Means are provided for operating the vehicle in either one of two modes. In one mode (FIGS. 7-9), the inner and outer sections of the two-section support arm are pivoted simultaneously through equal angles but in opposite directions thereby

maintaining fixed the orientation of the load relative to ground. Simultaneously, the vehicle is moved in a straight line in a coordinated manner to maintain the load on a fixed transverse line. In the other mode (FIGS. 10-11)



the outer section of the two-section support arm is held fixed relative to the inner section as the vehicle is swung under the load, to tuck the load into carry position on the side of the vehicle. Here again the orientation of the load relative to ground is maintained fixed.

**3,382,995**  
**MATERIAL HANDLING MACHINE**  
Don S. Strader, Salt Lake City, Utah, assignor to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware  
Filed July 7, 1966, Ser. No. 563,525  
7 Claims. (Cl. 214-778)

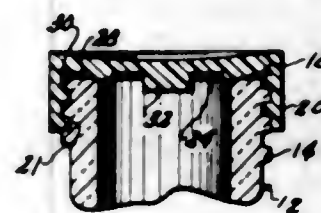


A material handling machine having a carriage pivotally mounted on a frame. A material handling implement is pivotally mounted on the carriage and a cylinder and piston are extensibly connected to the mounting for sliding the carriage relative thereto. A cylinder and piston extensibly connect the carriage and the frame for pivoting the carriage about the mounting and a piston and cylinder extensibly connect the implement and the carriage for pivoting the implement relative to the carriage.

**3,382,996**  
**CLOSURE CONSTRUCTION**  
Joseph J. Owens, Muscatine, Iowa, assignor to Owens Plastic Products Corporation, Palatine, Ill., a corporation of Illinois  
Continuation of application Ser. No. 418,098, Dec. 14, 1964. This application June 20, 1967, Ser. No. 647,570  
2 Claims. (Cl. 215-40)

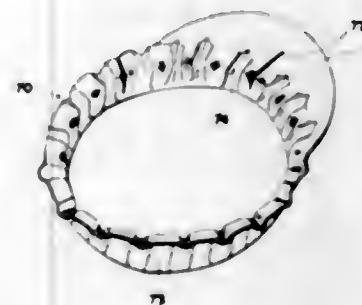
A deformable closure having a circular top which is normally exteriorly concave as provided. Formed inte-

grally with the top is a cylindrical, internally threaded skirt. A central reinforcing projection is formed on the top undersurface, and a sloping ring concentric with such



projection is also formed on the underside. Upon being threaded into engagement with a container neck the top flexes toward a horizontal disposition.

**3,382,997**  
**CROWN CAP**  
Junnosuke Tsuji, 28 Kagetori-cho 38,  
Totsuka-ku, Yokohama, Japan  
Filed May 11, 1965, Ser. No. 454,802  
Claims priority, application Japan, Dec. 29, 1964,  
40/271, 40/273  
1 Claim. (Cl. 215-46)

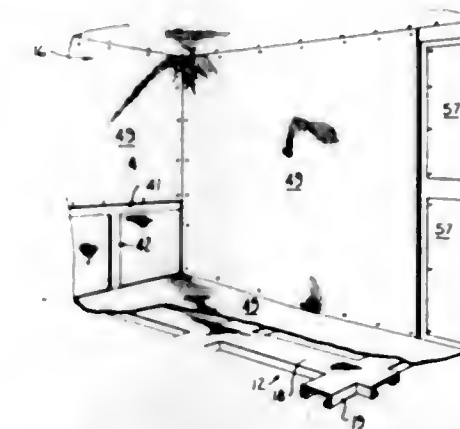


1. A crown cap for sealing bottles comprising a structure having a circular substantially planar surface and a depending corrugated flange including ridges and grooves, a single substantially short tongue integrally connected to the edge of said flange and extending therefrom substantially parallel to said surface, the part of said single tongue connecting said corrugated flange sweeping an arc of from 100° to 120° as measured from the center of said circular surface, a pair of notches, each defined in the second groove from the ends of said part of said flange connected to said tongue, and an opening positioned in said tongue and extending into said corrugated flange, whereby pressure applied perpendicular to said tongue in a direction toward the said surface causes said notches to split in said direction and to enable the flange portion connected to said tongue to be rotated about a line connecting the split notches at said surface away from the remaining flange portion thereby to release the seal from said bottle.

**3,382,998**  
**CARGO CONTAINER WITH SIDE DOOR**  
Russell L. Turpen, North Richmond, Calif., assignor to Compass Container Company, Inc., Richmond, Calif., a corporation of California  
Filed Feb. 1, 1966, Ser. No. 524,233  
9 Claims. (Cl. 220-1.5)

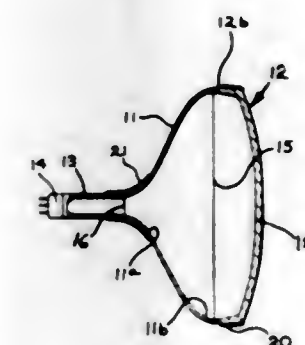
A cargo container of the type adapted for conveyance on ships, rail cars, or truck trailers is described which has side doors of sufficient size to accommodate a loading vehicle, such as a fork lift, and yet have sufficient strength to accommodate a normal load. The cargo container includes a rectangular floor or base structure formed of

longitudinal and transverse metal skids, and corner metal frame members extending vertically upward from the corners of the base. Longitudinal and transverse metal frame members extend between the upper ends of the corner members to define a rectangular peripherally framed structure. A metal door frame is secured between



the base and the upper longitudinal frame member on one side of the structure to define a side door opening. A pair of doors are secured to the door frame for selectively closing the door opening, and panels are secured to the other frame members and the door frame to provide a closed container.

**3,382,999**  
**CATHODE-RAY TUBES AND METHOD OF REINFORCING THE TUBES**  
Daryl E. Powell, Maumee, and Burton W. Spear, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio  
Filed Dec. 14, 1964, Ser. No. 418,065  
11 Claims. (Cl. 220-2.1)



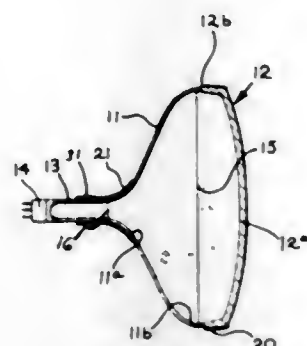
This invention relates to providing a direct-viewing, implosion-resistant cathode-ray tube envelope which is especially resistant to implosions caused by sources originating in the neck and neck-yoke areas of the envelope. The all-glass envelope is reinforced at both non-viewing areas of maximum cross-sectional dimensions and said neck or neck-yoke region in a prescribed manner, the latter involving a thin annular reinforcing coating firmly adhered to such region.

**3,383,000**  
**CATHODE-RAY TUBES AND METHOD OF REINFORCING THE TUBES**  
Daryl E. Powell, Maumee, and Burton W. Spear, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio  
Filed Dec. 14, 1964, Ser. No. 419,284  
15 Claims. (Cl. 220-2.1)

This invention relates to providing a direct-viewing implosion-resistant cathode-ray tube envelope which is especially resistant to implosions caused by sources origi-

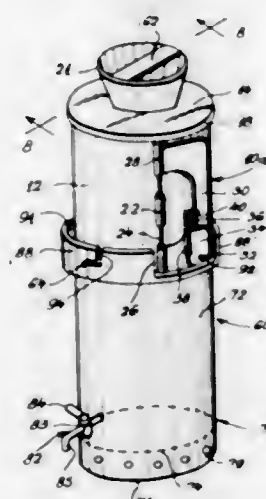


nating in the neck and neck-yoke areas of the envelope. The all-glass envelope is reinforced at both non-viewing areas of maximum cross-sectional dimensions and said neck or neck-yoke region in a prescribed manner, the



latter involving a thin annular reinforcing coating firmly adhered to such region with an adjacent or overlying annular band introducing compressive stress into the glass sidewall of such region.

**3,383,001**  
**HOT CUP**  
Tohchung Wei, 169 E. Broadway,  
New York, N.Y. 10006  
Filed Dec. 19, 1966, Ser. No. 602,617  
10 Claims. (Cl. 220-4)

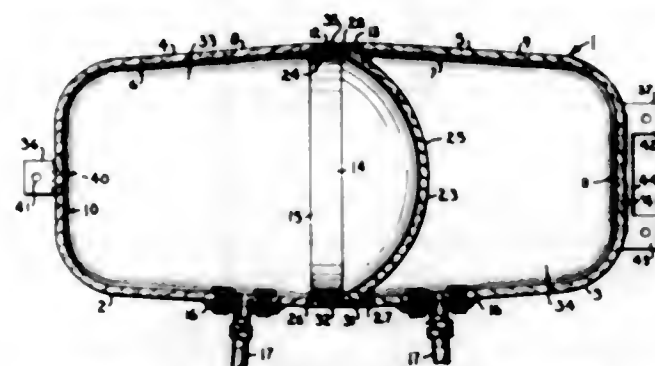


The disclosure described a hot cup having a conical foot and hinged handle. The cup can be provided with a suction pad to hold it stationary on a slippery surface. The cup can serve as a cover for a container, as a handle for the container and as a serving utensil for contents of the container.

**3,383,002**  
**DOUBLE CHAMBER COMPRESSED FLUID RESERVOIR**  
Thomas M. Fleming, Leawood, and Joseph R. Fleming, Prairie Village, Kans., assignors to T. J. Fleming Co., Kansas City, Mo., a corporation of Missouri  
Filed Aug. 15, 1966, Ser. No. 572,433  
7 Claims. (Cl. 220-5)

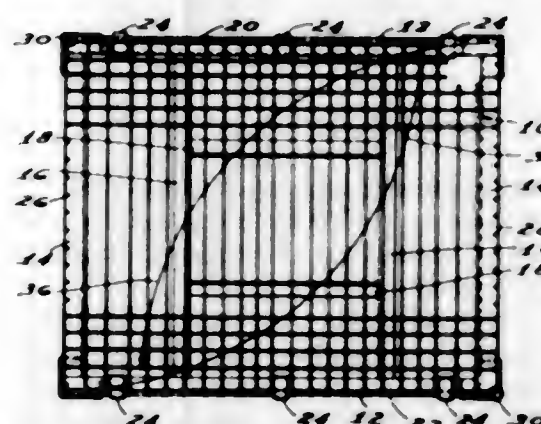
1. A double chamber reservoir comprising:
  - (a) first and second tank members, each having a rim portion defining an open end, means forming access ports into said first and second members,
  - (b) a separation member comprising a peripheral portion and a wall, said peripheral portion defining an opening and having oppositely directed spaced apart edges and a surface therebetween,

- (c) said separation member wall being secured to said peripheral portion and covering said opening, said peripheral portion edges being respectively telescoped past said rim portions, said surface being at least partially spaced from said rim portions and forming adhesive receiving pockets therewith, and



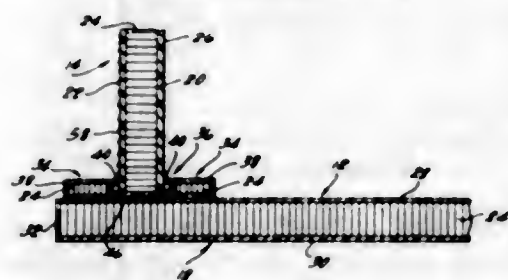
- (d) adhesive in said pockets whereby said first and second tank members and separation member are maintained in fixed assembled relation with said separation member dividing space enclosed by said first and second tank members.

**3,383,003**  
**COLLAPSIBLE CONTAINER**  
Richard C. Schurch, Livonia, Mich., assignor to Bathey Manufacturing Company, a corporation of Michigan  
Filed May 9, 1966, Ser. No. 548,601  
4 Claims. (Cl. 220-6)



A collapsible container having a frame supporting a bottom and four side members, foldable from an upright to a collapsed position superimposed on the bottom. Corner posts on the frame have corner plates which outwardly overlap the lower corners of the side members when upright, and confine folding movement thereof inwardly of the frame. Hinge straps connect the lower edge of two side members to the frame between the corners and, with the corner plates, resist outward bulging.

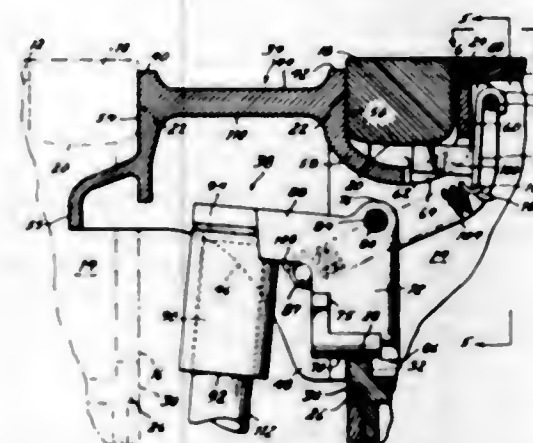
**3,383,004**  
**PLASTIC STORAGE TANK**  
John J. Clossner, Westbury, N.Y., assignor to The Preload Company, Inc., Westbury, N.Y.  
Filed Aug. 17, 1965, Ser. No. 480,338  
2 Claims. (Cl. 220-9)



A self-supporting storage tank with a wall formed of inner and outer layers of thermosetting plastic material

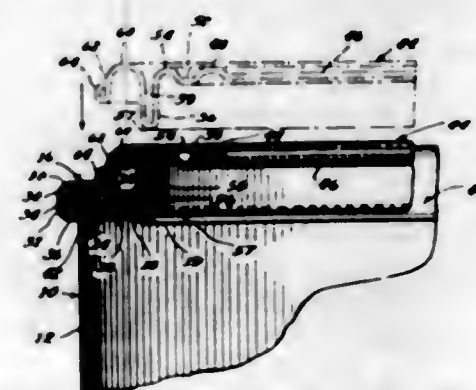
with an inner core of cellular material characterized by an impermeable metallic barrier contained in one of the thermosetting plastic layers of the wall in order to provide an impervious gas and vapor tight structure.

**3,383,005**  
**REMOVABLE SPACERS FOR UPPER CORNERS OF COUPLEABLE CONTAINERS**  
Andrew Abolins, Langhorne, Pa., assignor to Strick Corporation, Fairless Hills, Pa., a corporation of Pennsylvania  
Filed Jan. 23, 1967, Ser. No. 611,072  
8 Claims. (Cl. 220-23.4)



Spacers for containers adapted to be detachably coupled end to end employing tension couplers removably engaging the lower corner members of the containers, the spacers taking compression and being removably installable in the upper corner members of one container for engagement in the corresponding upper corner members of the next container.

**3,383,006**  
**CAN OR CONTAINER AND THE LID THEREFOR**  
Elmer J. Knize, 4049 W. 31st St., Chicago, Ill. 60623  
Filed Mar. 4, 1966, Ser. No. 531,690  
7 Claims. (Cl. 220-42)

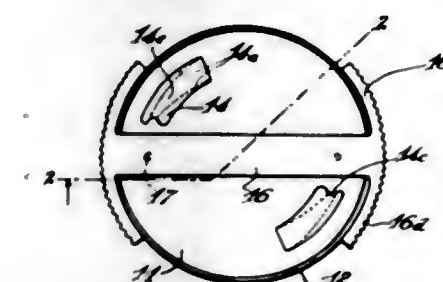


A container and a lid therefor in which the rim of the container has a U-shaped raised portion which is engaged by a complementary shaped portion on the lid to secure the lid to the rim of the container.

**3,383,007**  
**CAN OPENERS**  
Joseph P. Salamone, 1405 Westworth Ave., Chicago Heights, Ill. 60411  
Filed Mar. 22, 1967, Ser. No. 625,236  
8 Claims. (Cl. 220-48)

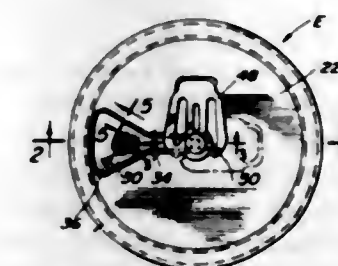
A round can formed with a modified top to which an opener is fitted after the can has been filled. The top is pressed upwardly on diametrically-opposite sides with symmetrical arcuate offsets which contain blanks climbing from the level of the can top and defined by spreading

scoring lines. At the source the blanks present concave ledges. The can top is made with an upward rim enlarged outwardly and forming an interlocking joint with the mouth of the can. The opener is a cross-bar extending diametrically over the can top and having arcuate terminal formations straddling the rim of the can stop. The formations have hooks which yield when the opener is depressed to mount the interlocking joint, the hooks en-



gaging the latter from underneath in order to retain the opener to the can while allowing the opener to be rotated along the interlocking joint. The cross-bar carries a pair of pendent pins spaced as the edges of the can top formations. The rotation of the opener in the climbing directions of the offsets causes the pins to engage the ledges of the offsets, depress the blanks thereof, and break them along the scoring lines into the can, forming openings in its top for dispensing the can contents.

**3,383,008**  
**CAN END OPENER AND ATTACHING MEANS**  
Benjamin B. Lipske, Downers Grove, Ill., assignor to National Can Corporation, Chicago, Ill., a corporation of Delaware  
Filed May 26, 1965, Ser. No. 458,932  
4 Claims. (Cl. 220-54)



An easy opening can end with a line of weakness defining a tear out portion in the end, a finger tab attached to the tear out portion by a fastener which extends through both the end and the tab, and a synthetic resin material forming a seal covering the opening in the can end through which the fastener extends to prevent leakage of gas therethrough.

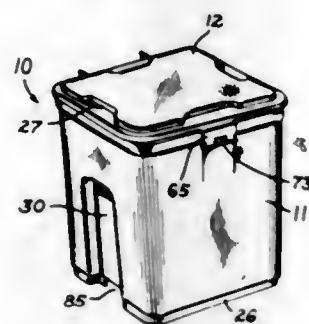
In some embodiments, the fastener is a rivet which has a square, serrated, or like shaped shank to prevent rotation of the rivet inside the can end, and, in some embodiments, the sealing material is located in an embossed or recessed area near the rivet. Processes for making the easy opening end are also described.

**3,383,009**  
**CONTAINER**  
Roy J. Welkert, Covington, Ohio, assignor to General Films, Inc., Covington, Ohio, a corporation of Ohio  
Filed Mar. 17, 1967, Ser. No. 624,052  
7 Claims. (Cl. 220-97)

A plastic container adapted for frozen or refrigerated liquids which has a generally square configuration for

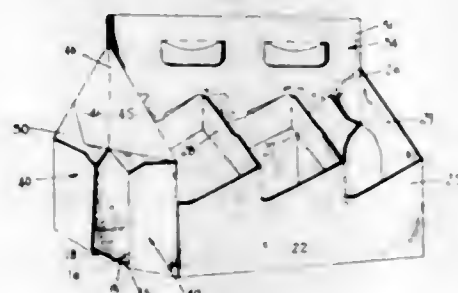


more efficient use of the space in expensive refrigeration equipment, as well as improved handling and storage of the container and easy removal of the contents thereof.



The container includes novel locking mechanism for the cover to the container in either the open or closed position.

**3,383,010**  
**CARRIERS FOR BOTTLES AND THE LIKE**  
Daniel Wainberg, 745 Guy St.,  
Montreal, Quebec, Canada  
Filed May 5, 1966, Ser. No. 547,940  
3 Claims. (Cl. 220-111)

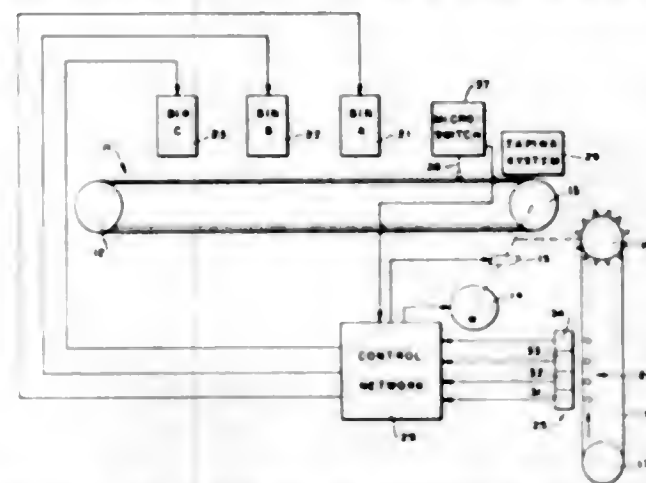


A carrier having a pair of bottom integral walls having side walls which are formed with outer and inner upper sections integrally joined together by transverse intermediate inclined strips and transverse end members, and with longitudinal handle portions integral with the inner upper sections of the side walls and longitudinally glued together with the inner upper sections, the carrier being characterized by the fact that means are provided in the top edges of the intermediate strips and in the lower edges of the inner upper sections for their interengagement with one another in the carrier's collapsed position, and that at least one of its end transverse members has an integral extension flap which is folded in a back-to-back position across the faces of the adjacent end transverse members and glued thereto, together with the formation of notches in at least two of the adjacent ends of the bottom walls for engagement by hooks forming integral parts of the corner walls of the carrier.

**3,383,011**  
**DYNAMIC MEMORY CONTROLLED DISPENSER**  
Herbert M. Reed, Port Crane, and Gary D. Johnson,  
Newark Valley, N.Y., assignors to Universal Instruments Corporation, Binghamton, N.Y., a corporation of New York  
Filed June 16, 1966, Ser. No. 558,072  
13 Claims. (Cl. 221-2)

Disclosed is a system for dispensing articles from a plurality of bins onto a conveyor in response to data stored on a dynamic, punch tape memory, moved in synchronism with the conveyor. A plurality of read-out

means, equal in number to the number of bins, compares data on the memory with stored signals inductive of what bin is to be unloaded. An auxiliary feature relates to checking whether components have been properly dis-



pensed onto the conveyor, as determined by a further read-out means for the tape in combination with an article sensor on the conveyor. Another feature relates to initiating the start of each dispensing cycle by providing a start track on the tape.

**3,383,012**  
**TISSUE DISPENSER**  
Robert Adell, 1525 Ardmoor Drive,  
Birmingham, Mich. 48010  
Filed Oct. 31, 1966, Ser. No. 590,938  
7 Claims. (Cl. 221-46)

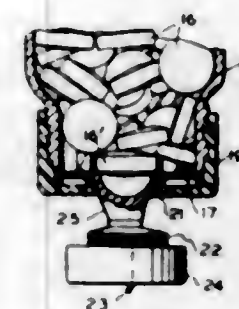


A holder for tissue dispensers comprising a container portion having a dispensing opening therein and a bottom portion pivotally connected thereto, the portions being molded from a plastic material as a single element. The top of the container is provided with a pivoted cover positioned over the opening. A means to releasably lock the bottom portion to the container portion.

**3,383,013**  
**PILL DISPENSER HAVING A SOCKET-TYPE DISCHARGE ASSISTANT**  
George Szekely, 3123 Bailey Ave.,  
Bronx, N.Y. 10463  
Filed Oct. 24, 1966, Ser. No. 588,961  
16 Claims. (Cl. 221-202)

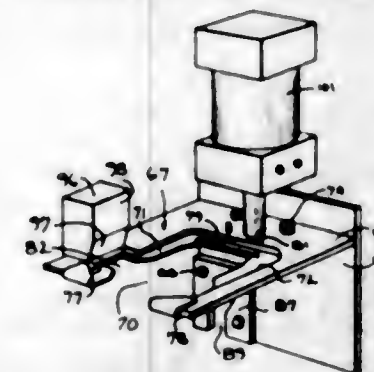
1. In combination, a dispensing container for holding pills therein, and a separate pill-transporting socket member for receiving a predetermined number of pills therein; said container having a dispensing closure thereon in the form of a diaphragm wall member which is of resilient material and has an opening therethrough which is of a size to hold back a pill from leaving the container; the rim of said opening being unslitted so it can be enlarged only by stretching the diaphragm by the forceful insertion of the socket member therethrough to extend into the container; said socket member including a longitudinal section of substantially frusto-conical shape whose base is in the region of one end of said socket member; said socket member having a socket therein, whose mouth opening is in said end; said socket being adapted to receive and hold said predetermined number of pills only; said socket being determined by a peripheral wall pre-

senting an exposed mouth rim around the mouth of the socket; said mouth rim to engage said diaphragm whereupon forcing said socket member in the direction into the container to distort and thereby stretch said diaphragm from its normal condition whereby said diaphragm is stressed and its opening enlarged, thereby permitting said socket member to enter the container whereupon said diaphragm due to its resiliency will automatically return substantially to its normal position and condition when the socket member has entered a predetermined distance into the container, whereby on positioning the container so the diaphragm is below the pills, pills will enter said socket up to said predetermined number, for delivery out of the container upon the withdrawal of the socket member from the container and through the diaphragm; the transverse cross section of the socket member in the general normal plane of the opening in the diaphragm,



when said socket member is through the diaphragm and extends said predetermined distance into the container, being insufficient to materially distort the diaphragm; the other end of the socket member which is accessible exterior the container, constituting an element to serve as a handle for manipulating said socket member; that longitudinal part of the socket member which commences at the mouth rim of the socket and extends to the normal plane of the opening in the diaphragm when the socket member is through the diaphragm and extends said predetermined distance into the container, being of a transverse cross section anywhere therealong, which never increases in size, so the resiliency of the diaphragm when deformed by the entry of the socket member, will automatically cause the diaphragm to assume its normal position and condition when the socket member is entered into the container said predetermined distance.

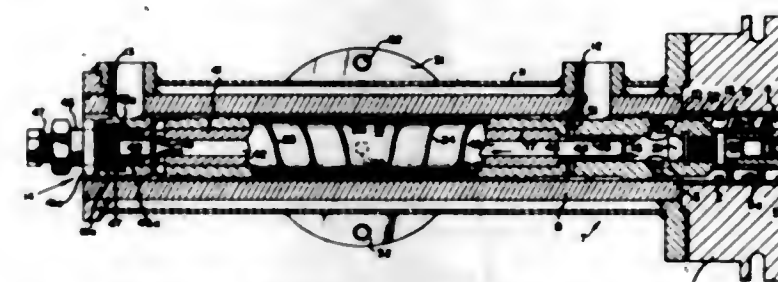
**3,383,014**  
**SIMPLIFIED POT DISPENSER**  
Robert J. Broersma, Spring Lake, and Peter F. Boongaard, Grand Haven, Mich., assignors to B & B Engineering Company, North Grand Haven, Mich., a partnership of Michigan  
Filed Jan. 5, 1967, Ser. No. 607,439  
18 Claims. (Cl. 221-210)



A pot dispenser having a cylindrical guide tube thereon for receiving and holding a plurality of stacked pots and also having a stripper mechanism having fingers which engage the upper edge of the lowermost pot for pushing and separating the same from the stack of pots. The dispenser further has a cam actuated spring clamp mechanism for holding the stack of pots in position while the lowermost

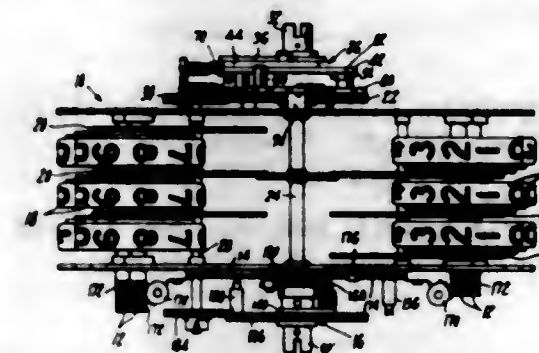
pot is separated therefrom by the stripper mechanism. The stripper mechanism is reciprocated so as to sequentially separate and dispense the lowermost pot by means of either a pressure cylinder, mechanical drive means or a manually operated control lever.

**3,383,015**  
**APPARATUS AND METHODS FOR DISPENSING MATERIALS FROM A MIXER**  
Richard W. Miller, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York  
Continuation-in-part of application Ser. No. 503,644, Oct. 23, 1965. This application Dec. 5, 1966, Ser. No. 599,015  
21 Claims. (Cl. 222-1)



Methods and apparatus for mixing or extruding synthetic plastic materials wherein part of the material stream advanced axially in a fluid state is divided off and later is introduced to a chamber portion in which the stream is introduced from an opposite direction so that the divided off portion and stream are joined again at a radial discharge port and issue therefrom in a steady stream.

**3,383,016**  
**REGISTER RESET MECHANISM**  
Edward C. Ambler, Newington, Bradley L. Batson, Hebron, and Richard J. Fils, Plantsville, Conn., assignors to Veeder Industries Inc., Hartford, Conn., a corporation of Connecticut  
Filed Mar. 2, 1967, Ser. No. 620,108  
28 Claims. (Cl. 222-33)



A reset mechanism for resetting the register of fuel dispensing apparatus between fuel deliveries which is manually operable to load a reset spring at the completion of the fuel delivery by pivotal operation of a lever in one angular direction and manually operable for conditioning the register for being reset and for thereafter tripping the reset spring for resetting the register by pivotal operation of the lever in the opposite angular direction.

**3,383,017**  
**AERIAL DROP CONTAINERS**  
Adam Krings, Troisdorf, Germany, assignor to Dynamit Nobel AG, Troisdorf, Germany  
Filed Dec. 10, 1965, Ser. No. 513,045  
Claims priority, application Germany, Dec. 12, 1964, D 46,044  
2 Claims. (Cl. 222-93)

1. An aerial drop fuel container consisting essentially of a synthetic polymer plastic, comprising: a container



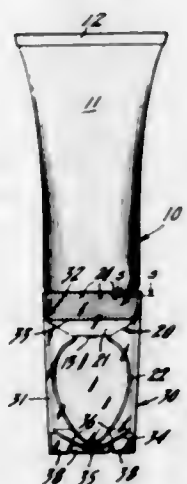
body comprising first superimposed walls of sheet material sealed along their adjacent periphery except for filling opening means to form an inner container for receiving the fuel, and second superimposed sheet walls sealed along their adjacent periphery except for filling opening means corresponding to said first mentioned filling opening means to form an outer container completely enclosing said inner container; said inner and outer containers being of substantially identical configuration; said outer container and said inner container being completely separate, independent and devoid of any connections between them; said outer container tightly engaging said inner container throughout its entire inner surface; said outer container having considerably less elasticity than



said inner container so that said outer container will resist heavy tensile loading when dropped and tear while said inner container will elastically resist heavy pressure variations without tearing; at least one of said containers including at least two superimposed sheet material walls having a portion welded into a carrier handle and being provided with at least one aperture for the insertion of the carrier's hand; said welded portion having a rim strip welded to form a tube between said carrier handle aperture and the adjacent outer edge; a substantially rigid filing and discharge pipe of a plastic removably inserted into the correspondingly wide rim strip tube between the two superimposed walls; said pipe and tube extending substantially parallel to said adjacent outer edge of said carrier handle.

3,383,018

**DISPENSING CONTAINER AND OVERCAP**  
Arvid Kjellsen Grimsley, Mountainside, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey  
Filed July 15, 1966, Ser. No. 565,468  
3 Claims. (Cl. 222-108)



A dispensing container having a dispensing element attached to a closure and a detachable overcap telescopically fitted to the closure to enclose the dispensing ele-

ment. The closure is provided with spaced serrations on its peripheral surface which are frictionally received within one end of the overcap to hold the members together. The overcap adjacent its other end has a transverse perforate wall which, in cooperation with the spaces between the serrations at the telescoped connection on the closure, enables air to circulate through the interior of the overcap.

3,383,019

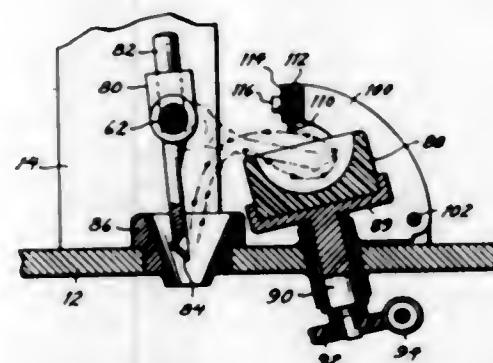
**DISPENSING CONTAINER FOR SPREADING PARTICULATE MATERIAL**  
Neil S. Waterman, 10 River St., Stamford, Conn. 06901  
Filed June 8, 1966, Ser. No. 556,002  
8 Claims. (Cl. 222-151)



Disclosed herein is a dispenser for spreading particulate material on a flat surface. A hollow container body enclosed by a separate or integral cap is provided with slot-shaped openings cutting across a planar corner of the cap. A cover fits over the cap and is provided with projecting ribs at its inner surface which interfit with the slot-shaped openings to seal the dispenser. One rib is shaped to frictionally engage a mating slot to maintain the cover closed. A hinge connects the cover to the dispenser.

3,383,020

**AUTOMATIC POWDER SCOOPER**  
James H. Cargile, Atlanta, Tex., assignor to Day & Zimmermann, Inc., Philadelphia, Pa., a corporation of Maryland  
Filed Aug. 29, 1966, Ser. No. 575,637  
12 Claims. (Cl. 222-168)



An automatic powder scooper which is relatively simple, inexpensive and reliable. The scooper may be used for scooping initiating explosives. Tests run with the scooper indicate constant repeatability of the charge. The

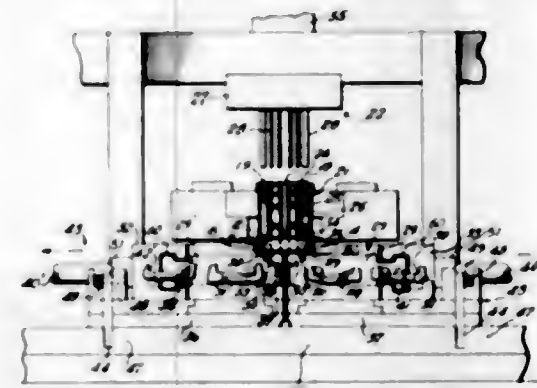
scooper is small in size and can be adapted to existing loading equipment. The scooper includes an open top powder receptacle having a scoop supported adjacent thereto. The scoop is moved toward and away from the receptacle so that it may remove powder therefrom. The scoop is supported about a substantially horizontal axis so that the scoop may discharge the powder withdrawn from the receptacle. A rake-off bar is provided adjacent the receptacle for cooperation with the scoop for controlling the amount of powder therein.

## ERRATUM

For Class 223-73 see:  
Patent No. 3,383,703

3,383,021

**APPARATUS FOR DRIVING AN ELONGATED MEMBER THROUGH A BASE AND BENDING AN END PORTION OF A PROJECTING PART OF THE ELONGATED MEMBER**  
Albert E. Boyer, Peabody, Mass., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York  
Filed May 20, 1966, Ser. No. 551,767  
8 Claims. (Cl. 227-77)

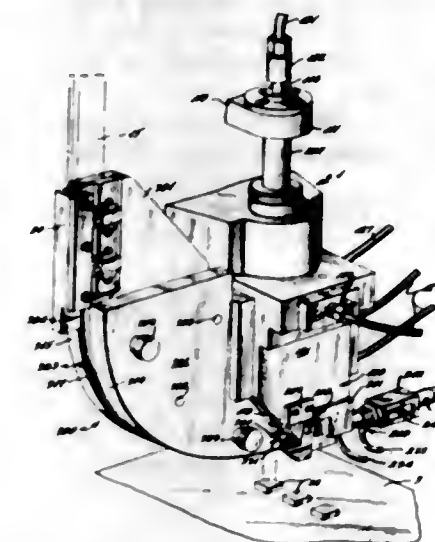


Inserting and bending apparatus drives elongated terminal members into preformed holes in a base member to project therethrough, and then bends projecting ends of the terminal members outwardly from the center of the base member. After insertion, bending occurs as projections on bending blades move the ends of the terminal members outwardly and upwardly across anvil lugs on backing blades to form bends of over ninety degrees in the terminal members. Then, the bending and backing blades are withdrawn outwardly, allowing finished articles to fall freely from the apparatus.

3,383,022

**INSERTION MACHINE**  
Phillip A. Ragard, Binghamton, N.Y., assignor to Universal Instruments Corporation, Binghamton, N.Y., a corporation of New York  
Filed Apr. 22, 1966, Ser. No. 544,552  
17 Claims. (Cl. 227-114)

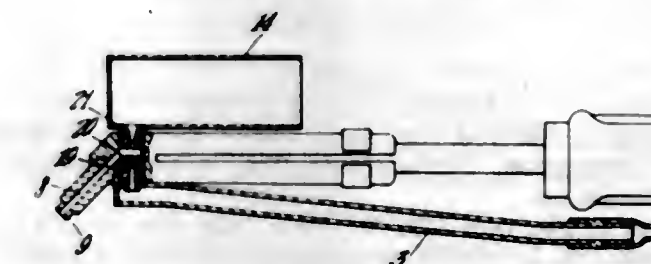
A machine for inserting into a circuit board the leads of an electrical component characterized by a body portion and a plurality of leads extending from one surface thereof, which comprises an inserter having inserting means adapted to be reciprocated between a component pick-up and insertion position; a component supporting assembly including a pair of pivotally mounted blocks adapted to support a component in pick-up position and be pivoted away from component supporting position after the component is picked up by the inserting means to permit the inserting means to pass between the blocks



components one at a time onto the blocks when in component supporting position.

3,383,023

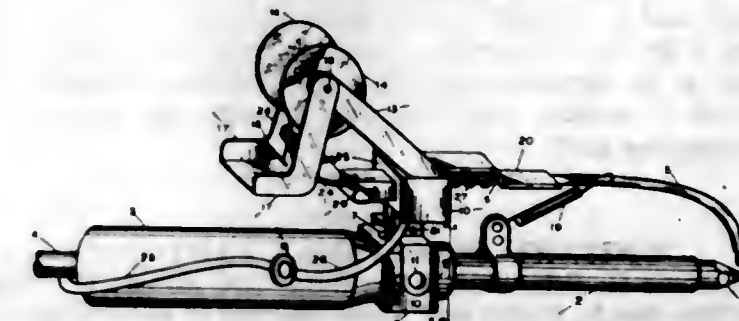
**SOLDERING TOOLS AND ATTACHMENTS FOR SOLDERING IRONS**  
Sydney Brewster, Camberley, England, assignor to Anglo-Netherland Technical Exchange Limited, Croydon, Surrey, England, a British company  
Filed July 29, 1965, Ser. No. 475,800  
Claims priority, application Great Britain, Aug. 6, 1964, 32,111/64  
5 Claims. (Cl. 228-20)



A tool for removing solder is provided with a component for melting the solder of a soldered junction, a duct having one end capable of being held in the molten solder and a passage adapted to receive a stream of gas. A restriction is located in the passage and the other end of the duct opens in the passage adjacent and downstream of the restriction where a suction is created in the duct by which the molten solder is drawn into the passage and blown therealong by the stream of gas.

3,383,024

**THIRD HAND SOLDERING IRON**  
William J. Ashworth, Rte. 2, New Albany, Miss. 38652  
Filed Feb. 17, 1966, Ser. No. 528,189  
5 Claims. (Cl. 228-53)



A soldering iron to continuously or intermittently feed solder to the soldering iron tip from a universally mounted solder feed device.



3,383,025

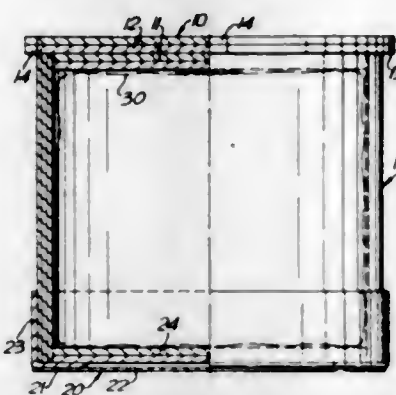
**CONTAINERS MADE OF CORRUGATED FIBROUS SHEET MATERIAL**

Martin Ferrey and Bernard Samuel Brenner, Hazelgrove, Stockport, England, assignors to Martin Ferrey Limited, Oldham, Lancashire, England, a corporation of the United Kingdom

Filed Jan. 20, 1967, Ser. No. 610,536

Claims priority, application Great Britain, Dec. 16, 1966, 56,458/66

9 Claims. (Cl. 229-4.5)



A container suitable for use in the packaging of liquids, fats, powders and other flowable materials, and including a hollow tubular body comprised of two or more turns of convolutely wound, single faced corrugated fibre-board, the ends of the corrugated fibre-board, which extend longitudinally of the body, being secured to the respective adjacent turns but otherwise the adjacent turns of the corrugated fibre-board being unattached, and end closure members in each end of the body to reinforce the body against inward deformation.

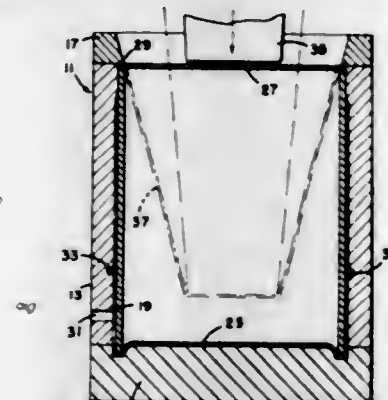
3,383,026

**LINED CONTAINER**

Arthur L. McGee, San Jose, Calif., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Original application June 17, 1965, Ser. No. 464,711, now Patent No. 3,338,020, dated Aug. 29, 1967. Divided and this application Apr. 18, 1967, Ser. No. 631,634

4 Claims. (Cl. 229-14)



A container having a generally rigid supporting tubular shell and a seamless plastic liner, the liner having at one end a lip which extends over one edge of the tubular shell and at its opposite end being bonded to a container lid which it retains snugly against the opposite end of the supporting shell.

3,383,027

**UNITARY COLLAPSIBLE PARTITION**

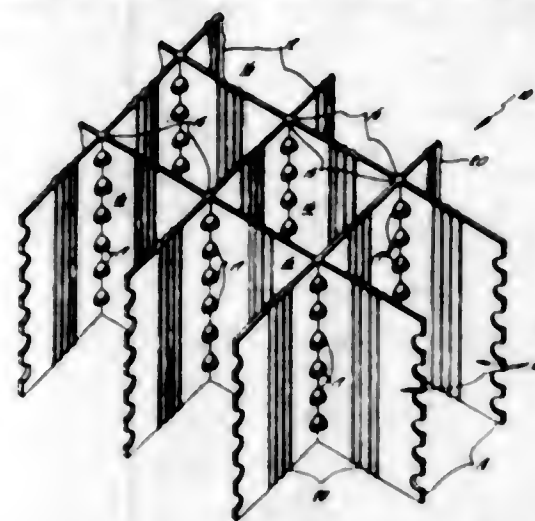
Nikolaus H. Brinkama, Claremont, and Robert W. Shull, Seal Beach, Calif.; said Shull assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Jan. 3, 1966, Ser. No. 518,079

1 Claim. (Cl. 229-15)

A unitary collapsible partition for use with cartons,

the partition including a pair of permanently inseparable, intersecting divider walls, said walls being flexible and



relatively thin whereby they are collapsible about their intersection.

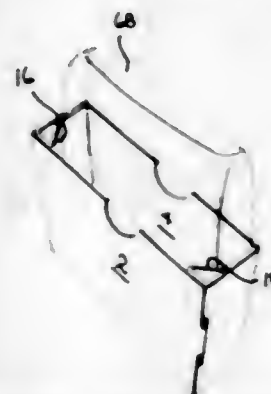
3,383,028

**FIBERBOARD CARTON**

George T. Brander, Columbus, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed June 20, 1966, Ser. No. 558,774

5 Claims. (Cl. 229-16)



A fiberboard shipping carton formed from a single blank for frangible articles such as glass cathode ray tube faceplates. A shipping carton folded to form a carton with one end open for easy accessibility to the glass article protected within. A biasing feature incorporated into the sidewall structure of the carton is to retain the glass article therein. An anti-abrasion coating applied to the interior of the carton to minimize scratching of the glass article.

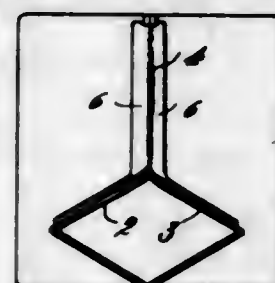
3,383,029

**CARTON AND HANDLE**

Kemp B. Reade, Wayland, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada

Filed Dec. 7, 1965, Ser. No. 512,096

2 Claims. (Cl. 229-17)



Handle for milk-bottle carton having a top ridge, the handle being formed of sheet material having two sections folded together with their ends free to straddle said ridge and be cemented thereto.

3,383,030

**END CLOSURE FOR VACUUM CLEANER DUST BAG**

David F. Downey, Stamford, Conn., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware

Filed July 13, 1966, Ser. No. 564,783

10 Claims. (Cl. 229-62.5)



A self-closing opening in a sheet of relatively rigid material (a sheet of cardboard, chipboard and the like) in which the sheet is die cut to form a plurality of discrete tabs or flaps and also scored to provide a hinge for each of the tabs. The tabs are pushed to open the aperture in the sheet, and an elastic member, such as a rubber band or a rubber membrane having a central opening therein is attached to the sheet (either directly to the tabs or on the sheet remote from the tabs), so that the tabs are urged to closed position. Thus, when a force pushing on the tabs to open them is removed the elastic member moves the tabs to their position closing the opening in the sheet.

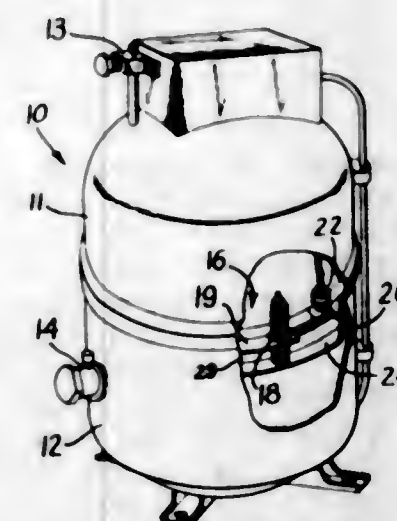
3,383,031

**HERMETIC COMPRESSOR PRESSURE SWITCH**

Charles B. Ellis and Sanford Brown, Fort Worth, Tex., assignors to Lemnox Industries Inc., a corporation of Iowa

Filed Oct. 24, 1965, Ser. No. 504,328

1 Claim. (Cl. 230-17)



1. In a reciprocating compressor of the type having compressor block means resiliently mounted within a hermetically enclosed casing and an electric motor driven compressor mechanism in said block means, said compressor block means defining an annular discharge gas cavity therein, the improvement comprising a discharge gas pressure sensing means on said compressor block means entirely within said casing so as to be tamperproof and disposed in said discharge gas cavity for sensing the pressure of said discharge gas at its source, said discharge gas pressure sensing means being operatively connected to said electric motor driving the compression mechanism of the compressor for terminating operation of the electric motor upon attainment of predetermined

high discharged gas pressure, said discharge gas pressure sensing means comprises a sealed housing secured to said compressor block means in an opening therein, said housing being sealed in said opening, switch means within said housing, diaphragm means resistant to adverse reaction with refrigerant and oil in the compressor disposed within said housing responsive to discharge gas pressure in said discharge gas cavity and movable to actuate said switch means to control operation of said electric motor.

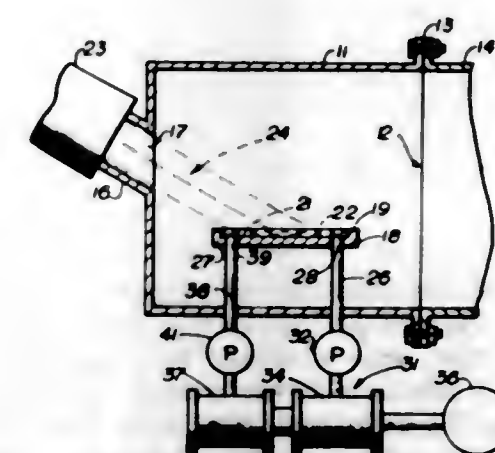
3,383,032

**VACUUM PUMPING METHOD AND APPARATUS**

Norman Milleron, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 31, 1967, Ser. No. 613,053

10 Claims. (Cl. 230-69)



A high vacuum apparatus has a beam of electrons impinging on a continuously moving target. The target comprises a conductive material having a vapor pressure of less than about  $10^{-10}$  torr.

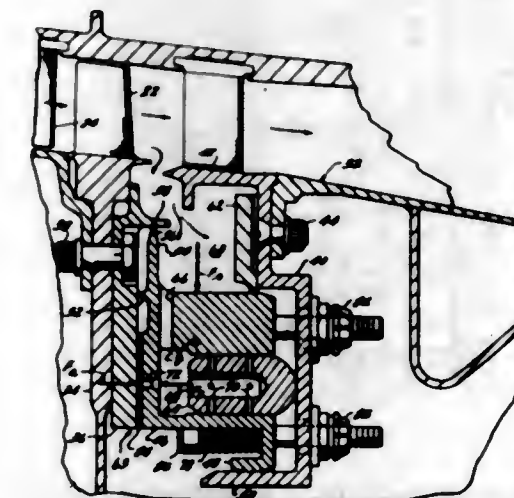
3,383,033

**SEALING MEANS FOR AXIAL FLOW COMPRESSOR DISCHARGE**

Clinton C. Moore, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed Apr. 27, 1966, Ser. No. 545,611

12 Claims. (Cl. 230-132)



The invention concerns an axial flow compressor having a rotor, an outer casing forming an annular flow path for pressurized gases, an inner frame forming with the outer casing a continuation of the flow path, and fluid biased axially movable seal means between the frame and the rotor.



3,383,034

**MECHANICAL FAN ASSEMBLY**

Shefford L. Keene, 517 Wine St., Hampton, Va. 22369, and Richard T. Palmer, deceased, late of Hampton, Va., by Susie B. Sinclair, administratrix, 166 Wine St., Hampton, Va. 22369

Filed May 17, 1966, Ser. No. 551,193

3 Claims. (Cl. 230-269)



A mechanical fan assembly comprising: a U-shaped handle having opposed parallel spring arms; a first lever pivoted to the first arm; a second lever pivoted to the second arm and intermediate the ends of said first lever; a fan pivoted to the end of said first lever, said fan being swingable from an active position above said handle to a storage position between said arms.

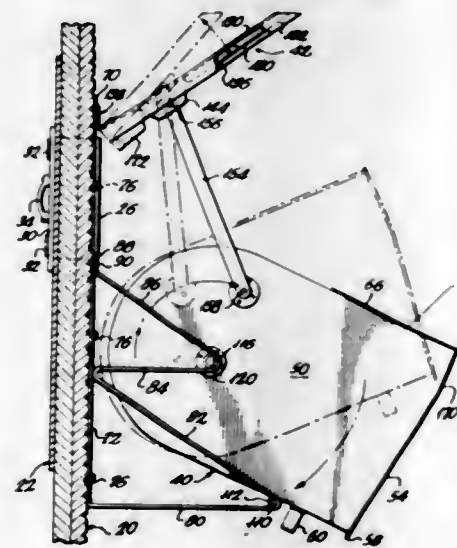
3,383,035

**RECEPTACLE**

Lawrence E. Smithers, 4 Wessex Road, Silver Spring, Md. 20910

Filed Dec. 20, 1966, Ser. No. 603,282

9 Claims. (Cl. 232-43.1)



The receptacle includes a hollow body means mounted for pivotal movement about a pivot axis on a support structure. The center of gravity of the body means is offset with respect to the pivot axis so that the body means normally remains in its upright storage position. A hole is provided in the rear wall of the body means for receiving material into the hollow interior thereof. A lid for closing off the open upper end of the body means is pivotally supported for pivotal movement with respect to the body means. A pair of links at opposite sides of the body

means are provided, the lower ends of these links being pivotally connected to the body means and the upper ends of these links being pivotally connected with the lid so that pivotal movement of the body means causes relatively movement of the lid. The portions of the upper edges of the side walls of the body means adjacent the rear wall thereof are cut away to clear the lid as the body means is pivoted from its vertical storage position. Plates extending downwardly from the lid are disposed adjacent these cutaway portions to prevent the entry of foreign matter through these cutaway portions. A pair of sealing gaskets extend downwardly from the lid adjacent the upper edges of the side walls of the body means to provide a seal therewith. A handle is provided on the body means for pivoting the structure from its storage position to its discharge position, and a horizontally extending stop bar is provided for limiting downward swinging of the body means. In a modified form of the invention, a closure means is provided for the hole in the rear wall of the body means, this closure means including a pair of side members extending substantially normally therefrom to facilitate loading of material into the body means.

3,383,036

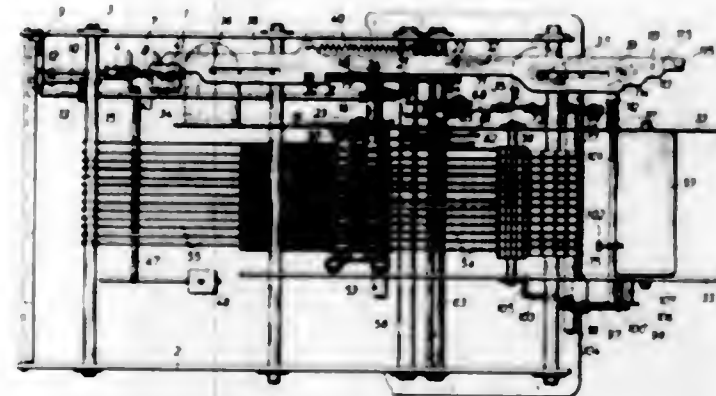
**ARRANGEMENT FOR POSITIONING THE DECIMAL POINT IN CALCULATING MACHINES**

Otto Haberkorn, 28 Wendenstrasse, 7342 Gerstetten-Württemberg, Germany

Filed May 12, 1966, Ser. No. 549,618

Claims priority, application Germany, May 28, 1965, W 39,233

7 Claims. (Cl. 235-60.15)



1. In an arrangement for printing the decimal point for varying decimal places in the recorded amounts of calculating machines having a ten-key keyboard, a mechanism for printing the recorded amount, an axially movable and rotatably mounted shaft positioned laterally on the calculating machine adjacent said printing mechanism, a decimal point type key mounted on said shaft, a longitudinally movable control bar with an edge thereof normally engaged by one end of said shaft, spring means for urging said shaft end against said control bar edge, there being successive stepped shoulders on said control bar edge and engageable by said shaft end, and means operatively connected with said control bar for moving the same to bring successive stepped shoulders into engagement with said shaft end whereby said shaft and said decimal point type key are moved to the left to vary the number of decimal places in the recorded amount.

3,383,037

**ELECTRICAL APPARATUS**

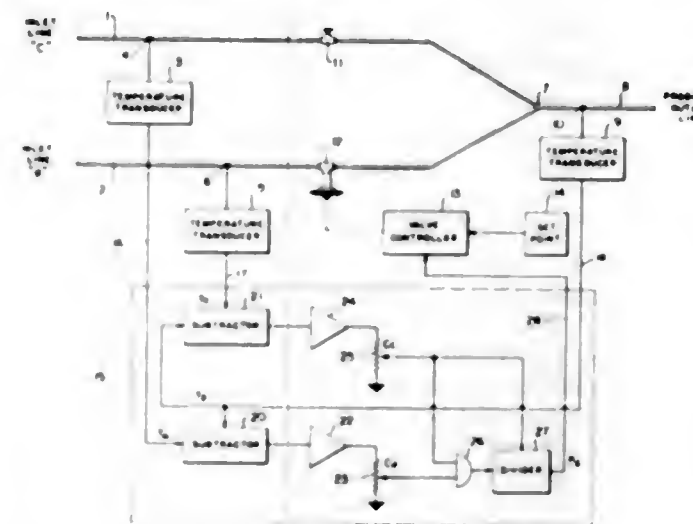
John Vince, Lansdale, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Sept. 29, 1965, Ser. No. 491,263

7 Claims. (Cl. 236-12)

A fluid ratio blending system is operative to control the ratio of two constituent fluids in a product fluid by

means of a control action on only one of the constituent fluids. The control is effected by means of measuring the



temperature of the constituent fluids and the product fluid and regulation of the one constituent fluid.

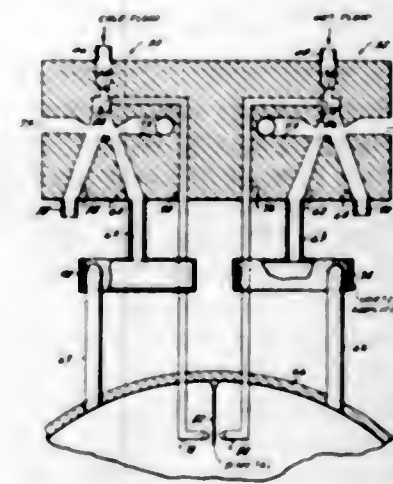
3,383,038

**FLUID TEMPERATURE CONTROLS PARTICULARLY FOR GAS TURBINE ENGINES**

Willis A. Boothe, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Oct. 22, 1965, Ser. No. 500,697

4 Claims. (Cl. 236-13)



A fluid temperature control for providing a speed reference signal insensitive to the changes in the ambient operating temperature of a gas turbine engine. The reference signal generating means includes a chamber which has a fluid pressure signal input having a frequency proportionate to the rate of turbine rotation. The chamber is flushed with a constant temperature gas derived from the engine so that changes in the input signal thereto result in changes in its output strength, whereby an error signal may be derived to vary fuel flow and thus maintain the turbine at a desired rate of rotation.

The constant temperature gas for the chamber is derived from a plenum which has inputs respectively connected to the engine compressor discharge and the turbine inlet. Flow dividers divert hot or cool air into the plenum to maintain a desired temperature. The flow dividers have control ports which either divert the hot or cool air to the plenum or divert it back to the engine gas stream. A bi-metal element in the plenum is effective against conduits connected to these control ports to control their pressurization for the described diverting function.

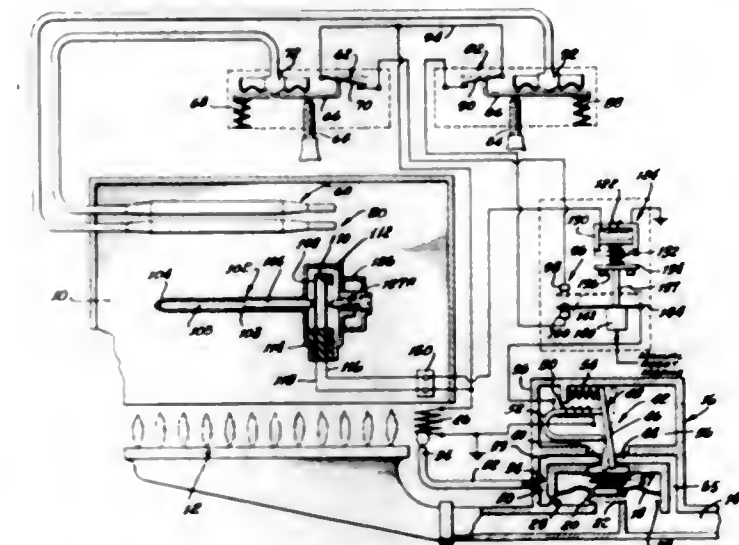
3,383,039

**DOMESTIC OVEN ROAST PROBE CONTROL SYSTEM**

William A. Ray, North Hollywood, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 22, 1965, Ser. No. 515,664

9 Claims. (Cl. 236-15)



An oven temperature control system, utilizing a pair of temperature sensing and control assemblies each capable of monitoring and controlling the temperature within the oven by controlling the main gas supply valve, provides a separate temperature sensitive adjustable probe for insertion into a roast to monitor the temperature inside the roast independently of the temperature inside the oven. Control of the main gas valve and burner is switched from one of the temperature sensing and control assemblies to the other by operation of the probe.

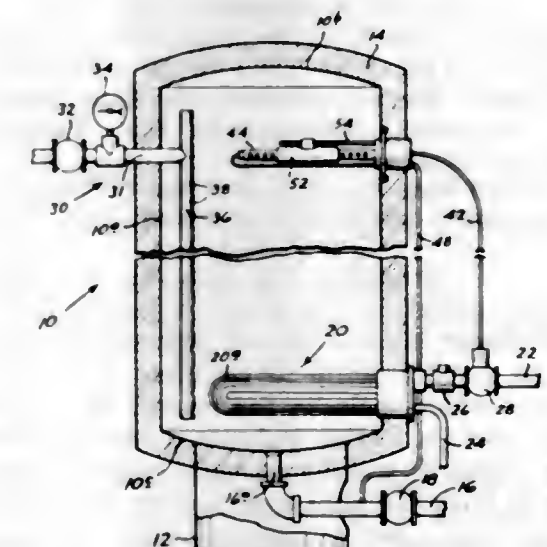
3,383,040

**HEAT EXCHANGER WITH THERMOSENSITIVE CONTROL**

William J. Darm, 1313 SE. 12th Ave., Portland, Ore. 97222

Filed Aug. 2, 1966, Ser. No. 569,719

9 Claims. (Cl. 236-18)



A hot water heat exchanger including a tank with a heating element adjacent the base of the tank for heating water. A bleed conduit bleeds a portion of the cold water being introduced to the tank and feeds such against a thermosensitive bulb controlling the heating element. Water is discharged from the bleed conduit through a nozzle spaced from the thermosensitive bulb, and a tubular part interposed between such nozzle and bulb is adjustable to produce a change in the mix of water which



flows against the bulb. Hot water is withdrawn from the tank through an upright perforated pipe effective to stabilize the temperature of the water withdrawn.

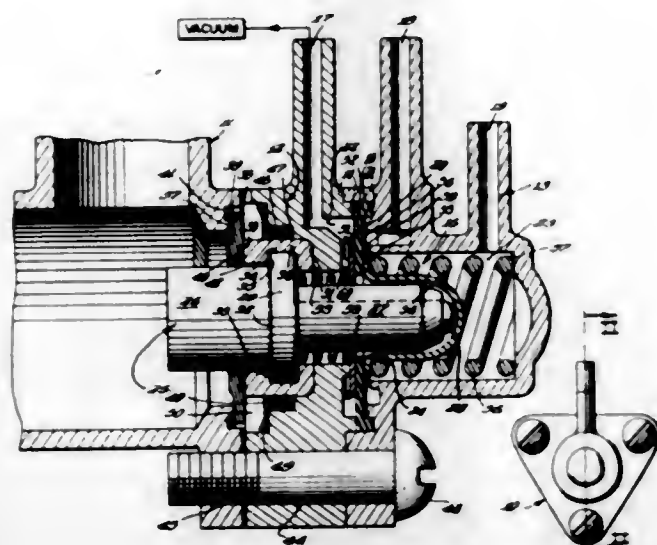
3,383,041

**DUAL FUNCTION THERMAL VACUUM VALVE**

Eugene E. Stratynski, Morton Grove, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Aug. 23, 1966, Ser. No. 574,383

15 Claims. (Cl. 236—86)



A dual function valve having a vacuum inlet, a vent port and an outlet and having first and second valve means for sequentially connecting the vacuum inlet to the outlet and enclosing off the vent port and subsequently closing off the vacuum inlet and connecting the outlet to the vent port. The first valve means consists of a resilient diaphragm which is opened and closed with respect to the vent port and the second valve means consists of a spring guide member which is held firmly against the resilient diaphragm to close off the communication of the vacuum inlet relative to either the vent port or the outlet.

3,383,042

**GAS-HEATED CONTINUOUS-FLOW HEATER FOR HOT-WATER CIRCULATION HEATING**

Günther Möbius, Wermelskirchen, and Hans Meier, Remscheid, Germany, assignors to Joh. Vaillant KG., Remscheid, Germany

Filed Jan. 12, 1966, Ser. No. 520,248

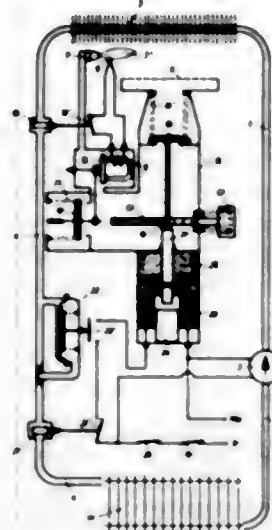
Claims priority, application Germany, Feb. 13, 1965, V 27,775

8 Claims. (Cl. 237—8)

A hot water heating system has a gas heater, a radiator (which might be any type of heat utilization apparatus) and an electric pump to circulate the water thru a water circuit which includes the heater, the radiator and the pump. The gas heater includes a main burner and a pilot light. Through a main gas valve gas is supplied from the mains to both the pilot light and to the main burner. A push rod is provided to open the main gas valve, with the main valve being held open by an electro-magnet provided that the pilot light is burning. A thermo-electric device supplies electricity to the electro-magnet through a circuit which includes a switch controlled by a thermo-static element in the water circuit to open the switch in the event of excess temperature in the water circuit.

Between the main gas valve and the main burner is a safety valve which is normally urged toward the closed position by a spring. The safety valve is opened by an electro-magnet and a dashpot is connected thereto so as to slow the opening of the safety valve. The electro-

magnet for the safety valve is connected in a series circuit including four switches. One of these switches is controlled by a flow sensing device in the water circuit to close the switch only when water circulation is occurring. A second switch is controlled by a thermo-responsive element in the water circuit to close the switch only when the water temperature is below a given measurement. The portion of the circuit that includes these two switches



and the safety valve electro-magnet are connected in parallel with the water pump for the water circuit. The third switch is the house thermostat switch or the like, and the fourth switch is the main disconnect switch. The push rod to operate the main gas switch has an interlock with the safety valve, operating so that if the safety valve is open, the push rod cannot be moved so as to open the main gas valve. The main gas valve can only be opened by the push rod when the safety valve is closed.

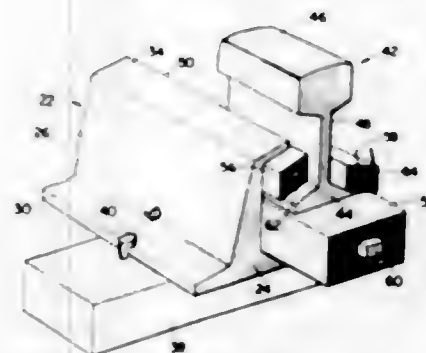
3,383,043

**RAILROAD TRACK STRUCTURE**

Robert M. Tew, 4020 Leesburg Road, Fort Wayne, Ind. 46808

Filed Jan. 3, 1967, Ser. No. 606,783

17 Claims. (Cl. 238—283)



A railroad track structure providing continuous flotation support for the rails. An elongated, generally channel-shaped member is provided having a bottom wall and upstanding side walls. The base portion of the rail is positioned between the side walls with a part of the web portion and the head portion of the rail projecting upwardly from the channel member. Three elongated compression-flotation members are provided formed of rubber-like material and having a generally rectangular cross-section. One of these members is seated on the bottom wall of the channel member extending between the side walls and supporting the base portion of the rail. The other two members are respectively seated on the upper surfaces of the base portion of the rail extending between the web portion and a respective side wall.

Longitudinally extending elements are provided secured to the side walls of the channel member and extending inwardly toward the web portion of the rail, these elements engaging the upper surfaces of the upper two compression-flotation members and continuously maintaining all of the compression-flotation members in compression. Each of the compression-flotation members has an elongated metal core which facilitates initial insertion of the members in the channel member and further contributes equalized control inertia to the flotation assembly.

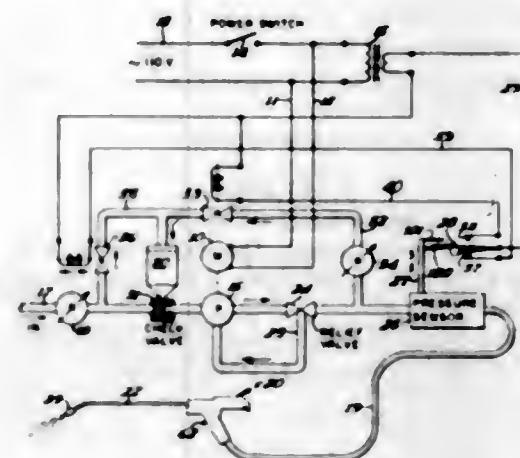
3,383,044

**HYDRAULICALLY CONTROLLED PRESSURE WASHER**

Iven R. Norstrud, John H. Threlkeld, and Dennis J. Threlkeld, Britt, Iowa, assignors to Britt Tech Corporation, Britt, Iowa, a corporation of Iowa

Filed Aug. 9, 1965, Ser. No. 478,289

24 Claims. (Cl. 239—126)



Disclosed herein is a hydraulically controlled pressure washer device adapted for washing automobiles and the like and constructed to discharge water, detergent, and other cleansing solution alone or in a mixture under relatively high pressure. The particular solution desired may be selected by the operator of the flow-directing means by merely releasing the trigger and adjusting the back-pressure control means that is carried on the gun. The gun is constructed so as to require the particular back-pressure selected to be developed within the discharge line before the flow can commence and when the flow does commence, it will always be at the same operating pressure. Through the use of pressure-sensitive control actuating means connected in the discharge line, it is possible to select the desired liquid by merely adjusting the back-pressure to be developed within the line at the gun before depressing the trigger. A pressure sensor within the discharge line activates one of a series of switches which controls the particular liquid to be discharged and the switch which is activated depends upon the extent to which the pressure sensing device reacts to the pressure developed in the discharge line.

3,383,045

**AUTOMATIC REFRIGERATION COIL COOLANT SUPPLYING APPARATUS**

George Van Dyck, Lake Oswego, Oreg., assignor of seventy-five percent to John F. Doranish, Lake Oswego, Oreg.

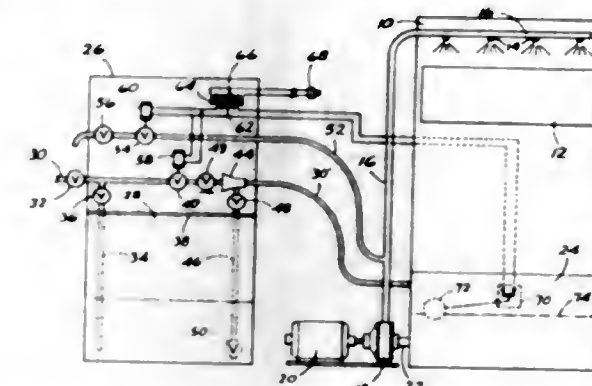
Filed May 10, 1966, Ser. No. 549,047

5 Claims. (Cl. 239—127)

1. Apparatus for maintaining a predetermined volume and concentration of an aqueous coolant liquid solution of corrosion inhibiting material in the collecting receptacle of a refrigeration coil cooler wherein the latter includes coolant liquid spray means supplied with coolant liquid

from the collecting receptacle through a motor driven pump and the coolant liquid is returned by gravity from the spray means to the collecting receptacle, the apparatus comprising

- (a) a container for a supply of concentrated solution of corrosion inhibiting material,
- (b) water supply conduit means adapted for connection at one end to the collecting receptacle and at the opposite end to a source of water under pressure,
- (c) aspirator means in the water supply conduit means having a main inlet facing a source of water under pressure and an outlet facing a collecting receptacle, the aspirator means also having an auxiliary inlet,



- (d) mixing conduit means communicating at one end with the container and at the opposite end with the auxiliary inlet of the aspirator means,
- (e) valve means in the water supply conduit means,
- (f) electrical actuator means for the valve means and having an electric circuit,
- (g) switch means in the electric circuit, and
- (h) float means in the collecting receptacle operatively engaging the switch means for operating the latter at a predetermined level of solution in the receptacle.

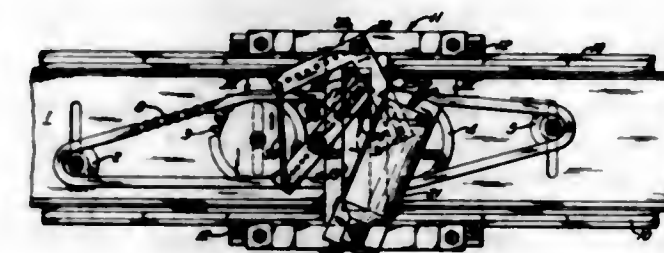
3,383,046

**SPRAY COATING APPARATUS**

Richard O. Voegtly, Harmony, Pa., assignor to Callery Chemical Company, Callery, Pa., a corporation of Pennsylvania

Filed Dec. 2, 1966, Ser. No. 598,732

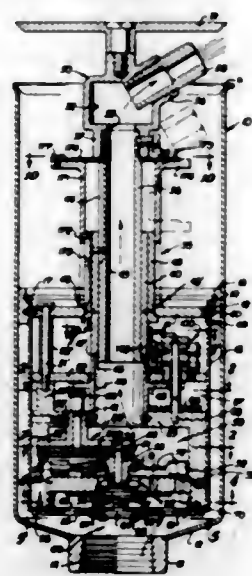
8 Claims. (Cl. 239—186)



1. Spray coating apparatus comprising a track, an endless chain extending lengthwise of the track, sprockets supporting the chain, means for driving one of the sprockets at a constant speed, a carriage movable back and forth along the track, means connecting the chain with the carriage for moving the carriage, an arm pivotally supported by the carriage for swinging lengthwise of the track, a spray gun supported by the arm, a lever, a pivot connecting the lever to the carriage, means pivotally connecting said chain with said lever to turn the lever as the position of said pivotally connecting means relative to said pivot changes, and means operatively connecting the lever with said arm to swing the arm as the lever turns.

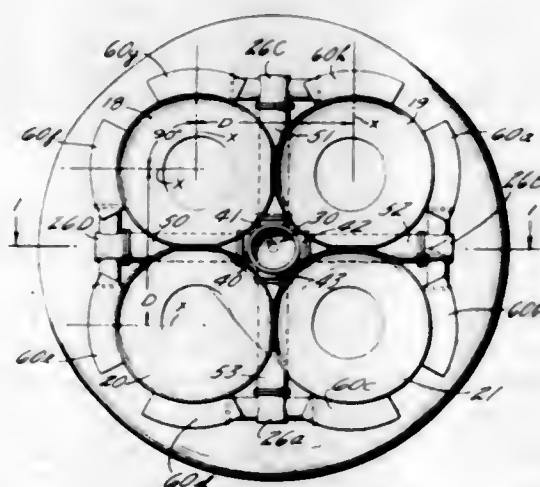


**3,383,047**  
**SPRINKLER**  
 Fred Hauser, 1544 Midvale Ave.,  
 Los Angeles, Calif. 90024  
 Filed Nov. 19, 1965, Ser. No. 508,735  
 12 Claims. (Cl. 239-206)



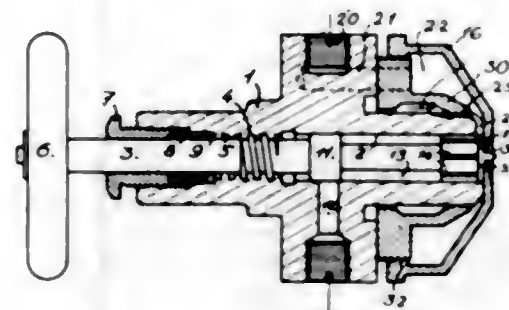
A pop-up type of water sprinkler including a water operable motor means for driving a sprinkler head, a clutch and drive train interconnecting the water motor and sprinkler head for driving the sprinkler head in a reciprocable adjustable arcuate movement, and including means for adjusting the water pressure so as to control the length and size of the stream of water ejected from the sprinkler head and means for adjusting the speed of the reciprocable arcuate movement of the sprinkler head.

**3,383,048**  
**COMBUSTION GAS TRANSFER SYSTEM FOR ROCKETS**  
 Stanley A. Mosier, North Palm Beach, Fla., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
 Filed Nov. 27, 1964, Ser. No. 414,944  
 10 Claims. (Cl. 239-265.23)



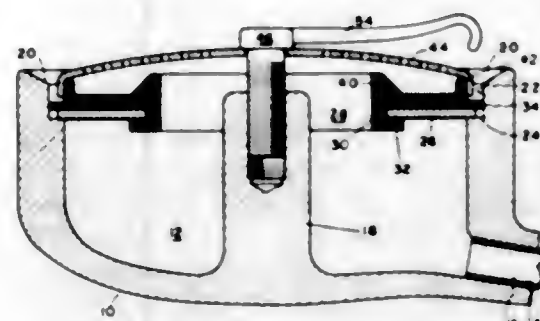
An apparatus for obtaining a hot gas supply from an engine exhaust formed of a gas-solid mixture for thrust vector control wherein the hot gas has been rid of all or a great majority of the solid particles therein. An additional thrust nozzle is positioned along with regular exhaust nozzles which provides the means for separating the solid particles and providing a source of gas for use in vectoring control.

**3,383,049**  
**MEANS OF COMBATING ATMOSPHERIC POLLUTION AND A CORRESPONDING BURNER**  
 Robert E. Guerin, 29 Rue du Champ de Mars,  
 Paris, France  
 Filed Oct. 11, 1966, Ser. No. 585,926  
 Claims priority, application France, Oct. 11, 1965,  
 34,500  
 6 Claims. (Cl. 239-400)



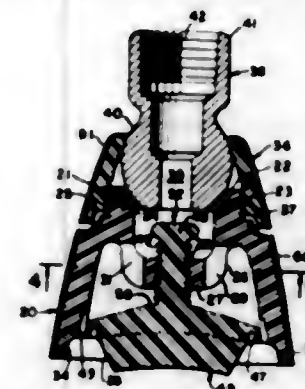
A fuel burner having means to controllably combine a fluid fuel, water in a liquid form and air then atomize the combination to form an atomized combustible mixture.

**3,383,050**  
**SHOWER HEAD**  
 Buckley Crist, 3 Taylor Road, Downingtown, Pa. 19335,  
 and Ralph F. Wolf, Lancaster, Pa., said Wolf assignor to said Crist  
 Filed Sept. 27, 1966, Ser. No. 582,312  
 6 Claims. (Cl. 239-436)



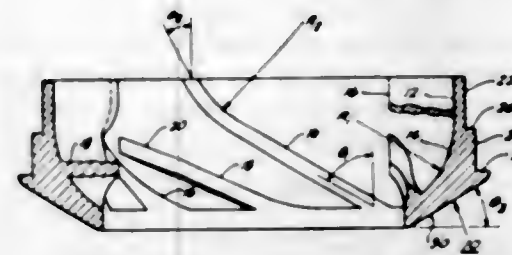
1. A shower head construction which comprises
  - (a) a casing having wall structure forming a chamber providing an open water dispensing end and an inlet for supplying water to the chamber,
  - (b) a continuous recess in the inner wall of the casing merging with the open water dispensing end and providing a continuous shoulder,
  - (c) a valve assembly comprising a rigid disk supporting a resilient diaphragm and positioning the outer periphery of the diaphragm in sealing relation with the inner face of the recess,
  - (d) said rigid disk and said diaphragm having apertures disposed in alignment permitting the passage of water from said inlet to said dispensing end of the chamber,
  - (e) a cover having a continuous outer flange movably received in said recess and a perforated area generally defined by the outer flange,
  - (f) continuous spaced sealing ribs on said diaphragm extending toward said cover,
  - (g) connector means between the cover and the casing permitting adjustment of the cover toward said diaphragm and,
  - (h) means exteriorly of the cover permitting manual adjustment of the cover to a position whereby the continuous ribs contact the cover and are effective to seal off a part of the perforated area of the cover and to permit water to be dispensed through the remaining perforated area.

**3,383,051**  
**SHOWER HEAD**  
 Arthur A. Fiorentino, Newark, Del., assignor to Speakman Company, Wilmington, Del.  
 Filed Jan. 10, 1966, Ser. No. 519,626  
 2 Claims. (Cl. 239-460)



A plastic shower head having an unrestricted internal passage from the inlet supply opening to the quadrangular spray openings of varying angles arranged about the inner periphery of the discharge end of the shower head. Flexible lips of an axially adjustable spray face confine and vary the water flow through the spray openings resulting in a uniform cone spray.

**3,383,052**  
**BURNER END CONE HAVING TWO DIFFERENT TYPES OF VANES**  
 Wilson D. Dysart and William J. Zollinger, Crystal Lake, Ill., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California  
 Filed June 28, 1966, Ser. No. 561,218  
 15 Claims. (Cl. 239-490)

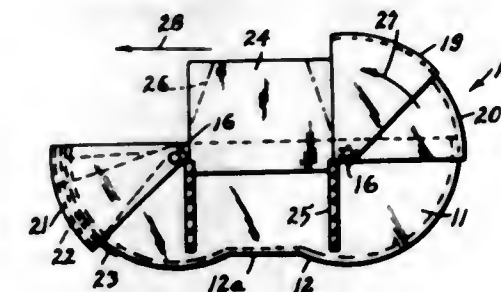


1. A burner end cone comprising an annular body member having a fluid inlet opening at one end, a fluid outlet opening of reduced size at the opposite end, and an internal flow passage extending the length of said body member communicating said inlet with said outlet; a plurality of first flow directing vanes protruding from the interior surface of said body member into said flow passage and extending the length of said body member from said inlet opening to said outlet opening, said vanes being angularly displaced from a line parallel with the center axis of said body member; and a plurality of second flow directing partial vanes protruding from the interior surface of said body member, said second vanes being alternately disposed between said first vanes and extending from a point on the interior surface of said body member intermediate said ends to said fluid outlet.

**3,383,053**  
**DUAL CHAMBERED ROTARY MILL, MIXER AND SPREADER CONTAINING RETRACTABLE HOODS**  
 George C. Wood, % Darf Corporation,  
 Edenton, N.C. 27932  
 Filed Feb. 17, 1966, Ser. No. 528,286  
 5 Claims. (Cl. 239-658)

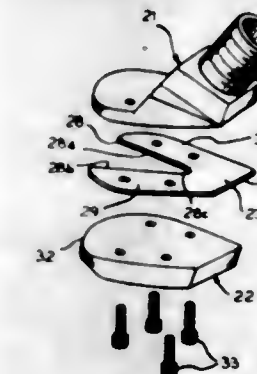
1. In a material mill, mixer and spreader, a horizontally elongated housing forming a pair of laterally juxtaposed substantially semi-cylindrical chambers in com-

munication with each other at the center of the housing, a rotary beater unit provided in each of said chambers, a set of projectable and retractable hoods provided on one of said chambers whereby material treated by the beater unit in that chamber may be guided and discharged longitudinally over and beyond the other chamber while



the beater unit in the other chamber is inoperative, and a set of projectable and retractable hoods provided on the other chamber whereby material treated by the beater unit in said other chamber may be excluded from the first chamber and guidingly discharged from the other chamber in the same direction as from the first chamber.

**3,383,054**  
**COATING NOZZLE**  
 Anthony R. Nugara, Chicago, Ill., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts  
 Continuation of application Ser. No. 459,660, May 28, 1965. This application July 31, 1967, Ser. No. 657,425  
 11 Claims. (Cl. 239-597)



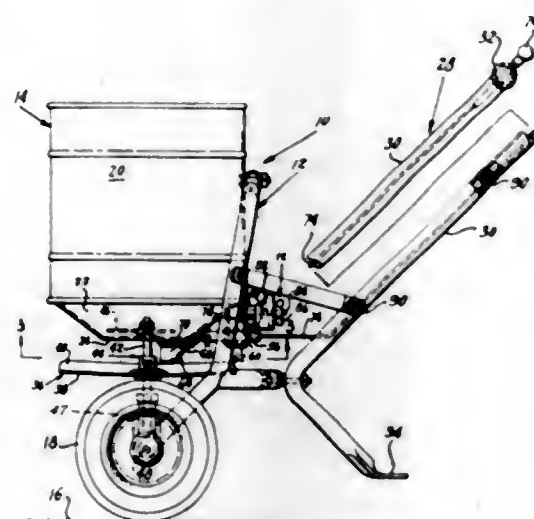
1. A nozzle for coating articles comprising a body having an inlet and a discharge orifice, said discharge orifice being defined by a pair of substantially parallel flat surfaces and a pair of opposed diverging surfaces between said flat surfaces and extending substantially perpendicular thereto, all of said surfaces terminating coextensively to define said discharge orifice as an arcuate slot, a passageway between said inlet and said parallel surfaces and extending at an angle thereto of between 125 and 150 degrees, said passageway opening through one of said flat surfaces and opposite the other of said flat surfaces and defining therewith an inlet orifice, and said inlet orifice being spaced from said discharge orifice and being flared on the side adjacent the discharge orifice to enable better flow between the passageway and the area between said parallel flat surfaces.

**3,383,055**  
**MATERIAL SPREADER**  
 Paul L. Speicher, Urbana, Ind., assignor to The Cyclone Seeder Co., Inc., Urbana, Ind., a corporation of Indiana  
 Filed Dec. 2, 1965, Ser. No. 511,140  
 5 Claims. (Cl. 239-687)

Agricultural broadcasting apparatus including a wheel supported frame mounting a hollow hopper having a



bottom wall provided with a material discharge slot offset with respect to the center thereof, a material distributor plate mounted for rotation on the frame below the slot, material guide means disposed intermediate the plate and the hopper bottom wall and being fixedly connected to the latter, the material guide means including a ramp disposed in the direct path of travel of material released through the slot and being downwardly inclined to terminate adjacent to and vertically spaced from the center



of the distributor plate, a valve plate slidably mounted on the bottom wall and adjacent portions of the guide means, the valve plate having a normally closed position in which it extends across the material discharge slot, and means on the apparatus selectively operable to move the valve plate to an open position to permit passage of material from the hopper through the slot to fall on the ramp for guided discharge to selected portion of the distributor plate.

3,383,056

# METHOD FOR DISINTEGRATING POROUS SOLIDS

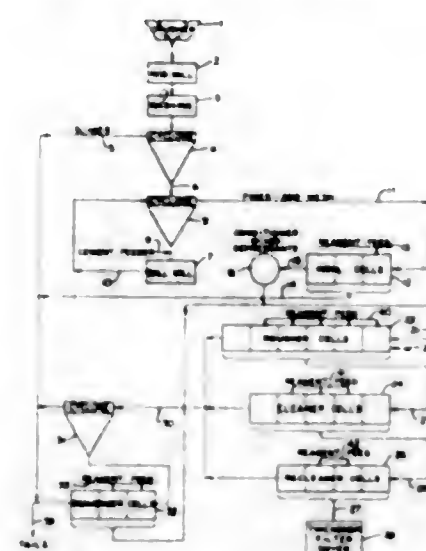
Leonard C. Drake, Wrentham, N.J., assignor to Mobil Oil Corporation, a corporation of New York  
No Drawing. Filed Feb. 7, 1966, Ser. No. 525,362  
10 Claims. (Cl. 241-1)

1. In a process for producing subdivided solid particles of a size below 1000 microns from porous, substantially moisture-free solid granules of a size in the range of 1 to 25 mm., the steps comprising mixing said granules with a substantially pure liquid characterized (1) by having a substantially sharp melting point, (2) by contracting in volume during cooling, (3) by undergoing a substantial contraction in volume during crystallization, and (4) by being stable at the temperatures employed in said process, the temperature of said granules and said liquid during the mixing step being intermediate the freezing and boiling points of said liquid, occluding in the pores of said granules a quantity of liquid as a result of said mixing step, separating the granules from the mixture and removing any excess liquid from surfaces of the granules, cooling the granules to a temperature below the freezing point of the occluded liquid, thereby forming solid crystals of said liquid in the granules, bringing the granules into contact with a second liquid at a temperature below said freezing point, and maintaining said contact for a time sufficient for said granules to enter upon a process of disintegration, said disintegration process ranging from the appearance of cracks in the granules to outright fragmentation thereof with production of said subdivided solid particles, removing said liquid and said crystals, and recovering said disintegrated granules.

## 3,383,057 CONTROLLED REAGENT INTRODUCTION IN A MAGNESITE ORE CONCENTRATION PROCESS

Tage L. B. Jepsen, Gabbs, Nev., assignor to Basic Incorporated, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 16, 1965, Ser. No. 514,229  
10 Claims. (Cl. 241-20)



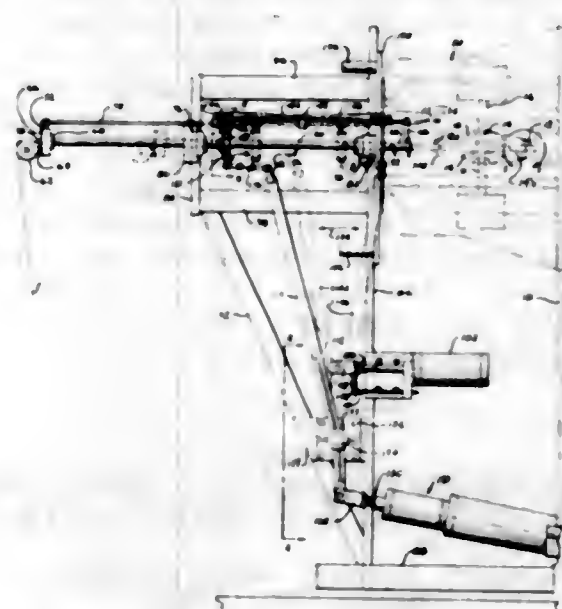
1. In the froth flotation separation of magnesite from siliceous and calcareous impurities contained in the ore, in which deslimed magnesite ore in a flotation size range is pulped and introduced into a froth flotation concentration stage, the improvement which comprises mixing a selected group of depressant reagents for siliceous and calcareous impurities in predetermined proportions in a liquid carrier, subjecting the magnesite ore pulp to agitation and aeration in the flotation stage, introducing the pre-mixed depressant reagents into the pulp in said stage at a predetermined rate, and stage-adding an oily magnesite collector reagent to the pulp in the flotation stage in starvation amounts at intervals in its progressive flow through the flotation stage so as to promote flotation of portions of the total magnesite content at each introduction stage of said progressive flow.

3,383,058

# STATOR WINDING MACHINE

Robert N. Slayton, Enon, Ohio, assignor to The Globe Tool and Engineering Company, Dayton, Ohio, a corporation of Ohio

Filed June 24, 1966, Ser. No. 560,131  
10 Claims. (Cl. 242-1.1)



1. For use with a stator winding machine of the type utilizing a main shuttle having a wire outlet driven along a predetermined path to wind a coil or coils of wire onto

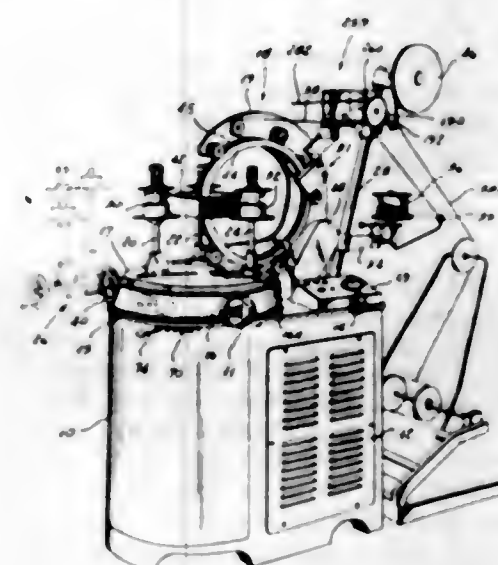
a stator core, an auxiliary shuttle having a wire outlet, support means reciprocally supporting said auxiliary shuttle for movement with and adjacent said main shuttle and in a position wherein said wire outlet of said auxiliary shuttle may follow substantially the path of said wire outlet of said main shuttle, and selectively operable means releasably operatively connecting said auxiliary shuttle to said main shuttle for simultaneously winding an additional coil or coils onto said stator core.

3,383,059

# TOROIDAL COIL WINDING MACHINE

Rudolf Fahrback, Union, N.J., assignor to Universal Manufacturing Co. Inc., Irvington, N.J., a corporation of New Jersey

Filed Mar. 22, 1965, Ser. No. 441,472  
5 Claims. (Cl. 242-4)



1. A toroidal coil winding machine comprising in combination a permanent platform and an exchangeable transitory winding head, said platform having a plurality of core supporting pedestals, means for orienting said pedestals with respect to each other to support thereby any one of a plurality of different size cores, manually operable slidable platform means for orienting said pedestals conjointly with respect to said platform whereby a core supported by said pedestal is manually positionable relative to said head, said winding head having a split ring magazine, means for rotating said magazine, mounting means for allowing easy replacement of said head, including means for disconnecting said magazine rotating means, means on said platform for measuring the length of material to be wound upon a core, means for cutting the material at the measured length, and means for advancing the remaining end of said cut material.

3,383,060

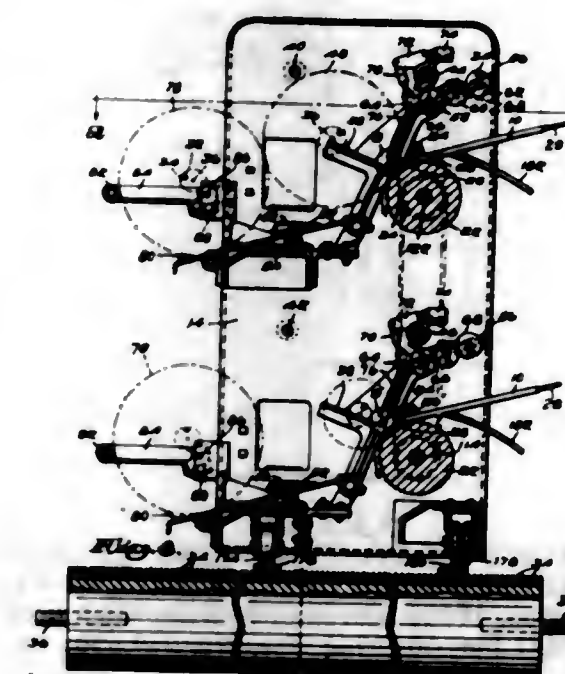
# AUTOMATIC WINDER AND DOFFER FOR FORMING LARGE CHEESES

Irving C. Howes, North Andover, and Jacques Guigulzian, Haverhill, Mass., assignors to Davis & Furber Machine Company, North Andover, Mass., a corporation of Massachusetts

Filed Oct. 22, 1965, Ser. No. 500,591  
10 Claims. (Cl. 242-54.4)

An apparatus for winding and doffing large cheeses of roving material, having a strip of card clothing extending the axial length of the jack spools on which roving is wound to break the roving away from a filled jack spool

and concomitantly to engage the broken roving ends and start the winding of the rovings on the empty spool. The filled jack spools are moved by gravity to a doffing position



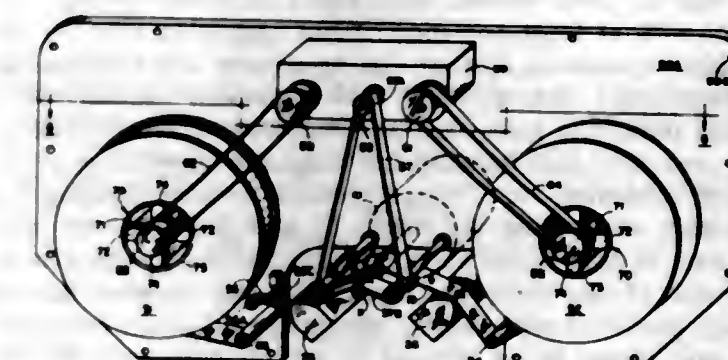
tion where they actuate switch means for releasing the spool retaining latches in the empty jack spool magazine to present a new spool in the winding position.

3,383,061

# TAPE TRANSPORT MEANS HAVING VARIABLE SPEED SUPPLY AND TAKE-UP REELS

Malcolm F. Thompson, 1602 Indus St., Santa Ana, Calif. 92707, and Frederic F. Grant, 14505 Eastbrook Ave., Bellflower, Calif. 90706

Filed Aug. 30, 1963, Ser. No. 305,878  
3 Claims. (Cl. 242-55.13)



A tape transport mechanism including a gearing mechanism for causing rotation of the supply and take-up reels at different rates in the same direction during recording and playback of data.

3,383,062

# METHOD AND APPARATUS FOR CONTINUOUSLY WINDING WEB MATERIAL WITH CONSTANT TENSION

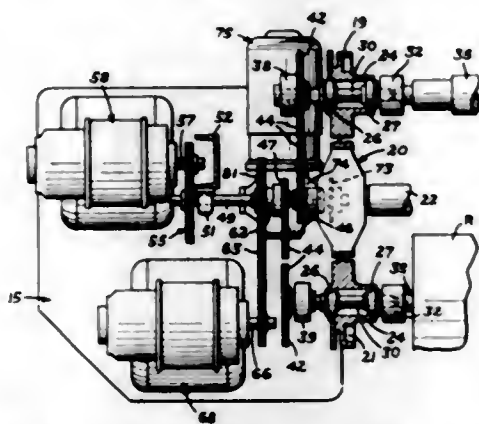
Edward F. Melhofer and Richard W. Phelps, Fulton, N.Y., assignors to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio

Filed June 30, 1965, Ser. No. 468,303  
5 Claims. (Cl. 242-56)

Apparatus and a method for transferring the unwinding of a web from a completed roll to an empty core on a reel supporting a plurality of cores. Each core is driven by a corresponding drive motor through an overrunning clutch to provide free running of each empty core without any drag from its corresponding drive motor after the peripheral speed of the core is brought up to slightly



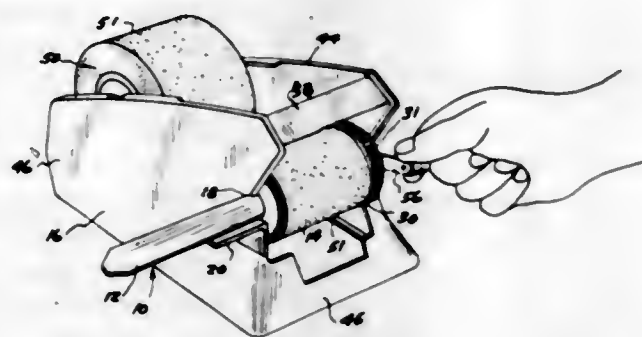
under the web speed, so that when such core is brought into engagement with the web during indexing of the



reel, significant variations in the web tension are eliminated.

3,383,063

**APPARATUS FOR LOADING LINT REMOVERS AND THE LIKE WITH LINT REMOVING TAPE**  
Philip Balaban, 19500 Sorrento, Detroit, Mich. 48235  
Filed Jan. 10, 1966, Ser. No. 519,650  
13 Claims. (Cl. 242—56)



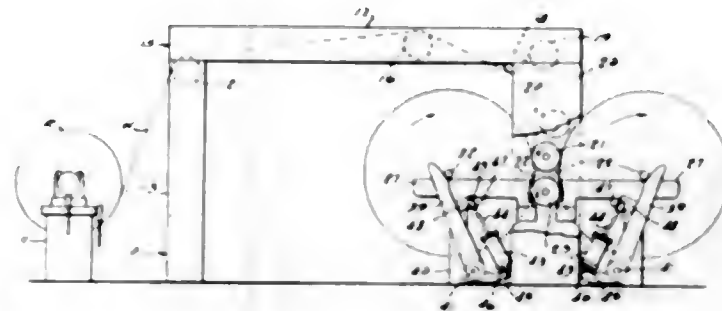
1. In combination with a lint remover comprising a handle and a drum adapted to be journaledly mounted on the end of said handle, said drum normally being provided with at least one turn of lint removing tape on the peripheral surface thereof, an apparatus for loading the drum of said lint remover with a predetermined length of lint removing tape, said apparatus comprising: a housing; means in said housing for rotatably supporting a roll of lint removing tape; support means in said housing for rotatably supporting the drum of said lint remover with the axis of said drum substantially parallel to the axis of said roll of lint removing tape; a driving member having a face provided with means engaging said drum for causing said drum to be rotated in unison with said driving member; a first gear concentric to said driving member and adapted to cause said driving member to rotate in unison therewith; a second gear meshing with said first gear; driving means causing said second gear to rotate so as to cause said first gear to rotate said driving member whereby a predetermined amount of lint removing tape is wound upon the peripheral surface of the drum of said lint remover; and means attached to said housing for shearing said lint removing tape for permitting removal of said lint remover from said support means.

3,383,064

**REWINDER FOR PAPER AND THE LIKE**  
David A. Daly, Exton, and Robert G. Lucas and John D. Pfeiffer, Downingtown, Pa., assignors to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware  
Filed Jan. 17, 1966, Ser. No. 521,100  
17 Claims. (Cl. 242—56.2)

Winder for rewinding webs of paper. A winder mandrel is supported on parallel rails for movement therealong. Laterally spaced lever arms engaging opposite

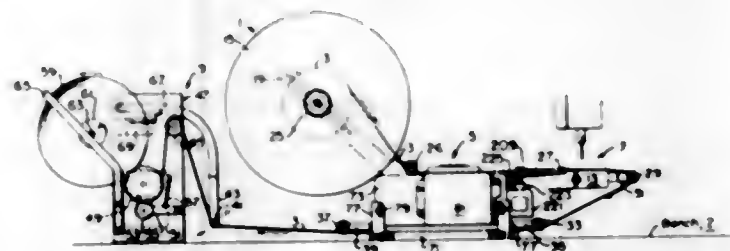
ends of the mandrel, wedge the mandrel and web thereon into contact with a pair of vertically spaced winder drums. The winder drums are driven in the same directions at different speeds to maintain a hard rolled web on the mandrel. The lever arms are retracted under the control of fluid pressure cylinders, to release the man-



drel as the roll builds up on the mandrel. The rails may extend horizontally or may slope to initially support the mandrel for nip engagement with the two winder drums, and then to support the roll of paper for nip engagement with one drum only, as the roll is wound to a predetermined diameter.

3,383,065

**STRIP PUNCHING AND FEEDING APPARATUS**  
Arthur C. Bergeron, Seekonk, and John W. Mitchell, Somerset, Mass., assignors to A. J. Mitchell Co., Fall River, Mass., a corporation of Massachusetts  
Filed Apr. 14, 1965, Ser. No. 448,213  
11 Claims. (Cl. 242—56.8)



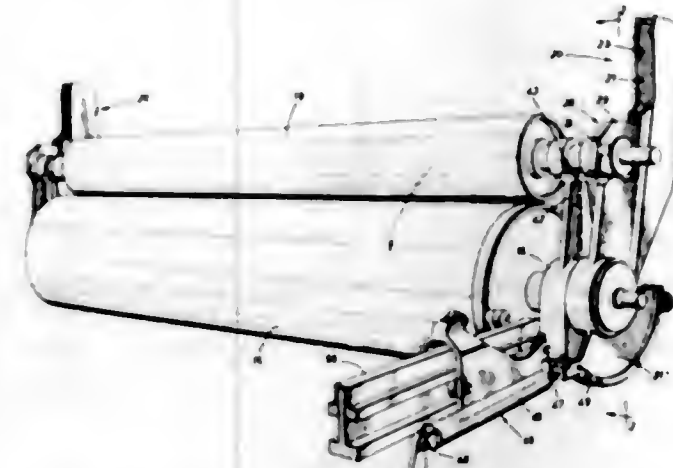
A strip punching and feeding apparatus wherein the punch and die are movably secured to a frame for lateral movement. Strip material is fed to the punch and die unit. The punch moves into the die cutting a disc while leaving small retaining ligatures in the outer periphery of the material. While the punch is engaged with the die, the unit moves laterally a predetermined distance carrying the strip and disc so formed with it so that a previously formed disc is fed to a work station. The punch then disengages from the die and both the punch and die return to their formed position the strip material remaining stationary.

3,383,066

**READY TRANSFER REEL**  
Robert M. Vadas, Montreal, Quebec, and Adu Randpalu, La Salle, Quebec, Canada, assignors to Dominion Engineering Works Limited, Lachine, Quebec, Canada, a corporation of Canada  
Filed Oct. 20, 1966, Ser. No. 588,153  
8 Claims. (Cl. 242—65)

1. A reel bar support frame, for use in a reeling machine having a reel drum rotatable about the main axis thereof and a pair of said support frames positioned adjacent the ends of said drum in cooperative reel bar supporting arrangement to move a said reel bar between a first substantially upright loading position and a second

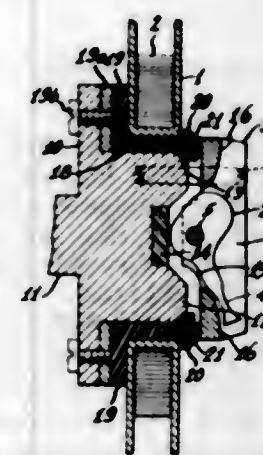
substantially horizontal withdrawal position, each frame comprising: a primary frame portion pivotally mountable adjacent said reel drum for angular movement relative thereto in a plane normal to said main axis, having a fixed reel bar contact surface located in a downward facing direction when the frame is in said second position, to permit unrestricted withdrawal of the frame from a said reel bar bearing on moving in the direction from said frame second position towards said frame first position; and reel bar bearing keep means mounted on the primary frame portion for movement relative thereof



from a closed position overlying a portion of said reel bar bearing, in which said reel bar bearing is secured to the frame by contact of the keep means against an outer portion of the bearing remote from said fixed contact surface, to an open position in which said reel bar bearing may be loaded on or off the frame, or the frame may be substantially freely withdrawn from said reel bar bearing by withdrawal movement in the direction from the frame second position to the frame first position, whereby withdrawal movement of the support frame may be effected independently of the wound condition of the reel bar.

3,383,067

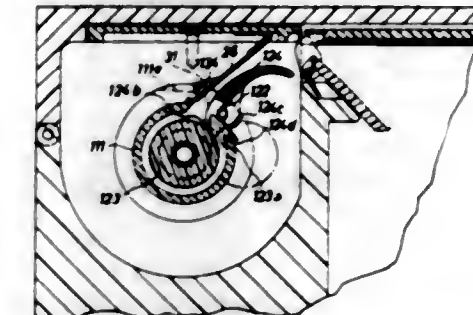
**TAPE REEL LATCH**  
Joseph M. Uritia, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Dec. 30, 1966, Ser. No. 606,226  
3 Claims. (Cl. 242—68.3)



A reel latching hub having an elastic jacket surrounding a drum centrally positioned in a reel center opening and arranged to normally fill the space between the drum and the reel opening to hold the reel. A cam means is used to separate the reel from the latching device by stretching the rubber jacket.

3,383,068

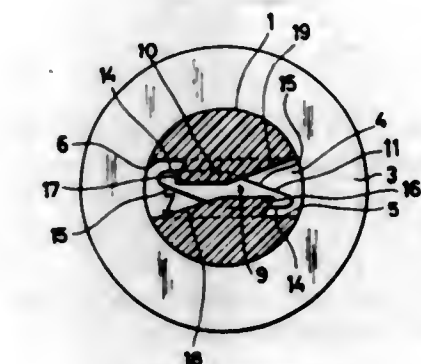
**CAMERA WITH AUTOMATIC FILM THREADING MEANS**  
Alfred Winkler and Heinz Ernst, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany  
Filed May 4, 1966, Ser. No. 547,568  
Claims priority, application Germany, May 7, 1965, A 49,148  
21 Claims. (Cl. 242—71.1)



1. In a photographic camera, a housing defining a chamber and comprising a platform along which the leading end of a supply of roll film can advance toward said chamber; a transporting mechanism for advancing the film; a take-up spool rotatably mounted in said chamber and coupled with said mechanism, said spool having a core provided with an inlet through which the leading end enters in response to advance of film into said chamber; and guide means for the film, said guide means comprising a guide member rotatable with said spool and movable by the leading end, upon passing of such leading end through said inlet, from a first position to a second position in which said guide member engages the film so that, in response to rotation of said spool, the film is automatically convoluted around said core and around said guide member.

3,383,069

**REEL FOR ROLL FILM**  
Anton Riedel, Gauting, and Clemenz Beck, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany  
Filed Mar. 13, 1967, Ser. No. 622,740  
Claims priority, application Germany, Sept. 16, 1966, A 53,513  
10 Claims. (Cl. 242—74)



A reel for roll film comprising a cylindrical core having a longitudinally extending substantially diametrical open-ended slot. The slot is bounded by two side surfaces and two end surfaces. Two guide members extend inwardly toward each other from the respective end surfaces, and two retaining member extend inwardly toward each other from the respective side surfaces and respectively serve to hold against retraction the leading end of a strip which has been introduced through a respective end of the slot.

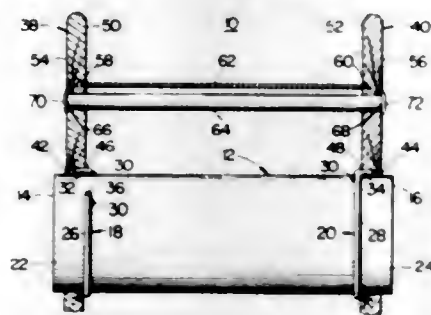


3,383,070

**REEL CONSTRUCTION**

Donavon L. Feaster, Fort Wayne, Ind., assignor to Universal American Corporation, Garrett, Ind., a corporation of Delaware

Filed Sept. 8, 1966, Ser. No. 577,850  
5 Claims. (Cl. 242—118.6)

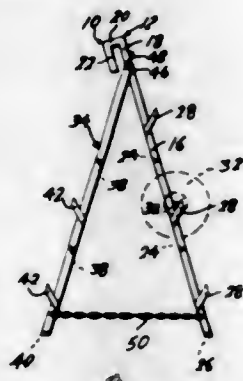


A wire reel having a cylindrical, metal hub member, a cylindrical barrel member concentrically surrounding the hub member, and a pair of end head members. A pair of retaining members are provided formed of spring wire respectively having annular portions embracing the hub member and welded thereto, and projecting portions extending axially along the surface of the hub toward its opposite ends. The end head members have central openings and are positioned on the ends of the hub member in engagement with the annular portions of the retaining members with the projecting portions of the retaining members respectively extending into apertures in the end head members.

3,383,071

**WIRE DISPENSER**

Roy E. Godson, P.O. Box 551, Fall City, Wash. 98024  
Filed Oct. 22, 1965, Ser. No. 501,814  
18 Claims. (Cl. 242—129.6)



A wire dispenser for use in the installation of electrical conduits in a building comprising a primary support and a secondary support pivotally attached to form a foldable stand, lugs on the secondary support adapted to support the ends of a shaft which in turn supports a spool of wire whereby the wire is dispensed by the rotation of the spool on the supporting shaft.

3,383,072

**TENSION CONTROL SYSTEM**

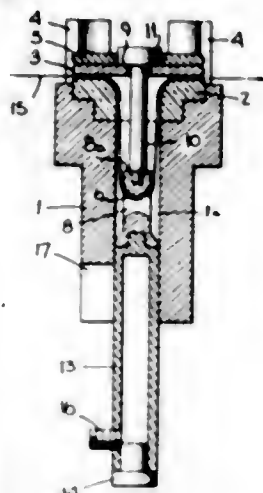
Lajos Horvath, St. Gall, Switzerland, assignor to Heberlein & Co., A.G., Wattwil, Switzerland, a corporation of Switzerland

Filed Oct. 20, 1966, Ser. No. 588,049  
Claims priority, application Switzerland, Nov. 26, 1965, 16,343/65

6 Claims. (Cl. 242—149)

1. Apparatus for compensating for tension variations in linearly advancing threadlike elements comprising a

cylindrical support having annular surface means upon which the threadlike element is received and delivered along a desired linear path, a guide member engageable by the threadlike element within a cavity extending lon-

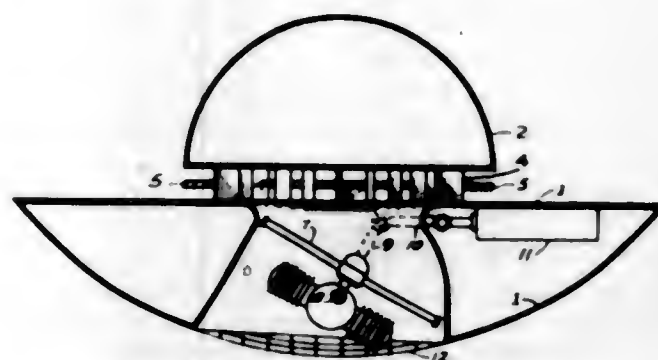


gitudinally of said cylindrical support and moveable vertically relatively to said support in response to variations in tension in the threadlike element, and means cooperating with said support surface means to apply a braking force to the advancing threadlike element.

3,383,073

**TILTING IMPELLERS FOR VERTICAL TAKEOFF-LANDING AIRCRAFT**

Paul B. Clover, 108 Professional Center Parkway, San Rafael, Calif. 94903  
Filed Apr. 4, 1966, Ser. No. 541,931  
3 Claims. (Cl. 244—23)



A tilting impeller, with particular application to aircraft, mounted within a duct to produce forces of lift and translation on the duct structure when tilted about an axis transverse to the airstream.

3,383,074

**VTOL AIRCRAFT**

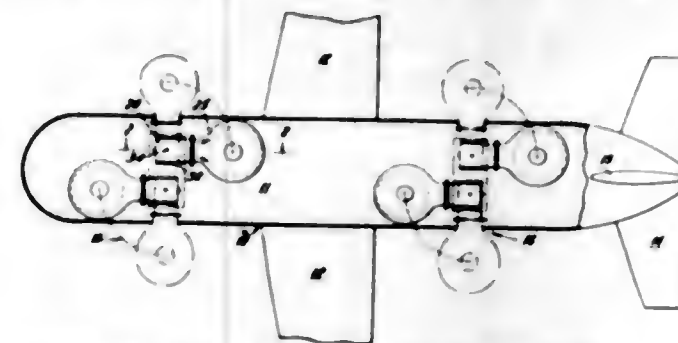
John Frederick Coptin, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed June 3, 1966, Ser. No. 557,338  
Claims priority, application Great Britain, June 14, 1965, 25,121/65  
14 Claims. (Cl. 244—55)

The disclosure of this invention pertains to an aircraft having at least one main engine for producing horizontal flight and at least one fan driven by the exhaust gases from said main engine mounted for movement between an inoperative position within the fuselage of the aircraft and a further position in which it is at least partly disposed externally of the aircraft, each fan being pivoted about a horizontal axis between a first position in which the fan produces lift forces on the aircraft independently of those produced by the aerodynamic surfaces of the aircraft during forward flight and a second position

in which the thrust produced by the fan has a rearward horizontally directed component to assist in the forward

stanchions become progressively farther spaced as the stanchions move from a horizontal position to a vertical position.



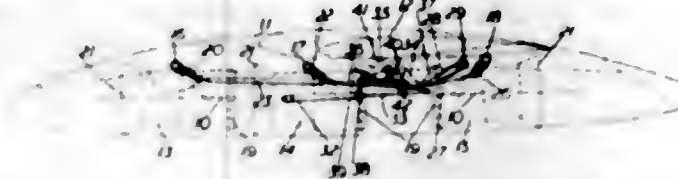
horizontal flight of the aircraft or has a forward horizontally directed component to effect braking of the aircraft.

3,383,075

**AIRCRAFT**

Ian Chichester-Miles, Harpenden, England, assignor to Hawker Siddeley Aviation Limited, Surrey, England

Filed May 5, 1966, Ser. No. 547,819  
Claims priority, application Great Britain, May 6, 1965, 19,257/65; Oct. 13, 1965, 43,487/65  
14 Claims. (Cl. 244—56)

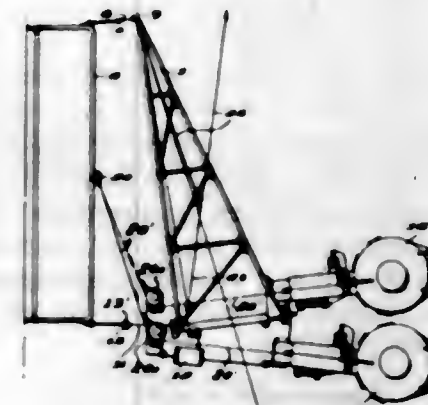


An arrangement for a V/STOL aircraft of swivelling lift engines disposed in a pod in at least one fore-and-aft row, wherein each engine is pivotally mounted to swivel about a substantially horizontal axis transverse to the pod, which axis does not intersect the main axis of center line of the engine but is offset to the forward or aft side of the engine casing (considering the engine in the vertical lift position).

3,383,076

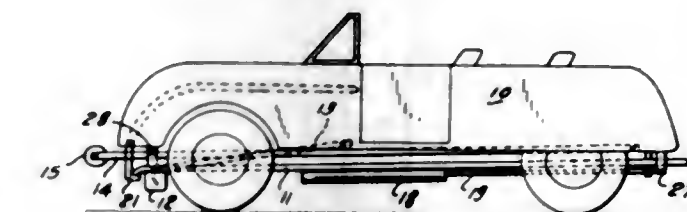
**BARRICADE TENSIONING STANCHION**

Willem D. van Zelm, Ruxton, and Martin A. Jackson, Bradshaw, Md., assignors to Van Zelm Associates Inc., Baltimore, Md., a corporation of Maryland  
Filed Feb. 11, 1966, Ser. No. 526,894  
3 Claims. (Cl. 244—110)



An aircraft barricade system having spaced pivotable net supporting stanchions about non-parallel axes canted to the path of aircraft landing so that the tops of the

3,383,077  
**BRAKING ARRANGEMENT**  
Nicholas Novello, Jr., 10 Ely Road, Gulf Manor, Peekskill, N.Y. 10566  
Filed Oct. 10, 1966, Ser. No. 585,572  
7 Claims. (Cl. 244—113)



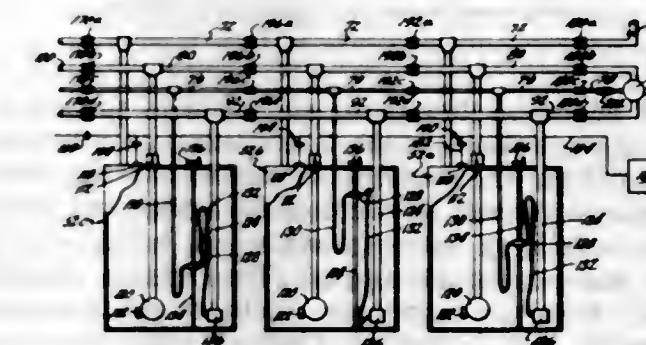
An apparatus for emergency braking of a vehicle traveling on a hard surface or through a fluid, by converting the forward momentum of the vehicle into an upward motion. The center of gravity of the vehicle is thus raised against the force of gravity thereby absorbing some of the kinetic energy of the forward motion of the vehicle. The fore end of the vehicle is raised by means of a rigid rod pivotally connected at one end to the center of the underside of the vehicle and at the other end to the front of a rigid brake frame, the aft end of the vehicle being pivotally and forward slidably connected to the said brake frame. A stabilizing bar may be pivotally attached to the aft end of the vehicle, to be thrust forward, in relation to the brake frame, when the braking arrangement is actuated, for helping to stabilize the vehicle. Energy absorbing devices, as a cylinder and piston or a coil spring, may be introduced at proper points in the braking arrangement for absorbing additional energy on the braking arrangement being actuated.

3,383,078

**AUXILIARY FLUID SYSTEM**

Herbert N. Shohet, Norwalk, and George J. Paulis, Trumbull, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Dec. 23, 1964, Ser. No. 420,732  
14 Claims. (Cl. 244—135)



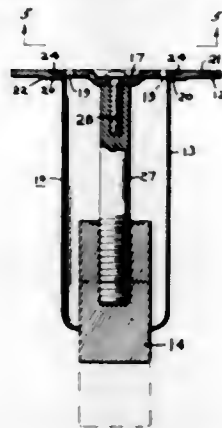
1. In a fuel system, a main fuel tank, a vent system for said main tank, first and second auxiliary fuel tanks each including means to receive fuel from an external source, and further including variable means to limit the amount of fuel received thereby, and still further including means to pump fuel therefrom to said main tank, and still further including means to pump fuel therefrom to the other of said auxiliary tanks, means connecting said auxiliary tanks to said main tank vent system to thereby vent said auxiliary tanks.



3,383,079

**CABINET LEG CONSTRUCTION**

Anthony R. Costantini, Lafayette Hill, and Anthony Di Angelus, Manoa, Pa., assignors to Victory Metal Manufacturing Company, doing business as Victory Metal Manufacturing Corporation, Plymouth Meeting, Pa., a corporation of Pennsylvania  
Filed July 5, 1966, Ser. No. 562,713  
1 Claim. (Cl. 248—188.4)



A leg axially adjustable in length for supporting relatively heavy structures, such as refrigerator cabinets and the like, upon the floor, the top end of the leg having a flat mounting plate the upper surface of which is free of protuberances to facilitate flush securement of the plate to the flat bottom surface of the leg-supported structure. The leg and mounting are so interfitted as to prevent lateral shifting movement therebetween due to lateral stresses tending to tear the leg from the structure thereby. The relatively adjustable parts of the leg present a substantially smooth unbroken external surface to obviate recesses in which dirt may be collected.

3,383,080

**OVERHANG BRACKET**

James W. Frisbie, 4611 W. 66th Terrace, Prairie Village, Kans. 66208  
Filed Feb. 2, 1966, Ser. No. 524,577  
5 Claims. (Cl. 248—235)

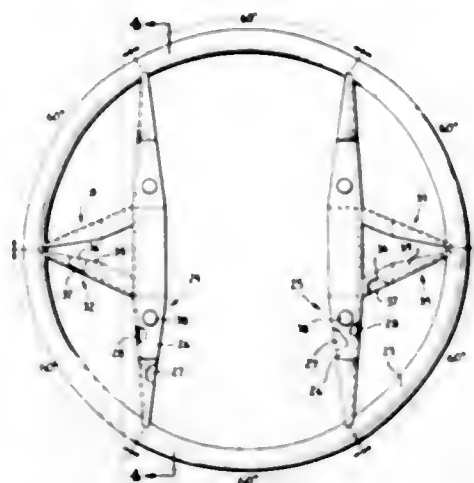


An adjustable bracket is employed to support a concrete form utilized in the construction of a bridge. The form defines an overhang extending laterally from the permanent support structure of the bridge and includes a beam underlying the overhang which is laterally spaced from the permanent support. The bracket extends upwardly from the support to the beam and comprises an adjustable strut formed by a pair of relatively telescoped tubes. A foot on the lower end of the strut bears against the support, and an inverted channel at the upper end of the strut forms a seat which receives the beam. A pivotal connection joins the seat to the strut and permits the base of the channel to be disposed in a level attitude so that the base will underlie the strut and be flush thereagainst. The pivotal connection is locked when the base is properly oriented. The bracket is removed after the concrete has set and may be subsequently reused with other forms, the telescoping strut and the pivotal connection permitting the bracket to be adjusted to a wide variety of vertical and horizontal dimensions.

3,383,081

**SUPPORT FOR PLANAR ARRAY ANTENNA**

Jack Guttenberg, Culver City, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed July 25, 1966, Ser. No. 568,704  
1 Claim. (Cl. 248—346)

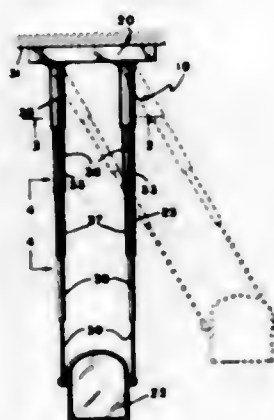


A supporting structure for an antenna array plate having an annular tubular ring and a plurality of uniform strength beams attached to said annular tubular ring and having mounting pads on said beams for positioning an antenna array plate whereby said annular tubular ring can deflect without contacting said antenna plate.

3,383,082

**DEPENDING RETRACTABLE MIRROR**

Walter H. Larson, P.O. Box 64, Wichita, Kans. 67047  
Filed Jan. 24, 1966, Ser. No. 522,686  
4 Claims. (Cl. 248—495)



A mirror holder comprising a plate adapted for securing to the underside of a ceiling, longitudinally adjustable support members attached to the plate member, a mirror adjustably connected to the lower ends of the support members for pivotal and rotational movement whereby the mirror is adapted for movement in any direction relative to the plate member.

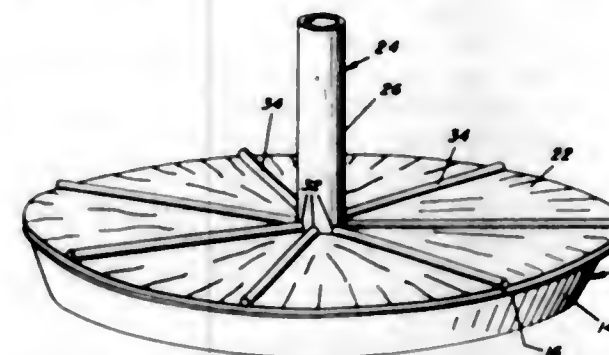
3,383,083

**PIE-BAKING AID**

Robert E. Givens and Linda E. Givens, both of R.R. 1, S. Highway 51, Carbondale, Ill. 62901  
Filed Apr. 12, 1966, Ser. No. 542,014  
6 Claims. (Cl. 249—141)

4. In combination with a pie pan including a bottom wall and an upstanding peripheral wall, a pie baking aid comprising an upright tubular member having its lower end resting on a central portion of said bottom wall, a plurality of openings formed in said tubular member and

spaced circumferentially about the lower end thereof below a plane containing the upper edge portion of said peripheral wall, a plurality of circumferentially spaced arms projecting radially outwardly of said tubular mem-

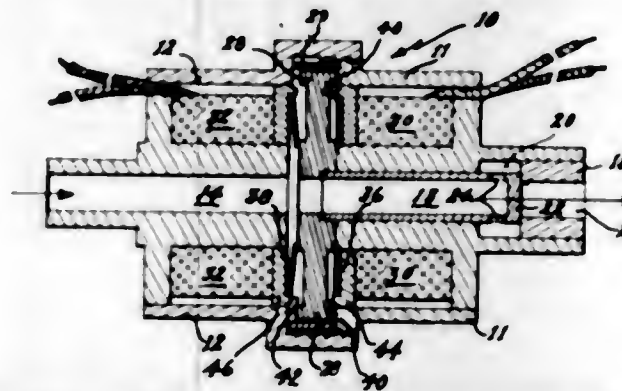


ber and including outer end portions overlying the upper edge portions of said peripheral wall, said arms being disposed in a plane substantially normal to the longitudinal center line of said tubular member.

3,383,084

**PULSE-ACTUATED VALVE**

William B. Mayfield, Sunland, Calif., assignor to the United States of America as represented by the Secretary of the Air Force  
Continuation of application Ser. No. 361,633, Apr. 20, 1964. This application Dec. 12, 1966, Ser. No. 621,082  
1 Claim. (Cl. 251—75)

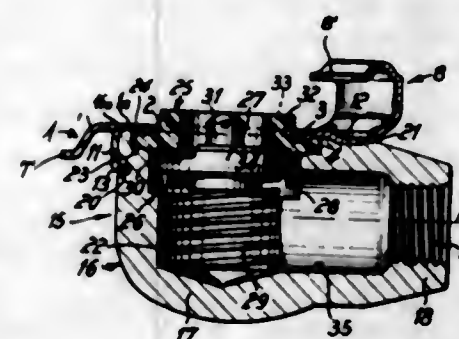


Opposed Belleville washers are mounted on opposite sides of an armature to which a valve stem is connected. In completely open valve position one washer carries maximum load and the opposed washer carries minimum load. As the valve closes the loadings are reversed.

3,383,085

**COUPLING**

Oskar Vielmo, Stuttgart-Soenenberg, Germany, assignor to Robert Bosch, G.m.b.H., Stuttgart, Germany  
Filed Aug. 10, 1965, Ser. No. 478,619  
Claims priority, application Germany, Aug. 17, 1964, B 78,128  
9 Claims. (Cl. 251—149.5)



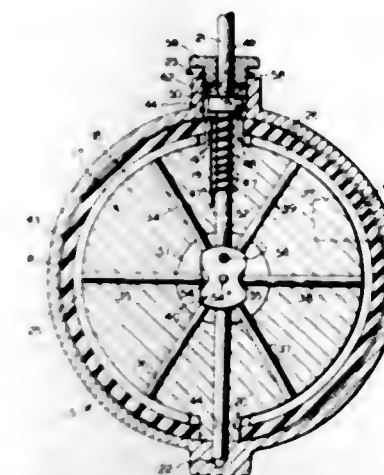
A coupling comprises a coupling element consisting of a hollow carrier which is provided in an end face therein with a fluid-conveying passage. A replaceable clamp is

provided and includes a planar main section located adjacent to the end face and having an aperture registering with the end of the passage therein, and a pair of angularly spaced retaining sections which are respectively integral with the main section and which have arcuate guide portions disposed at the opposite sides of and spaced from the main section. Releasable means releasably secures the clamp to the carrier against movement relative to the latter.

3,383,086

**BUTTERFLY VALVES AND THE LIKE**

Aaron Ryan, 215 E. Madison Ave., Collingswood, N.J.  
Filed July 12, 1966, Ser. No. 564,668  
9 Claims. (Cl. 251—188)

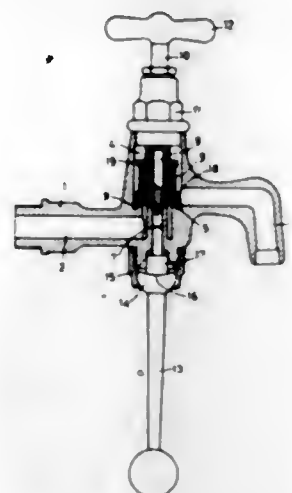


1. In a butterfly valve of the character described, the combination with a valve body, of a disc structure rotatably positioned therein for movement between an open position and a closing position; said disc structure comprising an outer envelope of resilient material, a generally flat ring member within said envelope, a shaft rotatably carried on said ring member along the face of said ring member and in symmetry in relation to the perimeter of said ring member; said shaft extending tightly but rotatably through the peripheral wall of said envelope and outwardly of said valve body, handle means on the exterior part of said shaft; said shaft being journaled on the valve body, a cam structure within said envelope, carried fixed on said shaft, a band structure loose on the periphery of said ring member and in longitudinal contact with nearly the entire inner peripheral wall surface of said envelope; there being a slight clearance between the peripheral wall of said envelope and the valve body only substantially along the entire extent of said band structure, a first means associated with said band structure and cam structure, positioned within said envelope and adapted to be moved by said cam structure whereupon said band structure will move away from said ring member in a direction away from the center of said disc structure, a stop element fixed within and to the valve body, adapted to stop the disc structure from turning when it has reached closing position, a second means associating said shaft and ring member, adapted when the shaft is turned in any direction, to turn the disc structure in the same direction, and when the shaft is turned to close the valve, allowing said shaft, after the disc structure is intercepted by said stop, to continue to be turned a predetermined amount; said second means including biasing means which biases the disc structure against said stop upon such continuation of the turning of the shaft; continuation of turning of said shaft after the disc structure has reached said stop, causing said cam structure to shift said first means whereby said band structure is moved away from the ring member and



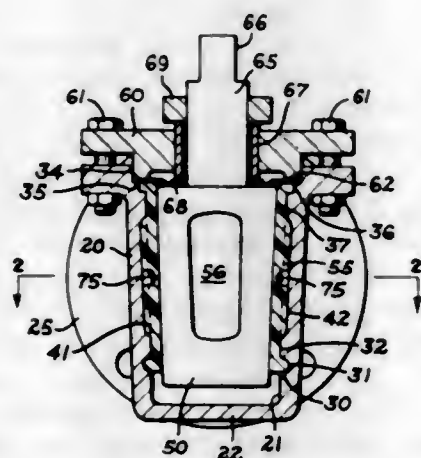
thereby effectively close the valve, and a third means to releasably hold the shaft at the furthest position it is turned to to cause movement of the band structure away from the ring member.

**3,383,087**  
**FLUID DISCHARGE VALVE**  
Heinrich Linssen, Bahnhofstrasse 25,  
Ulmen, Eifel, Germany  
Filed May 28, 1965, Ser. No. 459,616  
6 Claims. (Cl. 251-289)



Fluid discharge valves for drawing water and the like, including a rocking lever actuator and a rotating handle actuator, both operative upon the same valve element and spring means interposed between the valve element and the rotating handle actuator to control the closure bias on the valve element.

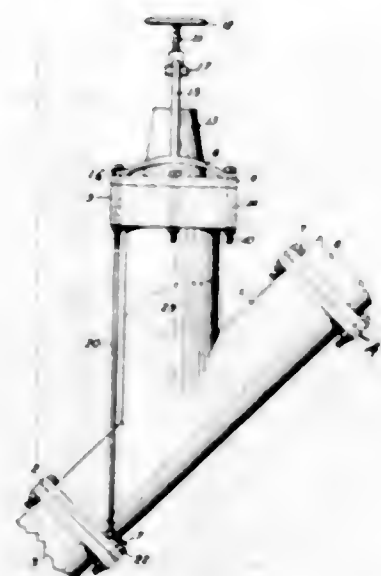
**3,383,088**  
**PLUG VALVES**  
Donn W. Duffey, Dayton, Ohio, assignor to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York  
Filed Feb. 3, 1966, Ser. No. 524,697  
10 Claims. (Cl. 251-317)



1. A plug valve including a body having a bore, ports opening into said bore, a fluorocarbon resin sleeve received in said bore, said sleeve having openings therein communicating with said ports, a valve plug received in sealing relation is said sleeve, a port in said plug communicating with said body ports in the open position of the valve and sealed by said sleeve in the closed position of said valve, said sleeve being deformable into said plug port in the closed position of the valve by accumulation of pressure

between the body and the opposed facing portion of the sleeve, said sleeve including means defining a pressure relief area which bursts at a pressure above a predetermined minimum to relieve said accumulated pressure into the plug port, portions of said sleeve other than the relief area being capable of withstanding pressure above said predetermined minimum, and said pressure relief area being so located in said sleeve that in the event of pressure conditions above said predetermined minimum the pressure between the body and the portion of the sleeve facing the plug port is reduced below said predetermined minimum thereby preventing turning or tearing of the sleeve as the plug is rotated to the open position.

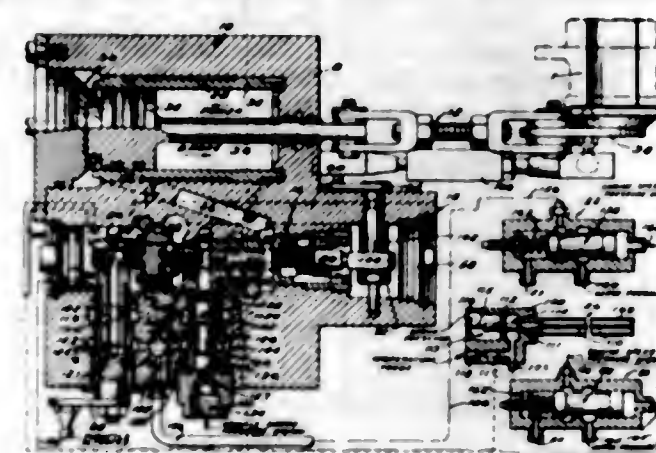
**3,383,089**  
**MEANS FOR PREVENTING BLOW-OUTS OF PORCELAIN VALVES**  
Nathan D. Baxter, 1404 Palm St.,  
Henderson, Nev. 89015  
Filed Dec. 19, 1966, Ser. No. 602,912  
5 Claims. (Cl. 251-366)



1. A porcelain valve comprising a main body portion forming a fluent material passage and having a coupling end flange adapted to be connected to the end flange of a main fluid conduit, said body portion comprising a laterally extending tubular casing, a terminal flange on said casing, a valve plunger slidably mounted in said casing and terminating in an operating rod, an operating element on the free end of said rod, a support bracket secured to said terminal flange and interengaging threads on said bracket and rod whereby a force acting on said plunger to its valve closing position will be transmitted to react on said terminal flange and a tie-rod adjustably connected to and between the terminal flange and the coupling end flange and whereby the force acting on the terminal flange will, all or in part, be transferred to the coupling flange thereby to prevent excessive tension stress from acting on the wall of the tubular casing and to prevent material movement in a blow-out direction of the terminal flange and parts connected thereto in the event that the tubular casing sustains a transverse fracture.

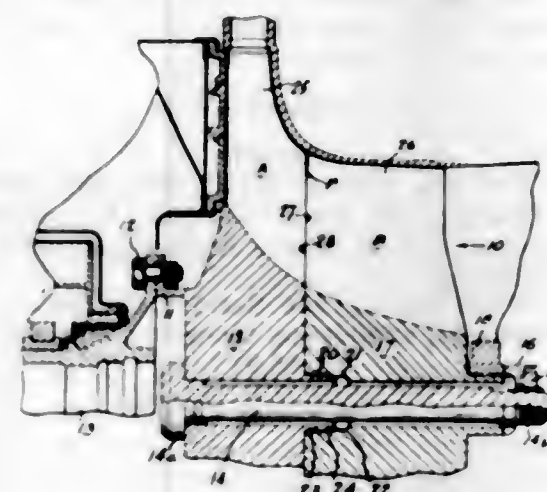
**3,383,090**  
**FLUID PRESSURE CONTROL FOR A TURBINE NOZZLE ACTUATOR**  
Arthur F. McLean, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed Dec. 30, 1966, Ser. No. 606,369  
8 Claims. (Cl. 253-59)  
A fluid pressure regulating valve mechanism sensitive to engine output shaft speed for automatically effecting

a rotation of the gas turbine engine power turbine nozzles and engine output shaft if the output shaft overspeeds to a position braking the rotation of the power turbine



when the main engine clutch is disengaged to shift gear ratios in the vehicle transmission; and, of which the following is a specification.

**3,383,091**  
**RADIAL TURBINE BLADE DAMPING DEVICE**  
Allan Burrell Newland, St. Lambert, Quebec, Canada, assignor to United Aircraft of Canada Limited, Longueuil, Quebec, Canada  
Filed July 21, 1966, Ser. No. 566,844  
7 Claims. (Cl. 253-39)



1. In a centripetal high velocity gas turbine wheel having an axis of rotation, axially separate leading and exducer wheel sections, each said section having a hub and blades extending radially from the hub, and the hubs being interconnected for simultaneous rotation, and the leading and exducer blades having respective adjacent edges aligned, the improvement in which the adjacent edges of each one leading blade and aligned exducer blade comprise:

recessed portions extending over part of their radial length, the recesses providing axial separation of said portions of the edges, and remaining portions which are outwardly projected from the said recessed portions and which abut in a plane which in one dimension is radial and in the other dimension is oblique to the plane of the blades in said region, said oblique plane being directed oppositely with respect to said plane of the blades in each pair of circumferentially adjacent blades.

**3,383,092**  
**GAS TURBINE WITH PULSATING GAS FLOWS**  
John M. Cazier, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California  
Original application Sept. 6, 1963, Ser. No. 307,136, now Patent No. 3,292,364, dated Dec. 20, 1966. Divided and this application Sept. 19, 1966, Ser. No. 580,523  
The portion of the term of the patent subsequent to Dec. 20, 1983, has been disclaimed and dedicated to the Public

3 Claims. (Cl. 253-40)



A gas turbine adapted to be driven by pulsating gas surges. Two separate conduits are provided for channeling gas independently to a turbine, including a wheel that is journaled for rotation in a turbine casing. The casing includes a partition which provides two separate chambers exposed directly to the high pressure side of the turbine wheel. The separate conduits communicate independently with one or the other of the chambers. The turbine wheel has a plurality of blades which are spaced apart to form gas channels between the blades. An exhaust outlet is provided in the housing on the low pressure side of the turbine wheel. Fluid flows from the chambers through the channels between successive blades to the exhaust outlet. This gas turbine structure takes advantage of the alternate gas surges in each of the conduits and in the chambers to derive maximum energy from the gases.

**3,383,093**  
**HOLLOW TURBOMACHINERY BLADES**  
Werner E. Howald, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York  
Filed June 23, 1966, Ser. No. 559,968  
5 Claims. (Cl. 253-77)



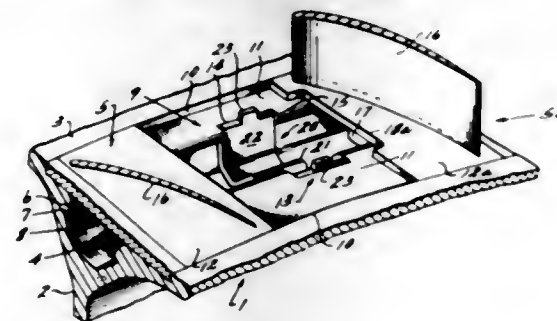
The disclosure shows a lightweight hollow blade, formed by two hollow shells defining a cavity with button-like projections joined within the cavity to provide rigidity.



3,383,094

**ROTOR BLADE LOCKING MEANS**

Charles W. Diggs, Dorchester, Mass., assignor to General Electric Company, a corporation of New York  
Filed Jan. 19, 1967, Ser. No. 610,270  
7 Claims. (Cl. 253—77)

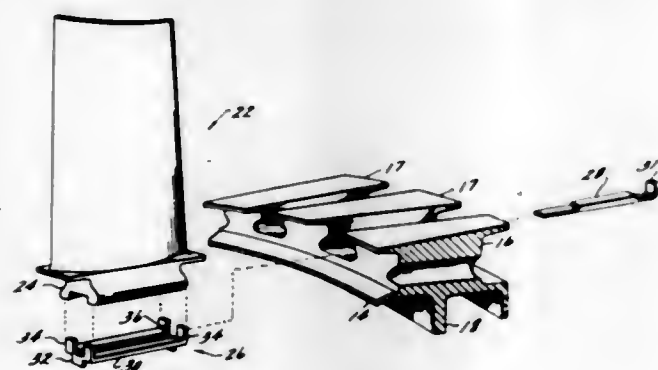


This disclosure sets forth a relatively simple but highly effective means for locking a series or row of bladed members in position within a retaining groove of a drum type rotor assembly for a gas turbine engine. A one-piece springlike, resilient locking device is described, herein, for effecting this purpose. The disclosure discusses three alternative embodiments of the locking device including a preferred U-shaped form. The various embodiments are described in detail with reference to and the aid of the drawing here attached, particularly FIGS. 2-6, and 10-11. In addition, a detailed description of the procedure followed in assembling the bladed members and locking device to the rotor, as well as the parts arrangement within the assembly is given by the disclosure with reference in particular to FIGS. 1, 3, 5 and 7-9 of the drawing.

3,383,095

**LOCK FOR TURBOMACHINERY BLADES**

Bernard J. Anderson, Danvers, Mass., assignor to General Electric Company, a corporation of New York  
Filed Sept. 12, 1967, Ser. No. 667,169  
6 Claims. (Cl. 253—77)

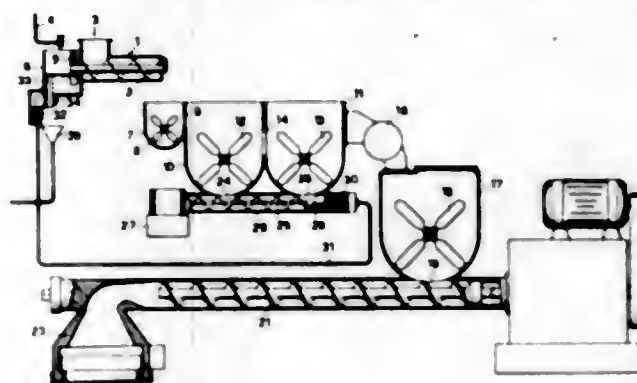


The disclosure illustrates a fragmentary portion of a compressor rotor rim having tanged blades which are locked thereon by retainers lying between the bottoms of the tangs and slots in the rim. Each retainer comprises a bridge with legs at its opposite ends which embrace opposite ends of a tang and opposite sides of the rim. A keeper disposed between the tang and bridge maintains the retainer in its locking position. Absent the keeper, the retainer may be positioned in a slot in the bottom of the tang with its lower legs clear of the rim for assembly or removal of the blade.

3,383,096

**DEVICE FOR AUTOMATICALLY KEEPING CONSTANT THE HARDNESS OF MIX, PARTICULARLY FOR ALIMENTARY PASTES**

Mario Braibanti and Giuseppe Braibanti, both of Largo Toscanini 1, Milan, Italy  
Continuation of application Ser. No. 361,757, Apr. 22, 1964. This application Dec. 5, 1966, Ser. No. 599,321  
Claims priority, application Italy, Apr. 27, 1963, 8,780/63, Patent 695,472  
14 Claims. (Cl. 259—25)

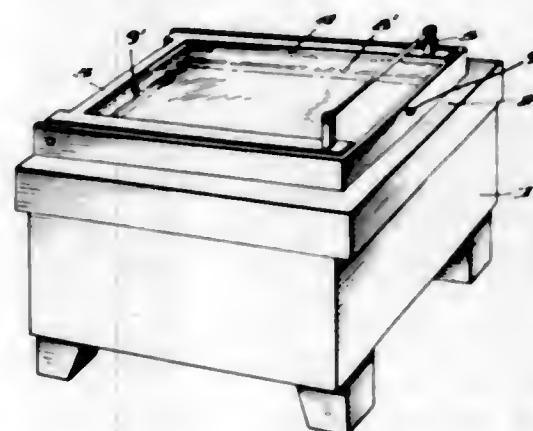


An apparatus for mixing a material while maintaining it at a predetermined degree of hardness, said device comprising at least two adjacent mixing stations connected by a passage in which is disposed means to pass a portion of the material between the mixing stations. A portion of the means defining the passage is displaceable in response to the pressure of the material flowing through said passage, and connecting means are provided which operatively connect said portion to regulating means for regulating an amount of water applied to said mixture in response to movement of said portion.

3,383,097

**HEATING OVEN FOR PLATE CHROMATOGRAMS**

Dietrich Heusser and Hans Wimmer, Darmstadt, Germany, assignors to E. Merck Aktiengesellschaft, Darmstadt, Germany  
Filed July 6, 1966, Ser. No. 563,202  
Claims priority, application Germany, July 10, 1965, M 65,913  
9 Claims. (Cl. 263—2)

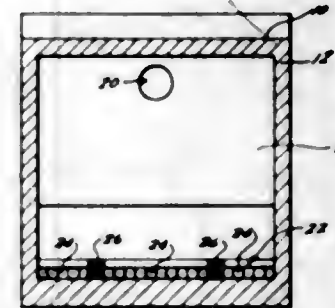


A heating oven for chromatoplates comprising a hot plate, a cover for said hot plate sealing off a relatively flat heating chamber over said hot plate, means within said heating chamber for supporting the chromatoplate to be heated spaced above said hot plate and parallel thereto and means for opening and closing said cover to permit introduction into and withdrawal of the chromatoplates from the heating chamber.

3,383,098

**REHEAT FURNACE HAVING SKID RAILS**

Jack E. O'Reilly, 1630 Evergreen Road, Homewood, Ill. 60430; John L. Freeman, 200 Mount Lebanon Blvd. 15234; and Albert L. Renkey, 629 Broughton Road 15102, both of Pittsburgh, Pa.  
Filed May 23, 1966, Ser. No. 552,240  
7 Claims. (Cl. 263—6)

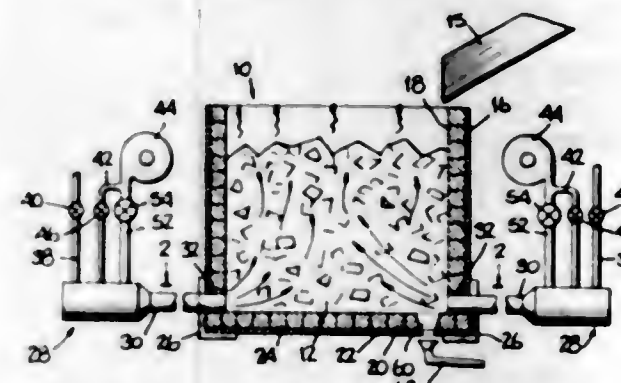


A reheating furnace consisting of a furnace hearth having skid rails mounted thereon in spaced relation, the skid rails being fabricated from fusion cast, non-basic refractory shapes, the furnace bottom between the skid rails being fabricated from preformed phosphate bonded, unburned, high alumina refractory shapes.

3,383,099

**METHOD AND APPARATUS FOR RAPID HEATING OF SOLID MATERIALS**

John Edward Rehder, Pointe Claire, Quebec, Canada, assignor to Brown Boveri Corporation, New York, N.Y., a corporation of New York  
Filed Oct. 24, 1965, Ser. No. 504,734  
15 Claims. (Cl. 263—29)



Preheating of solid aggregate material wherein the material is held packed in a container and burners supply hot gases which are mixed with air to achieve temperatures below the melting point of the material and velocities sufficient to achieve significant reduction of the film resistance to convective heat transfer which surrounds the aggregate particles.

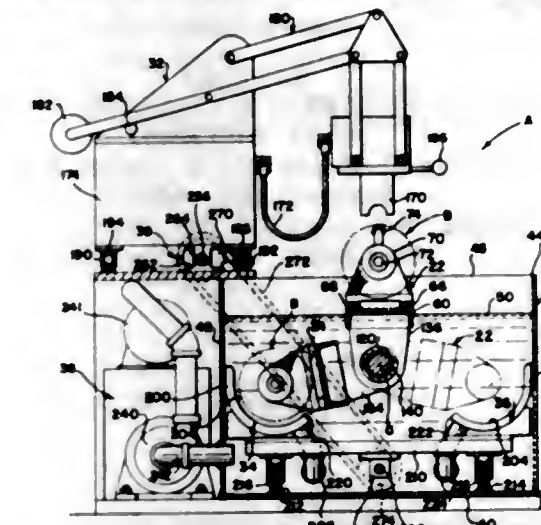
3,383,100

**APPARATUS FOR HARDENING SPACED BEARING SURFACES ON A SHAFT-LIKE WORKPIECE**

Norbert R. Balzer, Parma, Albert E. Hala, North Royalton, and George C. Nebesar, Cleveland, Ohio, assignors to Park-Ohio Industries, Inc., a corporation of Ohio  
Filed Oct. 11, 1965, Ser. No. 494,358  
11 Claims. (Cl. 266—4)

1. An apparatus for hardening the bearing surfaces of a shaft-like workpiece having an axis and axially spaced bearing surfaces, said apparatus comprising: a tank to be filled to a given level with a quenching fluid, an inductor having a contour matching said bearing surfaces for heating said surfaces when said inductor is energized by a high frequency power source, first and second independently movable workpiece supports, each of said supports including means for holding one of said workpieces and means for rotating said held workpiece about its axis, means for moving each of said supports independently between a first position with said workpiece beneath said

given level and a second position with said workpiece above said given level, and means for moving said in-



ductor into heating relationship with said workpiece when said workpiece is above said given level.

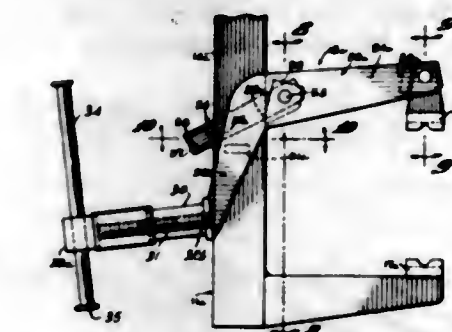
3,383,101

**ADJUSTABLE CLAMP**

Herman Albert, 4 Manor Road, Paterson, N.J. 07514

Continuation-in-part of application Ser. No. 437,151, Mar. 4, 1965. This application Apr. 30, 1965, Ser. No. 452,161

4 Claims. (Cl. 269—167)

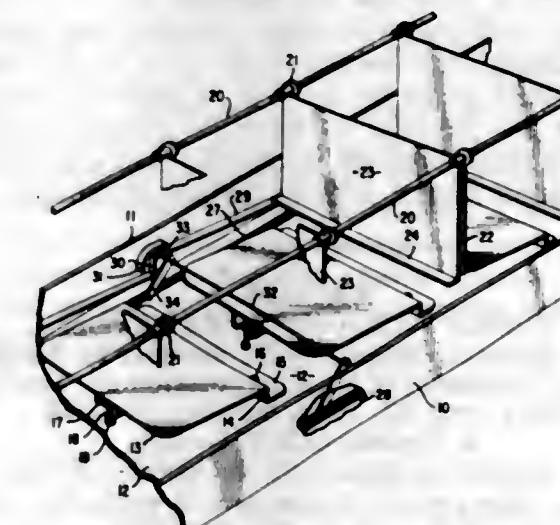


An adjustable clamp having vertically arranged clamping jaws such that the spacing between said jaws is adjustable over a wide range of work piece sizes and which will afford substantially equal clamping pressure at any selected point of jaw spacing adjustment.

3,383,102

**AUTOMATIC INSERTER FOR ASSEMBLING FOLDED SIGNATURES**

James M. Paleveda, 102 S. Tampa St., Tampa, Fla. 33602  
Filed Dec. 27, 1965, Ser. No. 516,329  
5 Claims. (Cl. 270—55)

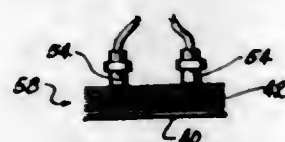


A signature gatherer comprising a pair of endless chains traveling below a series of stepped compartments.



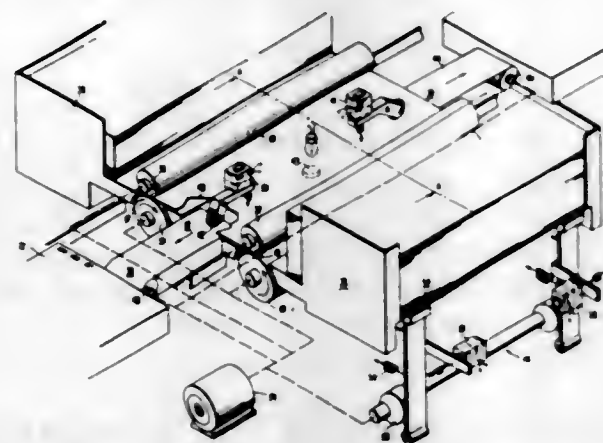
The chains carry a transverse signature pick-up rod having mounting and guiding structure to control the path of the rod.

**3,383,103**  
**PAPER MARRIAGE CONSTRUCTION AND METHOD**  
Martin C. Miller, 914 E. Rollins Road, Ingleside, Ill. 60041  
Filed Nov. 22, 1965, Ser. No. 508,943  
10 Claims. (Cl. 270-58)



A paper marriage construction wherein a plurality of paper sheets are collated into individual units and wherein the units are thereafter collated into a completed assembly. In the formation of the individual units, a metal sheet is included in each unit as the bottom sheet thereof. In the formation of the assembly, magnetic heads are employed for picking up each unit through attraction of the metal sheet, and the heads successively deposit respective units, one on top of the other, to form the assembly.

**3,383,104**  
**RECORD CARD FEEDING MECHANISM**  
Robert J. Laybourn, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Oct. 23, 1965, Ser. No. 504,041  
11 Claims. (Cl. 271-9)

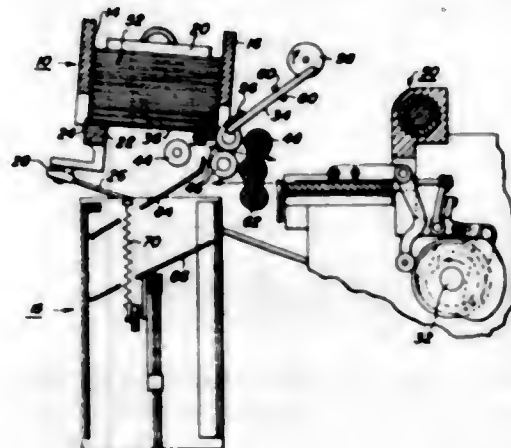


There is provided a record card handling mechanism comprising two sets of feedrolls wherein each set of feedrolls comprises two counter-rotating feedrolls and wherein the two sets of feedrolls are mounted substantially one record card width apart to form a holding and cornering station therebetween. Record cards may be fed into the station through either of the sets of feedrolls and selective means are provided to move the record card at an angle to the entry direction so that the card can be moved to a utilization station without further alignment.

**3,383,105**  
**CARD PICK-OFF APPARATUS**  
Russell R. Roberts, Ontario, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York  
Filed Aug. 23, 1966, Ser. No. 574,438  
6 Claims. (Cl. 271-23)

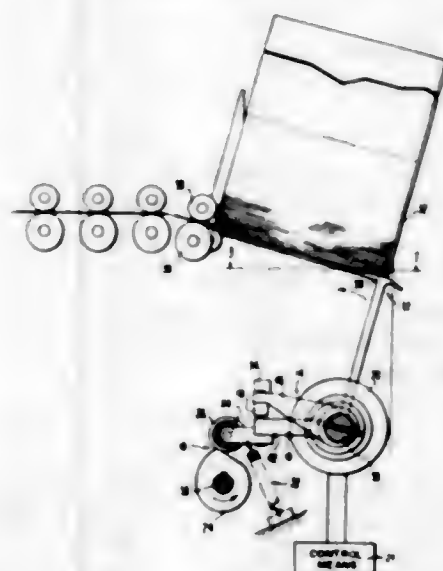
1. In a dispensing apparatus for removing flat, bendable sheets from a stack supported in a magazine adapted for bottom feeding and having a retaining member in its open lower portion to prevent the slippage of sheets there-through, the combination comprising

pucker means operatively receivable in the magazine and adapted to engage an edge of and bend the bottommost sheet in the stack to remove the sheet from the magazine and maintain it therefrom, ejector means operatively receivable in the magazine engageable with the bottommost sheet, adapted to



cause movement of the sheet in a direction toward said pucker means, and control means operatively associated with said pucker means and said ejector means for driving same in timed relationship whereby the bottommost sheet of the stack supported in the magazine is ejected therefrom.

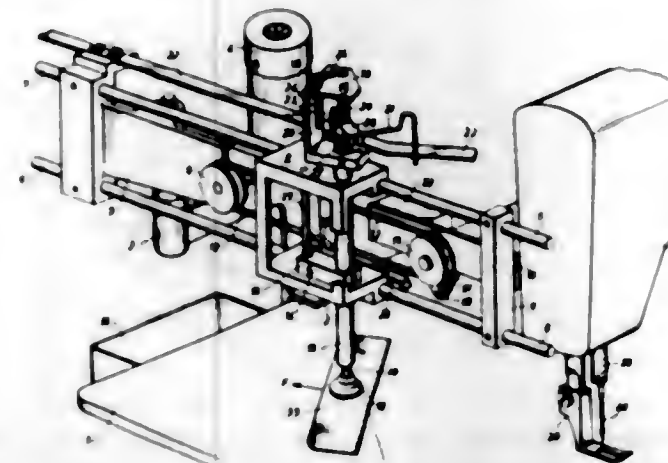
**3,383,106**  
**RECORD CARD FEEDING CONTROL APPARATUS**  
Edgar Alan Brown, Saratoga, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Nov. 17, 1966, Ser. No. 595,069  
11 Claims. (Cl. 271-44)



A cam is continuously driven to produce a cyclic control motion in a magnetic core member which is attached to an associated cam follower. A device to be actuated, such as a card feeding picker knife, is mounted on a shaft and the magnetic core member is mounted for movement about the shaft. A coil member is also mounted on the shaft in a position to produce, when energized, a magnetic coupling between the core member and an armature member. The armature member is pinned to the shaft and is held in position by non-ferromagnetic means so that the device to be actuated is in an initial position. En-

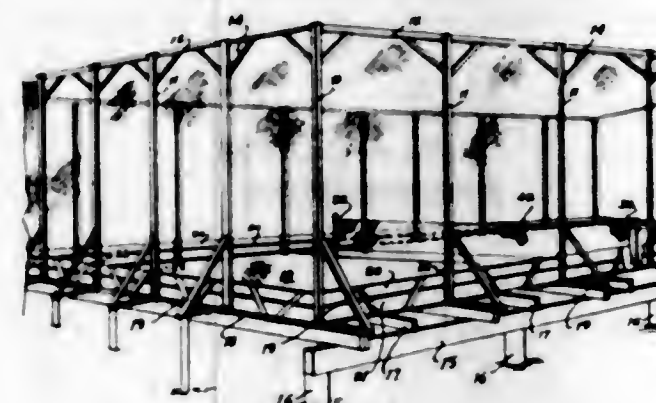
ergization of the coil produces a magnetic coupling when the cam next moves the core member adjacent the armature member to produce a cycle of operation of the device to be actuated.

**3,383,107**  
**DEVICE FOR WITHDRAWING SEWN MATERIAL FROM SEWING MACHINES**  
Kristen Hedegard, Gentofte, Denmark, assignor to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany  
Filed Aug. 31, 1966, Ser. No. 576,375  
Claims priority, application Germany, Oct. 25, 1965, P 37,952  
4 Claims. (Cl. 271-68)



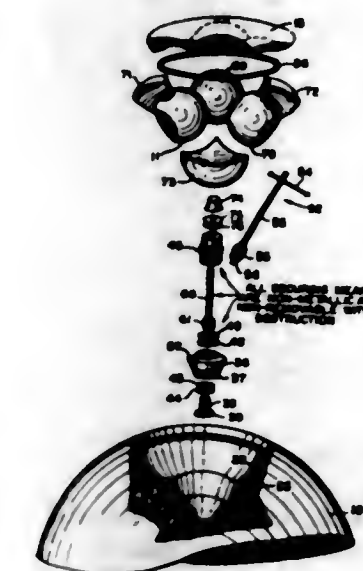
A device for withdrawing sewn material from a sewing machine which comprises a sleeve supporting a sliding bar having a guide finger for the sewn blanks that is angularly and axially movable on a carriage which is reciprocally movable in a plane by an endless conveyor under the control of a motor having a switch acted on by a cam on the carriage and also by contacts associated with the presser foot of the sewing machine.

**3,383,108**  
**PADDLE TENNIS COURT**  
Richard J. Reilly, Jr., Twin Lake Road, South Salem, N.Y. 10590  
Filed Apr. 23, 1965, Ser. No. 450,546  
4 Claims. (Cl. 272-3)



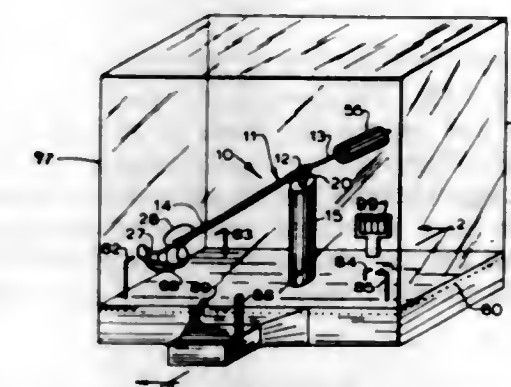
This disclosure relates to paddle tennis courts. Basically, it teaches the fabrication of the deck in two equal zones bordering at the net. Each of the zones is composed of a plurality of unitary boards of equal length supported parallel relative each other and lengthwise relative the court. To join the two zones a pair of key joists are spaced from each other. The board ends of each zone are connected to the top of one of the key joists and a member joins the bottom of the key joists. By this teaching true bouncing is assured and deflections throughout the length of the court are made uniform even under severe impact loads.

**3,383,109**  
**ADJUSTABLE GRIP BOWLING BALL**  
Walter J. Jankiewicz, Chesapeake, Va. (860 S. Greenbrier St. #619, Arlington, Va. 22204), and Edgar A. Norfolk, Jr., 5761 Don Drive, Norfolk, Va. 23518  
Filed May 7, 1965, Ser. No. 453,918  
4 Claims. (Cl. 273-63)



A bowling ball which incorporates movable devices for changing the span between the finger and thumb holes, the sizes of the finger and thumb holes, and the pitches or angle of entry of the finger and thumb holes generally.

**3,383,110**  
**CAPTIVE MANIPULABLE AERIAL AMUSEMENT DEVICE WITH TARGET MEANS**  
Richard L. Brown, Bellevue, Nebr., assignor to Amusement Engineering Co., Omaha, Nebr., a corporation of Nebraska  
Filed Sept. 10, 1965, Ser. No. 486,415  
3 Claims. (Cl. 273-95)



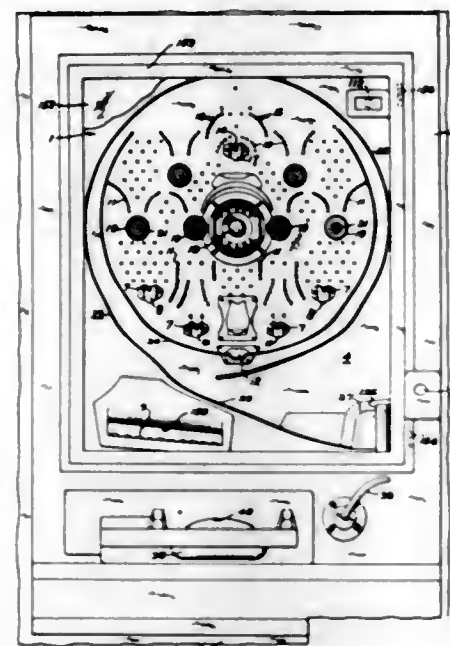
An amusement device having a helicopter-type aircraft member disposed at one end of a counter-weighted pivoted boom. Thrust producing means are carried by the aircraft member which are tiltable with respect to the aircraft to impart both horizontal and vertical movement to it. Controls are provided for tilting the thrust means and also for controlling the amount of power delivered to the thrust means. A target system is provided which senses the proximity of aircraft to a target member and records the occurrence.

**3,383,111**  
**PIN-BALL GAME APPARATUS**  
Eugene K. Lucas, 1011 Warren St., Redwood City, Calif. 94063  
Filed Dec. 29, 1964, Ser. No. 421,893  
13 Claims. (Cl. 273-121)

A vertically mounted pin ball game apparatus in which

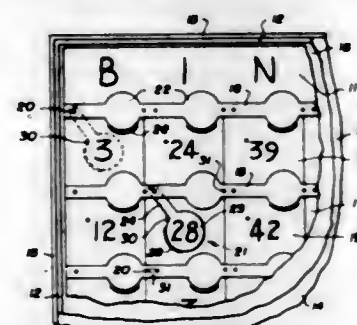


the played ball is manually inserted into the apparatus and which includes a premium feature of delivering a



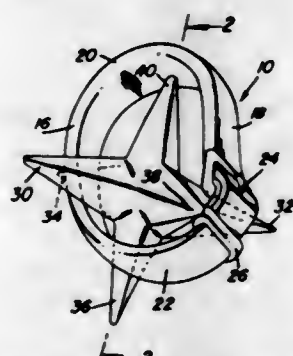
plurality of playing balls along with the played ball to an exterior well accessible to the player.

**3,383,112**  
**BINGO CARD MARKING DEVICE**  
Allan Crozier, 11B Picardy Place,  
Winnipeg, Manitoba, Canada  
Filed Sept. 29, 1965, Ser. No. 491,174  
4 Claims. (Cl. 273-136)



A transparent base having a plurality of pivotal tabs secured to the base. The base forms part of a container with a cover and in use the cover is removed, a bingo card is placed within the cover and the container is nested within the cover whereby the bingo card is between the cover and the base. Inasmuch as the base is transparent, the bingo card can be viewed therethrough and the tabs can be moved to cover numbers as they are called.

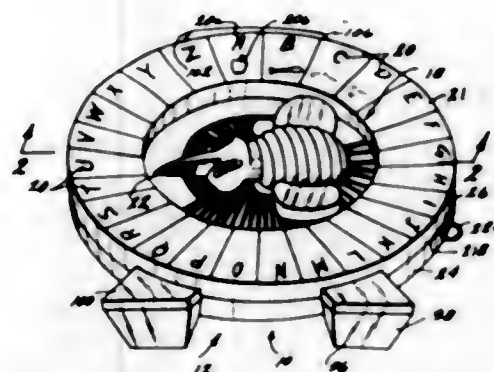
**3,383,113**  
**RING AND STAR PUZZLE**  
Monore E. McCandless, Rte. 14,  
South Barre, Vt. 05670  
Filed Feb. 16, 1965, Ser. No. 432,980  
2 Claims. (Cl. 273-156)



A puzzle including two components capable of being assembled and disassembled in relation to each other

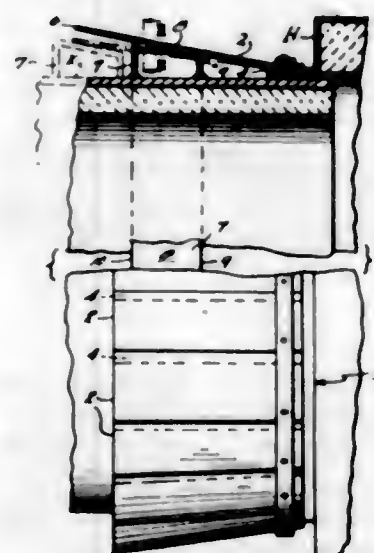
upon following a predetermined manipulative procedure. One of the components is a rigid oval-shaped ring and the other of the components is a rigid star having six points with one of the six points being shorter than the other five. In assembling the star with the ring, the shorter point of the star passes across the inner surface of the ring to serve as a key to the assembly and disassembly.

**3,383,114**  
**TEACHING DEVICE**  
John W. Ryan, Bel Aire, Calif., assignor to Mattel, Inc.,  
a corporation of California  
Filed Apr. 30, 1965, Ser. No. 452,107  
7 Claims. (Cl. 274-2)



A child's phonograph record has various sounds recorded thereon in spiral, interleaved grooves each having a starting point on the periphery of the record. The record is mounted in a housing having indicia provided thereon indicative of the recorded sounds. The child may position the record to play a particular groove by moving an indicator to one of the indicia. The indicia may comprise pictures of animals, letters of the alphabet or the like. The recorded sounds are animal sounds when animal pictures are used and are descriptions of individual letters when the alphabet is used.

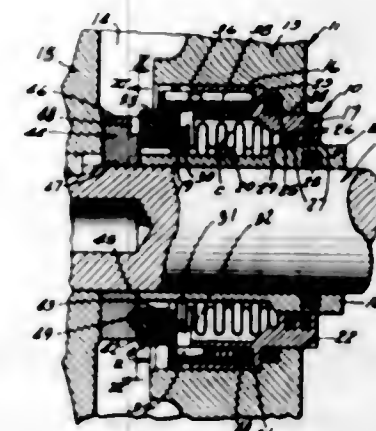
**3,383,115**  
**GAS SEAL FOR FURNACES**  
Doris E. Eckley, Gordon Deutsch, William K. Johnston,  
and John L. Carlson, Bellefonte, Pa., assignors to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware  
Filed Apr. 27, 1965, Ser. No. 451,203  
7 Claims. (Cl. 277-81)



A seal between one end of a rotary kiln and a stationary housing having an opening in general alignment with the axis of the kiln comprises a seal ring secured around the end of the kiln, and a radially flexible sleeve

secured to the housing around the opening and engaging a conical surface on the ring. The sleeve is constructed of flexible plates having overlapping longitudinal edges.

**3,383,116**  
**FACE SEAL**  
James C. Carter, Pasadena, Calif., assignor to The J. C. Carter Company, Costa Mesa, Calif., a corporation of California  
Filed Sept. 30, 1964, Ser. No. 400,397  
11 Claims. (Cl. 277-96)



1. A self-cleaning rotary face seal comprising a non-rotatable seal ring, a rotatable relatively non-wearable seal ring, said seal rings having wide mating seal faces, means urging said wide faces into sealing riding contact, said face of the rotatable ring having circumferentially spaced recesses alternately vented to the outer and inner peripheries of the non-rotatable ring, and said recesses being positioned to alternately expose radially outer and inner portions of the entire seal face of the non-rotatable ring to the surrounding atmosphere without opening up leakage paths between the mating faces of the rings, whereby grit particles developed by wear or the like are picked up in the recesses and rejected from the seal faces immediately upon formation to minimize seal wear.

**3,383,117**  
**ROTARY JOINT**  
Roger Fagel, Marcinelle, Belgium, assignor to Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme, Brussels, Belgium  
Filed Sept. 14, 1964, Ser. No. 396,103  
Claims priority, application Belgium, Sept. 19, 1963, 637,617  
2 Claims. (Cl. 277-153)



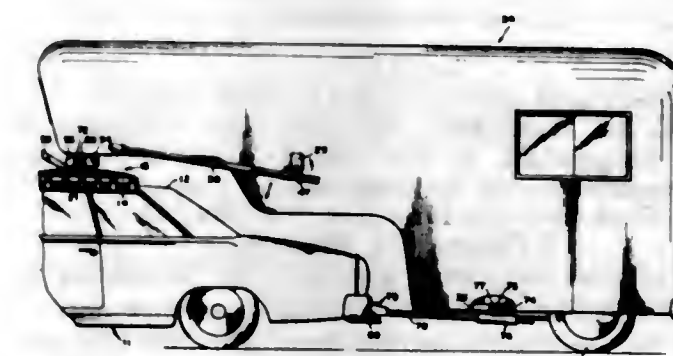
1. A rotary insulating joint comprising: a metal collar; a joint mounted over said collar made of a material having springy or elastic properties; a spring mounted on said joint to hold it against said collar; the collar being made of copper having a good heat conductivity and being covered by a thin layer of a metal having a high tensile strength and a high hardness value capable of resisting abrasion.

**3,383,118**  
**VEHICLE**  
Joachim Klobe, 5126 Haskell Ave.,  
Encino, Calif. 91316  
Filed Mar. 17, 1966, Ser. No. 535,079  
9 Claims. (Cl. 280-112)



1. In a vehicle of the class described having a superstructure, a banking support for the superstructure comprising at least two pairs of wheels, a plurality of co-operating roll banking arms supporting the superstructure, each including a torsion spring member connecting the superstructure to the unsprung mass of the vehicle, a lever arm extending laterally from each end of each of said torsion spring members and bearing against a resilient multi-turn cushion compressed under the load of said superstructure, and a ball-joint for each of said multi-turn cushions at the corresponding end of said torsion spring member and constituting the connection therefor to the superstructure thereby controlling the roll movement of the superstructure at all times; and a damping control strut stressed in tension and interconnecting the multi-turn cushion carrying lever arms of each roll banking arm.

**3,383,119**  
**AUTO TRAILER**  
James L. Carroll, Madisonville, La., assignor to Wilco Corporation, Indianapolis, Ind., a corporation of Indiana  
Filed Mar. 25, 1966, Ser. No. 537,428  
15 Claims. (Cl. 280-426)



A semi-trailer structure including a pad assembly comprising lateral members adapted to be secured to guttering on opposite sides of the roof of a passenger automobile and joined by crossed elements pivoted to each other at their mid-points to provide for width adjustment, a spheroid hitch element upstanding from said crossed member on an axis coincident with their pivot axis, a tongue on the trailer carrying a hitch element adapted

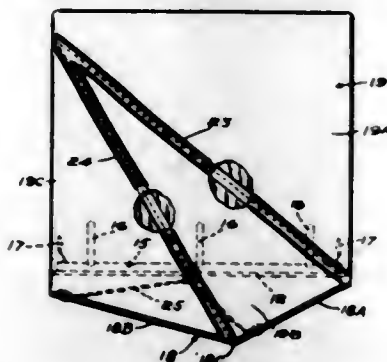


to mate with said spheroid element, and detent means carried by one of said hitch elements and engageable with the other at times. In one form of the disclosure there is provided means associated with the hitch for controlling dirigible wheels on the trailer.

3,383,120

## ARTICLE SUPPORT

Jeremy S. Guiles, Cape Elizabeth, Maine  
(Box 801, Portland, Maine 04104)  
Filed May 19, 1966, Ser. No. 551,352  
10 Claims. (Cl. 281-33)

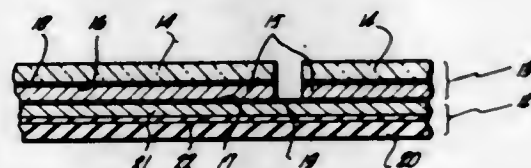


Article support having covers and supporting structures erected into a positive supporting position by the act of opening the covers to a predetermined extent.

3,383,121

## SELF-ADHESIVE COPY LABEL

Eugene A. Singer, Monrovia, Calif., assignor to Avery Products Corporation, Pasadena, Calif., a corporation of California  
Filed June 22, 1965, Ser. No. 465,979  
8 Claims. (Cl. 282-28)



A laminate construction in which the first layer may be a sheet of paper and the third layer is a sheet of material constructed to be impact sensitive in that it carries, in normally separate states, chemicals which intermix upon impact to produce a color change in the impact area in or on the third layer itself. The second layer of the construction is pressure-sensitive adhesive preferentially adhered to the first layer so that it separates with the first layer when the first and third layers are separated.

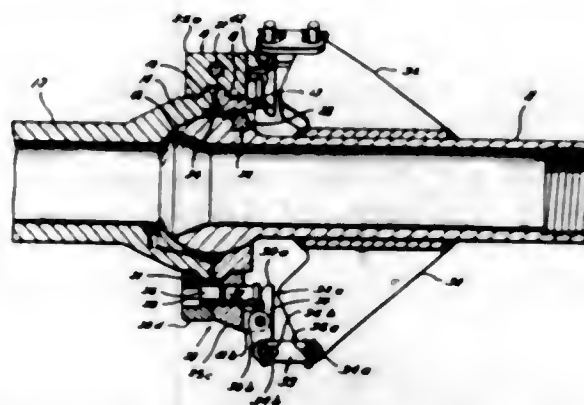
3,383,122

## ANGULAR BREAKAWAY PIPE JOINT

Vernon C. H. Richardson, Houston, Tex., assignor, by mesne assignments, to the United States of America as represented by the National Science Foundation  
Filed June 22, 1966, Ser. No. 559,591  
8 Claims. (Cl. 285-1)

1. An angular breakaway pipe joint for connecting together the adjacent ends of two sections of pipe and for releasing the connection therebetween when the pipe sections move out of axial alignment a predetermined amount, said joint comprising, two abutting end rings, each ring being connected to one of the pipe sections and equipped with outwardly extending protrusions, an annular collar encircling the end rings having a cavity into which the protrusions extend to hold the two end rings in abutting relationship, said collar comprising a plurality of link members connected together by a plurality of disruptable connections, and means attached to one of

said pipe sections to disrupt at least one of the disruptable link connections and release the collar from around the

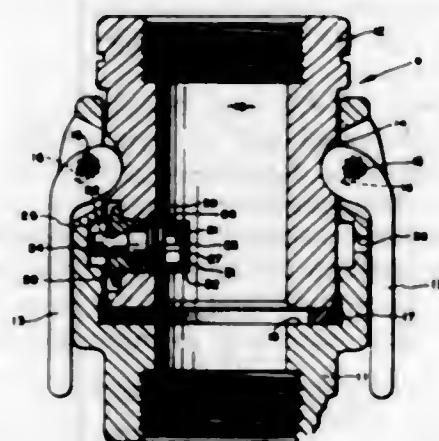


end rings to disconnect the joint when the pipe sections move out of axial alignment a predetermined amount.

3,383,123

## LIME PRESSURE RESPONSIVE SAFETY COUPLING

Robert L. Murray, Dayton, Ky., assignor to Dover Corporation, Cincinnati, Ohio, a corporation of Delaware  
Filed Oct. 23, 1965, Ser. No. 503,282  
3 Claims. (Cl. 285-83)



The safety coupling and venting device for conduits carrying fluid under pressure comprises a tubular male member with a seating face at one end fitting into the hollow tubular portion of a hollow female member having a gasket supporting shoulder in sealing engagement with the seating face. The tubular portion has an inner annular groove and the male member has a hollow open ended cylindrical member traversing its wall in the plane of the groove. The cylindrical member carries spring biased piston urged radially outwardly by the fluid pressure in the male member. The piston carries a locking pin which is projected into the groove with its upper surface spaced from the upper wall of the groove a distance sufficient to allow the seating face to move upward out of sealing engagement with the gasket, and thus vent the pressure to a safe level.

3,383,124

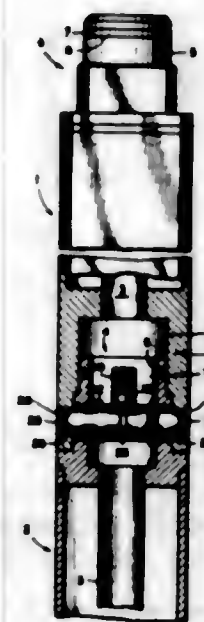
## COUPLING FOR DRILL RODS

Edward F. Wickens, Stewartsville, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey  
Filed Apr. 28, 1966, Ser. No. 546,085  
11 Claims. (Cl. 285-83)

A square drill rod and a coupling therefor. Each drill rod is provided with a female end and a male end. The male end of one drill rod slidably fits into the female end of another drill rod. Both the male end and female end

are provided with diametrically opposed openings which are aligned when two rods are together. A pin is received

vibrational and shock forces therein. The shock absorber includes telescopically related parts which are separated



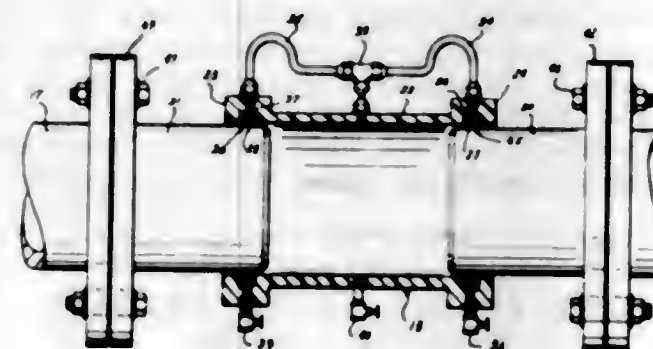
by the aligned openings. Spring biased detent means holds the pin in place.

3,383,125

## EXPANSION JOINT

Winston E. Frost, Houston, and Carlton H. Stanley, Pasadena, Tex., assignors to Stanley-Frost Engineering Corporation, Houston, Tex., a corporation of Texas  
Continuation-in-part of application Ser. No. 542,350, Apr. 13, 1966. This application Sept. 27, 1966, Ser. No. 584,633

2 Claims. (Cl. 285-94)



An expansion joint especially adaptable for use with plastic piping. Sealingly and telescopically received within the ends of a coupling sleeve are smooth or polished pipe ends, both the sleeve and pipe ends preferably being of plastic material. The internal or other pressure is directed through a lubricant pack to the outer surfaces of O-ring seals between the sleeve and pipe ends, and orifices through the seal packings provide for direct feedings of lubricant to the bearing faces of the O-rings.

3,383,126

## DRILL STRING SHOCK ABSORBERS

Albert H. Salvatori, 4 Queen's Gate Place, London SW. 7, England, and Leo A. Tatrov, 1402 N. Benton Way, Los Angeles, Calif. 90026  
Continuation-in-part of application Ser. No. 371,219, May 29, 1964. This application Jan. 18, 1967, Ser. No. 633,310

1 Claim. (Cl. 285-302)

This invention relates to a drill string shock absorber adapted to be inserted into a rotary drill string to absorb

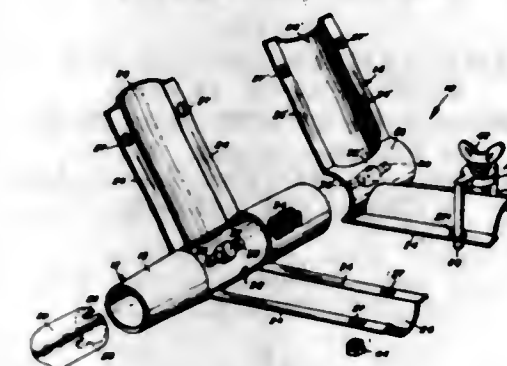


and isolated one from the other by a mass of compressible wire material.

3,383,127

## SPLIT BRACKET

Charles Grunfeld, 32 Corbin Place, Brooklyn, N.Y. 11235  
Filed Feb. 13, 1967, Ser. No. 615,656  
6 Claims. (Cl. 287-51)

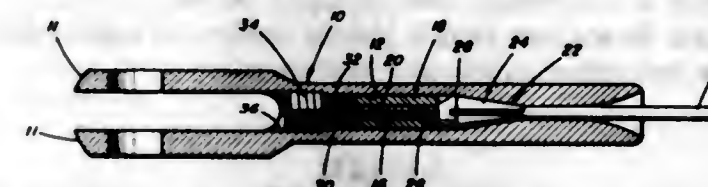


This invention relates to a bracket member of a type having a portion thereof split and mating with its opposing member. The invention secures a plurality of rods through the use of support guides and a clamping member workable independently of the guides.

3,383,128

## END TERMINATION FOR SOLID WIRES

Charles E. Napple, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Oct. 31, 1966, Ser. No. 591,008  
2 Claims. (Cl. 287-83)



An end terminal for attachment to a wire having an internal bore for receiving the wire which is attached to a sleeve slidably received in the bore. A tapered collet, engaging a corresponding tapered surface of the bore, surrounds the wire and grips the same when the collet is urged into wedging engagement with the tapered surface of the bore by a threaded plug which mates with internal threads formed within the bore.



3,383,129

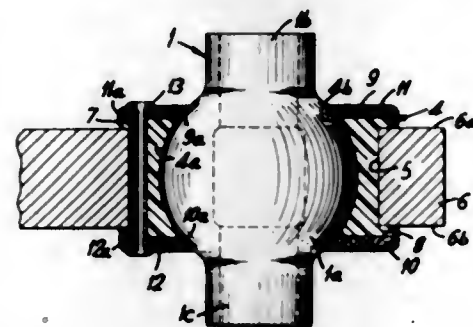
**UNIVERSAL JOINT CONSTRUCTION**Jürgen Ulderup, Bergstrasse, Lemförde,  
Hannover, Germany

Filed June 15, 1966, Ser. No. 557,666

Claims priority, application Germany, July 24, 1965,

U 11,912

9 Claims. (Cl. 287—88)



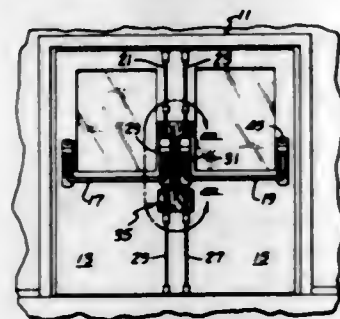
A universal joint construction includes a pivotal ball to joint member having a central spherical portion and a pin portion extending outwardly from each end. The joint includes a housing for the ball joint member which comprises a one piece disk of relatively hard plastic material which surrounds the ball portion and provides a spherical surface on which the ball is pivotal. The construction also includes a packing disk of a soft material which is capable of being impregnated with lubricant which is arranged at each side of the hard plastic material and has an inner edge in sealing engagement with the spherical portion of the ball member.

3,383,130

**ANTI-TAMPER DEVICE FOR PANIC-PROOF DOORS**Anthony F. De Avila, 42 Nebraska St.,  
San Francisco, Calif. 94110

Filed Dec. 22, 1965, Ser. No. 515,558

3 Claims. (Cl. 292—92)



To prevent panic-proof doors from being opened from the outside by insertion of a wire through the opening between the doors to pull down the horizontal door-opening bars, a blocking plate is used. One form of blocking plate is an easily breakable piece fitting on the inside of the doors across the opening and extending above and below the level of the unlocking bars. When the door is to be opened, the plate may be quickly removed or alternatively it will easily fracture upon pressure applied to the bars. In another form a plate is inserted at right angles to the door between the door and the bar.

3,383,131

**CORE SAMPLER**

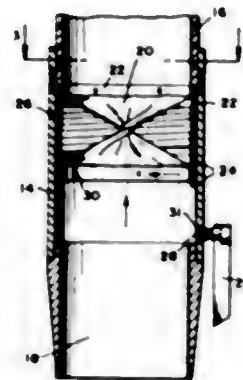
Andre M. Rosfelder, La Jolla, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 27, 1966, Ser. No. 568,359

10 Claims. (Cl. 294—69)

The description discloses a tubular core sampler which utilizes a flexible tube at its lower end for closing such end when a core sample has been obtained. The closure is effected by twisting the flexible tube until the tube con-

stricts any passage. The twisting action may be accomplished by a torsion spring which is connected at its ends to the respective ends of the tube. The spring is held in a



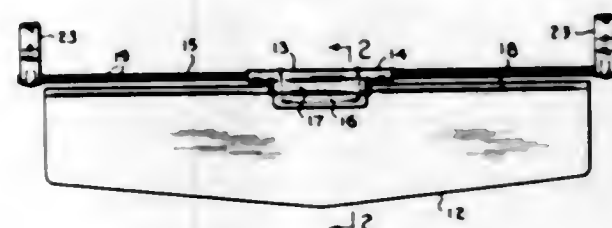
biased condition with the flexible tube open until such time that closure is desired, whereupon the spring is released to twist the flexible tube for closure purposes.

3,383,132

**VEHICLE WINDSHIELD SUN VISOR**Floyd R. Stamp, 4120 State Road,  
Akron, Ohio 44319

Filed Nov. 24, 1965, Ser. No. 509,551

7 Claims. (Cl. 296—97)



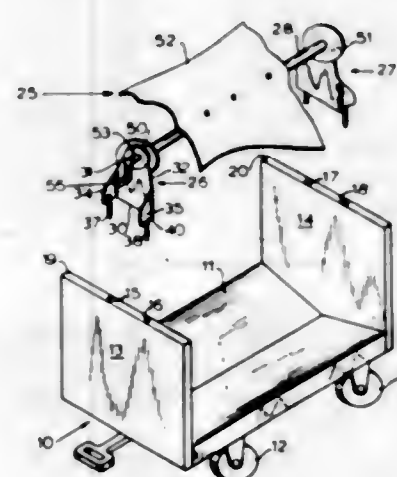
Sun visor panel for vehicle windshield carried by spring clip angularly and slidably adjustable on relatively fixed rod. Spring means applies strong gripping pressure to clip against rod, resisting manual turning of clip to selected angular positions on same, while permitting longitudinal movement of clip on rod against gripping pressure.

3,383,133

**TARPAULIN ROLLER FOR AIRCRAFT LUGGAGE CARRIER**Lonnie N. Dean, Rte. 1, Box 317-C,  
Durham, N.C. 27705

Filed June 21, 1966, Ser. No. 559,262

7 Claims. (Cl. 296—98)



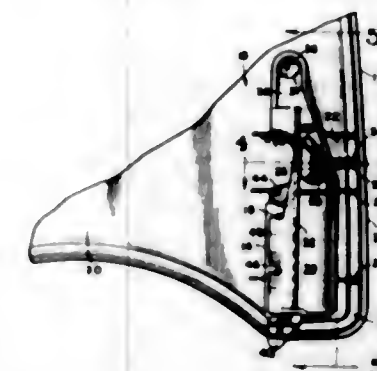
A tarpaulin reel apparatus is designed to be removably mounted on an aircraft luggage carrier and provides means for winding, unwinding and storing a tarpaulin cover.

3,383,134

**HIGH CHAIR TRAY**Thomas G. Webb and John J. Hamilton, Columbus, Ind.,  
assignors to Hamilton Cosco, Inc., Columbus, Ind., a  
corporation of Indiana

Filed Oct. 3, 1966, Ser. No. 583,587

10 Claims. (Cl. 297—153)



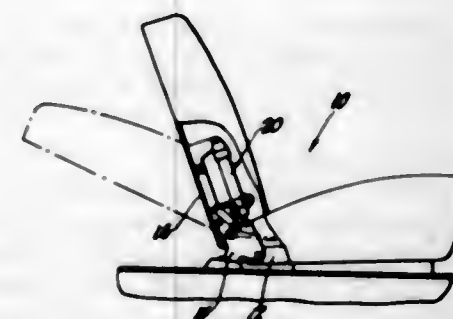
A high chair tray for use on a high chair having a pair of side rails provided with downwardly projecting rods and comprising a shelf member having a pair of laterally spaced locking members swingably mounted thereon on vertical axes. Each of said locking members is formed with a top wall interconnecting downwardly projecting inner and outer walls. Upper and lower flanges project inwardly from the inner wall for reception around one of said rails, and said lower flange has a slot formed therein which is receivable around one of said rods. Pins extend between said shelf member and locking members and carry springs for urging said locking members to swing inwardly for reception of said upper and lower flanges around said rails and said lower flange slots around said rods.

3,383,135

**RECLINING SEAT ASSEMBLY**Raymond C. Posh, Livonia, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif.,  
a corporation of Delaware

Filed Apr. 5, 1966, Ser. No. 540,299

20 Claims. (Cl. 297—355)

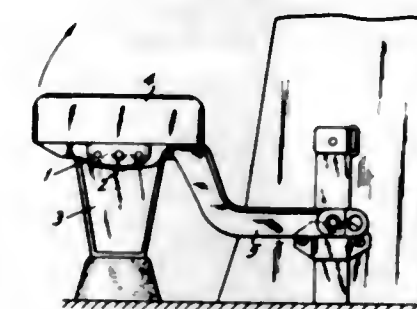


A reclining seat assembly including a seat back frame pivotally connected to a seat frame for movement between an upright position and various reclined positions and a positioning mechanism for controlling the pivotal movement of the seat back frame relative to the seat frame, which mechanism includes first and second members operatively interconnected by a friction means which is biased into frictional engagement with the first member, for preventing relative movement between the members by a biasing means which also urges relative movement between the members in a first direction.

3,383,136

**CHURCH KNEELER ATTACHMENT AND KNEELER SUPPORT**Joseph J. Noe, 1952 Mayflower Ave.,  
Bronx, N.Y. 10461Continuation-in-part of application Ser. No. 585,062,  
Oct. 7, 1966. This application Apr. 4, 1967, Ser.  
No. 628,500

10 Claims. (Cl. 297—426)



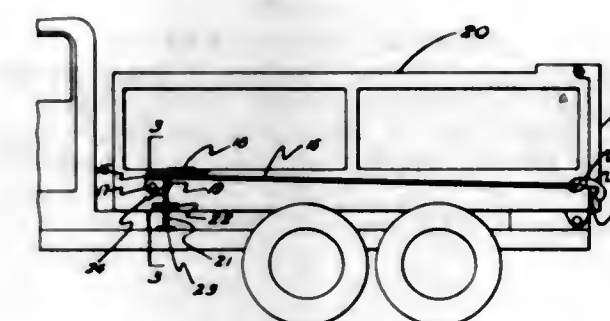
The present invention provides a readily installable support assembly wherein a multi-channeled longitudinal support is mountable beneath the horizontal kneeling pad interconnecting the supporting legs to brace and align the legs and provide support to the pad. The longitudinal support mounting means may be either integral to or supplementally adapted to the legs and generally comprises a support rest having a horizontal section adapted to accept one end of the longitudinal support; a vertical section; a series of openings and horizontal protrusion on the vertical section aligned with the channels and means adapted to pass through vertical section, openings and channels to secure the longitudinal support and legs.

3,383,137

**TAIL GATE LATCH MECHANISM**Kenneth L. Smith, Sierra Vista, Ariz.  
(Star Rte., Peace, Ariz. 85625)

Filed Dec. 13, 1965, Ser. No. 513,286

4 Claims. (Cl. 298—23)



A mechanism for automatically locking and unlatching the tail gate of a dump truck. An operating arm on the dump body is slidably mounted perpendicularly to the truck frame in a guide means. As the dump body is raised a spring retracts the arm and through a linkage unlatches the tail gate.

3,383,138

**TUNNELING MACHINE WITH STEPPER ADVANCE AND ARTICULATED TORQUE ARMS**Victor J. Scaravilli, Beechwood, and Charles J. Delisio,  
Lyndhurst, Ohio, assignors to S & M Constructors,  
Inc., Bedford Heights, Cuyahoga County, Ohio, a corporation of Ohio

Filed Apr. 11, 1966, Ser. No. 541,673

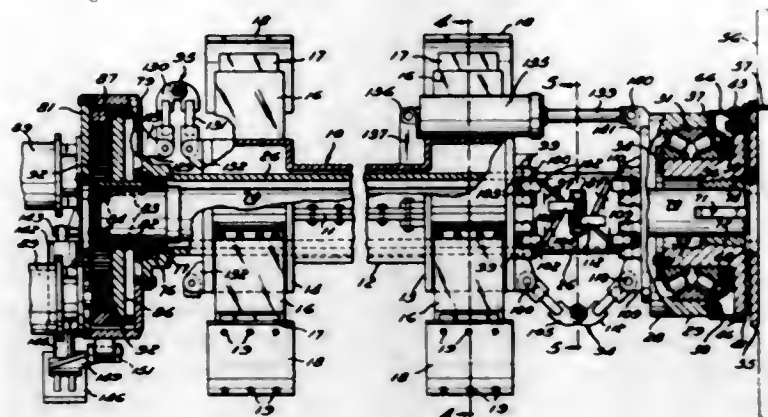
12 Claims. (Cl. 299—31)

A tunneling machine having a support frame anchorable in a tunnel bore by four independently hydraulic-



ly actuated support feet at each of two axially spaced zones which provide the only anchoring of the support frame in the tunnel and by individual movement selectively position the axis of the support frame with respect to the axis of the tunnel. An elongated movable frame is carried on the support frame by two axially spaced sets of articulated torque arm assemblies which position the movable frame radially with respect to the support frame and transmit torque between the movable frame and the support frame.

A cutter head is mounted on the front end of the movable frame by a large thrust bearing and a cutter head support plate is insulated from the remainder of the mov-



able frame by a layer of elastomeric material to absorb and dampen shock transmission between the cutter and the bearing. The cutter head is rotatably driven by an elongated shaft which extends from the cutter head axially through the movable frame to a drive motor assembly at the rear end of the machine. At its rear end the movable frame has selectively operable support feet which allow the movable frame to be supported by its own support feet and the cutter head, while the support frame is advanced along the tunnel by the reversible push cylinders interconnecting the support frame and the movable frame to provide the necessary thrust to the cutter head.

3,383,139

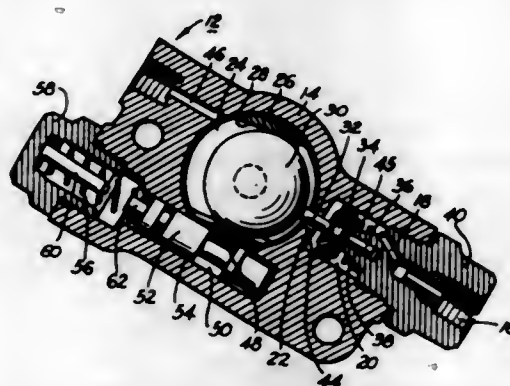
## INERTIA BRAKE VALVE

Gérard Chevreux, Bois-Colombes, France, assignor to Societe Anonyme D.B.A., Paris, France

Filed May 16, 1966, Ser. No. 550,487

Claims priority, application France, May 19, 1965, 17,536

2 Claims. (Cl. 303—24)



A device for limiting hydraulic pressure to a given constant level whenever a deceleration responsive valve senses a predetermined deceleration including a mechanism to permit the adjustment of the deceleration responsive valve in accordance with load conditions of structure with which the valve is associated.

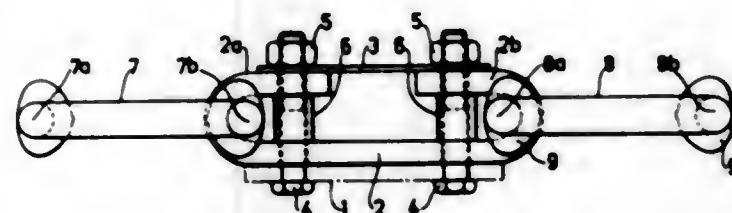
### 3,383,140 ARRANGEMENT ON TRACKS FOR TRACTORS

Per Olov Torbjörn Ståhlberg, Edsbyn, Sweden, assignor to Osthjergs Fabriks AB Alfta, a Swedish joint-stock company

Filed June 13, 1966, Ser. No. 557,244

Claims priority, application Sweden, June 16, 1965, 7,960/65

2 Claims. (Cl. 305—54)



An endless track structure for driving ground engaging vehicles of the tractor type comprises a series of track plate units interconnected by links interposed therebetween. The track units include bars with curved end portions which are connected with the ends of the links, and shoulders are provided on the links adjacent the curved end portions of the bars to hold lateral deviations from the neutral line of the track within such a narrow limit as to prevent any run-off of the track.

3,383,141

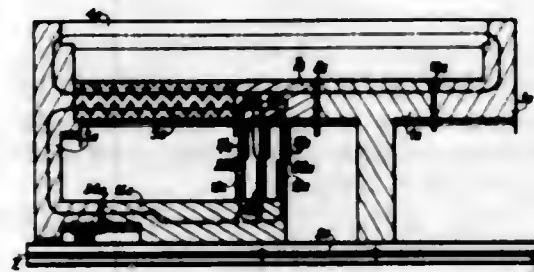
## MAGNETIC SERVOSYSTEM

Michel Cotton de Benetot, Brest, France, assignor to Société d'Etudes et de Recherches Magnétiques Sermag, Saint-Martin-d'Hères, France, a corporation of France

Filed July 24, 1964, Ser. No. 384,847

Claims priority, application France, July 31, 1963, 943,332, Patent 1,372,560

15 Claims. (Cl. 308—10)



1. A magnetic levitation system comprising: a magnetic member positioned in an equilibrium condition but displaceable therefrom at least in a first direction, means for producing magnetic flux, stationary magnetic circuit means incorporating said flux producing means and said magnetic member and defining therewith for said flux a first flux path including at least first and second serially connected air gaps, the gap sum of which is maintained substantially constant regardless of displacement of said magnetic member, and servomagnetic shunt circuit means integrally connected to said magnetic member and forming for said flux and with said stationary magnetic circuit means a second flux path through at least third and fourth serially connected air gaps so that at least the said third gap has a variable width extending in said first direction for modifying the distribution of flux between said first and second paths when said magnetic member is displaced in said first direction from said equilibrium condition and changes said third air gap while the sum of said first and second air gaps re-

mains constant as aforesaid, to cause the said displacement of said magnetic member to be eliminated.

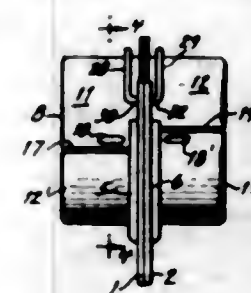
3,383,142

## SPLIT BEARING STRUCTURE

Martin Scott, Valhalla, N.Y., assignor to The Metallized Carbon Co., Inc., a corporation of New York

Filed Aug. 16, 1965, Ser. No. 479,741

11 Claims. (Cl. 308—15)



A split bearing structure comprising split bearing means and shroud mounted on a base, the bearings and shroud being removable without disturbing the shafting or any associated elements.

3,383,143

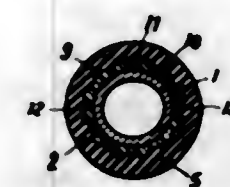
## SLIDE BEARING SHELLS WITH RUBBER JACKET

Andreas Schmidt, Osterath, Kreis Kempen-Krefeld, Germany, assignor to A. Ehrenreich & Cie, Düsseldorf-Oberkassel, Germany

Filed Oct. 21, 1965, Ser. No. 499,933

Claims priority, application Germany, Mar. 26, 1965, E 28,966

5 Claims. (Cl. 308—26)



The subject bearing assembly is designed to provide cushioned support in a bearing having application for use between relatively rotating or oscillating parts. Basically, the bearing assembly is comprised of an inner metal sleeve, an intermediately-disposed split plastic sleeve concentrically arranged on the inner metal sleeve and an outer rubber bushing arranged concentrically with the inner metal sleeve and the intermediately-disposed split plastic sleeve. More particularly, the intermediately-disposed split plastic sleeve is sized to fit on the inner metal sleeve and effect a low-frictional contact therebetween to maintain the inner metal sleeve and intermediately-disposed split plastic sleeve in fixed relationship under normal operating conditions but which will allow rotational movement therebetween under high stress conditions. The outer surface of the intermediately-disposed split plastic sleeve is formed with elevations and depressions that appear, in cross section as symmetrically disposed continuous undulations while the inner surface of the rubber bushing is formed with a mating surface that also appears in cross section, as symmetrically disposed continuous undulations which conform to the contour of the outer surface of the intermediately-disposed split plastic sleeve. In addition, the inner metal sleeve and the intermediately-disposed split plastic sleeve have flanges formed thereon that abut when the bearing is in assembled form. Also included in the design is a flange member formed on the rubber bushing having an inner periph-

eral groove sized to accommodate the flanges of the inner metal sleeve and intermediately-disposed split plastic sleeve.

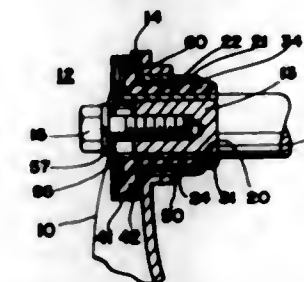
3,383,144

## SELF-LUBRICATING URETHANE-UREA COPOLYMER BEARING

Paschal P. Zapponi, Cleveland, Ohio, assignor, by mesne assignments, to Clevite Corporation, a corporation of Ohio

Continuation-in-part of application Ser. No. 399,007, Sept. 24, 1964. This application Mar. 12, 1965, Ser. No. 442,571

19 Claims. (Cl. 308—36.1)



This invention comprises a new self-lubricated bearing and the process for preparing the bearing composition by reacting a polyurethane prepolymer having a molecular weight of 1000-5000 and free isocyanate groups therein with an amine compound having at least 2 primary amine groups, and simultaneously with 2-3.5% by weight, based on the weight of the polyurethane prepolymer, of a fatty acid having 16-26 carbon atoms, the polyurethane having free isocyanate groups in the proportion of 2-20% by weight of the polyurethane and the amine being used in an amount in the range of from 20% less to 20% in excess of the stoichiometric amount required to react with the free isocyanate radicals. It is found that the presence of the fatty acid during the reaction of the components ordinarily used to prepare a urethane-urea copolymer does not interfere with the polymerization reaction and actually imports permanent lubricity to the composition.

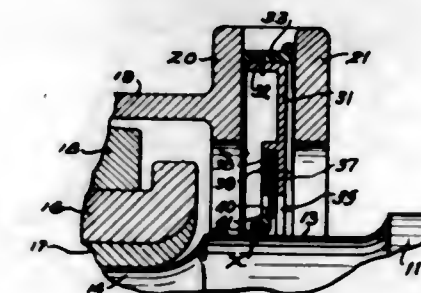
3,383,145

## RAILWAY JOURNAL DUST GUARD SEAL

James J. Hennessy, Jr., Chambersburg, Pa., assignor to Hennessy Lubricator Co., Inc., Chambersburg, Pa., a corporation of Delaware

Continuation-in-part of application Ser. No. 432,533, Feb. 15, 1965. This application Aug. 19, 1966, Ser. No. 573,530

7 Claims. (Cl. 308—90)



A seal between a railway axle dry seat and a journal box mounted on the axle journal characterized in a stationary stiff body plate with a relatively large opening for play of the axle in the box, there being a thin diaphragm between the stiff body and the dry seat readily flexible transversely of the body plate and having a cir-



cular ring about its inner periphery which is relatively stiff and preferably includes an inwardly projecting rib also flexible transversely of the body plate.

3,383,146

## ROLLER BEARING ASSEMBLY

John Haller, Northville, Mich., assignor to Federal-Mogul Corporation, Detroit, Mich., a corporation of Michigan  
Filed Aug. 18, 1965, Ser. No. 480,643  
3 Claims. (Cl. 308—217)

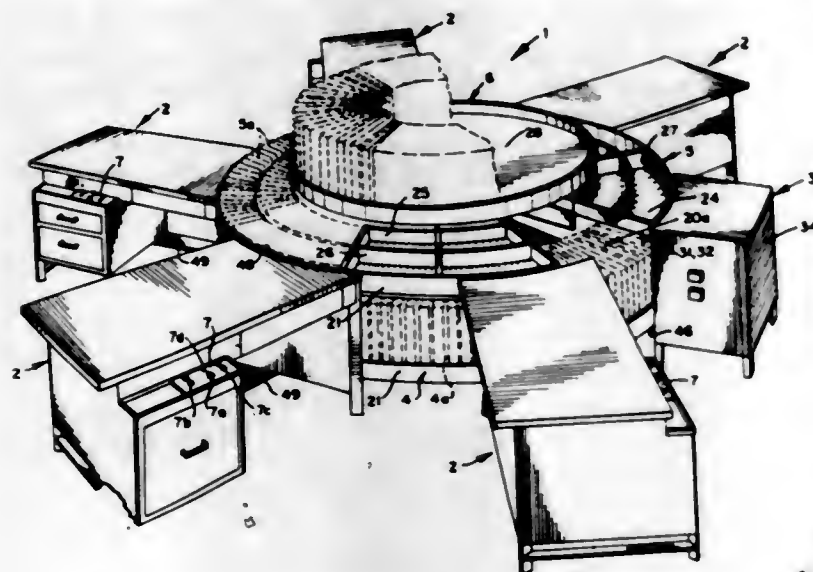


This roller bearing assembly has annular retainers of molded sintered powdered material, such as metal or synthetic plastic, which are provided on their inner faces with circumferentially-spaced recesses rotatably receiving the opposite ends of the bearing rollers. These recesses having generally cylindrical side walls which are preferably cut away marginally to provide peripheral openings through which the rollers project, the retainers and rollers being held together by circumferentially-spaced spring clips seated in peripheral recesses in the retainers and having inwardly-offset intermediate spacing portions interposed between the facing surfaces of the retainers.

3,383,147

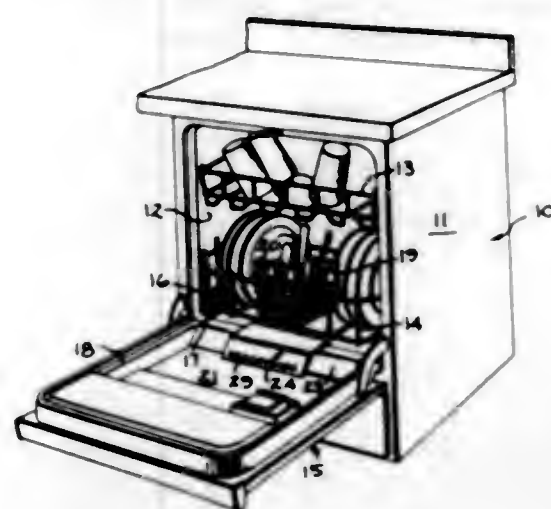
## ROTARY FILING SYSTEM

Romeo T. Proulx, Copiague, and Henry A. Holzwarth, Bayside, N.Y., and Charles L. Metzler, Alpine, N.J., assignors to Visirecord, Inc., Copiague, N.Y., a corporation of New York  
Filed Oct. 14, 1966, Ser. No. 587,644  
11 Claims. (Cl. 312—197)



A rotary filing system having at least one tier rotatable about a vertical axis and adapted to carry on its upper, horizontal surface a plurality of divider elements between which file data may be disposed and indexed, the system including an electric power unit having a rotary member in frictional drive engagement with a peripheral surface of the tier for actuating the tier in response to controlling signals from an operation station.

3,383,148  
PROTECTIVE DEVICE FOR DISHWASHER DOOR  
John A. Dicken, Jr., Louisville, Ky., assignor to General Electric Company, a corporation of New York  
Filed Aug. 15, 1966, Ser. No. 572,567  
6 Claims. (Cl. 312—311)

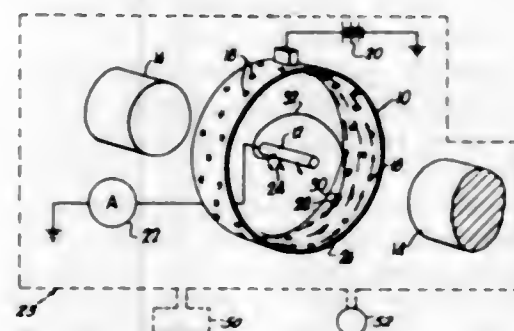


An automatic dishwasher having a front drop-door with a plastic coating on its inner surface pivotal between a vertical closed position and a horizontal open position, and having a lower dish-and-silverware rack which is rolled out from within the wash chamber onto the open horizontal door. A shield upon the inner surface of the door to prevent the abrasion and laceration of the plastic coating as a result of its contact with articles carried by the rack as the rack is moved out from within the wash chamber.

3,383,149

## METHOD OF IMPROVING THE OPERATIONAL CHARACTERISTICS OF COLD CATHODE DEVICES HAVING CROSSED ELECTRIC AND MAGNETIC FIELDS

Paul J. Bryant, Prairie Village, Kans., and Charles M. Gosselin, Kansas City, Mo., assignors to Midwest Research Institute, Kansas City, Mo., a corporation of Missouri  
Filed June 29, 1965, Ser. No. 467,947  
6 Claims. (Cl. 316—3)



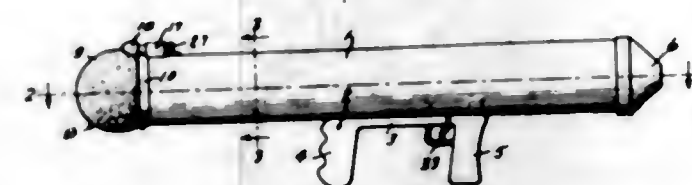
The work function of the cathode of a cold cathode device employing crossed electric and magnetic fields is lowered by subjecting the cathode to cesium while the device is in an evacuated environment. This is effected by decomposing a cesium compound in a vacuum system communicating with the device, the free cesium released upon decomposition being highly mobile due to the partial vacuum condition and, therefore, contacting the cathode as the cesium travels throughout the system. An increase in the sensitivity of the device is produced by the treatment which extends the low pressure limit of operation of magnetron vacuum gauges and renders

getter ion pumps readily restartable after a current interruption.

3,383,150

## KALEIDOSCOPIC VIEWING DEVICE

Edgar A. Powers, 104 Church St.,  
Lake Ronkonkoma, N.Y. 11779  
Filed Aug. 11, 1965, Ser. No. 478,869  
7 Claims. (Cl. 350—5)

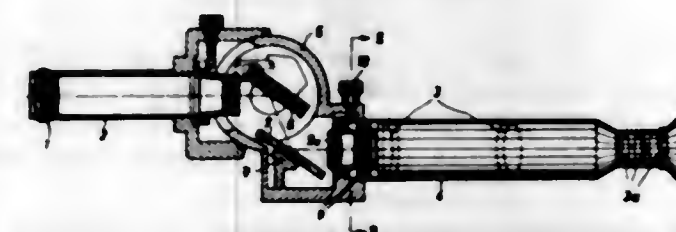


1. A kaleidoscopic viewing device comprising an elongated cylindrical tubular body member, an eyepiece secured to one end of said body member, an axially disposed sight opening in said eyepiece, an object enclosure secured to the other end of said body member, a multiplicity of pattern producing objects disposed within said object enclosure, and handle means by which said device is adapted to be held during use secured to said body member; said object enclosure comprising a hermetically sealed hollow globe of greater diameter than the diameter of said body member which is formed of transparent material and is substantially filled with a clear transparent liquid; and said pattern producing objects comprising a variety of glittering particles of matter which vary as to size, shape, color and density from glittering powders of microscopic size to conventional sized objects of varying compositions and contrasting specific gravity whereby some of the objects will gradually sink in said liquid, and others will rise in said liquid and float thereon and others will remain suspended in the said liquid.

3,383,151

## TELESCOPIC SIGHT WITH VARIABLE ENLARGEMENT AND OPTICAL JOINT

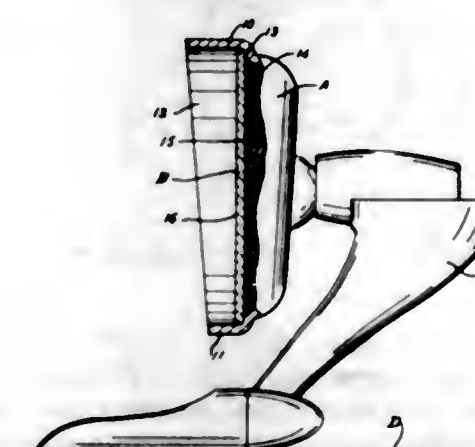
Horst Köhler, Heidenheim (Brenz), and Roland Leinbos, Oberkochen, Germany, assignors to Carl Zeiss-Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Württemberg, Germany, a corporation of Germany  
Filed July 30, 1964, Ser. No. 386,268  
Claims priority, application Germany, Aug. 20, 1963, Z 10,304  
1 Claim. (Cl. 350—48)



A telescopic sight with an objective tube and an ocular tube, the adjacent ends of which are connected to a housing composed of two parts which are pivotally connected with each other to form a pivotal joint. The housing has mounted therein an optical joint including a fixed reflector arranged oblique to the optical axis of the ocular tube and another reflector above said first reflector and in alignment with the optical axis of the objective tube and rotatable about an axis perpendicular to the optical axis of said objective tube. A pancratic lens enlargement changer is arranged in said ocular tube and an intermediary image producing lens system is arranged between said fixed reflector and said enlargement changer with means for adjusting at least one part of said intermediary image producing lens system in two directions perpendicular to the optical axis of said enlargement changer.

3,383,152

MIRROR MOUNTING SYSTEM WHICH INCLUDES FOAM MATERIAL TO SECURE THE MIRROR  
Wallace W. Ward, Chatham Township, Morris County, N.J., assignor to Diecasters, Inc., Closter, N.J., a corporation of New Jersey  
Filed Oct. 28, 1963, Ser. No. 319,352  
1 Claim. (Cl. 350—61)

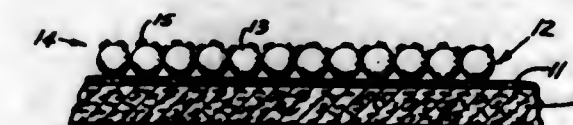


1. A shatter proof, fall-out proof and fog proof automotive mirror of the type having a cup-like receptacle having side walls and a bottom wall and a mirror mounted therein, said receptacle having a shoulder ledge contacting the periphery of said mirror and locating the mirror within the receptacle intermediate of the depth of the side walls and above the bottom wall, leaving an open space between the bottom wall and back of the mirror and a polyurethane foam material adhering to the side and bottom walls of said receptacle and adhering to and covering the back of the mirror and completely filling the space between the back of the mirror and bottom wall, said mirror having a lacquered finish on its back integrated with and united with the adjacent portion of the polyurethane foam material, the foam material and the shoulder ledge being the sole means maintaining said mirror within said cup-like receptacle.

3,383,153

## PROJECTION SCREEN

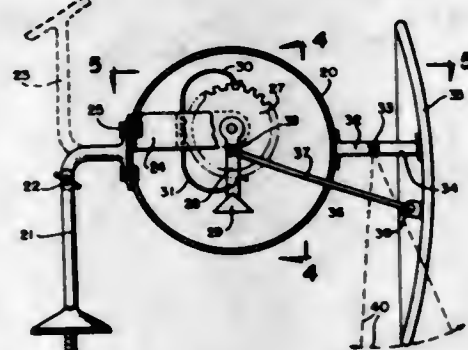
Richard H. Vetter, Pacific Palmdes, Calif., assignor to D-150, Inc., Los Angeles, Calif., a corporation of California  
Filed July 6, 1965, Ser. No. 469,385  
3 Claims. (Cl. 350—126)



This invention relates to a projection screen which includes a base member to which a layer of transparent beads is secured. A randomly-distributed, discontinuous layer of opaque material is adhered to the exposed surface of the layer of beads so as to obscure random portions of the layer of beads. The beads comprise directionally reflective means, and the opaque material comprises diffusely reflective means. The assembly is a screen which includes optimized functions of both diffuse and reflective screens, and is especially useful in deeply curved screens for motion pictures.

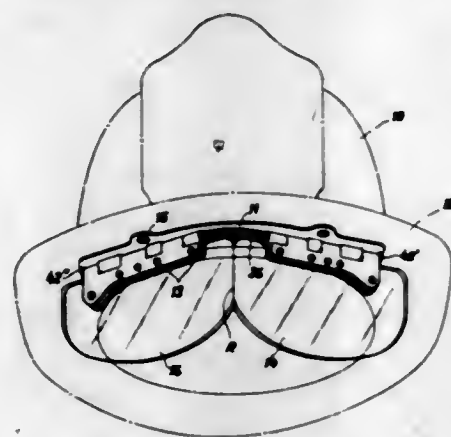


**3,383,154**  
**SELF-ALIGNING REAR VISION MIRRORS**  
 Bert A. Reed, 400 Crosby Ave., Deal, N.J. 07723  
 Filed May 4, 1964, Ser. No. 364,614  
 14 Claims. (Cl. 350-293)



A vehicular rear vision mirror is mounted for pivotal movement about a generally horizontal axis, and gravity oriented weight means mounted on the vehicle for movement with changes in angular orientation of said vehicle relative to horizontal are coupled to the rear vision mirror for effecting pivotal movement of the mirror about the axis through an angle and in a sense related to the direction and magnitude of the change in angular orientation of the vehicle.

**3,383,155**  
**HEADGEAR-MOUNTED EYE PROTECTOR WITH ANGLED-HINGED EYE SHIELDS**  
 Lester T. Bourke, 74 Muffat St., Brooklyn, N.Y. 11207  
 Continuation-in-part of application Ser. No. 433,870, Feb. 19, 1965. This application June 10, 1965, Ser. No. 462,989  
 12 Claims. (Cl. 351-155)



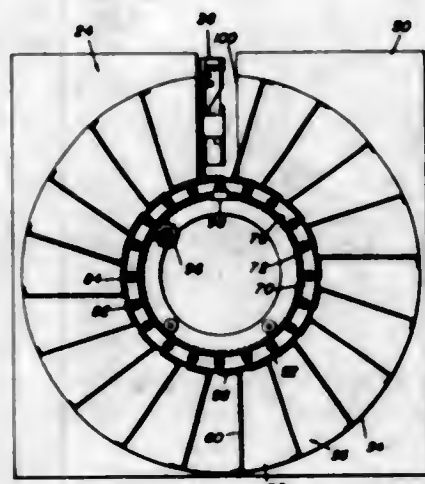
The underside of a headgear visor is provided with two hinged lenses which are angularly coupled for joint rotation about their respective axes. When the lenses are in a folded position, the vertex of their axes is common to the angle formed between their proximal transverse edges. When the device is swung into an operative shield position, these proximal edges abut to form a dihedral viewing surface. A spring means is attached to the hinges for releasably positioning the lenses.

**3,383,156**  
**AUTOMATIC FILM CARTRIDGE SELECTING AND DISPLAY UNIT**  
 Mitchel Fried, 1142 NE. 176 Terrace, North Miami Beach, Fla. 33162, and Horace W. Nickerson, Miami Springs, Fla.; said Nickerson assignor to said Fried

Filed Mar. 19, 1965, Ser. No. 441,264  
 4 Claims. (Cl. 352-123)

A film selecting and display unit used in combination with a juke-box to display a film in synchronism with a record played by the juke-box. The unit includes a plu-

rality of individual film cartridges corresponding to the individual records on the juke-box and means are provided to positively move a particular film cartridge, corresponding to a selected record, into operative engage-



ment with a projector which displays the film while the record plays. When the record ceases playing, the film cartridge is positively disengaged from the projection apparatus.

**3,383,157**  
**DISPENSING UTENSIL**  
 Bernard A. Goldfarb, Boston, Mass., assignor of one-half to David Brody, Newton, Mass.  
 Filed May 24, 1965, Ser. No. 458,112  
 2 Claims. (Cl. 401-190)



A toothpaste dispensing toothbrush comprising a pressurized container having an elongated neck, and a detachable bristled head attached to the end of the neck. A valve is located within the neck and is actuated by means located within the detachable head. A channel provides means for conducting toothpaste from the container to the bristles in the head.

**3,383,158**  
**TOILET BOWL CLEANER WITH DISPOSABLE SWAB**  
 Ragnarvald G. Leland, 2334 W. 241st St., Lomita, Calif. 90717  
 Filed May 27, 1966, Ser. No. 553,459  
 8 Claims. (Cl. 401-201)

A device for cleaning a toilet bowl having a handle and a head. A manually-operated slide plate is seated on

and moves longitudinally of the head. A disposable swab the swab is disposed of by sliding the slide plate relative to the head and slide plate, and includes the swab is disposed of by sliding the slide plate relative to the head to eject the swab.



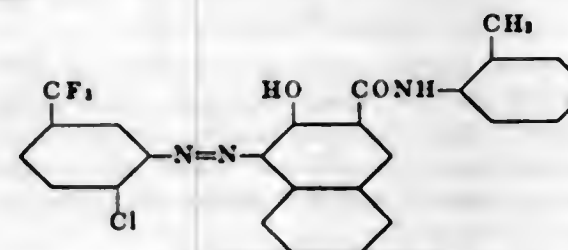
**3,383,159**  
**COMBUSTION ELEMENTS**  
 Roger M. Smith, Jr., Roslyn Harbor, N.Y., assignor to American Thermocatalytic Corporation, Mineola, N.Y., a corporation of New York  
 No Drawing. Filed Feb. 3, 1966, Ser. No. 524,868  
 8 Claims. (Cl. 431-7)

This invention relates to the discovery that combustion elements used for emitting radiant energy can be improved by the incorporation of aluminum upon or within the surface upon which combustion takes place.

## CHEMICAL

**3,383,160**  
**METHOD FOR DYEING POLYESTER FIBERS WITH MONOAZO DYESTUFFS**  
 Lester N. Stanley, Delmar, and William H. Armento, Albany, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware  
 No Drawing. Filed Mar. 31, 1964, Ser. No. 356,068  
 2 Claims. (Cl. 8-41)

Polyester fiber is dyed by padding with a dye of the formula:



at a temperature of from 140° F. to 180° F., then drying and heating the dried material to a temperature of from 390° F. to 440° F. for one-half to two minutes.

**3,383,161**  
**PROCESS FOR IMPROVING DYEABILITY OF THE FIBRES AND SHAPED ARTICLES OF POLYPROPYLENE**  
 Hiroshiro Kimura, Akio Koshino, and Hirohisa Nara, Uji-shi, and Shunichi Fukunaga, Kyoto-shi, Japan, assignors to Nippon Rayon Co., Ltd., Kyoto-fu, Japan  
 No Drawing. Filed July 16, 1964, Ser. No. 383,218  
 Claims priority, application Japan, July 17, 1963, 38/36,262

3 Claims. (Cl. 8-100)  
 A process for improving the dyeability of polypropylene by blending the polypropylene with a bisamide and then treating the blended polypropylene with halides of acetic acid, hydrogen halides or iodine, and then treating with at least one of the aliphatic amines.

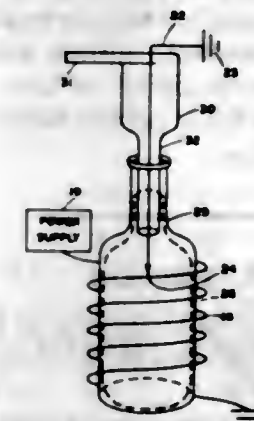
**3,383,162**  
**TREATMENT OF TEXTILE MATERIALS**  
 Robert E. Whitfield, Pleasant Hill, Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture  
 No Drawing. Original application May 23, 1964, Ser. No. 371,150. Divided and this application May 12, 1967, Ser. No. 655,693

3 Claims. (Cl. 8-115.5)  
 1. Fibrous material carrying a deposit of a polymer cross-linked through reaction with a fixative, the polymer being a polysiloxane containing reactive groups selected from the class consisting of hydroxy, amine, carbonyl halide, chloroformate and isocyanate groups, the fixative being a multifunctional compound containing reactive groups complementary to those of the

polymer and selected from the class consisting of carbonyl halide, sulphonyl halide, haloformate, carbamyl halide, anhydride, imide, amine, imine, hydroxy, and isocyanate,

said product being produced by serially impregnating a fibrous material with two solutions, one solution containing in a first solvent the said polymer, the other solution containing in a second solvent the said fixative, the first and second solvents being substantially mutually immiscible, the polymer directly cross-linking with the fixative under said conditions to form a three-dimensional polymer on the fibrous material.

**3,383,163**  
**TREATMENT OF SURFACES**  
 Wilson P. Menashi, Lexington, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts  
 Filed Jan. 24, 1964, Ser. No. 339,923  
 12 Claims. (Cl. 21-54)



A method for treating surfaces of materials which do not lend themselves to induction heating, such as glass, plastics and ceramics to render them sterile, i.e., free from microorganisms. The method comprises exposing the surface to a plasma for a time sufficient to destroy the microorganisms but insufficient to effect any physical change in the surface material. It is particularly well suited to the sterilization of the internal walls of glass and plastic containers.

**3,383,164**  
**REMOVAL OF CARBON MONOXIDE**  
 Allan C. Harkness, Vancouver, British Columbia, Canada, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.  
 No Drawing. Continuation-in-part of application Ser. No. 176,914, Mar. 2, 1962. This application May 27, 1965, Ser. No. 459,429

12 Claims. (Cl. 23-2)  
 1. The method of removing carbon monoxide from a gaseous stream utilizing a gas-liquid phase reaction com-



prising forming an aqueous solution containing permanganate ions; adjusting the pH of said solution to a value not exceeding 7; adding to the solution a catalytic reagent to provide said solution with a small but effective amount of ions selected from the group consisting of silver ion and mercuric ion; and contacting said gaseous stream with said solution whereupon the carbon monoxide in said stream is substantially completely and rapidly oxidized to carbon dioxide, and removing said now substantially carbon monoxide free gaseous stream from contact with said solution.

3,383,165

**PROCESS FOR PRODUCING NON-CAKING BORAX**

George W. Campbell, Jr., Tustin, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Oct. 6, 1964, Ser. No. 401,992

10 Claims. (Cl. 23—59)

A process for producing a highly comminuted borax which is essentially anhydrous but having about 0.4–1% water content in the surface portion of the individual borax granules so that caking is decreased.

3,383,166

**PROCESS FOR PRODUCING IRON-FREE ALUMINUM NITRATE SOLUTIONS**

Harold T. Gerry, Petersburg, Va., Carl K. Amano, Denver, Colo., and Anthony W. Yodis, Whippany, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Aug. 17, 1964, Ser. No. 390,141

3 Claims. (Cl. 23—102)

Process for production of aluminum nitrate solutions having a ratio of  $\text{Al}_2\text{O}_3$  to  $\text{Fe}_2\text{O}_3$  of at least about 2,000 which comprises heating at temperatures above  $140^\circ\text{C}$ . iron-contaminated aluminum nitrate solutions containing free  $\text{Al}_2\text{O}_3$  in the presence of at least about 0.10 part  $\text{Fe}_2\text{O}_3$  per part  $\text{Al}_2\text{O}_3$  for a period sufficient to precipitate substantially all the iron.

3,383,167

**MANUFACTURE OF MAGNESIUM PHOSPHATE BY REACTION OF ROCK PHOSPHATE WITH MAGNESIUM SULFATE**

Ruth Blumberg, Simon Lavie, and Abraham Baniel, Haifa, Israel, assignors, by mesne assignments, to Israel Mining Industries-Institute for Research and Development, a company of Israel

No Drawing. Filed Oct. 22, 1963, Ser. No. 318,080

Claims priority, application Israel, Nov. 23, 1962, 18,278

8 Claims. (Cl. 23—105)

1. The method of producing anhydrous magnesium phosphate comprising reacting rock phosphate, containing calcium, at  $600$ – $800^\circ\text{C}$ . in an at least partially molten condition with a mixture of magnesium sulfate and an alkali metal sulfate or chloride salt for lowering the fusion temperature of magnesium sulfate to a temperature at which the non-phosphate salts are partially or fully fused while the phosphates remain solid, which mixture is capable of at least partially fusing at  $600$ – $800^\circ\text{C}$ ., said mixture containing an amount of magnesium stoichiometrically equivalent to the amount of calcium of the rock phosphate desired to be re-

placed, thereby producing anhydrous magnesium phosphate.

3,383,168

**METHOD OF ION EXCHANGING CRYSTALLINE ALUMINOSILICATES**

Stephen M. Kovach, Highland, Ind., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 15, 1965, Ser. No. 448,258

3 Claims. (Cl. 23—111)

Crystalline aluminosilicate materials are ion exchanged using liquid ammonia as the ion exchange medium. Less desirable cations, e.g. alkali metal cations are replaced by ion exchange with a solution of more desirable cations, e.g. cerium, in the liquid ammonia medium.

3,383,169

**PROCESS FOR THE PREPARATION OF CRYSTALLINE AMMONIUM ZEOLITES**

Dean Arthur Young, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed May 20, 1965, Ser. No. 457,485

11 Claims. (Cl. 23—112)

Zeolitic alkali metal cations are rapidly and efficiently exchanged out of crystalline, aluminosilicate zeolites by subjecting such zeolites to ion exchange with ammonium salt solutions containing sufficient added acid to maintain a pH between about 2 and 4.5 during the exchange.

3,383,170

**PROCESS FOR THE RECOVERY OF SULPHUR DIOXIDE AND AMMONIA**

Herbert Furkert, Junkersdorf, Cologne, and Hans Muehlenbein, Cologne-Lindenthal, Germany, assignors, by mesne assignments, to Chemiebau Dr. A. Zieren GmbH & Co. KG., Cologne-Braunsfeld, Germany, a corporation of Germany

No Drawing. Filed Jan. 12, 1965, Ser. No. 425,054

Claims priority, application Germany, Jan. 17, 1964, C 31,906

The portion of the term of the patent subsequent to May 23, 1984, has been disclaimed and dedicated to the Public

12 Claims. (Cl. 23—177)

A process for the recovery of ammonia and sulfur dioxide from feeds containing  $(\text{NH}_4)_2\text{SO}_4$  and/or  $\text{NH}_4\text{HSO}_4$ . When the feed is rich in  $(\text{NH}_4)_2\text{SO}_4$ , an addition containing a major portion of  $(\text{NH}_4)_2\text{SO}_4$  is made. The mixture is then heated to decompose the  $(\text{NH}_4)_2\text{SO}_4$  to form  $\text{NH}_4\text{HSO}_4$  and ammonia. The ammonia is recovered. The  $\text{NH}_4\text{HSO}_4$  is partially reduced by heating with a non-carbon reducing agent at a temperature above its melting point, to form  $\text{SO}_2$  and  $(\text{NH}_4)_2\text{SO}_4$ . The resultant mixture is recycled to the feed. When the feed is rich in  $\text{NH}_4\text{HSO}_4$ , an addition containing a major portion of  $\text{NH}_4\text{HSO}_4$  is made to the feed. This mixture is then partially reduced with a non-carbon containing reducing agent at a temperature above the melting point of the  $\text{NH}_4\text{HSO}_4$  to liberate  $\text{SO}_2$  and to form  $(\text{NH}_4)_2\text{SO}_4$ . The resultant mixture of  $(\text{NH}_4)_2\text{SO}_4$  and unreduced  $\text{NH}_4\text{HSO}_4$  is recycled and admixed with the feed. The process is controlled so that the ammonia produced in the decomposition step, and the  $\text{SO}_2$  produced in the reducing step, correspond to the initial ammonia and sulfate content of the feed.

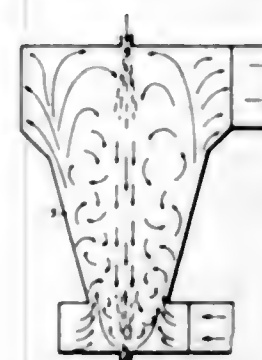
3,383,171

**PROCESS FOR SPLITTING WASTE SULFURIC ACIDS**

Harke Haeseler and Franz Rüben, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Continuation of application Ser. No. 417,674, Dec. 11, 1964. This application Sept. 16, 1966, Ser. No. 583,491  
Claims priority, application Germany, Jan. 2, 1964, F 41,663

8 Claims. (Cl. 23—177)



Thermal decomposition of waste sulfuric acid into  $\text{SO}_2$  and  $\text{H}_2\text{O}$ , using thermal energy supplied by an exothermic auxiliary chemical reaction, by feeding a mixture of sulfuric acid together with the stoichiometric amount of a fuel axially into one end of an elongated mixing and reaction zone and an oxidizing gas tangentially into the opposite end of said zone sufficient to achieve a reverse flow of said mixture and high turbulence of said mixture and said gas in said zone, and burning said mixture with at least the stoichiometric amount of said oxidizing gas in said zone under high turbulence at temperatures of about  $650$ – $1000^\circ\text{C}$ . in the absence of a catalyst, for a residence time of the reactants and of the reaction products in the zone of below 1 second.

3,383,172

**PROCESS FOR PRODUCING SILICA IN THE FORM OF HOLLOW SPHERES**

Hanns Biegler, Weseling, near Cologne, and Gottfried Kallrath, Brühl-Vöchem, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt, Germany

No Drawing. Filed Feb. 4, 1964, Ser. No. 342,525

3 Claims. (Cl. 23—182)

Oxides and mixtures of oxides of elements of the IIIrd and IVth groups of the Periodic Table are formed into spherical and hollow spherical particles by spray drying aqueous suspensions of said oxides containing 20–60% by weight of the oxides at a temperature greater than  $200^\circ\text{C}$ .

3,383,173

**AMMONIA PURIFICATION**

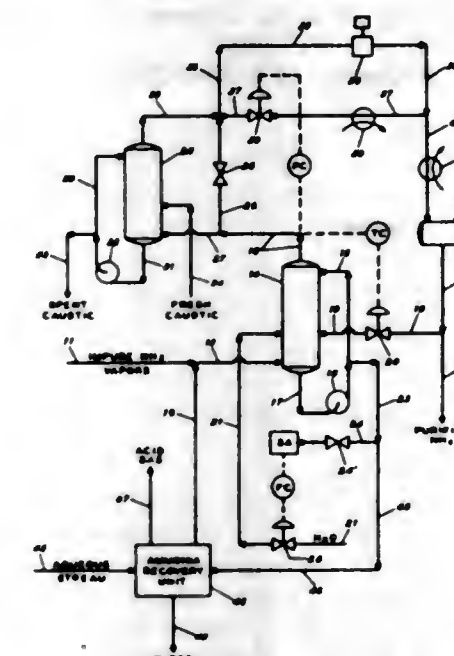
Walter M. Bollen, San Rafael, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,628

5 Claims. (Cl. 23—196)

Acid gas contaminants are removed from an impure vapor stream, which is mostly ammonia, by scrubbing the vapor stream in a contactor at low temperature and superatmospheric pressure with a concentrated aqua ammonia solution formed by flashing liquid ammonia supplied at a higher pressure into said contactor at a rate regulated to maintain a substantially constant low temperature and by adding water into the contactor at a rate regulated to

maintain a high mole ratio of ammonia to acid gas in the resulting solution. Purified ammonia vapors are withdrawn



3,383,174

**STABILIZATION OF HYDROGEN PEROXIDE**

Glenn T. Carnine, Kenmore, N.Y., and Leonard R. Darbee, Trenton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1965, Ser. No. 446,428

14 Claims. (Cl. 23—207.5)

Concentrated aqueous hydrogen peroxide solutions stable against decomposition by contaminants are provided. They contain as a stabilizer a synergistic combination of a tin compound soluble in aqueous hydrogen peroxide and a small amount of a nitrilotrimethylene phosphonic acid compound. Preferably a water soluble nitrate is also present.

3,383,175

**PRODUCTION OF CARBON BLACK**

Merrill E. Jordan, Walpole, and William Gerald Burbine, Whitman, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Filed Jan. 21, 1966, Ser. No. 522,022

9 Claims. (Cl. 23—209.4)

1. In a process for producing carbon black by the decomposition of an essentially hydrocarbon feedstock in a carbon black forming zone, the improvement which comprises controlling properties of the carbon black produced by introducing into said carbon forming zone a material comprising a rare earth metal having an atomic number of 57 to 71 in an amount sufficient to provide at least about 0.2 milligram atoms of said metal per mole of hydrocarbon feedstock carbon.

3,383,176

**CATALYTIC PROCESS FOR ORTHO-PARA HYDROGEN CONVERSION**

Carl D. Keith, Summit, and Alfred J. Haley, Jr., Westfield, N.J., assignors to Engelland Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed May 12, 1964, Ser. No. 366,894

7 Claims. (Cl. 23—210)

A catalytic process for equilibrating the ortho-para content of hydrogen by contacting hydrogen at low temperature with a ruthenium-containing catalyst.



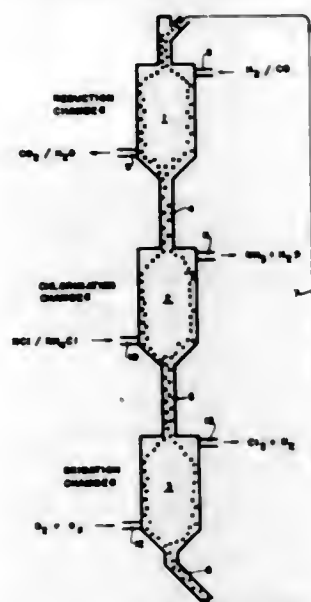
3,383,177

**PROCESS FOR PRODUCING CHLORINE**

Paul Metelzeu, Dombasle, France, assignor to Solvay &amp; Cie, Brussels, Belgium

Continuation of application Ser. No. 325,492, Nov. 21, 1963. This application Dec. 8, 1966, Ser. No. 600,275  
Claims priority, application France, Nov. 29, 1962, 917,000

6 Claims. (Cl. 23-219)



Improved yields and concentrations of chlorine are obtained from hydrogen chloride or ammonium chloride in a cyclic operation in which heated contact masses prepared from oxides or chlorides of polyvalent metals and a promoter, moving by gravity flow sequentially through a reduction zone where the contact masses are reduced, a chlorination zone where the reduced masses are contacted with the hydrogen chloride or ammonium chloride and then into an oxidation zone for the release of the chlorine, from which the oxidized contact masses are returned to the reduction zone where they are again reduced before being contacted with the hydrogen chloride or ammonium chloride.

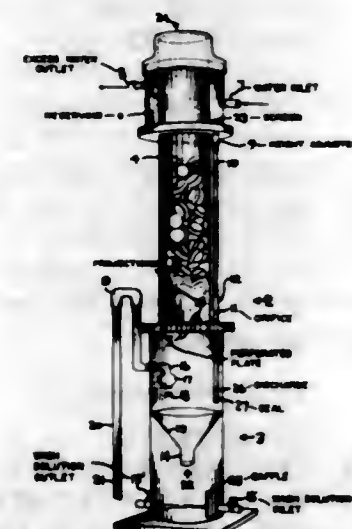
3,383,178

**CHEMICAL DISSOLVER**

Albert Dietz, Wadsworth, Ohio, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 2, 1964, Ser. No. 415,428

6 Claims. (Cl. 23-272)



Solids such as calcium hypochlorite are dissolved using a device comprising an upper chamber for holding the water soluble solid and a lower chamber. Liquid is fed to the lower chamber up into the upper chamber. A siphon responsive to the liquid level drains the liquid

from the upper chamber and removes the solution from the lower chamber. Insolubles are separated from solution before removal by the siphon action and collected in a lower zone of the lower chamber. A constant liquid level source is utilized. Ideally, the siphon's upleg includes an increased volume section and the downleg includes a means for insuring complete drainage.

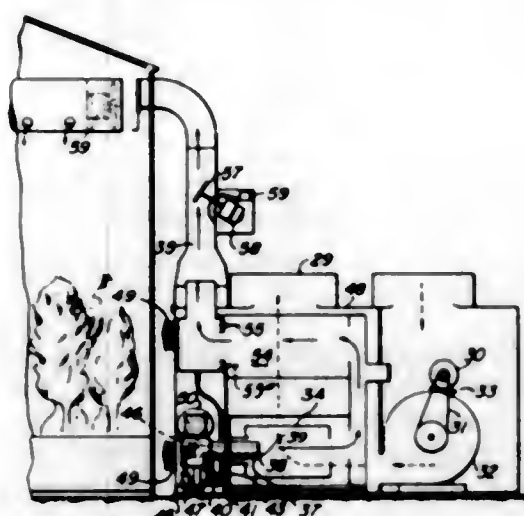
3,383,179

**ATMOSPHERE GENERATOR**

William I. Tibbitts, St. Joseph, Mich., assignor to Whirlpool Corporation, a corporation of Delaware

Filed Jan. 4, 1965, Ser. No. 422,972

5 Claims. (Cl. 23-281)



1. An atmosphere generating system comprising: intermittently operable means for generating a gaseous atmosphere; control means, including an electric circuit, operable when activated to cause said generating means to operate to generate a gaseous atmosphere; a first timing means including first electrical switch means closable during a predetermined time period; and an electrical second timing means connected in circuit with said switch means to be energized during said time period and deenergized at all other times and including second electrical switch means closable during at least one preset portion of said time period, said electrical circuit including said second switch means so as to be energized during said preset portion of said time period to activate said control means thereby causing said generating means to operate and generate said gaseous atmosphere, said generating means comprising a generator of the combustion type having a burner for receiving and consuming fuel and a pilot associated with said burner for igniting fuel received by said burner, said first timing means including means for activating said pilot during said time period and for deactivating said pilot at all other times, said control means including means for directing fuel to said burner and said second timing means comprising means for activating said directing means during said preset portion of said time period and for deactivating said directing means at all other times.

3,383,180

**CRYSTALLIZATION OF LARGE PARTICLE SIZED AMMONIUM PERCHLORATE**

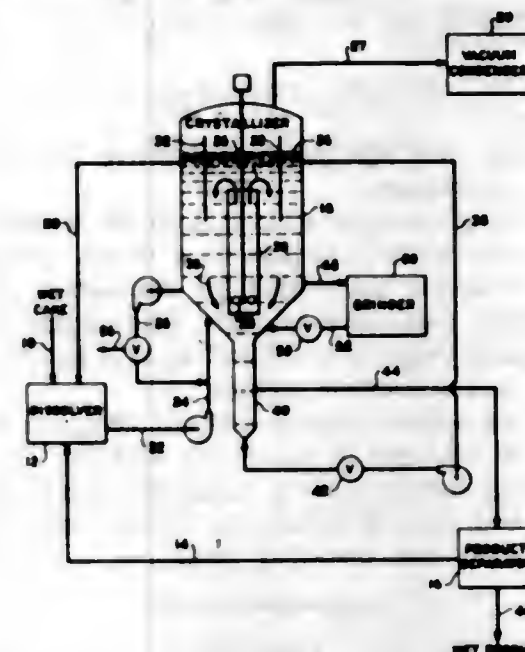
Richard J. Kralik, Youngstown, and Lewis E. Tufts, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed Apr. 16, 1965, Ser. No. 448,697

10 Claims. (Cl. 23-301)

1. A process for producing high quality ammonium perchlorate crystals comprising maintaining a crystallization zone having therein an aqueous slurry supersaturated

with ammonium perchlorate, maintaining said aqueous solution at a temperature of 55 to 110 degrees centigrade, feeding to said crystallization zone, a hot, concentrated, aqueous solution containing ammonium perchlorate, maintaining an evaporating zone within said crystallization zone under subatmospheric pressure, and evaporating water from said crystallization zone, while maintaining a



solid phase content of about 20 to 55 percent by volume of the liquid and solids, feeding finely divided ammonium perchlorate seed particles to said aqueous solution in the crystallization zone to provide growth areas for new crystals, withdrawing mother liquor and crystals from said crystallization zone, and separating said crystals from the mother liquor.

3,383,181

**PROCESS OF HALOGENATING A PHOSPHATE ORE**

Mark M. Woyak, La Habra, James L. Bradford, Anaheim, and Henry H. Elliott, Fullerton, Calif., assignors to American Potash &amp; Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,701

7 Claims. (Cl. 23-318)

A process for halogenation of phosphate ore which includes reacting a particulate mass of phosphate ore and carbon at a temperature sufficient to produce a product comprising metallic halide and volatile phosphorus-halogen compounds. The phosphorus-halogen compounds so produced are recycled to the reaction zone to increase the rate of said halogenation reaction.

3,383,182

**SEPARATION PROCESS OF THORIUM FROM RARE EARTH METALS**

Mohamed K. Saad El-Din Sherief, The Cairo, and Andor Almasy, Veszprem, Hungary

No Drawing. Filed Oct. 29, 1965, Ser. No. 505,750

4 Claims. (Cl. 23-316)

1. Method of separating thorium values from rare earth metal values including cerium values, which comprises forming a sulphuric acid solution of a mixture of said thorium values and rare earth metal values using an excess of sulphuric acid so that said solution contains free sulphuric acid; adding in excess a reducing agent selected from the group consisting of sulphur dioxide and hydrazine sulphate so as to convert cerium (IV) compounds present in said solution to corresponding cerium (III) compounds; passing the thus formed solution through a strongly acid cation exchange resin; and recovering the thorium values from the effluent.

3,383,183

**PROCESSING OF METAL FLUORIDES INCLUDING URANIUM HEXAFLUORIDE WITH ANHYDROUS HYDROGEN FLUORIDE**

Albert Edgar Grant, Kirkham, England, assignor to United Kingdom Atomic Energy Authority, London, England

No Drawing. Filed Sept. 29, 1965, Ser. No. 491,398

Claims priority, application Great Britain, Oct. 5, 1964, 40,594/64

5 Claims. (Cl. 23-326)

A metal fluoride is separated from a mixture of metal fluorides including  $UF_6$  by treating the mixture with liquid anhydrous  $HF$  to dissolve at least some of the  $UF_6$  and at least some of one or more other metal fluorides soluble in  $HF$ , and subsequently treating the solution to recover metal fluoride from the solution.  $UF_6$ , for example, can be separated from mixtures of various metal fluorides.

3,383,184

**PROCESS FOR THE PRODUCTION OF HYDRIDES OF TI, Zr AND Th**

Harry Kloepfer, Frankfurt am Main, Helmut Knorre, Halstedt am Main, and Karl Stephan, Frankfurt am Main, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Rosner, Frankfurt am Main, Germany

No Drawing. Filed Aug. 19, 1965, Ser. No. 481,000

Claims priority, application Germany, Aug. 26, 1964, D 45,276

4 Claims. (Cl. 23-345)

Process for production of hydrides of Ti, Zr and Th which comprises reducing their oxides by heating in admixture with a mixture of (a) 10-25% of alkaline earth metal hydride and (b) alkali metal halide or a mixture of alkali metal and alkaline earth metal halides, the alkaline earth metal hydride being at least stoichiometric with respect to the oxide under exclusion of air to a temperature between about 350 and 750° C. to initiate the reaction and completing the reaction at 800 to 900° C. under exclusion of oxygen and recovering the hydride produced.

3,383,185

**HYDRAZINE-NONABORANE COMPOUNDS AND SYNTHESIS THEREOF**

William V. Hough, Gibsonia, and Gerald T. Hoffer, Butler, Pa., assignors, by mesne assignments, to the United States of America, as represented by the Secretary of the Navy

No Drawing. Filed Sept. 29, 1964, Ser. No. 400,289

4 Claims. (Cl. 23-358)

New high energy borane-hydrazine compounds which are useful for fuel additives and propellant ingredients simply prepared by reacting at room temperature dimethylsulfide-nonaborane with hydrazine or alkylhydrazine in an ether or hydrocarbon solvent.

3,383,186

**PREPARATION OF SODIUM AND POTASSIUM ALUMINUM HYDRIDE**

Paolo Chini and Agostino Baradel, Milan, and Chiara Vacca and Marcello de Madio, San Donato Milanese, Italy, assignors to SNAM S.p.A., Milan, Italy, a company of Italy

No Drawing. Filed Feb. 27, 1964, Ser. No. 347,705

Claims priority, application Italy, Feb. 27, 1963, Patent 688,540; Dec. 24, 1963, Patent 801,606

7 Claims. (Cl. 23-365)

Sodium or potassium aluminum hydrides of the formula  $MeAlH_4$ , where Me is sodium or potassium, are formed by heating under hydrogen pressure a suspension of sodium fluoride or potassium fluoride, as the case may be, and metallic aluminum in the presence of an organic dispersing medium selected from the group consisting of



hydrocarbons, ethers and tertiary amines at temperatures from 75° C. to 300° C. and pressures of from 1 to 500 atmospheres.

3,383,187

# LITHIUM BERYLLIUM ALUMINUM HYDRIDE AND PREPARATION THEREOF

George Rice, Montclair, and Robert Ehrlich, Morristown, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
No Drawing. Filed May 25, 1966, Ser. No. 553,267  
2 Claims. (Cl. 23—365)

The compound, lithium, beryllium aluminum hydride, useful as a reducing agent, and in solid propellants as a means of increasing performance, and a method for its preparation comprising reacting a beryllium dihalide with lithium aluminum hydride in an inert solvent until a reaction mixture is formed including a lithium halide, removing an halide, and contacting said reaction mixture with a trialkylamine until lithium beryllium aluminum hydride is formed.

3,383,188

# ALUMINUM CONDUCTORS

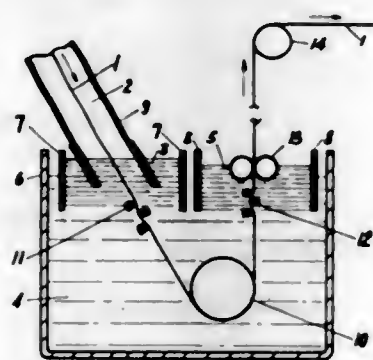
Christian E. Michelson, Hamden, Conn., Charles M. Fredrickson, Chattanooga, Tenn., and James F. Murphy, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia  
No Drawing. Filed Sept. 27, 1965, Ser. No. 490,660  
10 Claims. (Cl. 29—183.5)

1. An aluminum base alloy conductor of improved current carrying capacity having a diameter of at least 0.050" and having an IACS conductivity of at least 50, said conductor having a surface oxide coating of at least 0.01 mil thickness, the surface of said conductor having an emittance ratio of from 0.35 to 1.0.

3,383,189

# PREVENTION OF WHITE RUST ON GALVANIZED SHEETS

Tadeusz Sendzimir, % T. Sendzimir, Inc., Waterbury, Conn. 06720  
Filed Apr. 16, 1964, Ser. No. 360,453  
3 Claims. (Cl. 29—196.5)



1. The method of applying tightly adherent hot dip zinc coatings onto a continuously running length of ferrous material which comprises immersing said material in a molten zinc bath containing sufficient aluminum up to approximately 0.2%, to form a controlled very thin pliable zinc-iron alloy layer exhibiting non-brittle characteristics, subsequently wiping off all the molten zinc and aluminum which is not alloyed with iron, and immediately afterwards passing said material with its newly-formed controlled zinc-iron alloy layer through a molten zinc bath substantially free of any aluminum.

3. A coated length of ferrous material produced in accordance with the method set forth in claim 1.

3,383,190  
**FUEL BLENDING SYSTEM**  
Harry R. Weber, Haddon Township, Camden County, and Herman F. Hoffmann, Wenonah, N.J., assignors to Mobil Oil Corporation, a corporation of New York  
Filed Nov. 23, 1962, Ser. No. 239,505  
The portion of the term of the patent subsequent to Mar. 8, 1983, has been disclaimed  
4 Claims. (Cl. 44—2)

4. A method for blending a motor fuel which comprises flowing an anti-knock component of fuel to a blending means, generating first signals representative of the flow of said component, withdrawing a sample stream from the blending means, flowing the sample stream to a single cylinder automated knock test engine for detonation therein, generating successive signals representative of the knocking propensity of fuel in said engine, storing said successive signals, generating second signals from a comparator responsive to said stored successive signals, generating signals from a computer responsive to said first and second signals to control said component flowed to said blending means.

3,383,191

# DIAMOND ABRASIVE ARTICLE CONTAINING HEXAGONAL CRYSTALLINE BORON NITRIDE PARTICLES

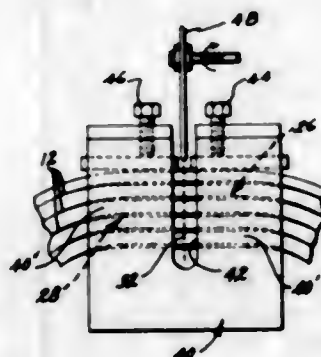
James A. Thomas, Haddon Heights, N.J., assignor to Simonds Abrasive Company, Philadelphia, Pa., a corporation of Pennsylvania  
No Drawing. Filed June 3, 1965, Ser. No. 461,192  
12 Claims. (Cl. 51—298)

An abrasive article, particularly in the form of a grinding wheel, having an abrasive portion composed of diamond abrasive grain united together by a resinoid bond and containing non-abrasive boron nitride having a hexagonal crystal structure.

3,383,192

# METHOD OF MAKING FIBERSCOPES

Walter P. Siegmund, Woodstock, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts  
Filed Apr. 13, 1964, Ser. No. 359,068  
5 Claims. (Cl. 65—4)



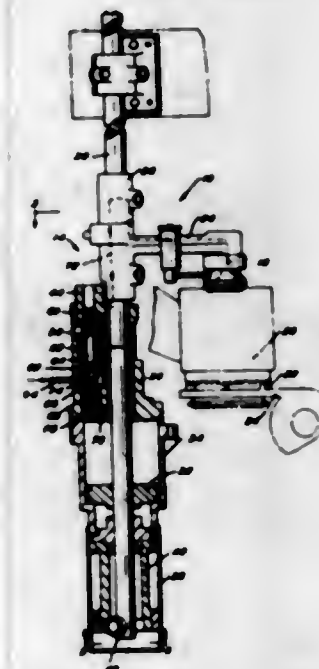
The method of making a flexible fiberscope including the steps of assembling a plurality of preformed hoops of convoluted flexible optical fibers in stacked relationship with each other throughout a relatively short length of each, adhesively securing the fibers together throughout approximately one-half of said length with a permanent bonding material and throughout the other half of said length with a temporary burnable bonding material, severing the assembly transaxially between said bonding materials to form opposite ends of the fiberscope and

heating the resulting temporarily bonded end to a temperature sufficient to burn away the bonding material and effect fusion of the fibers.

3,383,193

# GLASS-MOLDING APPARATUS

Thomas W. Bailey, Santa Ana, Calif., assignor to Maul Brothers, Inc., Millville, N.J., a corporation of New Jersey  
Filed Oct. 26, 1964, Ser. No. 406,317  
2 Claims. (Cl. 65—234)



Apparatus for molding glass into hollow shaped articles. A baffle is guided into operative position at one end of a molding cavity by the intercooperation of a cam and cam follower mechanism and a telescoping pin and bore arrangement. The pin and bore absorb vibrations and prolong the life of the apparatus.

3,383,194

**m-UREIDOPHENYL ESTERS OF O,O-DIMETHYL PHOSPHOROTHIOIC ACID AS HERBICIDES**  
Sanford T. Young, Lockport, N.Y., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Dec. 22, 1964, Ser. No. 420,452  
4 Claims. (Cl. 71—87)

Herbicide compositions containing as an active ingredient O,O - dimethyl O - [m - (3,3 - dimethylureido)phenyl] phosphorothioate. Synthesis of the new compound and herbicide effectiveness against a variety of plants are described.

3,383,195

# m-(3,3-DIMETHYLUREIDO)PHENYL DIMETHYL-SULFAMATE AS A HERBICIDE

Paul E. Drummond and Kenneth L. Hill, Middleport, and Kenneth R. Wilson, Tonawanda, N.Y., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Dec. 22, 1964, Ser. No. 420,451  
4 Claims. (Cl. 71—103)

Herbicide compositions containing as an active ingredient m - (3,3 - dimethylureido)phenyl dimethylsulfamate. Synthesis of the new compound and herbicide effectiveness against a variety of plants are described.

3,383,196

# VANADIUM CARBIDE PROCESS

Robert D. Carpenter, Grand Junction, Colo., assignor to Union Carbide Corporation, a corporation of New York  
Filed Feb. 19, 1965, Ser. No. 433,967  
2 Claims. (Cl. 75—5)



Process for producing vanadium carbide of low oxygen content by heating admixed vanadium oxide and carbon in a continuously changing atmosphere of non-oxidizing gas.

3,383,197

# POWDERED BRAZING MIXTURE

George F. Albers, West Chester, Ohio, and William L. McClanahan, Audubon, Pa., assignors to General Electric Company, a corporation of New York  
No Drawing. Filed Oct. 19, 1965, Ser. No. 498,075  
4 Claims. (Cl. 75—5)

1. An improved powdered brazing mixture consisting essentially of, by weight: more than 50% but less than 75% nickel powder; and the balance a silver base brazing alloy powder.

3,383,198

# HIGH GREEN STRENGTH-LOW DENSITY COPPER POWDER AND METHOD FOR PREPARING SAME

William M. Shafer, Crown Point, Ind., assignor, by means of assignment, to SCM Corporation, New York, N.Y., a corporation of New York  
Filed Dec. 1, 1965, Ser. No. 510,990  
8 Claims. (Cl. 75—5)



Porous, low density, high green strength reduced copper powder containing trace residues of selenium, tellurium, or mixtures thereof has been discovered and is described. An improvement in the reduction process for making such copper powder which comprises the steps of forming a substantially uniform mixture of copper oxide and from about 500 to 20,000 parts per million parts of said copper oxide of at least one finely divided metal selected from the group consisting of selenium and



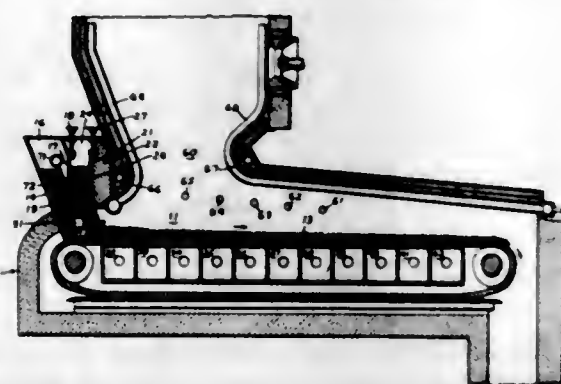
tellurium, and reducing the mixture with a reducing gas at a temperature of at least about 900° F. has also been discovered and is described.

3,383,199

**PROCESSING OF IRON OXIDE VALUES**

Lawrence D. Schmidt, New York, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 359,224, Apr. 13, 1964. This application Aug. 23, 1967, Ser. No. 667,025

9 Claims. (Cl. 75-4)



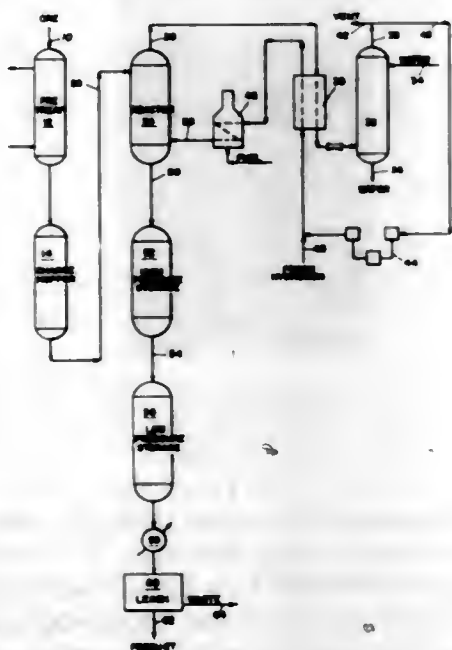
This invention relates to treatment of iron oxide values such as iron ores, and more particularly to production from such ores of hard, porous, high strength, shock-resistant preshaped materials containing the metal values and carbonaceous material as a new and improved feed for reduction furnace processing of the ore for conversion to the base metal, including blast furnace type operations for manufacture of iron, said preshaped products being obtained by subjecting to continuous coking conditions preformed green briquettes and the like composed of coal, finely divided iron oxide values, and hydrocarbon liquid such as fuel oil.

3,383,200

**REDUCTION OF METALLIC OXIDES**

William Volk, Princeton, N.J., assignor to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey  
Continuation-in-part of application Ser. No. 491,487, Sept. 13, 1965. This application Nov. 28, 1966, Ser. No. 611,192

1 Claim. (Cl. 75-26)



A process for recovery of high purity non-ferrous values such as  $TiO_2$  from iron ores containing mixed oxides such as ilmenite. A fluidized bed of the finely ground ore is

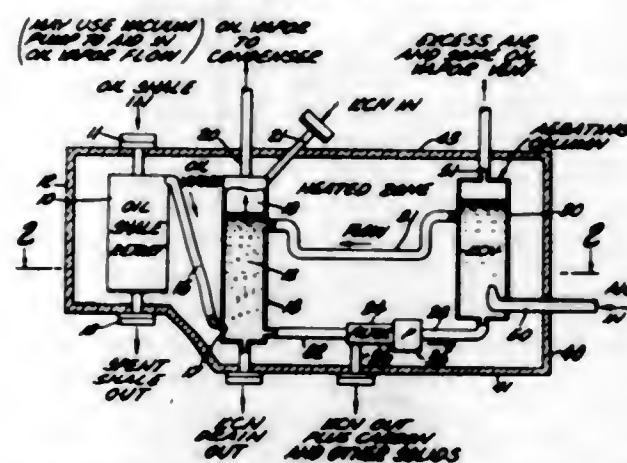
reduced with high concentration hydrogen gas substantially free of carbon monoxide at temperatures between 1100° to 1400° F. The reduced product is leached in 10% sulfuric acid at atmospheric pressure.

3,383,201

**RECOVERY OF PRECIOUS METALS**

Jack W. Petty, 1115 Arbor Dell Road, Los Angeles, Calif. 90041  
Continuation-in-part of application Ser. No. 470,472, July 8, 1965. This application Mar. 1, 1967, Ser. No. 619,663

12 Claims. (Cl. 75-83)



A method of recovering precious metals from oil shale by driving oily vapors from the shale and percolating them through a chamber containing a molten bath of at least one cyanide salt.

3,383,202

**GRAIN REFINING ALLOY**

Dunstan W. P. Lynch, Cambridge, Ohio, assignor, by mesne assignments, to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania  
No Drawing. Filed Jan. 19, 1966, Ser. No. 521,523

3 Claims. (Cl. 75-122)

Alloy for controlling grain size in cast or wrought steel consisting essentially of 30-60% silicon, up to 15% manganese, up to 15% calcium plus barium, a total of 20-40% of at least four elements from the group consisting of cerium, lanthanum, columbium, tantalum, vanadium, zirconium, titanium, aluminum and boron, with the balance iron and incidental impurities.

3,383,203

**NON-MAGNETIC STEELS**

Karl Göte Baggeström, Karlskoga, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden  
No Drawing. Continuation-in-part of application Ser. No. 330,587, Dec. 16, 1963. This application Jan. 18, 1967, Ser. No. 610,009

Claims priority, application Sweden, Dec. 19, 1962, 13,711/62

6 Claims. (Cl. 75-128)

The present invention relates to a non-magnetic steel having desirable properties, particularly high impact strength, and to a method of producing said non-magnetic steel. Such steel is used for, among other things, the manufacture of retaining rings used in the electrical industry.

3,383,204

**NICKEL-LITHIUM ALLOY PREPARATION**

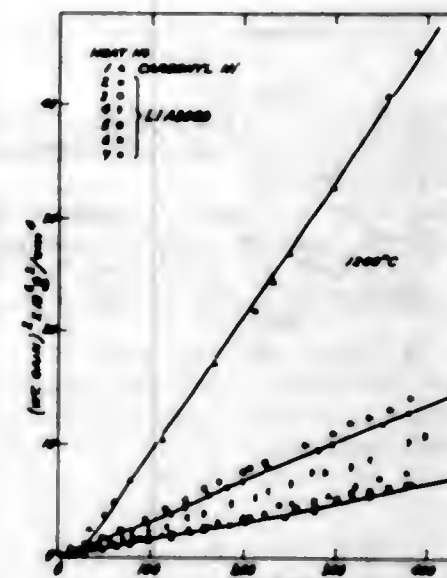
William C. Hagel, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
Filed Apr. 14, 1965, Ser. No. 448,020

1 Claim. (Cl. 75-170)

A method for the preparation of a nickel-lithium (or nickel-base-lithium) alloy having a lithium content rang-

ing from about 0.05 to about 0.14 weight percent of the nickel (or nickel-base) metal comprising providing a

A plurality of the aluminum cored particles are heated in a holder to diffuse the aluminum core into the shell while avoiding application to the particles of pressure sufficient to cause shell collapse.



molten bath of said metal under one atmosphere of an inert gas, adding lithium metal directly to said molten bath and cooling said molten bath.

3,383,205

**COBALT BASE ALLOYS**

Chester T. Sims, Ballston Lake, and Allan D. Foster, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York  
No Drawing. Filed Dec. 14, 1964, Ser. No. 418,263

3 Claims. (Cl. 75-171)

High temperature alloys which are resistant to oxidizing and corrosive influence consist in percent by weight essentially of carbon 0.1 to 0.60, chromium 27.0 to 35.0, nickel 9.3 to 11.5, tungsten 6.0 to 8.0, iron 6.0 maximum, and boron in an effective amount up to 0.050 maximum to impart ductility with the remainder essentially cobalt.

3,383,206

**NICKEL BASE ALLOY AND ARTICLE**

Stanley T. Wlodak, Bethel Park, Pa., assignor to General Electric Company, a corporation of New York  
No Drawing. Continuation-in-part of application Ser. No. 333,619, Dec. 26, 1963, now Patent No. 3,304,176, dated Feb. 14, 1967. This application Oct. 11, 1965, Ser. No. 494,966

5 Claims. (Cl. 75-171)

1. An improved nickel base alloy of the solution strengthened type consisting essentially of, by weight, 20-23% Cr; 8-10% Mo; 17-20% Fe; up to about 0.15% C; up to about 2% W; 0.05 to less than 0.3% La; 0.5-6% of the spinel forming elements selected from the group consisting of Co and Mn, the Co when selected being in the range of 1-3% and the Mn when selected being in the range 0.5-3%; with the balance nickel and incidental impurities.

3,383,207

**METHOD FOR MAKING CELLULAR MATERIAL**

William R. Butts, Milford, Ohio, assignor to General Electric Company, a corporation of New York  
Original application Jan. 3, 1967, Ser. No. 606,656, now Patent No. 3,342,563, dated Sept. 19, 1967. Divided and this application May 2, 1967, Ser. No. 655,686

4 Claims. (Cl. 75-212)

A cellular material of hollow metallic aluminate particles bonded together is made from substantially spherical particles having an aluminum core enclosed by a shell of metal into which the aluminum preferentially will diffuse.

3,383,208

**COMPACTING METHOD AND MEANS**

Joseph S. Corral, Costa Mesa, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Feb. 3, 1966, Ser. No. 524,729

13 Claims. (Cl. 75-214)

A process for forming very dense metallic articles, particularly those of the refractory metals, by first isotatically compressing powders of the metal, followed by explosive forming of the compact while the compact is surrounded by a mass of material of aluminum, copper, lead, or their alloys. These materials retard the propagation of the shock waves, insuring uniform high density in the resultant product.

3,383,209

**ELECTROPHOTOGRAPHIC PROCESS INCLUDING SELECTIVE WETTING BY THE DEVELOPER LIQUID**

Paul Maria Camiers, Mortsel-Antwerp, Josef Leonard van Engeland, St. Katelijne-Waver, and Robert Joseph Noe, Berchem-Antwerp, Belgium, assignors to Gevaert Photo-Productions N.V., Mortsel-Antwerp, Belgium, a Belgian company

Filed Nov. 26, 1962, Ser. No. 240,108

Claims priority, application Netherlands, Nov. 27, 1961, 271,857

10 Claims. (Cl. 96-1.3)

1. A process of reproduction using an electrophotographic material including a photoconductive insulating layer, which process comprises exposing said material with light to a pattern to be reproduced to produce in said layer a latent electron or photoconductive image according to said pattern, traversing said material with an electric field passing through said layer not prior to concurrently with said exposure step and not later than the period of persistent conductivity of said exposed layer, and during said traversing step, maintaining at least the area undergoing such traversal of one side of said material in physical contact with a source of a conductive polarizable developing liquid, said developing liquid having a surface tension such as to render said liquid normally lyophobic with respect to the side of said material in contact therewith, the strength of said electric field being sufficient to result in such wetting selectively in accordance with said latent image.

3,383,210

**PHOTOCHEMICAL STENCILS**

Jan Pieter Poels, 's Gravenwezel, Johan Lodewijk Vereist, Koutich, and Louis Maria De Haes, Edgem, Belgium, assignors to Gevaert Photo-Productions N.V., Mortsel-Antwerp, Belgium, a Belgian company

No Drawing. Filed Oct. 28, 1963, Ser. No. 319,519

5 Claims. (Cl. 96-29)

1. A method of forming a photochemical stencil comprising image-wise exposing a silver halide material which contains in the indicated sequence a flexible base, a light-sensitive silver halide emulsion layer and a substantially unhardened water-permeable colloid layer, pressing the said material in the presence of a developing compound, a complexing agent for silver halide, an alkali and aqueous treating liquid, against a stencil blank which contains a stencil base tissue having a continuous layer of an ink-impervious material comprising a proteinaceous colloid which contains a member selected from the group consisting of development nuclei for complexed silver halide and substances capable of forming such nuclei, whereby



the complexed silver halide diffuses from said emulsion layer through said colloid layer into contact with said stencil blank and is reduced to silver metal in the image areas of said ink impervious layer, separating the silver halide material from the stencil blank and degrading and removing the said colloid in the image areas to provide stencil openings through which ink may pass.

3,383,211

## LITHOGRAPHIC PRINTING PLATES

Jan Pieter Poels and Gerard Michiel Sevens, Wilrijk-Antwerp, and Louis Maria de Haes, Edegem, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company  
No Drawing. Filed Apr. 20, 1964, Ser. No. 361,220  
Claims priority, application Belgium, Apr. 26, 1963, 42,581, Patent 639,225; Oct. 28, 1963, 43,106, Patent 631,557

6 Claims. (Cl. 96—29)

1. A process for producing a lithographic printing plate comprising image-wise exposing a light-sensitive material bearing a silver halide emulsion layer and a superposed water-permeable unhardened colloid layer, bringing said light-sensitive material in the presence of developer substances, a complexing agent for silver halide, an alkali and a processing liquid into contact with a metallic layer onto which silver from the non-exposed, complexed silver halide, which diffuses from said emulsion layer through said water-permeable colloid layer, settles by the reducing action of the metallic layer itself, and separating said materials from each other.

3,383,212

## PHOTOGRAPHIC PROCESS UTILIZING COMPOSITION COMPRISING AN OXIDATIVELY ACTIVATABLE COLOR GENERATOR, THERMALLY ACTIVATABLE OXIDANT AND A REDOX COUPLE

Alexander MacLachlan, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Apr. 29, 1964, Ser. No. 363,592  
16 Claims. (Cl. 96—48)

Process for forming a visible image from a composition comprising (1) an oxidatively activatable organic color-generator, such as a leuco dye, (2) a thermally activatable oxidant, and (3) a redox couple consisting of (a) a reductant which undergoes a photoinitiated redox reaction and (b) an oxidant which when photoactivated reacts with the reductant. The process is carried out by either irradiating the composition at wavelengths between 2000 Å. and 5500 Å. in a graphic pattern, followed by heating from 90° C. to 150° C.; or by heating in a graphic pattern followed by irradiating. In both procedures, heating causes activation of the thermally activated oxidant (2) which then reacts with color-generator (1) to form a color; and irradiation causes activation of oxidant (3b) which reacts with reductant (3a) to form a reducing agent which then reacts with oxidant (2) to permanently deactivate it. If the heating step occurs first, a positive stencil image is obtained, but if the irradiation occurs first, a negative stencil image is obtained.

3,383,213

## VESICULAR PHOTOGRAPHIC MATERIALS AND PROCESS OF FORMING VESICULAR IMAGES

Norman T. Notley and Irwin M. Senentz, Jr., New Orleans, La., assignors to The Kalvar Corporation, New Orleans, La., a corporation of Louisiana  
No Drawing. Filed June 14, 1965, Ser. No. 463,940  
12 Claims. (Cl. 96—49)

The vesicular photographic materials comprising a polymeric material containing dispersed sensitizer. The polymeric materials are polyamides which are soluble in

higher alcohols such as butanol. The preferred materials are polycondensates of a polyamine with polymerized polyene fatty acid. The materials are made by dissolving the sensitizer and the polyamide in solvents and removing the solvents to form a coating.

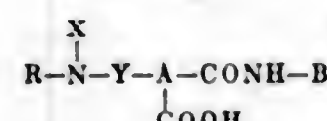
3,383,214

## COLOR PHOTOGRAPHY UTILIZING COLOR COUPLERS WHICH YIELD QUINONE IMINE OR AZAMETHINE DYE IMAGES

Brian Anderson, Marple, England, assignor to Ilford Limited, Ilford, England, a British company  
No Drawing. Filed Feb. 15, 1965, Ser. No. 432,898  
Claims priority, application Great Britain, Feb. 20, 1964, 7,180/64

4 Claims. (Cl. 96—74)

Color couplers and their use in photographic colloid silver halide emulsions are disclosed. The color couplers are compounds of the formula



or the corresponding cyclised compounds, wherein A is a trivalent monocyclic or dicyclic aryl, with the —COOH and —CONHB groups ortho or peri to each other, X is hydrogen or lower alkyl, Y is —OC—, —CONH— or —COCH<sub>2</sub>— when X is hydrogen and Y is —O<sub>2</sub>S when X is lower alkyl, B is a residue of a compound BNH<sub>2</sub> which will react with the oxidation products of N,N-diethyl p-phenylene diamine, formed during the development with a silver salt image with that compound, to yield a quinone imine or azamethine dye image and R is a substituent comprising an alkyl group containing at least 12 carbon atoms.

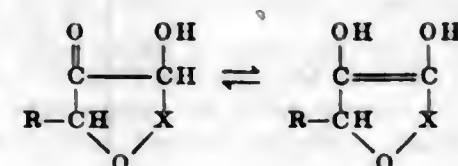
3,383,215

## ANTIFOGGING COMBINATION OF ISO-ASCORBIC ACID AND 2 TO 15 G. OF HYDROQUINONE

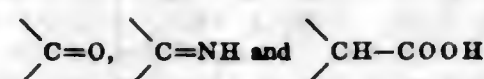
Albert Edward Harris and John Gough, Ilford, Essex, England, assignors to Ilford Limited, Ilford, Essex, England, a British company  
No Drawing. Filed July 9, 1964, Ser. No. 381,522  
Claims priority, application Great Britain, July 19, 1963, 28,699/63

7 Claims. (Cl. 96—109)

There is provided a photographic material comprising a gelatino silver halide emulsion, suitable for being carried on a support such as paper, which contains from .1 to 1 gram per gram mol of silver present in the emulsion, a compound of the formulae:



where X is selected from the class consisting of



and R is selected from the class consisting of hydrocarbon and hydroxyhydrocarbon residues, and 2 to 15 grams of hydroquinone. The emulsion provides a synergistically improved photographic material which essentially prevents spots forming in the developed emulsion, which spots are due to the sensitivity of the emulsions to metallic iron.

3,383,216

## PROCESS FOR BREAKING DOWN SKIN TISSUE OF DOGFISH

Edward M. Buerman, Tacoma, Wash., assignor to Buerman Fish Products Co., Astoria, Oreg., a corporation of Oregon  
Original application Aug. 9, 1962, Ser. No. 215,969.  
Divided and this application Dec. 7, 1964, Ser. No. 416,452

2 Claims. (Cl. 99—7)

1. A continuous process for conditioning the skin of dogfish to remove a high percentage of the urea content and permit the fish to be put through a subsequent grinding operation and used as food, said process comprising: conveying the fish without interruption along a travel path which includes within its length a water bath maintained at a temperature close to 180° F. and having a depth exceeding the thickness of the fish; subjecting the fish to a gentle downward pressure during its traversal of the bath to cause the fish to be completely submerged; and establishing for the conveyed fish as it traverses said bath (1) a speed sufficiently slow to preclude undue disturbance of the water, and (2) a length of travel so correlated to said speed that the conveyed fish is immersed for a period of approximately eleven seconds.

3,383,217

## PROCESS FOR PREPARING A CAKE MIX AND THE RESULTING PRODUCT

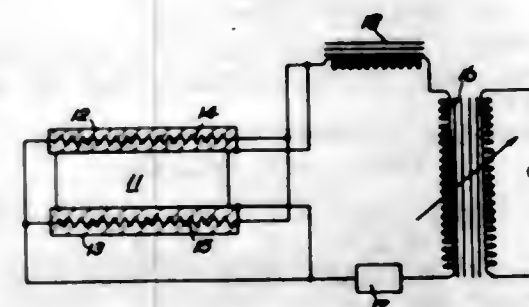
Reginald E. Meade and Sheldon I. Greenberg, Minneapolis, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware  
Filed June 5, 1964, Ser. No. 372,961  
12 Claims. (Cl. 99—94)

Shortening-based free-flowing baking premix for blending with sugar and other baking mix ingredients comprising a multiplicity of small, discrete particles, each of which contains sugar, flour and emulsified shortening with each of said particles consisting essentially of a cluster of substantially ungelatinized flour-starch particles carried by a matrix comprising flour-protein and amorphous sugar.

3,383,218

## THAWING FROZEN FOODS

Alfred C. Jason and Herbert R. Sanders, Aberdeen, Scotland, assignors to The Minister of Technology, London, England, a corporation sole  
Filed Sept. 13, 1965, Ser. No. 486,708  
Claims priority, application Great Britain, Sept. 16, 1964, 37,919/64; May 25, 1965, 22,138/65  
2 Claims. (Cl. 99—111)



A method for thawing blocks without cooking of edible material frozen to a temperature at which such blocks present a relatively high resistance to the passage of electrical current therethrough by contacting two opposite faces of a frozen block each with one of two plate electrodes and supplying heat to both electrodes while in contact with the block to cause thermal conduction heating of the block until the block presents low resistance to electrical current flow therethrough, and then continuing to thaw the block by passing current between the electrodes.

3,383,219

## WHIPPABLE FAT COMPOSITIONS

Bernard A. Patterson, 4040 N. LeClaire, Chicago, Ill. 60641  
No Drawing. Filed June 4, 1964, Ser. No. 372,672  
5 Claims. (Cl. 99—118)

A free-flowing particulated fat composition including a dried emulsion of an emulsifier composition and a fat coated with a proteinaceous material such as sodium caseinate, the emulsifier composition containing both an emulsifier having at least 90% edible monoglycerides and another emulsifier having at least 40% edible diglycerides.

3,383,220

## INFRARED ROASTING OF COATED NUTMEATS

Fred W. Arnold, Jr., Eastman, Ga., assignor to Pet Incorporated, a corporation of Delaware  
Filed Mar. 15, 1965, Ser. No. 439,689  
5 Claims. (Cl. 99—127)

A method of roasting pecan nutmeats in which the green pecans are coated with a protective film of gum arabic, salt and spices in a rotating pan, and deposited on an open mesh type moving belt and moved through an infrared tunnel in which infrared heat is applied from above and below the belt to roast the pecans and dry the film simultaneously. The product from the tunnel is a roasted pecan having a protective film adhering flavorings to the nutmeat and having a moisture content of 0.3–0.8%.

3,383,221

## EGG COMPOSITIONS CONTAINING SOLUBLE PHOSPHOROUS COMPOUNDS EFFECTIVE TO IMPART FRESH EGG COLOR

Richard G. L. Chin, North Brunswick, N.J., and Setton Redfern, White Plains, N.Y., assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware  
No Drawing. Continuation-in-part of applications Ser. No. 347,692, Feb. 27, 1964, and Ser. No. 546,526, May 2, 1966. This application Oct. 4, 1967, Ser. No. 678,767

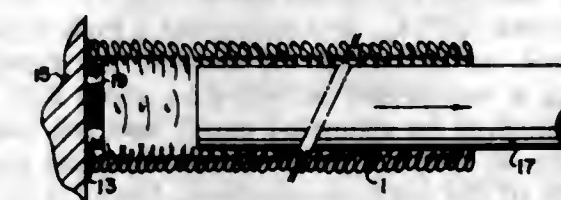
18 Claims. (Cl. 99—161)

Small amounts of soluble phosphorous compounds in egg yolks and egg whites prevent the eggs from undergoing a color change on storage from their characteristic orange-yellow color to a muddy brown. This color change is observable in both liquid eggs and scrambled eggs. In the case of liquid eggs the pH of the same should be maintained within the range of 5.5 to 7. The pH of liquid eggs from which scrambled eggs are prepared, on the other hand, may vary over a wider range; for instance, where the phosphorous compound is monosodium phosphate a pH of up to about 8 will prevent the scrambled eggs from undergoing a substantial color change.

3,383,222

## SHIRRED SAUSAGE CASING HAVING COMPRESSED PLUG END CLOSURE

Clarence M. Alsz, Sidney B. Clark, John L. Risvold, and George M. Willmsen, Danville, Ill., assignors to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois  
Filed Dec. 16, 1964, Ser. No. 418,777  
3 Claims. (Cl. 99—176)



A shirred synthetic sausage casing is provided with an end closure by turning a portion of the end of the casing into the bore of the casing and then compressing the in-

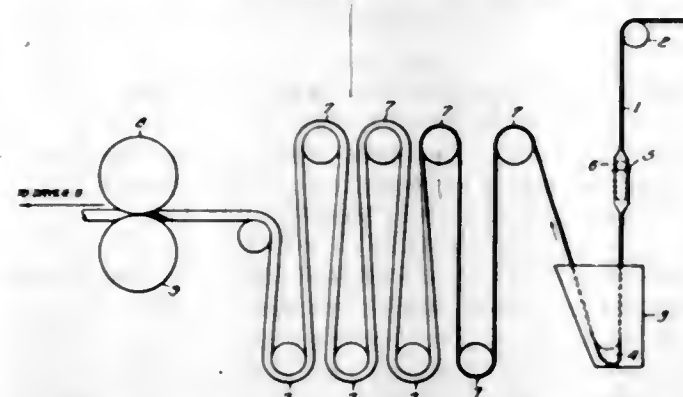


turned casing material in the opposite direction against a fixed surface to form a plug of compressed casing material forming a closure which prevents the ejection of meat during stuffing but which is easily stripped on conclusion of stuffing and linking of the casing.

3,383,223

## CASING FOR DRY SAUSAGES

Henry J. Rose, Danville, Ill., assignor to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois  
Filed Sept. 16, 1964, Ser. No. 396,821  
1 Claim. (Cl. 99—176)



A synthetic tubular sausage casing for the production of dry sausages is prepared by insolubilizing gelatin as a coating on the inside of the casing. The gelatin is applied as a coating in admixture with a non-toxic dialdehyde, such as glutaraldehyde, which renders the coating insoluble after drying. The casing with the insolubilized gelatin coating is used in the processing of dry sausages and adheres to the surface of the sausage and shrinks with it during processing.

3,383,224

## ELECTROLESS COPPER DEPOSITION

Oleh B. Dutkewych, New Brunswick, N.J., assignor to Shipley Company, Inc., Newton, Mass., a corporation of Massachusetts  
No Drawing. Filed Nov. 9, 1965, Ser. No. 507,049  
2 Claims. (Cl. 106—1)

An electroless copper solution comprising a source of cupric ions, hydroxyl radicals, formaldehyde and a hydroxy alkali substituted dialkylene triamine complexing agent alone or in combination with other known complexing agents. The use of the triamine complexing agent provides rapid and even deposition of copper over a wide range of operating conditions. The deposited copper coating is excellent in appearance and of high conductivity.

3,383,225

## ACID-RESISTANT ENAMELS

Norman H. Stradley, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 545,537, Nov. 7, 1955. This application July 17, 1957, Ser. No. 672,357  
14 Claims. (Cl. 106—48)

1. A frit particularly adapted for application to surfaces of the aluminum type, characterized by being mailable into a smooth uniform enamel coating at temperatures below approximately 600° C., exhibiting a coefficient of thermal expansion above  $12 \times 10^{-6}$  per °C. between 50 and 350° C., and possessing a high resistance to acid attack, as determined by the acid test herein defined, giving a weight loss of less than about 0.06 gram per square inch of an enameled panel, said frit comprising, in terms of essential oxide constituents set forth in mol percent of the total composition, from 25 to 50% SiO<sub>2</sub>, from 10 to 25% TiO<sub>2</sub>, the ratio of SiO<sub>2</sub> to TiO<sub>2</sub> being from 1.4 to 5 and the total of SiO<sub>2</sub> and TiO<sub>2</sub> being between 45 and 60%, at least one TiO<sub>2</sub>-dissolving oxide,

in the indicated percentage range, selected from the group consisting of 0 to 10% CdO, 0 to 8% ZnO, 0 to 8% BaO, 0 to 8% SrO, 0 to 8% CaO, and 0 to 8% MgO, the total of said TiO<sub>2</sub>-dissolving oxides being between 2 and 10%, the total mol percent amount of TiO<sub>2</sub> and TiO<sub>2</sub>-dissolving oxides being less than the mol percent amount of SiO<sub>2</sub>, from 5 to 15% of Li<sub>2</sub>O, from 2 to 13% of K<sub>2</sub>O, from 15 to 25% Na<sub>2</sub>O, the total of Li<sub>2</sub>O, K<sub>2</sub>O and Na<sub>2</sub>O being from 25 to 40%, from 0.5 to 12% of B<sub>2</sub>O<sub>3</sub>, from 0 to 5% of P<sub>2</sub>O<sub>5</sub>, the total of B<sub>2</sub>O<sub>3</sub> and any P<sub>2</sub>O<sub>5</sub> being from 1 to 12%, and the mol percent of TiO<sub>2</sub> in the said composition being greater than the mol percent of B<sub>2</sub>O<sub>3</sub> therein, the foregoing enumerated constituents totalling at least about 90 mol percent of the frit.

3,383,226

## REFRACTORY

William M. Hildinger and Jacques R. Martinet, Santa Clara, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 358,954, Apr. 10, 1964. This application June 6, 1966, Ser. No. 555,244  
9 Claims. (Cl. 106—58)

A refractory composition resistant to slag erosion in steel-making furnaces, having a cokable, carbonaceous bond and a coarse fraction resting on 100 mesh and containing 75%–98.5% MgO, CaO and SiO<sub>2</sub> in a weight ratio of from 1.4:1 to 2.8:1, not over 3% impurities, and a minor amount of finely divided periclase containing at least 96% MgO.

3,383,227

## MANUFACTURE OF REFRACTORY MATERIAL

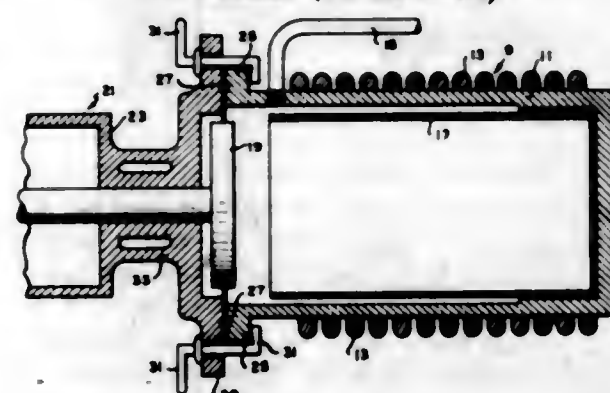
Josef Wührer, 2 August Thyssenstrasse, and Karl-Helm Obert, 58 Flehenberg, both of Wulfrath, Rheinland, Germany  
Continuation-in-part of application Ser. No. 407,761, Oct. 30, 1964. This application Jan. 12, 1967, Ser. No. 622,378  
Claims priority, application Germany, Mar. 19, 1964, D 43,926  
2 Claims. (Cl. 106—58)

In order to prevent or reduce the formation of fire rings in the manufacture of refractory material, the fluxing agent is blown in the form of coarse particles from the discharge end into a dolomite burning kiln independently of, and below, the fuel injection so as to be deposited on the dolomite in, or immediately in front of, the sintering zone.

3,383,228

## WASTE DISPOSAL

Harold L. Rekate, 811 Chesapeake Ave., Annapolis, Md. 21403, and Allen M. Helm, Rte. 1, Box 85, Arnold, Md. 21012  
Filed Aug. 27, 1963, Ser. No. 305,016  
10 Claims. (Cl. 106—84)



Apparatus and method for disposal of garbage and sewage in the form of a solid, hard, cohesive, odorless and inert block of ash material having a specific gravity

greater than water, comprising the steps of destructive distillation of the waste material at high temperature and pressure; mixing with the residual mass a suitable binding agent; and compacting the mixture into a block.

3,383,229

## ACID EMULSION PASTES

Jean Conort, Bretteville-sur-Ordon, France, assignor to Esso Standard Societe Anonyme Francaise, Paris, France, a body corporate  
No Drawing. Filed July 17, 1963, Ser. No. 295,796  
7 Claims. (Cl. 106—277)

1. A paste composition comprising an emulsion of a clay gel, from 50 to 150 wt. percent based on the clay gel, of water, from 2 to 15 wt. percent based on the clay gel, of the salt of a basic cationic emulsifying agent and from 40 to 60 wt. percent, based on the total composition of a hydrocarbon binding agent.

3,383,230

## PHOSPHORIC ACID BONDED ASBESTOS FIBER SHEETS AND METHOD OF MANUFACTURE

William Charles Streib, North Plainfield, and Chung-Haiung Shieh, South Somerville, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed Nov. 22, 1965, Ser. No. 509,160  
12 Claims. (Cl. 106—286)

Molded asbestos sheets containing about 25–50% by weight of asbestos fibers, about 20–40% by weight of a bonding medium consisting of a dry concentrate of phosphoric acid and calcium silicate, and the balance inert filler, are prepared by first absorbing liquid phosphoric acid or inorganic phosphate on calcium silicate to form in the dry concentrate, then mixing the dry concentrate with the asbestos fibers and the filler, and molding the mixture under heat and pressure. The product has high flexural strength and good electrical properties.

3,383,231

PROCESS OF TREATING PIGMENTARY TiO<sub>2</sub>

Benjamin W. Allan, Glendale, Calif., assignor to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware  
No Drawing. Filed Mar. 20, 1964, Ser. No. 353,578  
8 Claims. (Cl. 106—300)

A process for the production of titanium dioxide pigments having improved properties which includes the simultaneous addition to an aqueous titanium dioxide slurry, while maintaining the pH of the slurry continuously within the range of about 5–8, of additive metal salts to deposit hydroxides of at least two metals from the group consisting of aluminum, silicon, boron, titanium, antimony, zinc, magnesium, tin, lead and zirconium.

3,383,232

## PROCESS FOR PRODUCING FURNACE BLACK PIGMENTS

Merrill E. Jordan, Walpole, Hugh J. Deery, Jamaica Plain, Erivan Hagopian, Newton, and Frank R. Williams, Quincy, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 380,679, July 6, 1964. This application Jan. 10, 1966, Ser. No. 519,532  
6 Claims. (Cl. 106—307)

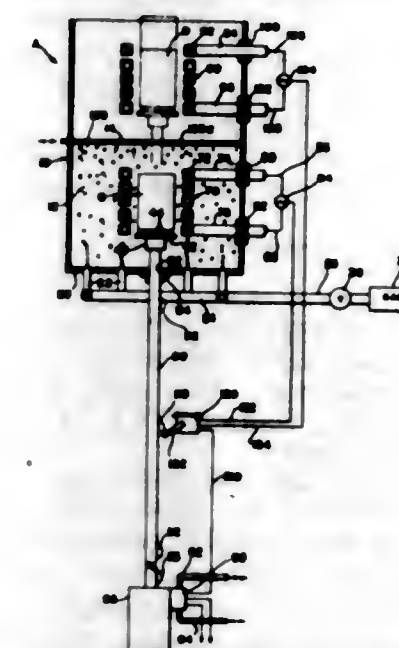
According to the invention there is disclosed a process for treating certain furnace carbon blacks to produce improved ink grade carbon black pigments, in fluffy form, characterized by having excellent flow properties and a high degree of dispersibility on conventional ink making equipment, said process comprising the steps of treating said furnace blacks with an oxidizing agent more active

than molecular oxygen to increase the volatile content of said blacks substantially and then subjecting the so-oxidized blacks to fluid energy attrition.

3,383,233

## METHOD AND APPARATUS FOR INDUCTIVELY HEATING A WORKPIECE FORMED FROM A HIGHLY OXIDIZABLE METAL

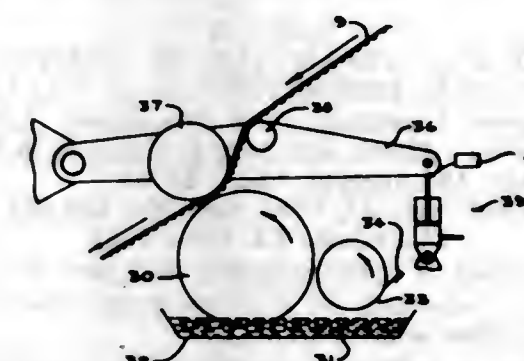
Edmund Nicholas Curcio, South Orange, N.J., assignor to Park-Ohio Industries, Inc., a corporation of Ohio  
Filed Dec. 22, 1965, Ser. No. 516,219  
3 Claims. (Cl. 117—17)



There is provided an apparatus and method for heating a titanium workpiece to its forging temperature without the danger of rapid oxidation of the workpiece. A platform supports the workpiece and is movable between a first and a second position. The first position is in a fluidized bed of thermoplastic material, and a first induction heating coil heats the workpiece in this first position to a temperature below the forging temperature so that a coating of plastic material is formed onto the workpiece. Thereafter, the platform moves the workpiece to the second position where the workpiece, before cooling, is heated to the forging temperature.

3,383,234

APPLICATOR ROLL WITH METERING MEANS  
Willem A. Nikkel, Bellmawr, N.J., assignor, by mesne assignments, to Samuel M. Langston Company, Camden, N.J., a corporation of New Jersey  
Continuation-in-part of application Ser. No. 275,908, Apr. 26, 1963. This application Aug. 31, 1964, Ser. No. 393,161  
2 Claims. (Cl. 117—37)



A doctor roll is spaced .005 to .016 inches from an adhesive applicator roller having discrete cells on its periphery to control the amount of adhesive in the cells and substantially remove all adhesive from the surface of the applicator roller.



3,383,235

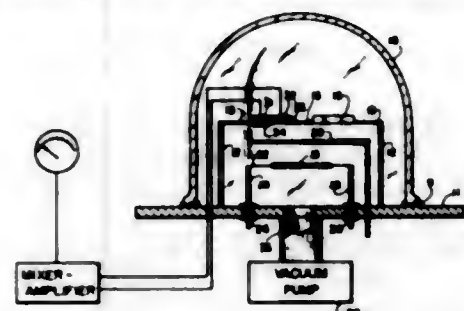
**SILICIDE-COATED COMPOSITES AND METHOD OF MAKING THEM**

Paul E. Blackburn, Lexington, and Joan B. Mattuck, Boston, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts  
Filed Mar. 29, 1965, Ser. No. 443,432  
11 Claims. (Cl. 117—70)

1. A refractory body suitable for use at elevated temperatures in oxidizing conditions, comprising in combination

- (a) a body substrate containing a refractory metal selected from the group consisting of molybdenum and tungsten and having dispersed therethrough a quantity of silicon in an amount substantially equivalent to the equilibrium solution concentration of silicon in said refractory metal at the temperature at which said body is to be used; and
- (b) a coating on the surface of said body substrate of at least one of the silicides of said refractory metal.

detecting and indicating the frequency output difference between the frequency outputs of said reference crystal and said pick-up crystal as said pick-up crystal is

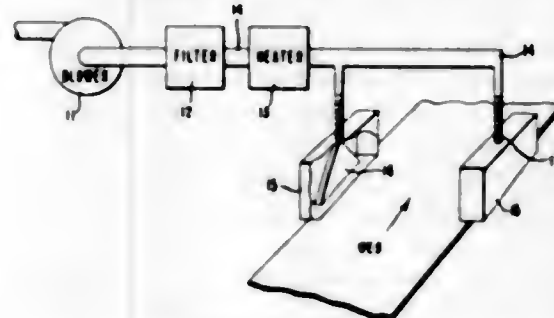


coated simultaneously with the substrate surface during evaporation of the coating material whereby the thickness of the coating is determined by the frequency output difference of said crystals indicated.

3,383,239

**AIR IMPINGEMENT APPARATUS AND PROCESS TO CONTROL EDGE FLOW IN COATING PROCEDURES**

David A. Christman, Jr., Somerset, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Filed Apr. 1, 1964, Ser. No. 356,480  
10 Claims. (Cl. 117—119.8)



A web coating apparatus having a coating applicator and a drying area which additionally contains before said drying area a device to direct a flow of air along a lengthwise portion of the edge of a web having a coating dispersion thereon. This air flow is directed only upon the edge of the coated web and does not disturb the coating upon the web.

3,383,240

**FLAME RESISTANT COMPOSITION AND METHOD OF TREATING ACRYLIC CONTAINING TEXTILE FIBERS THEREWITH AND THE RESULTING PRODUCT**

Julian J. Hirshfeld, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed June 19, 1964, Ser. No. 376,555  
9 Claims. (Cl. 117—136)

A new finish composition for improving flame resistance of fibrous materials containing synthetic fibers comprised of a hydroxylamine salt alone and/or in combination with urea or a melamine resin, and a method of applying same.

3,383,241

**STABILIZING MODACRYLIC FIBERS WITH HYDROXYPHENYL 2H-BENZOTRIAZOLES**

Charles W. Davison, Sr., Charleston, and William R. Dent, Dunbar, W. Va., assignors to Union Carbide Corporation, a corporation of New York  
No Drawing. Filed Dec. 3, 1962, Ser. No. 241,549  
6 Claims. (Cl. 117—138.8)

Modacrylic fibers made from copolymers of acrylonitrile and vinyl chloride as well as terpolymers of acrylonitrile, vinyl chloride and vinylidene chloride are contacted

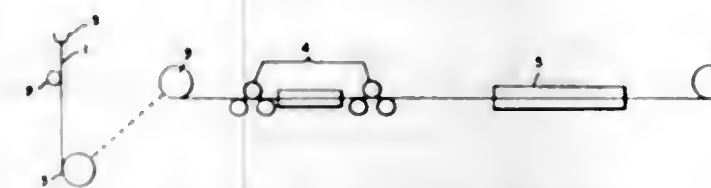
with an aqueous dispersion of a hydroxyphenyl 2H-benzotriazole.

The benzotriazole is concentrated near the surface of the fiber and protects the fiber against degradation by light.

3,383,242

**PRETREATMENT OF POLYETHYLENE TEREPHTHALATE FILAMENTS FOR SUBSEQUENT RUBBER ADHESION**

Karl Macura, Klingenberg (Main), Erhard Siggel, Laud-enbach (Main), and Franz-Josef Schmitz, Erlenbach (Main), Germany, assignors to Glanzstoff AG, Wuppertal, Germany  
Continuation-in-part of application Ser. No. 338,719, Jan. 20, 1964. This application Nov. 17, 1966, Ser. No. 595,246  
Claims priority, application Germany, Jan. 22, 1963, V 23,541  
10 Claims. (Cl. 117—138.8)



The present invention is concerned with an improvement in the method of applying a bonding composition of the diglycidic ether of an aliphatic diol and an amine curing agent to polyethylene terephthalate filaments, this bonding composition acting as a base coating when cured or heat-fixed onto the filaments and being capable of receiving a subsequent coating of a synthetic or natural rubber composition, especially a known resorcinol-form aldehyde-latex composition, in order to obtain better properties of rubber adhesion. In particular, this invention is directed to a combined or substantially concurrent application of both the base coating and a textile lubricating agent to the non-woven polyethylene terephthalate filaments.

3,383,243

**METHOD OF PREPARING A PARTIALLY COLLAPSED LATEX FOAM BACKED CARPET**

Frank A. Di Giola, Dalton, Ga., assignor to General Latex & Chemical Corporation of Georgia, Dalton, Ga., a corporation of Georgia  
Continuation-in-part of application Ser. No. 330,655, Dec. 16, 1963. This application July 19, 1967, Ser. No. 654,534  
5 Claims. (Cl. 117—161)

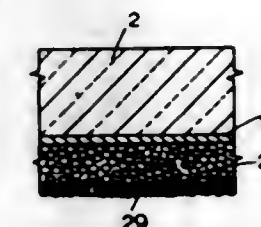


A non-skid rug is formed by applying a frothed binder composition to a rug backing and then partially collapsing the froth and drying the binder composition. The finished rug includes a backing having a binder layer wherein the binder layer is characterized by a density gradient from the surface to the center.

3,383,244

**PHOTO-SENSITIVE DEVICES EMPLOYING PHOTO-CONDUCTIVE COATINGS**

Harry Cassman, Ealing, London, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain  
Filed June 2, 1964, Ser. No. 371,971  
Claims priority, application Great Britain, June 6, 1963, 22,500/63  
9 Claims. (Cl. 117—210)

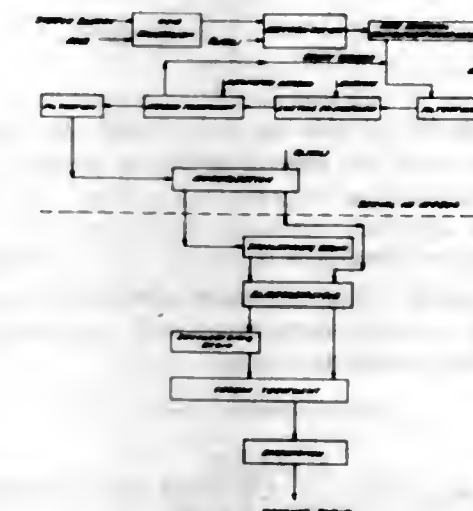


This specification describes a photo-conductive layer to be used in for example a vidicon type pick-up tube, including a porous layer of photo-conductive material in contact with the signal plate and a semi-porous layer of photo-conductive material on said porous layer. Said porous and semi-porous layers are formed by evaporating photo-conductive material from an evaporator on to a support in gaseous atmospheres under such conditions that in the case of the formation of the porous layer the distance from the evaporator to the surface is several hundred times the mean free path of molecules of the photo-conductive material, and in the case of the formation of the semi-porous layer the distance from the evaporator from the surface is about twenty times the mean free path of the molecules of the photo-conductive material.

3,383,245

**PROCESS OF PURIFYING HIGH D.E.-VERY SWEET SYRUPS**

Barrett L. Scallet, Clayton, and Irving Ehrenthal, University City, Mo., assignors to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri  
Continuation-in-part of application Ser. No. 268,267, Mar. 27, 1963, now Patent No. 3,305,395, dated Feb. 21, 1967, which is a continuation-in-part of application Ser. No. 184,506, Apr. 2, 1962. This application Nov. 8, 1966, Ser. No. 592,797  
5 Claims. (Cl. 127—53)



A process for purifying an isomerized corn type conversion syrup of above 70 D.E. in which ash is removed by electro-dialysis, color is removed by an ion exchange resin in the chloride form and the syrup is treated with carbon.

3,383,236

**CONTINUOUS PHARMACEUTICAL FILM COATING PROCESS**

Normand E. Brindamour, Worcester, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey  
No Drawing. Filed Apr. 17, 1964, Ser. No. 360,772  
2 Claims. (Cl. 117—100)

A continuous spray of a highly volatile solvent containing methyl cellulose or hydroxypropyl methyl cellulose is directed on a tumbling bed of tablets which are kept at a uniformly high temperature by a continuous blast of hot air, an exhaust being continuously operated.

3,383,237

**TABLET COATING**

Paul A. Tuerck, Cincinnati, Ohio, assignor to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Jan. 29, 1964, Ser. No. 341,129  
5 Claims. (Cl. 117—105.1)

Pharmaceutical tablets are coated by spraying a solvent-free molten liquid onto the tablets while tumbling in a rotating tablet coating pan until the desired thickness of coating is on the tablets and thereafter cooling the coated tablets while continuing their tumbling action to harden the molten coating material, the coating material being composed of 60 to 90 percent by weight of a polyethylene glycol having an average molecular weight within the range 1000 to 9000 and 10 to 40 percent by weight of a non-toxic resin which is miscible with the polyethylene glycol at temperatures within the range of 45° C. to 200° C., the preferred resins being shellac and sucrose benzoate.

3,383,238

**METHOD AND APPARATUS OF CONTROLLING THIN FILM DEPOSITION IN A VACUUM**

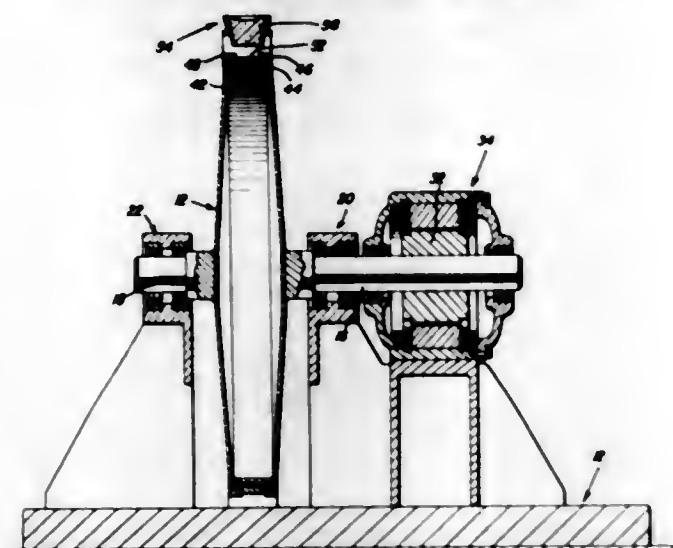
Arlyn Eugene Unzicker, 2204 Woodberry Lane, Falls Church, Va. 22042, and Blair J. Zajac, 1818 Metzert Road, Apt. 18, Adelphi, Md. 20783  
Filed May 27, 1965, Ser. No. 459,481  
14 Claims. (Cl. 117—106)

1. A method of controlling the thickness of a coating applied to a substrate by vacuum evaporation within a vacuum chamber which comprises:

- positioning a reference crystal and a pick-up crystal relative to a substrate surface to be coated with one face of each crystal in the same plane as the substrate surface and facing the materials to be vaporized,
- covering the reference crystal with a thin infrared radiation transmissive material, and

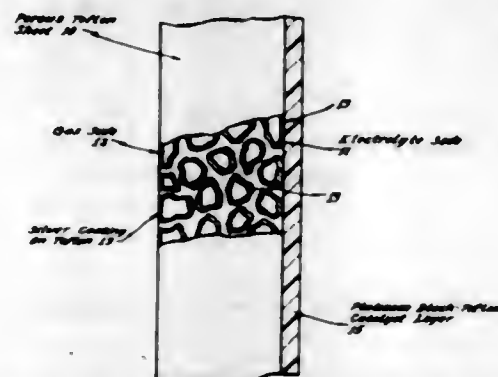


**3,383,246**  
**ROTATABLE SOLAR ENERGY CONVERTER**  
 Paul F. Ferreira, P.O. Box 111, Honolulu, Hawaii 96810  
 Filed Dec. 3, 1963, Ser. No. 327,675  
 3 Claims. (Cl. 138-89)



A plurality of circumferentially spaced photo-voltaic solar cells mounted on the peripheral, heat conductive rim of a rapidly rotating wheel, the speed of which is selected so that each solar cell is intermittently exposed to concentrated rays of the sun for short intervals exceeding however the minimum time required for the energy conversion process to be completed. Optical solar light traps concentrate the sun's rays at focal points lying on the peripheral rim of the wheel beyond the solar cells.

**3,383,247**  
**PROCESS FOR PRODUCING A FUEL CELL ELECTRODE**  
 Otto J. Adhart, Newark, N.J., Antal J. Hartner, New York, N.Y., and Robert C. Langley, Millington, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware  
 Filed Aug. 19, 1965, Ser. No. 480,959  
 2 Claims. (Cl. 136-120)

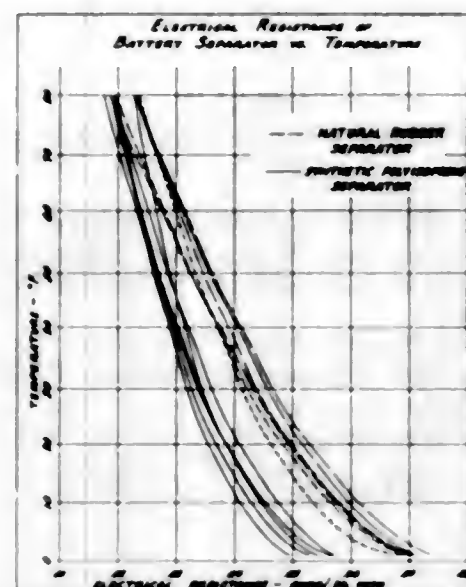


1. A process for producing a fuel cell electrode which comprises the steps of impregnating a porous perfluorinated substrate with an organic solution of a silver naphthenate-amine complex, heating said substrate to a temperature between 100 and 350° C. to decompose said complex and form a thin coherent electrically conductive silver coating on said substrate, and applying a metal catalyst to the coated substrate.

**3,383,248**  
**BATTERY HAVING A CURED POLYISOPRENE SEPARATOR**  
 Donald V. Badgley, Muncie, and Webster T. Van Fleet, Yorktown, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
 Filed Feb. 25, 1966, Ser. No. 530,224  
 9 Claims. (Cl. 136-146)

A cured polyisoprene battery separator containing in its uncured state synthetic polyisoprene, sulfur, a curing ac-

celerator, and silica gel, wherein the synthetic polyisoprene has at least about 80% by weight cis-1,4 addition form,

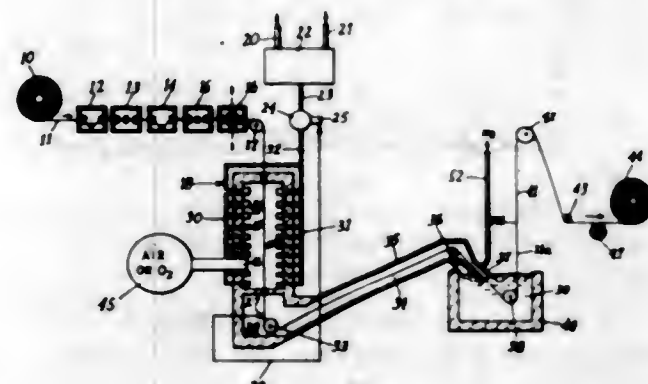


not more than 7% by weight 3,4 addition form and the remainder trans 1,4 addition form of the polyisoprene.

**3,383,249**  
**COMPOSITIONS AND METHOD FOR COMPLEX COATINGS**  
 Edward Heinzelman, Jr., Palisades Park, N.J., assignor to Oakite Products, Inc., New York, N.Y., a corporation of New York  
 No Drawing. Continuation-in-part of application Ser. No. 153,717, Nov. 20, 1961. This application Mar. 15, 1967, Ser. No. 623,216  
 18 Claims. (Cl. 148-6.2)

This invention embraces water-soluble mixture compositions and water-dilutable aqueous concentrates thereof, which contain as their essential ingredients (a) a chromium trioxide-providing substance and (b) a water-soluble lithium-cation-providing constituent containing (i) a minor portion of a lithium halide other than its chloride and (ii) a major portion of at least one more readily soluble lithium salt; from which compositions or concentrates there are prepared dilute aqueous conversion or complex coating baths, in which are carried out the method of the invention wherein ferrous and non-ferrous metals subjected to immersion in the baths receive over their immersed surfaces a corrosion resistant reaction conversion coating.

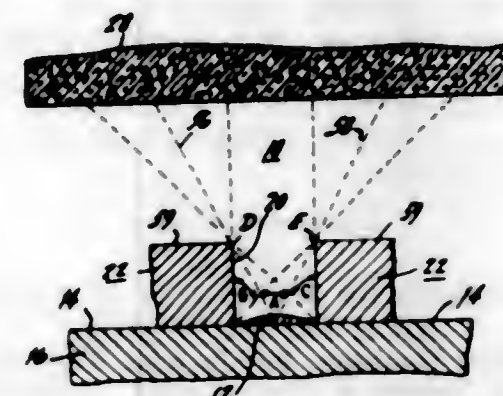
**3,383,250**  
**METHOD FOR PRODUCING ONE SIDE METALLIC COATED STRIP**  
 Marvin B. Pierson and Noel W. Parks, Middletown, Ohio, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio  
 Filed Oct. 7, 1964, Ser. No. 402,125  
 2 Claims. (Cl. 148-6.35)



A method of producing a strip of metal having a metal coating on only one side thereof. Both sides of the metal

strip are first cleaned. The metal strip is brought to coating temperature and one side only of the metal strip is then oxidized. This metal strip is maintained in a protective atmosphere at coating temperature as it is then moved into the coating bath. The coating metal adheres to the clean side of the metal strip but not to the oxidized side.

**3,383,251**  
**METHOD FOR FORMING OF SEMICONDUCTOR DEVICES BY MASKING AND DIFFUSION**  
 Joseph H. Scott, Jr., Newark, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
 Filed Dec. 10, 1965, Ser. No. 512,975  
 5 Claims. (Cl. 148-187)



A method of forming a tapered PN junction in a wafer of semiconductor material comprises the steps of: (1) depositing a tapered layer of a doped oxide of a semiconductor from the vapor state, through an apertured mask, onto a portion of the wafer, said tapered layer being deposited so that it only partially fills the aperture of said mask, and (2) heating the layer and the wafer to diffuse a portion of the dopant from the layer into the wafer. If the layer and the wafer are of opposite type conductivities, a tapered PN junction is formed in the wafer.

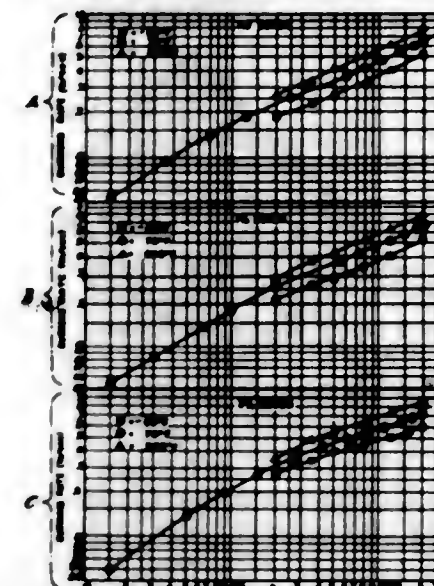
**3,383,252**  
**NITRO-PARAFFINS THICKENED WITH N-COCO-HYDROXYBUTYRAMIDE**  
 Lawrence R. Jones, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland  
 No Drawing. Filed Mar. 13, 1967, Ser. No. 622,420  
 13 Claims. (Cl. 149-18)

Thickened or gelled nitroparaffin compositions comprising a nitroparaffin containing one up to about four carbon atoms and N-coco-hydroxybutyramide. Thickened nitroparaffin compositions are prepared by incorporating N-coco-hydroxybutyramide into a nitroparaffin containing from one up to about four carbon atoms.

**3,383,253**  
**BORON CONTAINING POLYVINYL CHLORIDE PROPELLANT COMPOSITIONS**  
 Joe M. Burton, Alexandria, and Robert G. Shaver, Burke, Va., assignors to The Susquehanna Corporation, a corporation of Delaware  
 Filed Oct. 25, 1960, Ser. No. 64,960  
 12 Claims. (Cl. 149-19)

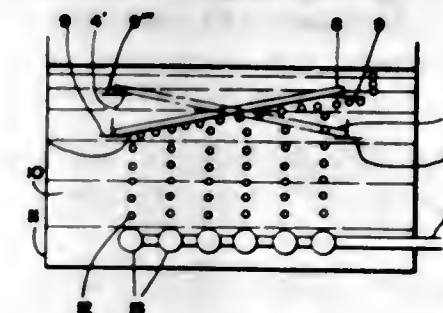
11. In a propellant composition consisting essentially of an organic fuel matrix consisting essentially of polyvinyl chloride plasticized with a high-boiling, organic liquid plasticizer, a finely-divided metal fuel, and a finely-divided solid inorganic oxidizer in sufficient amount to maintain active combustion of said fuel components, the improvement in which said composition includes up to

about 15 weight percent of finely-divided boron having a maximum weight-average particle size of about 5



microns, said boron functioning to increase the burning rate of said propellant composition.

**3,383,254**  
**METHOD OF ETCHING MINUTE BULBULAR OPENINGS IN A METAL SHEET**  
 Michael Kocuta, Willowick, Ohio  
 (P.O. Box 5933, Cleveland, Ohio 44101)  
 Filed Nov. 16, 1964, Ser. No. 411,240  
 4 Claims. (Cl. 156-5)



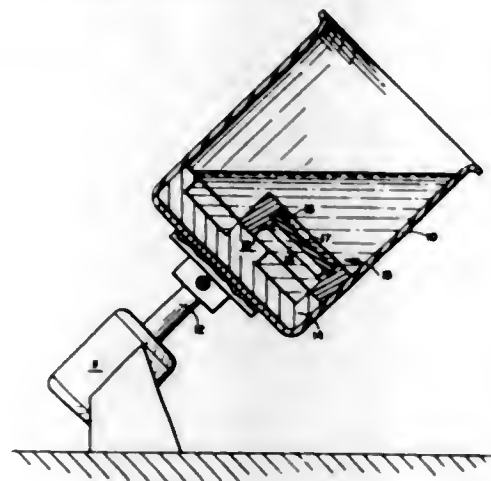
1. A process for the production of a plurality of minute bulbular openings of substantially uniform dimensions in a metal selected from the class consisting of iron, copper, aluminum, nickel, and chromium, and alloys containing predominantly at least one of said metals, comprising the steps of applying a protective coating to the surface of said metal which is not to be etched and of exposing an unprotected area of the surface of said metal having a diameter in the range of about 0.006 to about 0.030 inch, to a mordant solution while said surface is submerged below the surface of said mordant solution and at an angle of 2-10 degrees to the surface of said solution, the area of said metal surface which is not to be exposed being protected from the reaction of the mordant solution by a coating which is resistant to the action of the mordant solution, and having a stream of air bubbles having an average diameter no greater than about 1/2 inch pass over said exposed area during said exposure, and thereafter removing said protective coating, said angle being maintained alternately in two directions approximately 180° from each other using opposite edges of the plate as the base of said angle.

**3,383,255**  
**PLANAR ETCHING OF FUSED SILICA**  
 Carl J. Ross, Orange, Frederick S. Kavaglia, Beverly Hills, and Kurt H. Nelson, Canoga Park, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware  
 Filed Nov. 5, 1964, Ser. No. 409,264  
 6 Claims. (Cl. 156-17)

A process for planar etching silicon dioxide comprising immersing the silicon dioxide in a solution of hydro-



fluoric acid, phosphoric acid, and a fluorinated wetting agent in sufficient quantity to lower the surface tension

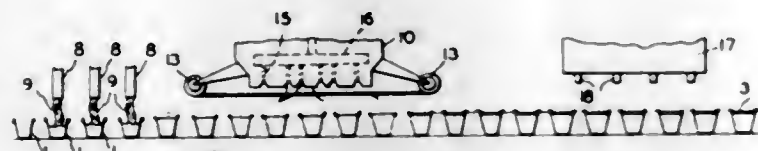


of the solution to 15 dynes/cm. or less. Relative motion is provided between the solution and the silicon dioxide to assist in the removal of the by-products of the etching reaction.

3,383,256

#### PROCESS AND APPARATUS FOR CAPPING PLASTIC CONTAINERS

Anthony J. Carbone, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
Filed Sept. 14, 1964, Ser. No. 396,141  
10 Claims. (Cl. 156-69)

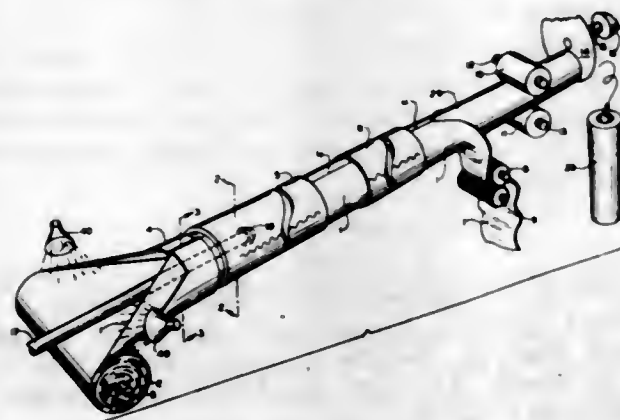


9. A process for capping a plastic container which comprises vacuum-forming a cap in a segment of web comprising a metal foil laminated to a thermoplastic film, which is heat sealable to the plastic of said container, simultaneously affixing said cap to said plastic container, heat sealing the said cap to the said container, and trimming the excess web from the cap to produce a capped container.

3,383,257

#### METHOD OF FORMING A TUBE AND COATING THE INTERIOR SURFACE WITH A FOAMABLE PLASTIC MIXTURE

James R. James, Louisville, Ky., assignor to The Martin Sweets Company, Inc., Louisville, Ky., a corporation of Kentucky  
Filed July 22, 1964, Ser. No. 384,352  
11 Claims. (Cl. 156-74)



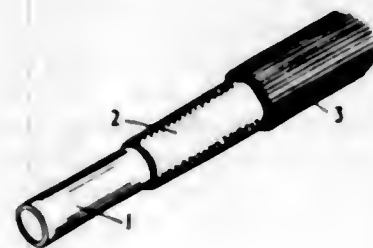
Discloses an apparatus and process for continuously bending a sheet of flexible material to form a tube and coating the interior surface of the tube with polyurethane

foam forming chemicals by means of a radially dispensing mixing and impelling device. The mixing and impelling device is inserted at the central point of the internal diameter of the formed tube and the impeller is spun so that the polyurethane foam forming chemicals are simultaneously mixed and thrown radially by centrifugal force to evenly coat the interior surface of the tube moving along its longitudinal axis. After the tube is coated with the polyurethane foam forming chemicals, it can either be supported in tubular condition to form a tube of polyurethane foam; have a second tube of flexible material inserted in the formed tube and adhesively secured to the rising foam so as to form a polyurethane foam tube having an inner and outer covering; be separated and brought to the flat condition to form a pad or blanket of polyurethane foam which may be laminated with a second sheet of flexible material; or the tube may be separated and reformed over a mandrel so that the polyurethane foam forming chemicals are located on the outside and said reformed tube may be wrapped with a second coating of flexible material as the foam rises and is in tacky condition.

3,383,258

#### METHOD OF MAKING A FLEXIBLE HIGH PRESSURE HOSE

Brian Chilton Houlston, Birmingham, England, assignor to Alfred Roberts & Sons Limited, Birmingham, England, a British company  
Filed Aug. 28, 1964, Ser. No. 392,684  
Claims priority, application Great Britain, Aug. 30, 1963, 34,345/63  
7 Claims. (Cl. 156-86)

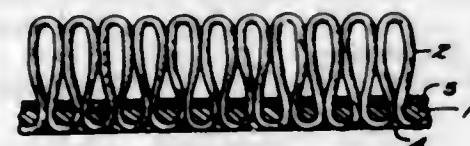


Flexible high pressure hose having very low volumetric expansion under high internal pressures is formed from an unplasticized nylon core, a braided yarn layer cemented thereto and a vulcanized rubber outer cover applied under controlled conditions while the nylon core is shrunk onto a sizing mandrel.

3,383,259

#### METHOD OF MAKING A TUFTED FABRIC

William H. Cochran II, Stonington, Conn., assignor to Madison Research & Development Corporation, Stonington, Conn., a corporation of New Jersey  
Original application Aug. 13, 1963, Ser. No. 301,782, now Patent No. 3,348,992, dated Oct. 24, 1967. Divided and this application May 4, 1964, Ser. No. 368,752  
8 Claims. (Cl. 156-148)



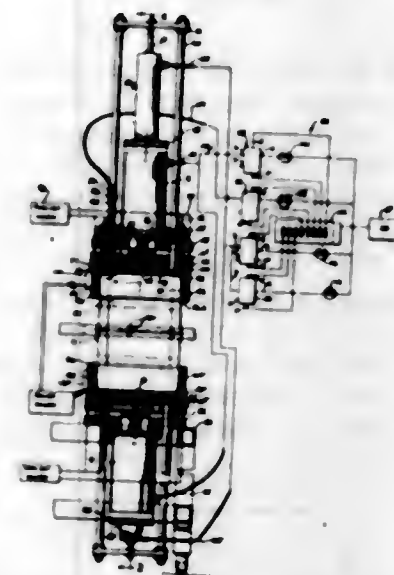
1. In a method of making a tufted fabric wherein a backing fabric is tufted by passing tufting yarn back and forth through the fabric to form a tufted surface and the tufted fabric is thereafter finished under high temperature

conditions, the improvement which comprises applying a thermosetting resinous material, which would not soften at said finishing temperature, to the backing fabric at any stage prior to finishing and curing the thus applied resinous material.

3,383,260

#### METHOD AND APPARATUS FOR HEAT SEALING CONTAINERS

Albert B. Mojonier, Chicago, Ill., assignor to Albert Mojonier Inc., Franklin Park, Ill., a corporation of Illinois  
Filed Apr. 26, 1965, Ser. No. 450,851  
12 Claims. (Cl. 156-156)

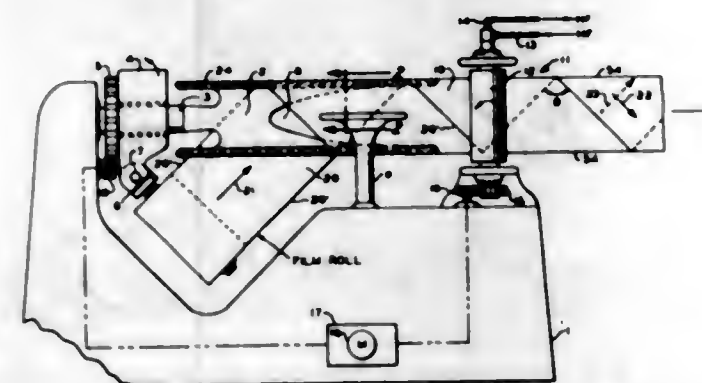


A method and apparatus for joining preformed flanged shells of thermoplastic material to accommodate any distortion in the size and shape of the shells and the plane of the mating flanges. The flanges on the opposing shells are brought into contact to substantially close the open ends of the shells, and fluid under pressure is introduced into the shells to press the sides outwardly until they engage shell confining members to thereby equalize the size and shape of the shells. The flanges are then firmly clamped together to hold the shells in the reshaped condition, and the flanges then heat sealed together. The pressure in the shells is relieved before the flanges are heat softened to prevent blow-out through the heat softened flange.

3,383,261

#### METHOD AND APPARATUS FOR FORMING A BIAXIALLY ORIENTED PLASTIC FILM LAMINATE

Philip M. Arnold, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
Filed Mar. 8, 1965, Ser. No. 437,767  
6 Claims. (Cl. 156-189)



Method and apparatus for producing biaxially oriented plastic film laminates by which a uniaxially oriented plas-

3,383,262

#### PANEL EDGE COVERING

Harold V. Ettore, Yorktown Heights, and Frederick R. Ashby, Lake Carmel, N.Y., assignors to U.S. Plywood-Champion Papers Inc., a corporation of New York

Filed Oct. 4, 1962, Ser. No. 228,478

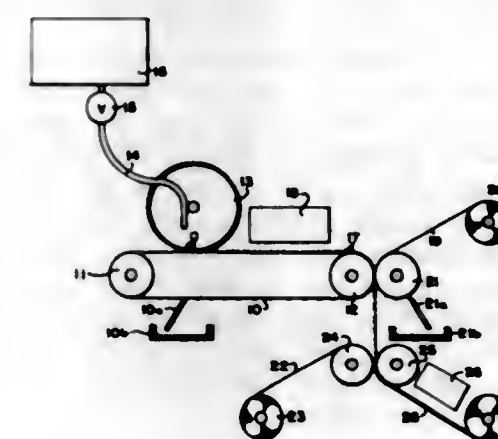
9 Claims. (Cl. 156-216)

1. Process for applying a film sheet to a flat supporting surface which comprises unwinding a continuous film sheet from a roll of film, passing said film sheet in contact with adhesive application means to apply adhesive solely along lateral marginal portions of said film sheet whereby the area of said film sheet between said lateral marginal portions is adhesive-free, applying adhesive to the upper face of said flat supporting surface, thereafter affixing the adhesive-free area of said film sheet to the upper adhesive coated face of said flat supporting surface, thereafter applying the lateral marginal portions of said film sheet to the sides and undersurface of said flat supporting surface.

3,383,263

#### METHOD FOR PREPARING FABRIC LAMINATE

Michael Storti, Barrington, R.I., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware  
Filed Apr. 26, 1966, Ser. No. 545,408  
9 Claims. (Cl. 156-235)

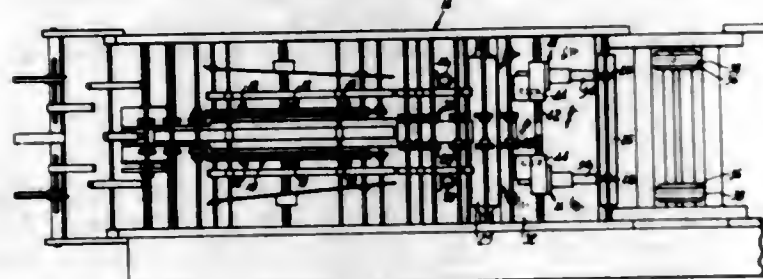


1. A method of preparing fabric laminates which comprises:

- depositing regularly recurring spaced geometric units in the range of about 50 to 400 units per square inch of an elastomeric adhesive emulsion on a release surface in sufficient thickness so as to give substantially dry film units with a thickness in the range of 0.001 to 0.010 inch,
- drying the units of adhesive emulsion so as to reduce their moisture content to the range of 0 to 15% based on the total weight of the film units,
- transferring to the raised patterned portions of a finishing fabric the substantially dried adhesive film units,
- laminating a backing fabric onto the finishing fabric with an effective amount of adhesive film units sandwiched between the backing fabric and the raised patterned portions of the finishing fabric, and
- curing the laminate.



**3,383,264**  
**METHOD AND APPARATUS FOR ATTACHING AND REMOVING ENVELOPES AND THE LIKE FROM A CARRIER WEB**  
 Archibald H. Welch, Branford, Conn., assignor to Converters Incorporated, Hartford, Conn., a corporation of Connecticut  
 Continuation-in-part of application Ser. No. 272,185, Apr. 8, 1963. This application Mar. 25, 1964, Ser. No. 354,645  
 22 Claims. (Cl. 156—247)



A method of adhering envelopes to a carrier web for use in addressing, etc., the envelopes and for subsequently removing the envelopes from the carrier web for mailing, comprising the steps of spraying upwardly into a path intersecting the horizontal path of movement of the envelopes an aqueous dispersion of a polyvinyl chloride thermoplastic adhesive so as to apply a film of the adhesive onto discrete areas of the envelopes; feeding the envelopes onto the carrier web to bring the applied adhesive film into contact with the carrier web; heating the applied film for assisting in drying the dispersion and making the adhesive tacky; pressing the envelopes and carrier web together and thereby securely bond the envelopes to the carrier web to form a composite product thereof; and subsequently feeding the composite envelope and carrier web product along an elongated path; heating the applied adhesive of the composite product as it is fed along the elongated path for facilitating releasing the thermoplastic adhesive bond, and successively detaching the envelopes from the carrier web.

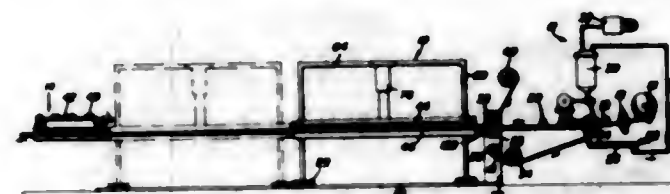
Apparatus for detaching the envelopes from the composite envelope and carrier web product is shown in FIGURES 5-7 and comprises a pair of laterally adjustable parallel rails for guiding the composite product along an elongated path and a pair of motor driven rollers for feeding the composite product along the rails. The rails have heating elements for heating the applied adhesive as the composite product is fed along the rails and a guide is provided for deflecting the carrier web downwardly at the forward end of the rails for permitting the envelopes to separate from the carrier web and to be fed by the rollers into a collector.

**3,383,265**  
**METHOD AND APPARATUS FOR WELDING PLASTICS**  
 Armen Garabedian, 8-22 Astoria Blvd., Long Island City, N.Y. 11102  
 Filed July 20, 1965, Ser. No. 473,342  
 15 Claims. (Cl. 156—272)



1. A method of welding plastic which comprises placing two pieces of a plastic material in contact, enclosing said contacting pieces in a chamber, evacuating said chamber, causing a wall of said chamber to exert pressure on said pieces, impinging radiant heat through said wall onto the area of contact and heating the same to welding temperature, and causing sufficient flow at said area to form a smooth surface.

**3,383,266**  
**METHOD AND APPARATUS FOR MANUFACTURING FIBER REINFORCED PLASTIC SHEETS**  
 Roy S. Helm, Rte. 2, Kennett Square, Pa. 19348  
 Filed Jan. 25, 1963, Ser. No. 253,829  
 2 Claims. (Cl. 156—313)

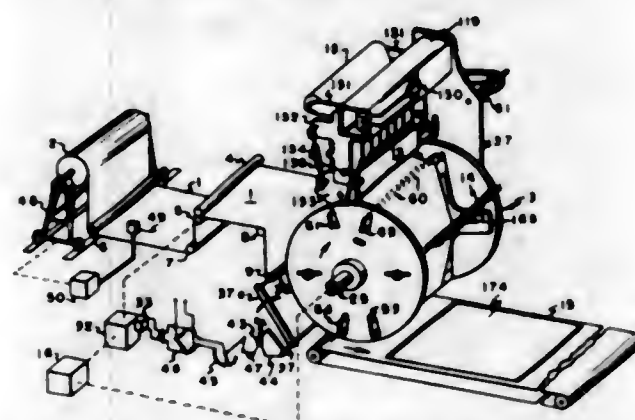


A molding apparatus for forming a continuous laminated sheet in which increments of the continuous length of the laminated sheet will be sequentially molded by a traveling molding apparatus so constructed and arranged that the molding operation will be completed during the movement of the molding apparatus during one-half of each cycle of movement with the return cycle of movement being shorter than the molding cycle thereof. The unmolded laminate sheet is formed by a method and apparatus for thorough impregnation of the resin with a glass fiber mat together with application of cover sheets or film on the top and bottom surfaces thereof. A support panel is provided on the molding apparatus to support the unmolded laminate sheet during movement of the molding apparatus during the molding portion of its cycle of movement.

**3,383,267**  
**METHOD FOR THE MANUFACTURE OF PRODUCTS OF RESIN IMPREGNATED, FIBROUS MATERIAL**  
 Nils B. Sundén, Perstorp, Sweden, assignor to Perstorp AB, Perstorp, Sweden  
 No Drawing. Filed June 6, 1963, Ser. No. 300,401  
 Claims priority, application Sweden, June 8, 1962, 6,428/62  
 7 Claims. (Cl. 156—335)

1. In the method for manufacture of plastic laminates from paper sheets impregnated with a phenol-formaldehyde resin, the improvement which comprises adding to said resin, prior to impregnating the paper sheets, a salt formed from phosphoric acid and an amine having a carbon/nitrogen ratio of 1-3.

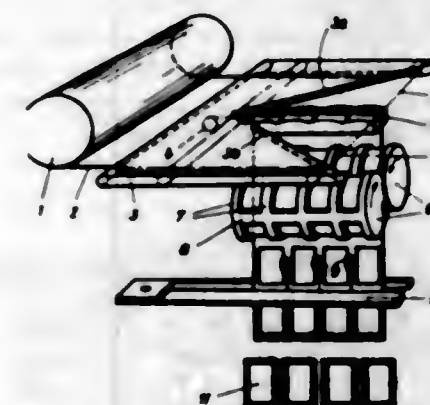
**3,383,268**  
**FLAW DETECTOR**  
 Charles A. Wethington, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware  
 Filed Mar. 13, 1964, Ser. No. 351,793  
 4 Claims. (Cl. 156—378)



1. A web handling apparatus to provide a seal on a sheet of web material including a means for feeding a sheet of web material, said web material feeding means including a continuously rotating member driven by a shaft

connected thereto, means to intermittently supply a strip of seal material to said web material, means to intermittently engage and heat seal said strip of seal material to said web material, means to sever said web material centrally of the heat sealed seal to provide individual lengths of said web material with the ends thereof sealed to prevent unraveling, means responsive to the detection of an area of increased thickness in said web material to prevent said heat sealing means from engaging said web material and means to render said responsive means inoperative when said detected area of increased thickness will not be engaged by said heat sealing means, said inoperative rendering means being a cam and switch arrangement operably associated with said shaft and said web material engaging and heat sealing means.

**3,383,269**  
**DEVICE FOR SEPARATING THE SIDE WALLS OF BAG FORMED ON A PACKAGING MACHINE**  
 Georg Kopp, Neuhausen am Rheinfall, Switzerland, assignor to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland  
 Filed Oct. 6, 1965, Ser. No. 493,468  
 Claims priority, application Switzerland, Nov. 11, 1964, 15,349/64  
 2 Claims. (Cl. 156—553)



1. A device for separating the side walls of bags formed on a packaging machine by the welding together of two strips of material comprising welding jaws for welding together said strips and a guide arranged in the path of travel of the strips in front of the welding jaws to lead the two separate strips simultaneously to the welding jaws the guide having concave guide surfaces on opposing side walls thereof and convex guide surfaces on walls thereof disposed at an angle to the side walls, such that all points of the strips moving over said guide surfaces traverse the same path length.

**3,383,270**  
**ORNAMENTAL LOOP-TYPE BOWS**  
 Philip E. Nimmo, Jr., Clifton, N.J., assignor to Sun Chemical Corporation, New York, N.Y., a corporation of Delaware  
 Original application Sept. 27, 1962, Ser. No. 226,574, now Patent No. 3,318,497, dated May 9, 1967. Divided and this application Aug. 24, 1966, Ser. No. 574,829  
 6 Claims. (Cl. 161—10)



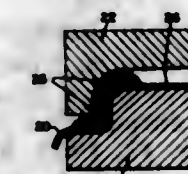
The invention relates to a permanent type bow of relatively high configuration retention. The bow is predicated on the use of loops formed in a ribbon in such manner as to impart resiliency thereto so that it will spring back to original shape after deformation. A backing strip of relatively stiff material comprises the base of the bow and a strip of ribbon of resilient material

is fastened to the backing strip, then looped once, fastened again to the backing strip, looped a second time, fastened again to the backing strip until the requisite number of loops, e.g. 9, have been formed and attached to the backing strip. Thus, it may be seen that the fastening means, which may comprise staples, are equal in number to the number of loops plus one and each loop is anchored on both sides thereof. The number of loops is sufficient to provide touching relationship between the loops, which extend radially outwardly of the backing strip. The loops are simple, i.e. not convoluted or twisted, such that their lower extremities face each other. A modification relates to a bow of the same general formation except that the ribbon is notched at spaced apart positions therealong and the weakened or notched ribbons are fastened or stapled at incrementally spaced apart positions along the backing strip forming loops between the notches. These loops are arranged in haphazard form to comprise the pompon or corsage type bow. A substantially circular bow may be obtained by spacing the fastening means very close together, and an oval bow is made by spacing the staples or fastening means further apart to extend the length of the bow.

**3,383,271**  
**WATER REPELLENT GYPSUM BOARD**  
 James R. Roberts, Palatine, and William J. Long, Chicago, Ill., assignors to United States Gypsum Company, Chicago, Ill., a corporation of Illinois  
 No Drawing. Filed Jan. 20, 1964, Ser. No. 338,575  
 7 Claims. (Cl. 161—43)

A gypsum wallboard characterized by a set calcined gypsum core bonded to spaced paper surfaces; at least one surface rendered water repellent by a dispersed composition containing tall oil, an unsaturated aliphatic hydrocarbon and an aliphatic hydrocarbon. The water repellency is further improved by heating the paper surface containing the composition and by the presence of compounds of aluminum or ferric iron from water soluble salts in the paper surface.

**3,383,272**  
**MOLDED, RESIN IMPREGNATED FIBROUS RIGID PRODUCT**  
 Martin J. Gluck, Somerset, Mass., assignor, by mesne assignments, to The General Fireproofing Company, Youngstown, Ohio, a corporation of Ohio  
 Original application July 28, 1961, Ser. No. 127,569, now Patent No. 3,121,656, dated Feb. 18, 1964. Divided and this application Sept. 19, 1963, Ser. No. 309,972  
 6 Claims. (Cl. 161—44)



1. A molded rigid product having contoured portions and non-contoured portions, said product being derived from a resin impregnated fibrous mass comprising a plurality of fibers formed into a porous mechanically interlocked substantially flat fibrous mass, said rigid product containing the molded product of resin material in nontacky, nonfilm forming, discrete form dispersed substantially uniformly throughout said mass, said contoured portions of said molded product having a density greater than the density of said non-contoured portions and comprising a plurality of compacted plies of said resin impregnated fibrous mass with said contoured portions and said non-contoured

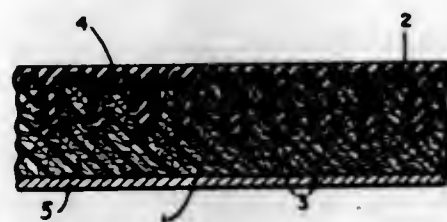


portions having substantially uniform thickness and said contoured portions having a density greater than said non-contoured portions by a factor of at least 3.

3,383,273

## FLEXIBLE SHEET MATERIAL

Roland William Pearson, Burton Green, Kenilworth, England, and Faredoon Shapurji Daruwalla, deceased, late of Sutton Coldfield, England, by Dolly Faredoon Daruwalla, Bombay, India, and Brian Michael Parlour, Sutton Coldfield, England, administrators and legal representatives, assignors to Dunlop Company Limited, London, England, a British company  
Filed Oct. 31, 1963, Ser. No. 320,564  
5 Claims. (Cl. 161-154)



A leather-like sheet material and method of making same including a mat of crimped continuous organic fibres to which a layer of non-woven staple organic fibres is needed, the continuous fibres and the staple fibres then being bonded together with a bonding agent.

3,383,274

## FLAMEPROOFING OF CONSTRUCTION MATERIAL

Don W. Craig, Anderson, Calif., assignor to U.S. Plywood-Champion Papers Inc., a corporation of New York

Filed Jan. 6, 1965, Ser. No. 423,698  
15 Claims. (Cl. 161-162)

1. A flameproof wood article of superior quality and strength which comprises a lower face layer of adhered small dimensioned wood particles having uniformly distributed therethrough crystals of an ammonium salt taken from the group consisting of ammonium phosphates, ammonium bromide and ammonium sulphate, a core layer of adhered large dimensioned wood particles having uniformly distributed therethrough crystals of said ammonium salt, a top face layer of adhered small dimensioned wood particles having uniformly distributed therethrough crystals of said ammonium salt, said layers being rigidly adhered to one another by a resin binder.

3,383,275

## INSULATION UTILIZING BORON PHOSPHATE

Edward J. Croop and Charles H. Vondracek, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania  
No Drawing. Filed Apr. 12, 1963, Ser. No. 272,551  
28 Claims. (Cl. 161-171)

27. A laminate comprising plural plies of an inorganic base sheet material, the plies being impregnated with and bound together into a unitary mass by boron phosphate.

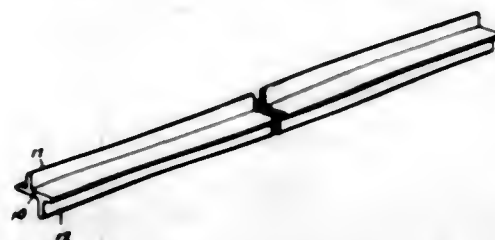
3,383,276

## EXTRUDED SYNTHETIC FILAMENT

Charna Gould, 280 Badger Ave., Millburn, N.J. 07041  
Filed Mar. 10, 1964, Ser. No. 350,764  
1 Claim. (Cl. 161-177)

1. A relatively stiff synthetic filament, in the form of a linearly oriented extrusion of thermoplastic material, suitable for use as a brush bristle, as artificial acicular foliage, or the like comprising a centrally disposed strip-

like body portion having a substantially uniform cross-section comprising transversely straight parallel sides and parallel longitudinal edges, and a fin portion integral with and projecting outwardly at right angles from each of the opposite sides of said body portion in outwardly spaced relation to the central area of said body portion; said fin portions being in non-aligned relation to each other; one said fin portion being intermediate said central area and one longitudinal edge of said body portion and the other said fin portion being intermediate said



central area and the other longitudinal edge of said body portion; each of said fin portions including the same number of fins; said body portion and said fin portions being of substantially corresponding thickness; the width of said body portion substantially corresponding to the distance between parallel planes coinciding with the outer edges of said fin portions; the length of one side of the square into which the cross-section of the filament will snugly fit being substantially within the range of .004 to .250 inch; and said central area presenting exposed parallel side surfaces free of projecting fins.

3,383,277

## TWO-STAGE PULPING PROCESS WITH AN ISOTHERMAL FIRST STAGE

Lyle J. Gordon, Everett, and Berry W. Bailey, Mukilteo, Wash., assignors to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania  
Continuation-in-part of application Ser. No. 344,631, Feb. 13, 1964. This application Feb. 6, 1967, Ser. No. 632,121  
4 Claims. (Cl. 162-19)

This invention is directed to an improved two-stage sulfite wood-pulping process in which the first-stage liquor is maintained at a relatively high constant temperature and in which the liquor liquid level is below the top of the chip pile in the first-stage digester; in this process first-stage liquor is continuously recycled through the digester and introduced at the top of the digester so that chips extending above the liquor level are continuously wetted with recycled liquor which has been introduced at the top of the digester. Also, in this process, an overpressure is continuously maintained during the operation of the first-stage digester. In order to maximize the benefits of the instant invention, the wood chips to be pulped according thereto are preferably pre-steamed prior to the pulping operation. The benefits of the instant invention are further optimized by maintaining the combined sulfur dioxide content of the first-stage liquor in the range from about 2.00 to 3.50 grams per 100 ml. of solution and the first-stage liquor pH in the range from about 6 to 8.

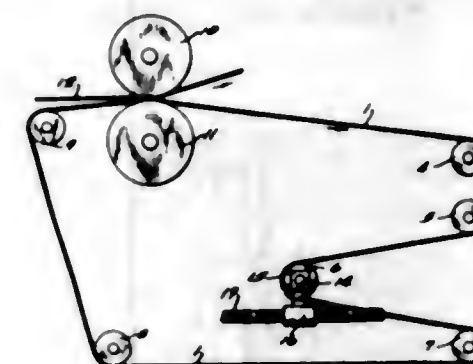
3,383,278

## ADJUSTABLE WOVEN FABRIC

Howard M. Helland, Appleton, Wis., assignor to Appleton Mills, Appleton, Wis., a corporation of Wisconsin  
Continuation-in-part of application Ser. No. 631,381, Apr. 17, 1967. This application Sept. 27, 1967, Ser. No. 676,370  
10 Claims. (Cl. 162-211)

An endless fabric, such as a papermaker's felt, composed of a series of generally parallel warp yarns and having cross machine yarns or fibers located at an acute

angle up to 80° with respect to a line normal to the warp yarns. The cross machine fibers are freely adjustable with respect to the warp yarns and by adjusting the angularity of the cross fibers, when the felt is on the



papermaking machine, the porosity and drainage rate of the felt as well as the finish characteristics of the paper being made, can be varied, thereby extending the useful life of the fabric.

3,383,279

## METHOD OF TREATMENT COMPRISING ADMINISTRATION OF SORBITOL-FURFURAL CONDENSATION PRODUCT AND PHARMACEUTICAL COMPOSITION INCLUDING SAID CONDENSATION PRODUCT

Aldo Garzia, Lodi, Milan, Italy, assignor to Istituto Chemioterapico Italiana S.p.A., Milan, Italy, a corporation  
No Drawing. Filed May 18, 1965, Ser. No. 456,836  
9 Claims. (Cl. 167-55)

This invention is concerned with compositions of sorbitol-furfural condensation product and the use of such for treating hepatic disease and hepatic-intestinal malfunctions.

3,383,280

## DERMATOLOGICAL ABRADANT STICK-TYPE APPLICATOR

Ernest G. Kuehn, New York, N.Y., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana  
Filed Jan. 9, 1963, Ser. No. 250,363  
4 Claims. (Cl. 167-58)

A dermatological medicated cleansing device containing abrasant material in the form of a solid, stick type applicator useful in treating skin blemishes such as acne and methods for preparing this device.

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## METHOD FOR BINDING BILE ACIDS IN VIVO

Frank J. Wolf, Westfield, N.J., and David M. Tennent, Ashland, Ohio, assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey  
No Drawing. Continuation-in-part of application Ser. No. 40,157, July 1, 1960, which is a continuation-in-part of application Ser. No. 748,598, July 15, 1958. This application Sept. 22, 1961, Ser. No. 139,879  
5 Claims. (Cl. 167-65)

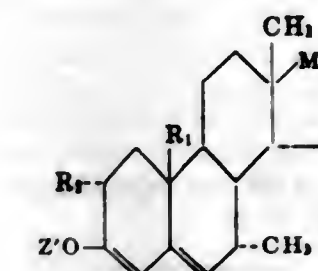
1. The method of binding bile acids in the digestive tract into an unabsorbable form which comprises administering orally to mammals and birds 0.5 to 250 grams per day of a water insoluble non-toxic polymeric amine having a molecular weight in excess of 3,000, having the property of binding at least 30% of the available glycocholic acid within 5 minutes when exposed to an aqueous solution of an equal weight of said acid, having a polymer skeleton inert to digestive enzymes, and having a water content greater than 65% after equilibration with air at 100% relative humidity.

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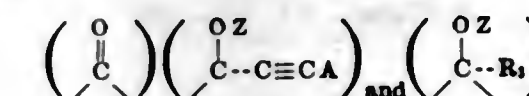
## 7α-METHYL-3,5-ANDROSTADIENE-3,17-DIOLS AND PHARMACEUTICALLY ACTIVE COMPOSITIONS THEREOF

J. Allan Campbell and John C. Babcock, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware  
No Drawing. Filed Apr. 7, 1965, Ser. No. 446,419  
14 Claims. (Cl. 167-65)

This invention relates to novel steroids, more particularly to the 3-enol acylates, 3,17-dienol diacylates and 3-enol ethers of certain 7α-methyl-4-androstenes, 2α,7α-dimethyl-4-androstenes and their 19-nor-counterparts of the formula



wherein R<sub>1</sub> and R<sub>2</sub> are selected from the group consisting of hydrogen and methyl; Z' is selected from the group consisting of lower alkyl of from one to twelve carbon atoms, inclusive, and the lower acyl radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive; M is selected from the group consisting of

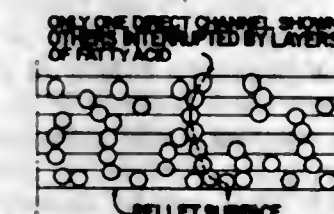


wherein A is selected from the group consisting of hydrogen, lower-alkyl of from one to twelve carbon atoms, inclusive, chlorine, bromine and trifluoromethyl, R<sub>3</sub> is selected from the group consisting of hydrogen, lower alkyl of from one to twelve carbon atoms, inclusive, and Z is selected from the group consisting of hydrogen and the lower acyl radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive.

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## MEDICINAL PELLETS COATED WITH OVERLAPPING POROUS FATTY ACID LEAFLET LAYERS

Normand E. Brindamour, Worcester Township, Montgomery County, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey  
Continuation-in-part of application Ser. No. 262,373, Mar. 4, 1963. This application Jan. 24, 1964, Ser. No. 339,911  
3 Claims. (Cl. 167-83)



Medicinal cores or pellets are tumbled over and over in a coating pan while applying to them alternately and repeatedly a stearic acid solution (for example) and talc



(for example) to build up a coating which will cause prolonged time release of the medicine.

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### COSMETIC COMPOSITIONS CONTAINING CYCLIC C<sub>15</sub> AND C<sub>20</sub> ALCOHOLS

Edward W. Bell and John C. Cowan, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Original application Mar. 10, 1964, Ser. No. 350,917. Divided and this application June 19, 1964, Ser. No. 393,798

3 Claims. (Cl. 167—91)

Rapidly absorbable cosmetic creams and lotions that are highly resistant to the development of rancidity and that do not require the masking of odoriferous constituents are provided by replacing the conventional lanolin and cetyl alcohol components with disubstituted cyclohexane type saturated C<sub>15</sub>—C<sub>20</sub> alcohol mixed isomers from the catalytic reduction of the corresponding vegetable oil-derived saturated cyclic acids.

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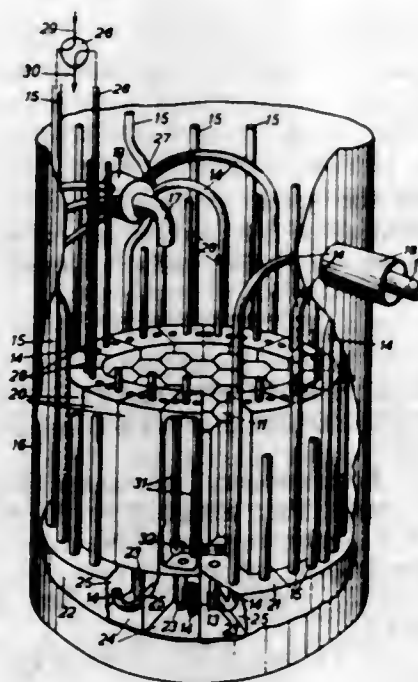
### LIQUID REFLECTOR CONTROL FOR NUCLEAR REACTORS

Ronald Tunstall Ackroyd, Upton-by-Chester, and Maurice Arthur Perks, Stockton Heath, Warrington, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 16, 1966, Ser. No. 602,290

Claims priority, application Great Britain, Dec. 23, 1965, 54,509/65

8 Claims. (Cl. 176—18)



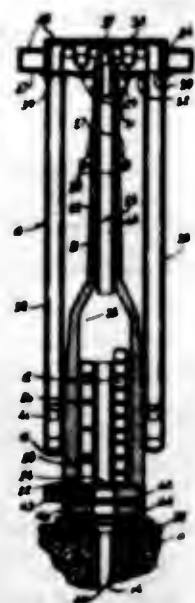
A nuclear reactor having a core surrounded by a segmented reflector, variation of the reflector geometry to obtain a measure of reactivity control being effected by making the reflector segments extend in juxtaposed relationship from at least top to bottom of the core, forming each segment as a separate liquid reflector container and independently varying the content of reflector liquid in the containers which latter may be accomplished by varying gaseous pressure on a free surface of the liquid in any container to vary the liquid level therein. A typical reflector liquid is molten at minimum reactor operating temperatures and may be a lead base alloy, for example, a binary alloy of lead and magnesium. The reflector liquid may carry fertile material.

### 3,383,286 CORE ELEMENT HANDLING SYSTEM

John A. Paget, Poway, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 27, 1966, Ser. No. 583,139

9 Claims. (Cl. 176—30)



A system for handling a plurality of removable core elements for a nuclear reactor. A sleeve penetrates the core and contains a lifting assembly with a telescopic section having inner and outer coaxial tubes coupled with a pneumatic device to move said tubes.

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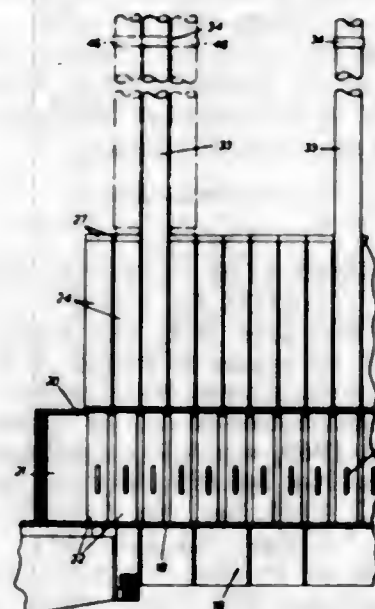
### NUCLEAR REACTOR CORE SUPPORT STRUCTURE

George Oliver Jackson, Timperley, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed June 6, 1966, Ser. No. 555,405

Claims priority, application Great Britain, June 15, 1965, 25,318/65

7 Claims. (Cl. 176—40)



In a nuclear reactor, especially one of the fast type, assemblies composed of a casing containing fuel rods or other materials necessary for the reactor core, such as reflector and breeder, are supported in cantilever fashion at their lower ends by a core support structure. For this purpose end fittings of the assemblies are inserted in sockets in the support structure. A pair of bearing surfaces in each socket co-operate with a complementary pair of bearing surfaces on the respective end fitting and the surfaces of one of the pairs are in slight axial misalignment to impose a tilting tendency on the respective assembly. The assemblies are in groups around upstanding structural members and the tilting tendency is towards the respective member to achieve firm engagement with the member.

bearing surfaces on the respective end fitting and the surfaces of one of the pairs are in slight axial misalignment to impose a tilting tendency on the respective assembly. The assemblies are in groups around upstanding structural members and the tilting tendency is towards the respective member to achieve firm engagement with the member.

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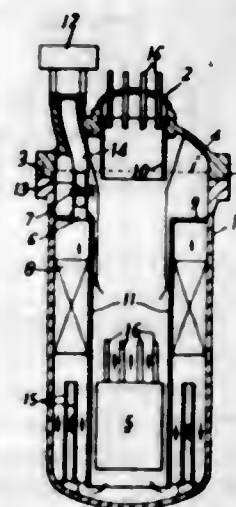
### LIQUID COOLED NUCLEAR REACTOR

Thomas Deighton, Mill Hill, London, England, assignor to Babcock & Wilcox Limited, London, England, a corporation of Great Britain

Filed Nov. 9, 1965, Ser. No. 506,968

Claims priority, application Great Britain, Nov. 10, 1964, 45,772/64

6 Claims. (Cl. 176—61)



A liquid cooled nuclear reactor having a reactor vessel containing a reactor core, a heat exchanger, and a body of coolant liquid in which the reactor core and the heat exchanger are immersed. Provisions are made for circulation of coolant liquid through the core and heat exchanger back to the core including a pump arranged to draw in liquid from the vessel and to discharge it through a nozzle as a jet into a duct opening at its outlet end to the heat exchanger and at its inlet end to a body of coolant liquid, thereby increasing the rate of circulation of coolant.

3,383,289

### MICROBIOLOGICAL OXIDATION OF ALKYL BENZENES

Richard L. Raymond, Wilmington, Del., and Virginia W. Jamison, Prospect Park, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 24, 1965, Ser. No. 509,621

20 Claims. (Cl. 195—28)

C<sub>7</sub>—C<sub>10</sub> organic acids which are methyl-substituted muconic acids and/or 2,3-dihydroxybenzoic acids are prepared by microbiological oxidation of C<sub>7</sub>—C<sub>10</sub> methylbenzenes having 1—4 methyl groups and at least two consecutive ring carbon atoms by the action of orthodihydroxylating and non-decarboxylating strains of Nocardia.

3,383,290

### MALTING PROCESS

Henri Villain, 7 Spitzackerstrasse, Bottmingen, Basel-Land, Switzerland

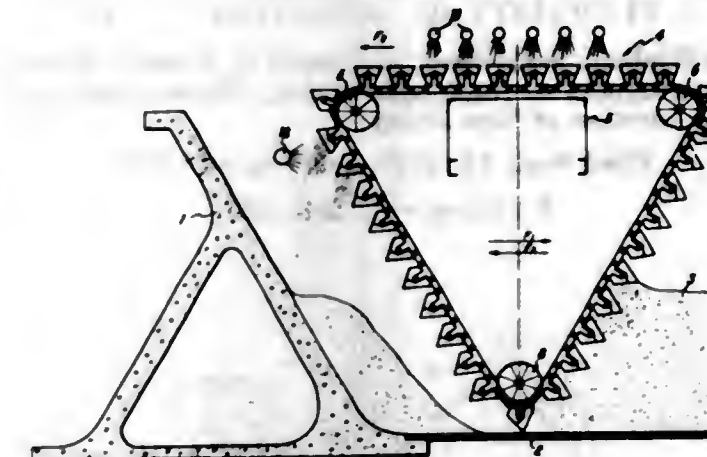
Continuation-in-part of application Ser. No. 250,730, Dec. 27, 1962. This application Apr. 7, 1965, Ser. No. 446,374

Claims priority, application France, Dec. 29, 1961, 883,456, Patent 1,320,049

12 Claims. (Cl. 195—71)

Simultaneous steeping and germinating of barley is carried out by sequentially immersing barley for a short period of time in water so as to increase the water content of the barley only by a friction of the total increase in water content intended during the malting process, followed by freely dropping the thus treated barley to a lower level while simultaneously spraying the dropping barley with water so as to substantially evenly further

period of time in water so as to increase the water content of the barley only by a friction of the total increase in water content intended during the malting process, followed by freely dropping the thus treated barley to a lower level while simultaneously spraying the dropping barley with water so as to substantially evenly further



moisten the individual kernels thereof, allowing the thus treated and incompletely steeped barley to rest under conditions permitting germination; and repeating immersing, spraying and resting until steeping and germination are completed under formation of green malt substantially ready for kilning.

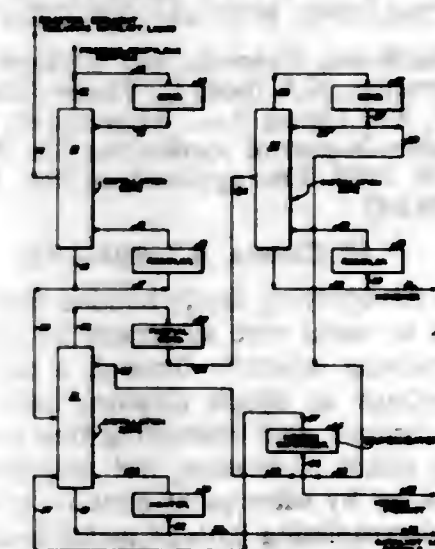
3,383,291

### RECOVERY OF TRIALKYL ALUMINUM CATALYSTS BY PLURAL DISTILLATION WITH HYDROCARBON VAPOR STRIPPING

David Brown, Greenwich, Conn., John White Colton, Pelham Manor, Westchester, N.Y., and Robert Muller, Menlo Park, Calif., assignors to Halcon International, Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 107,538, May 3, 1961. This application June 9, 1965, Ser. No. 462,611

3 Claims. (Cl. 203—49)



This invention relates to a process for the recovery of trialkyl aluminum catalysts from a propylene dimerization reaction effluent and more particularly this invention relates to such a process wherein the catalyst is recovered



substantially free of propylene trimer. This is accomplished by stripping propylene trimer with vaporized dimer under specific conditions.

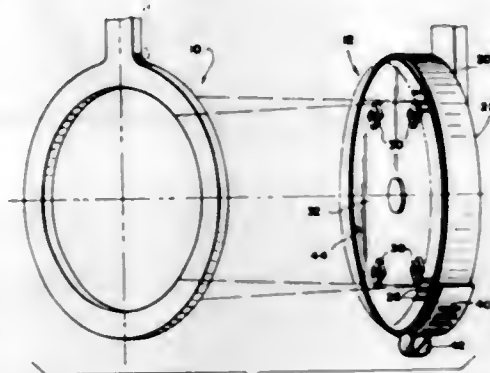
3,383,292

# METHOD FOR UNIFORM CHROME PLATING OF A PLURALITY OF MINIATURE PARTS

Franz Wieland, Bethlehem, and Jacob W. Zansitis, Easton, Pa., assignors to Rapidograph, Inc., Bloomsburg, N.J., a corporation of New Jersey

Filed Sept. 15, 1967, Ser. No. 667,898

5 Claims. (Cl. 204—15)



Method of chrome plating a plurality of miniature parts, particularly chrome plating the leading edges of stainless steel and like stylographic drafting pen metallic points having miniature diameters in the range .009-.051 of an inch, wherein the leading edges of the points are supported as an endless periphery of equally spaced contact points defined as a cathode within a chrome plating bath and an annular anode is positioned in the bath opposite the cathode, so that the leading edges of the points are presented nearest to the anode.

3,383,293

# PROCESSES FOR DRAWING AND COATING METAL SUBSTRATES

Cyril G. Matthews, Teaneck, and Richard G. Matthews, Wall Township, N.J. (both % Plastic-Clad Metal Products, Inc., 228 Union Ave., Manasquan, N.J., 08736)

Continuation-in-part of application Ser. No. 350,763, Mar. 10, 1964. This application Mar. 3, 1967, Ser. No. 620,547

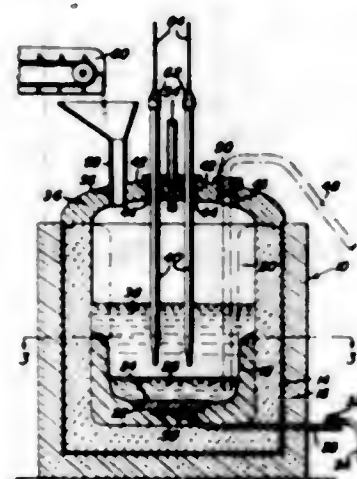
10 Claims. (Cl. 204—32)

Processes for applying firmly bonded coatings of metals or polymers to metal wire substrates by passing the longitudinally-moving substrate through a cold drawing die and then through an anodic cleaning bath in a cleaning solution of chromic acid containing free metallic copper, followed by either preheating, hot polymer coating and cooling steps, or by subsequent metallic coating steps including an electroplating bath of metallic salts either preceded or replaced by a dipping bath of metallic salts and followed by passage through a second drawing die, with all operations being performed simultaneously as the wire substrate passes successively at standard high coating speeds of several hundreds of feet per minute from a storage source through the foregoing operations to a rotating accumulator block drum, or suitable take-up means.

# PROCESS FOR PRODUCTION OF MISCH METAL AND APPARATUS THEREFOR

Lyle Russell Wood, Boulder City, Nev. (14146 Apple Valley Road, P.O. Box 965, Apple Valley, Calif. 92307)

Filed Jan. 15, 1965, Ser. No. 425,850  
18 Claims. (Cl. 204—64)



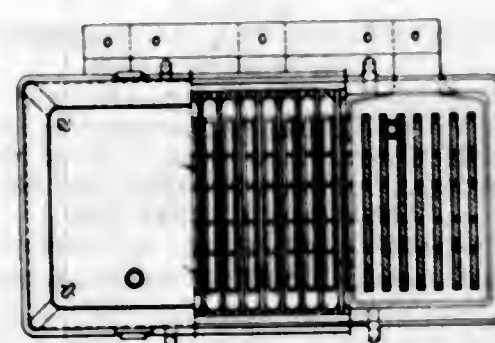
1. A method of producing substantially pure misch metal which comprises electrolytically decomposing a molten electrolyte to form a substantially pure melt of misch metal and mechanically separating the melt from the remaining electrolyte, said electrolyte consisting essentially of an oxide of the elements comprising misch metal dissolved in a major amount of the fluorides of the elements of misch metal and a minor amount of at least one fluoride selected from the group consisting of alkali fluorides and alkaline earth fluorides.

3,383,295

# PROCESS FOR REPLACING THE DIAPHRAGM CATHODE ASSEMBLY IN AN ELECTRO-CHEMICAL CELL

Robert J. Cox, Belleville, Mich., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 2, 1964, Ser. No. 356,705  
2 Claims. (Cl. 204—128)



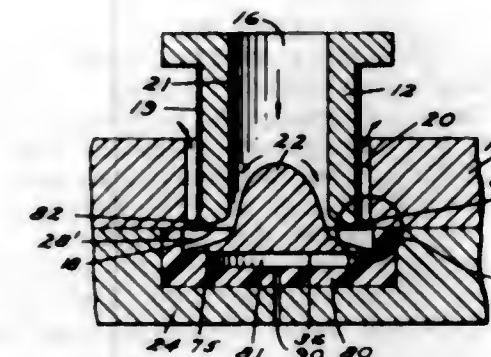
This invention relates to a replacement diaphragm-cathode assembly for chlorine-producing electrolytic cells which require a new diaphragm when the old diaphragm has become clogged. The new cathode to which the new diaphragm is attached compensates for the increased inter-electrode gap which results from anode erosion during use. The replacement cathode has a larger dimension than the cathode originally employed but is geometrically similar thereto. The increment in cathode size is substantially equal to the amount of anode material consumed during electrolysis whereby the interelectrode spacing, and hence the IR drop, is kept essentially constant without changing anodes.

# ELECTROCHEMICAL TREPPANNING PROCESS AND APPARATUS TO ACCOMPLISH THE SAME

Kempes F. Trager, Detroit, Mich., assignor to Ex-Cell-O Corporation

Continuation-in-part of application Ser. No. 563,232, July 6, 1966. This application Mar. 13, 1967, Ser. No. 622,814

8 Claims. (Cl. 204—143)



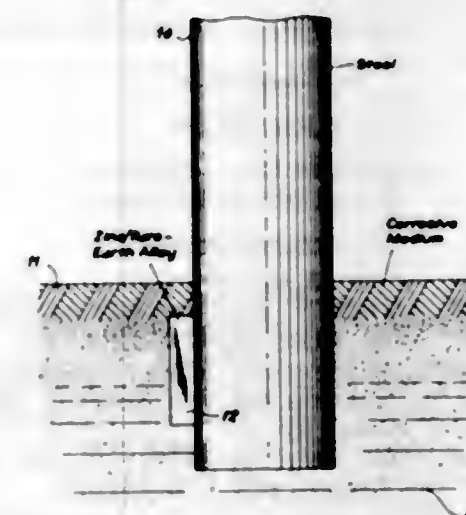
An electrochemical machining apparatus having a recessed dielectric back-up member to hold the metal slug eroded by a hollow electrode tool.

3,383,297

# ZINC-RARE EARTH ALLOY ANODE FOR CATHODIC PROTECTION

Ernst Eberling, Dahlmannstr. 22, Duisburg-Hamborn, Germany

Filed Mar. 5, 1965, Ser. No. 437,474  
Claims priority, application Germany, Mar. 6, 1964, A 45,417  
15 Claims. (Cl. 204—148)



1. A zinc alloy consisting essentially of metallic zinc and from 0.02% to substantially 5% by weight of a rare-earth component consisting of at least one rare-earth element.

3,383,298

# METHOD FOR SYNTHESIS OF CARBON CRYSTALS

Wayne D. Wilson, 2000 Wallace Ave., Silver Spring, Md. 20902, and Hubert B. Hall, 716 Somerset Place, Hyattsville, Md. 20783

Filed Apr. 27, 1965, Ser. No. 451,361  
7 Claims. (Cl. 204—155)

A method for making hard carbon crystals by exciting carbon atoms in the presence of a strong magnetic field.

# ISOLATED GLASS TRANSDUCER AND THE METHOD OF MAKING THE SAME

Edwin P. Arthur, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed May 3, 1965, Ser. No. 452,635  
5 Claims. (Cl. 204—195)



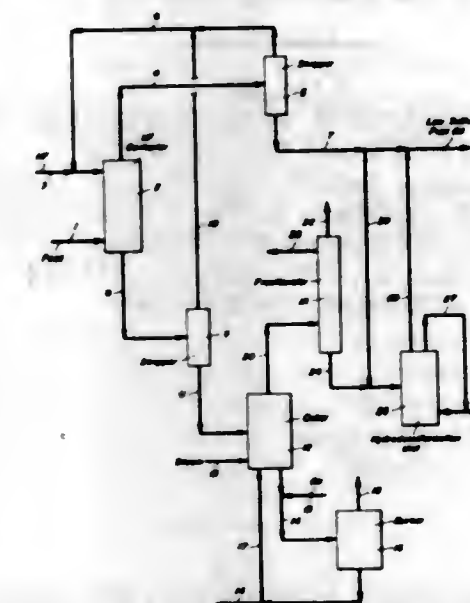
1. A device for electrical determination of ion concentration comprising a glass electrode having an ion responsive membrane and an insulating glass extension, said glass extension having at least part of its surface coated with a polymerized organosiloxane, said organosiloxane having been polymerized in situ on the glass extension.

3,383,300

# PROCESS FOR THE PREPARATION OF LOW SULFUR FUEL OIL

Charles N. Kimberlin, Jr., Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 24, 1965, Ser. No. 489,875  
4 Claims. (Cl. 208—211)



1. In a process for the preparation of low sulfur fuel oil by catalytic hydrodesulfurization, the improvement comprising pretreating the feed by the sequential steps of extracting a high sulfur petroleum residuum with liquid HF, stripping HF from the extract, coking the extract, separating the fraction which boils below about 450° F. from the coker overhead products and employing the remaining coker overhead product as the feed to catalytic hydrodesulfurization.



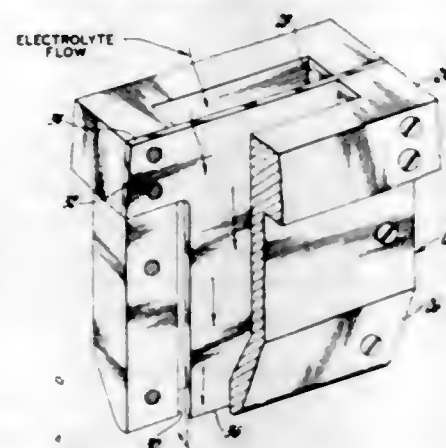
3,383,301

**RESIDUE DESULFURIZATION WITH CATALYST WHOSE PORE VOLUME IS DISTRIBUTED OVER WIDE RANGE OF PORE SIZES**  
Harold Beuther, Gibsonia, and Bruce K. Schmid, McCandless Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
No Drawing. Filed Jan. 20, 1966, Ser. No. 521,816  
8 Claims. (Cl. 208—216)

The disclosure relates to the hydrosulfurization of sulfur-containing petroleum oils containing residual components and metallic contaminants employing catalyst comprising a hydrogenating component composited on an alumina base whose pore volume is distributed over a wide range of pore sizes.

3,383,302

**ELECTRICAL STOCK REMOVAL ELECTRODE**  
Roger W. Johnson, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Dec. 20, 1965, Ser. No. 515,009  
10 Claims. (Cl. 204—224)



An electrical stock removal tool incorporating a conductive, flexible member that is positioned in the machining fluid flow passage so as to be vibrated by the fluid flow and cause electrical stock removal to occur within the proximity of the machining fluid exit from the tool.

3,383,303

**AUTOMATIC CONTROL PROGRAMMING FOR AN ELECTROLYTIC PROCESS**  
Charles E. Fenoglio, Detroit, and Michael A. Koltuniak, Warren, Mich., assignors to The Udylite Corporation, Warren, Mich., a corporation of Michigan  
Filed Mar. 25, 1964, Ser. No. 354,568  
24 Claims. (Cl. 204—228)



An automatic control system for an anodizing process which includes the features of automatically and incrementally increasing the electrical energy supplied to the anodizing bath as a function of time and subsequently supplying the anodizing bath with a constant current.

## ERRATA

For Class 208—211 see:  
Patent No. 3,383,300

For Class 208—216 see:  
Patent No. 3,383,301

3,383,304

**ALKALI-DESULFURIZATION PROCESS**  
William Judson Mattox and William Floyd Arey, Jr., Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Sept. 20, 1965, Ser. No. 488,765  
5 Claims. (Cl. 208—230)

The present disclosure relates to the desulfurization of petroleum fractions with chemical desulfurization agents in the presence of added oxygen.

3,383,305

**NITROGEN REMOVAL WITH COBALT-MOLYBDENUM-MANGANESE-ALUMINA CATALYST**  
Edward S. Rogers, Hinsdale, Ill., and Stephen M. Kovach, Highland, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Sept. 20, 1965, Ser. No. 488,719  
5 Claims. (Cl. 208—254)

Process for hydrotreating nitrogen-containing mineral hydrocarbons by contacting said hydrocarbons with molecular hydrogen under hydrogenation conditions in the presence of a catalyst including cobalt, molybdenum, and manganese on an alumina support.

3,383,306

**HYDRODENTRIFICATION WITH VANADIA-ALUMINA CATALYST SUPPORT**  
Edward S. Rogers, Hinsdale, Ill., and Stephen M. Kovach, Highland, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Nov. 16, 1965, Ser. No. 508,130  
10 Claims. (Cl. 208—254)

1. A process for hydrorefining a nitrogen-contaminated mineral oil hydrocarbon which comprises contacting said hydrocarbon with molecular hydrogen under hydrogenation conditions in the presence of a catalyst consisting essentially of a vanadia-alumina support containing about 5 to 50%, by weight of the catalyst, of vanadia and having been prepared by coprecipitation, and at least one promoter selected from the group consisting of the metals of Groups VI-B, VII-B and the iron series of Group VIII of the Periodic Table having atomic numbers from 25 to 75, inclusive.

## ERRATUM

For Class 208—358 see:  
Patent No. 3,383,308

3,383,307

**GELLING AGENTS, GELS AND METHODS FOR FORMING GELS**  
Donald C. Goetz, Minneapolis, Minn., assignor, by mesne assignments, to Ashland Oil and Refining Company, a corporation of Kentucky  
No Drawing. Filed July 30, 1964, Ser. No. 386,403  
10 Claims. (Cl. 252—316)

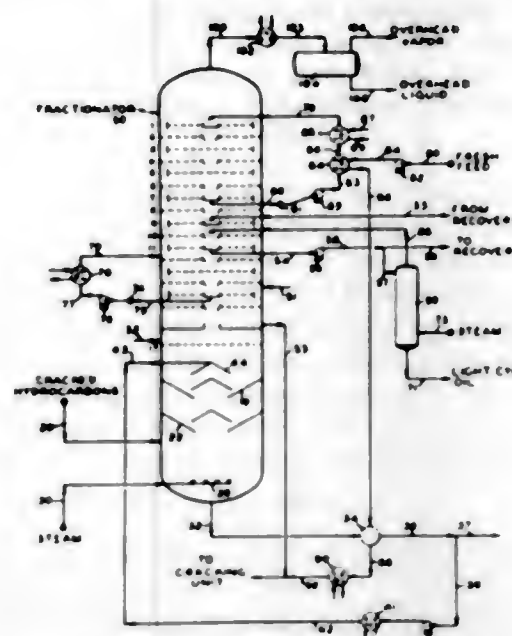
1. A composition suitable for use as a gelling agent for water, which composition consists essentially of Xanthomonas gum, 5 to 35 weight percent, based on the weight of gum, of hydrogen-displaying metal, and 50 to 200 weight percent, based on the weight of gum, of trivalent metal salt.

4. A method for producing a water gel which comprises

- (1) thickening water by adding, to the water, from 0.2 to 0.75 weight percent based on the weight of water of a biochemically-synthesized, water-soluble polysaccharide produced by bacteria of the genus Xanthomonas,
- (2) gelling the so-thickened water by adding thereto from 5 to 35 weight percent, based on the weight of polysaccharide, finely-divided zinc metal and 50 to 200 weight percent, based on the weight of polysaccharide, aluminum sulfate.

3,383,308

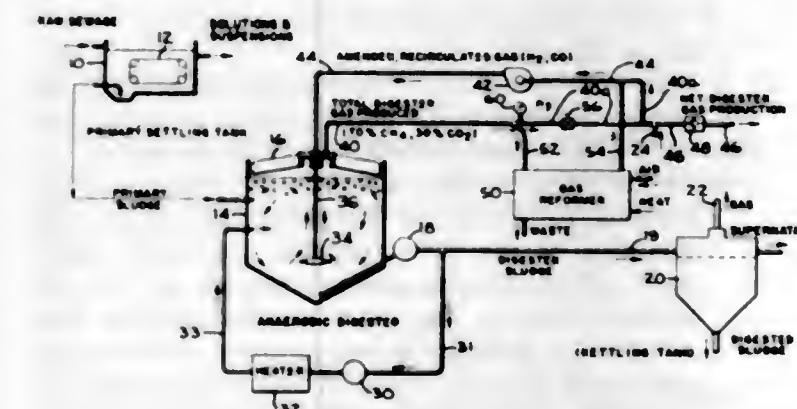
**FRACTIONATING HYDROCARBONS**  
Henry P. Wickham, Glen Head, N.Y., and Leo Friend, Rocky Hill, N.J., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware  
Continuation-in-part of application Ser. No. 244,035, Dec. 12, 1962. This application Mar. 14, 1967, Ser. No. 623,119  
7 Claims. (Cl. 208—358)



A method is disclosed for providing circulating reflux to a fractionation zone within a trayed fractionation vessel employed in the separation of a multicomponent mixture of hydrocarbons. The products withdrawn from the fractionation zone consist of a vaporous low boiling overhead product and a liquid high boiling product. Circulating reflux is obtained by withdrawing an intermediate boiling liquid stream at least 5 trays below the overhead drawoff and preferably from about tray 6 and about tray 9 but above the drawoff of the high boiling product, cooling the intermediate boiling liquid to a temperature between about 70°–180° and preferably between about 100–150° F. below the temperature of the vaporous overhead and returning the cooled liquid to the topmost tray within the fractionation zone. Particular application to the fractionation of catalytically cracked hydrocarbons for the production of gasoline is disclosed.

3,383,309

**ANAEROBIC SLUDGE DIGESTION**  
Stephen S. Chandler, Los Altos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware  
Filed Oct. 13, 1965, Ser. No. 495,538  
11 Claims. (Cl. 210—11)



In the anaerobic digestion of sewage sludge, the action of methane forming bacteria is increased by cracking digester gases removed from the digester so as to obtain hydrogen gas, and introducing the hydrogen gas along with

recycled digester gases into the digester sludge. The amount of hydrogen gas thus introduced is sufficient to insure that some hydrogen gas is present in the digester gases that are removed from the digester, thus indicating that adequate hydrogen has been introduced to supply the energy requirements of the methane forming bacteria.

3,383,310

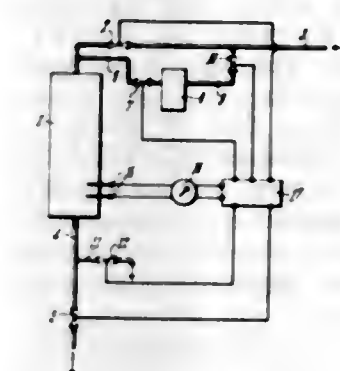
**METHOD OF AND APPARATUS FOR MEASURING THE HARDNESS OF WATER AND FOR CONTROLLING OTHER PROCESSES RELATED THERETO**

Heinzger Ammer, Guglingen, Germany, assignor to Dr. Gerhard Ammer, Guglingen, Germany

Filed Aug. 29, 1963, Ser. No. 305,338

Claims priority, application Germany, Sept. 5, 1962, A 41,082; Aug. 7, 1963, A 43,779

16 Claims. (Cl. 210—25)



1. A process for softening hard water by ion exchange and for simultaneously controlling the regeneration of the ion exchange when it becomes exhausted which comprises treating the water in an ion exchanger so as to exchange alkali metal ions for the ions causing the hardness of the water, measuring the concentration of said alkali metal ions in the treated water, and initiating and regulating the flow of a regenerating solution through said ion exchanger by means of said concentration.

3,383,311

**GRAPHITE LUBRICANT**

Aleksander Jerzy Groszek, London, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed Sept. 21, 1966, Ser. No. 586,347  
Claims priority, application Great Britain, Sept. 24, 1965, 40,702/65

9 Claims. (Cl. 252—29)

1. An oleophilic graphite with a surface area of from 20 to 800 square meters per gram, prepared by grinding graphite in an organic liquid distilling below 500° C., having a viscosity below 600 centistokes at 38° C. and having a surface tension below 72 degrees/cm. at 25° C.

3,383,312

**STABLE, FLUID, SOAP THICKENED OIL LUBRICANT COMPOSITIONS**

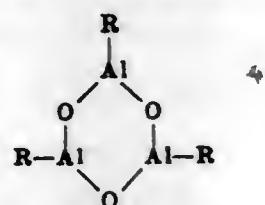
Walter J. Coppock, Wallingford, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,092  
8 Claims. (Cl. 252—36)

1. A stable, fluid, soap thickened oil lubricant composition comprising a major amount of mineral lubricating oil, 0.1–2.5%, sufficient to increase the apparent viscosity of said oil, of a fatty acid metal soap dispersed in said oil, and 0.1–2.5%, sufficient to reduce the tendency



of said soap to separate from said oil, of a substituted cyclic aluminum oxide trimer having the structure



wherein R in at least one instance is an acylate anion of an aliphatic monocarboxylic acid containing 12-22 carbon atoms and in any remaining instances is an alkoxy anion of an alcohol containing 1-10 carbon atoms, the amount and percentages being by weight of the total composition.

4. The composition according to claim 1 wherein said metal is lithium.

3,383,313

### PRODUCTION AND USE OF HYDROXYALKYL ACID ESTERS OF FATTY ACID

John D. Hetchler, Cleveland, Ohio  
(2657 Tonawanda Drive, Rocky River, Ohio 44116)  
No Drawing. Filed Oct. 19, 1965, Ser. No. 498,128  
3 Claims. (Cl. 252-39)

3. A member of the group consisting of lubricating oils, rolling oils and greases containing sufficient amounts of an alkali metal and alkaline earth metal salt of a polylactic acid ester of a higher fatty acid glyceride to improve lubrication.

3,383,314

### ARYL FERROCENE ANTIOXIDANTS IN POLYPHENYL OXA AND THIA ETHER FUNCTIONAL FLUIDS

Emil Herbert Carlson, Kirkwood, Mo., assignor to Monsanto Company, a corporation of Delaware  
No Drawing. Filed Jan. 2, 1964, Ser. No. 335,394  
1 Claim. (Cl. 252-46.4)

1. A functional fluid composition comprising a fluid polyphenyl ether base having from 3 to 10 benzene rings and a sum of from 2 to 9 linking groups therein, selected from the group consisting of oxa and thia ether linkages, wherein at least 50 percent of said ether linkages are meta-linkages, and from about 0.05 to about 10 weight percent, based on the polyphenyl ether, of N-phenylferrocenecarboxamide as an antioxidant therein.

3,383,315

### POLYALKYLENE GLYCOL-DIORTHOSILICIC ACID ESTER LUBRICANTS AND POWER TRANSMITTING FLUIDS

Herbert Göthel, Oberhausen-Sterkrade, Heinz Noeske, Oberhausen-Sterkrade-Nord, and Hans Felchtiger, Dinslaken, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany, a corporation of Germany  
No Drawing. Filed Aug. 31, 1965, Ser. No. 484,120  
Claims priority, application Germany, Sept. 11, 1964, R 38,770  
10 Claims. (Cl. 252-49.6)

1. A lubricating oil comprising 5 to 70 volume-percent of a diorthosilicic acid ester of the formula:



wherein A represents a polyoxalkylene radical having 1 to 6 ether oxygen atoms, each alkylene group comprising 2 to 4 carbon atoms, R represents a radical of a semi-ester of a saturated carboxylic acid selected from the group consisting of a straight-chained and branched-chained carboxylic acids having 6 to 20 carbon atoms with at least one member selected from the group consisting of alkylene and oxyalkylenediols having 2 to 30 carbon atoms, R' is selected from at least one member of the group consisting of alkyl groups having more than

3 carbon atoms and polyoxalkyleneglycol ether radicals having 1 to 6 ether oxygen atoms, and n is of the class consisting of 1 to 4 and 0, and R and R' may be the same or different, and an ester lubricating oil.

3,383,316

### LIQUID ELECTROPHOTOGRAPHIC DEVELOPER CONTAINING ISOCYANATE COMPOUNDS

Josef Matkan, Malvern, South Australia, Australia, assignor to Research Laboratories of Australia Pty. Limited, North Adelaide, South Australia, Australia  
No Drawing. Filed Oct. 23, 1964, Ser. No. 406,150  
Claims priority, application Australia, Oct. 28, 1963, 36,938/63  
5 Claims. (Cl. 252-62.1)

1. A liquid developer for rendering visible electrostatic patterns comprising an electrically insulating carrier liquid having a volume resistivity in excess of  $10^9$  ohm cm. and a dielectric constant of less than 3 and suspended in such carrier liquid a particulate toner material capable of being attracted and deposited electrostatically, characterized in that the toner consists essentially of particles of (1) a pigment, (2) a polymeric isocyanate compound containing repeated units of the following general structure



wherein the quantity by weight of the said isocyanate compound present is so proportioned in relation to the quantity of the said toner material by weight that the said isocyanate compound renders the said toner material capable of being repelled from areas carrying a negative electrostatic charge contained on an electrophotographic surface whilst depositing on to the said surface in areas substantially free from negative electrostatic charge, and (3) an oleoresinous substance selected from the group consisting of dehydrated castor oil, linseed oil, soya bean oil, ester gum and hydrogenated rosin.

3,383,317

### ANTI-FREEZING ADDITIVES

Charles H. Jacoby, Grosse Ile, and Frank V. Whelply, Dearborn, Mich., assignors to International Salt Company, Clarks Summit, Pa.  
No Drawing. Continuation-in-part of application Ser. No. 345,859, Feb. 19, 1964. This application June 23, 1965, Ser. No. 466,409  
5 Claims. (Cl. 252-70)

1. An additive for inhibiting freezing and caking of particulate sodium chloride, consisting of: one part by weight of an anionic synthetic surface active agent, and about 10 to about 200 parts by weight of calcium chloride.

4. Conditioned sodium chloride particles resistant to freezing and caking, comprising sodium chloride particles having at least a partial coating of a composition consisting of:

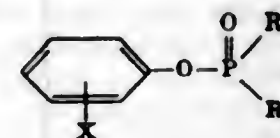
- (a) an anionic synthetic surface active agent
- (b) calcium chloride, and
- (c) a water soluble complex iron cyanide selected from the group consisting of alkali metal ferrocyanide salts and alkaline earth metal ferrocyanide salts

in which the calcium chloride is present in an amount of about 10 to about 200 times the quantity of the water soluble synthetic detergent and is at least about 3 pounds per ton of sodium chloride, the water soluble complex iron cyanide is present in an amount sufficient to provide ferrocyanide ion in amount of about .5 to about 9 times the quantity of anionic surface active agent and at least about .13 pound per ton of sodium chloride, and the anionic synthetic surface active agent is present in an amount at least about 10 parts per million of the sodium chloride by weight.

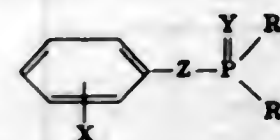
### 3,383,318 FIRE RESISTANT HYDRAULIC FLUIDS AND LUBRICANTS

Kenneth L. McHugh, Kirkwood, and Kurt A. Nowotny, Rock Hill, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed Mar. 31, 1965, Ser. No. 444,406  
7 Claims. (Cl. 252-78)

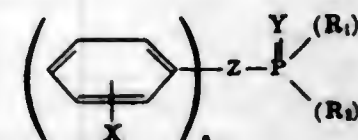
Compositions useful as functional fluids comprising (1) a mixture of compounds represented by the structural formula



wherein R<sub>1</sub> and R<sub>2</sub> are each alkyl radicals having from 3 to 6 carbon atoms, X is selected from the group consisting of hydrogen, alkyl and alkoxy radicals having from 1 to 8 carbon atoms, and the halogens, and (2) compositions comprising (a) a major amount of a compound represented by the structural formula



wherein Y and Z are each selected from the group consisting of oxygen and sulfur, R<sub>1</sub> and R<sub>2</sub> are each alkyl radicals having from 3 to 6 carbon atoms, X is selected from the group consisting of hydrogen, alkyl and alkoxy radicals having from 1 to 8 carbon atoms, and the halogens, (b) a minor amount of a compound selected from the group consisting of a compound represented by the structural formula



wherein Y and Z are each selected from the group consisting of oxygen and sulfur, R<sub>1</sub> and R<sub>2</sub> are each alkyl radicals having from 3 to 6 carbon atoms, X is selected from the group consisting of hydrogen, alkyl and alkoxy radicals having from 1 to 8 carbon atoms, and the halogens, a, b and c are integers from 0 to 3 and the sum of a, b and c is 3, and mixtures thereof.

3,383,319

### CLEANING OF SEMICONDUCTOR DEVICES

James R. Black, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois  
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,316  
7 Claims. (Cl. 252-95)

Contaminants are removed from glass surfaces of semiconductor devices by treatment with an aqueous solution of hydrogen peroxide containing an ionic promoter to accelerate the action of the peroxide. Preferred conditions include a peroxide composition between about 5% and 50% by volume, a promoter concentration between about 0.01% and 5% by weight, and a temperature of at least about 90° C.

3,383,320

### DETERGENT BAR

Gordon W. Bell, Jr., Wilmington, Del., assignor to Avium Corporation, Philadelphia, Pa., a corporation of Delaware  
No Drawing. Filed Aug. 10, 1965, Ser. No. 478,761  
8 Claims. (Cl. 252-132)

1. As a new composition of matter, a detergent bar consisting of a solid water soluble detergent selected from

3,383,321

### DETERGENT TABLETS

Robert P. Davis, Cincinnati, and Frank J. Mueller, Delhi Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
No Drawing. Filed Mar. 9, 1965, Ser. No. 438,376  
5 Claims. (Cl. 252-135)

Detergent tablets which contain uniformly distributed granules of sodium tripolyphosphate (STP), which granules are either (1) encapsulated with 2-15 mole percent of STP hexahydrate or (2) intimately intermixed with 0.1-0.5% calcium oxide. The tablets dissolve rapidly in cool (100° F.) water, even after having been allowed to stand in unagitated water.

3,383,322

### CREAMY CLEANSING COMPOSITION

Aka Parker Thomas, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed July 31, 1964, Ser. No. 386,762  
3 Claims. (Cl. 252-137)

Stable cream-like cleansing composition consisting essentially of water, an aliphatic haloalkane of intermediate boiling temperature, ammonia, alkali, and a water-dispersible cellulose ether.

3,383,323

### AMINO TRI-LOWER ALKYLIDENEPHOSPHONIC ACID BUILDERS FOR SYNTHETIC DETERGENTS

Riyad R. Irani, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 221,308, Sept. 4, 1962. This application Sept. 9, 1965, Ser. No. 486,201  
14 Claims. (Cl. 252-137)

1. A new washing composition comprising a non-soap, organic synthetic detergent selected from the group consisting of anionic, nonionic, and amphoteric surface active compounds and, as a builder, a compound selected from the group consisting of amino tri-lower alkylidene-phosphonic acids containing substituents on the carbon atom of the N-C-P linkages selected from the group consisting of hydrogen and lower alkyl groups, containing from 1 to 4 carbon atoms and their water soluble salts selected from the group consisting of alkali metal salts, ammonium salts and low molecular weight alkyl, alkylene and alkanol amine salts; said detergent and said builder being by weight within a ratio of 1:4 to 4:1.

3,383,324

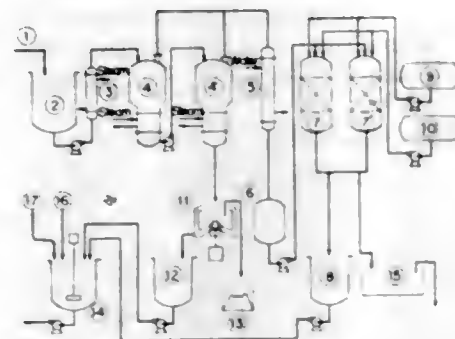
### PROCESS FOR RECOVERING ACID VALUES FROM MIXED WASTE ACID USED FOR PICKLING

Yukimori Hiwatashi, Kawaguchi, Japan, assignor to Yawata Iron & Steel Co., Ltd., Tokyo, Japan  
Filed Sept. 20, 1965, Ser. No. 488,471  
5 Claims. (Cl. 252-142)

This invention relates to a method of treating a waste acid solution resulting from pickling silicon steel sheets with a mixed aqueous solution containing sulfuric acid, ferrous sulfate, hydrofluoric acid and fluosilicic acid, which comprises the steps of (1) distilling the said waste



acid solution to evaporate hydrofluoric acid, water, and fluosilicic acid contained in the solution, (2) collecting the resulting distillate of hydrofluoric acid, water and fluosilicic acid by means of cooling, (3) filtrating the nonvolatile residual liquor remaining after said evaporation process to obtain a filter cake consisting predom-



inantly of crystals of ferrous sulfate and a mother liquid mainly composed of sulfuric acid and (4) passing the distillate collected in step (2) above containing hydrofluoric acid and fluosilicic acid through an OH-type anion exchange resin to separate hydrofluoric acid solution from said distillate by causing fluosilicic acid to combine with said resin.

#### ERRATUM

For Class 252—316 see:  
Patent No. 3,383,307

3,383,325

#### COMPOSITIONS AND PROCESSES FOR BREAKING PETROLEUM EMULSIONS

Virgil L. Seale, Billy Ray Moreland, and James Derwin De Shazo, Houston, Tex., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 350,112, Mar. 6, 1964. This application Feb. 1, 1966, Ser. No. 523,971

9 Claims. (Cl. 252—331)

Compositions of matter and breaking water-in-oil petroleum emulsions therewith which compositions comprise a substantially water-insoluble at least partially oil-soluble product formed by the reaction of (A) a polyoxyalkylene alcohol in which the oxyalkylene groups consist essentially of a member from the group consisting of oxypropylene oxybutylene and both oxypropylene and oxybutylene with at least one terminal 2-hydroxyethyl group and (B) a diglycidyl ether of a bis-phenol compound in which about 60% to 90% of said diglycidyl ether groups are reacted with the hydroxy groups of said polyoxyalkylene glycol with the formation of ether linkages between the polyoxyalkylene glycol nuclei and the bis-phenol compound nuclei, the remaining, unreacted glycidyl ether groups of the resultant product being reacted with hydroxyl groups on (C) polyoxyalkylene groups of a polyoxyalkylated alkyl phenol-formaldehyde polycondensate with the formation of ether linkages between said reaction product of (A) and (B) and said polyoxyalkylated polycondensate the alkyl groups of the phenol of (C) having an average of 4–15 carbons, said polycondensate having an average of about 4–15 phenolic nuclei per molecule, the oxyalkylene groups of (C) being selected from the group consisting of oxyethylene, oxypropylene, and both oxyethylene and oxypropylene, and the weight ratio of said last-mentioned oxyalkylene groups to said alkyl phenol-formaldehyde polycondensate being in the range of about 1:5 to 15:1, respectively.

#### 3,383,326 COMPOSITIONS AND PROCESSES FOR BREAKING PETROLEUM EMULSIONS

Virgil L. Seale, Billy R. Moreland, and James D. De Shazo, Houston, Tex., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 6, 1964, Ser. No. 350,112  
5 Claims. (Cl. 252—331)

Compositions of matter, and processes of breaking petroleum emulsions of the water-in-oil type therewith, which said compositions comprise a water insoluble, at least partially oil soluble product of the reaction of an epoxide of a polyphenol and an adduct obtained by reacting ethylene oxide with a higher alkylene oxide adduct of a compound from the group consisting of hydroxyhydrocarbyl compounds and hydroxyhydrocarbylether compounds, said hydroxyhydrocarbyl compounds and hydroxyhydrocarbylether compounds containing up to 12 carbon atoms and 1 to 3 hydroxyl groups, and the oxyalkylene groups of said higher alkylene oxide adduct being from the group consisting of oxypropylene, oxybutylene and mixtures of oxypropylene and oxybutylene.

3,383,327

#### FOAM CONTROL AGENTS

Robert E. Sullivan, Bay City, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed May 6, 1963, Ser. No. 278,427  
1 Claim. (Cl. 252—358)

1. A foam control agent having a viscosity from 50 to 500,000 cs. at 25° C. prepared by heating a mixture of
  - (1) 96 percent by weight of an essentially polydiorganosiloxane wherein the organo groups are selected from the group consisting of the methyl, ethyl and 2-phenylpropyl groups, said fluid having a methyl to silicon ratio of about 1:1, an ethyl to silicon ratio in the range of .7 to .9:1 and a 2-phenylpropyl to silicon ratio in the range of .1 to .3:1,
  - (2) about 3 percent by weight of silica having a surface area of about 225 square meters per gram, and
  - (3) about 1 percent by weight of a hydroxylated polydimethylsiloxane fluid, at a temperature of at least 100° C. while the mixture is being subjected to a shearing action whereby a foam control agent having improved stability is obtained.

3,383,328

#### WATER DISPLACING AND RUST PREVENTIVE COMPOSITIONS

Hayward R. Baker, Silver Spring, Md., and Paul B. Leach, Woodlawn Manor, Fairfax County, Va., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Apr. 4, 1966, Ser. No. 540,098  
3 Claims. (Cl. 252—390)

1. A fluid composition which is a solution comprising from about 39.5 to 48.5% by weight is isopropanol, from about 3.5 to 4.5% by weight of water, from about 5.5 to 6.5% by weight of a primary alkyl amine of the group consisting of straight chain primary alkyl monoamines having from 12 to 22 carbon atoms and tertiary alkyl primary monoamines having from 18 to 22 carbon atoms, from about 10.8 to 13.2% by weight of the mixed C<sub>36</sub> dimer and C<sub>34</sub> trimer of a C<sub>18</sub> unsaturated fatty acid of the group consisting of oleic, linoleic and linolenic acids in which the C<sub>36</sub> dimer predominates, said primary alkylamine and said mixed C<sub>36</sub> dimer and C<sub>34</sub> trimer being present as a complex addition salt, from about 4.5 to 5.5% by weight of dicyclohexyl ammonium nitrite, from about 13.5 to 16.5% by weight of a volatile petroleum hydrocarbon of the Stoddard solvent type and from about 12.5 to 15.5% by weight of a light petroleum lubricating oil.

3,383,329

#### PREPARATION OF UNSATURATED NITRILES BY A CATALYTIC PROCESS

Howard S. Young and Edgar L. McDaniel, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Original application June 15, 1964, Ser. No. 375,303, now Patent No. 3,293,279, dated Dec. 20, 1966. Divided and this application Apr. 26, 1966, Ser. No. 574,835

13 Claims. (Cl. 252—432)

Novel catalyst composition comprising a heteropoly acid of molybdenum containing cerium as the central atom, an oxide of arsenic, a supporting carrier, and optionally at least one of an oxide of chromium, an oxide of manganese, an oxide of iron, and an oxide of boron. The catalyst is useful in the ammoxidative conversion of propylene to acrylonitrile.

3,383,330

#### METHOD OF PREPARING CATALYSTS

Tzu Liang Kang, Brecksville, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed July 6, 1964, Ser. No. 380,683  
16 Claims. (Cl. 252—437)

Improved catalysts for use in oxidizing and ammoxidizing olefins, having the catalyst ingredients uniformly coated on particulate silicic carrier surfaces, are prepared by first providing separate aqueous slurries of silicic carrier containing the water soluble molybdenum salt, the tellurium salt, and the manganese pyrophosphates, which slurries are then mixed together so that the resulting precipitated catalysts are deposited on the silicic carrier, which is thereafter dried and calcined.

3,383,331

#### CLAY-SUPPORTED CRACKING CATALYST

James E. McEvoy, Morton, and George Alexander Mills, Swarthmore, Pa., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware  
No Drawing. Filed May 20, 1965, Ser. No. 457,517

2 Claims. (Cl. 252—457)

Impact resistance and attrition resistance of a cracking catalyst particle are improved by incorporating 0.5% to 2% calcium carbonate into a precursor mixture comprising a major amount of clay, water, and aluminosilicate molecular sieve providing in the calcined catalyst 4 to 25% sieve; and converting such precursor mixture to an attrition resistant catalyst particle by steps comprising shaping, calcining, and cooling.

3,383,332

#### POLYMERIC BORON-NITROGEN COMPOUNDS AND PROCESS FOR THEIR PREPARATION

Elmar-Munfred Horn, Kurten, and Hans Niederprum, Monheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed Feb. 2, 1965, Ser. No. 429,920  
Claims priority, application Germany, Feb. 8, 1964, F 41,970

29 Claims. (Cl. 260—2)

Boron-nitrogen organic polymers having borohydride and boron halide groups connected directly to N-atoms, prepared by reacting at a temperature above about 0° C. (e.g., 0–100° C.) mixture of a borohydride (e.g., an alkali metal borohydride or mixtures of borohydrides) and a boron halide (e.g., boron trifluoride or an ether addition compound thereof or mixtures of such boron halides) with a di- or polynitrilo-substituted organic hydrocarbon and/or a di- or polynitrilo-substituted hydrocarbon substituted di- or polysiloxane, optionally in the presence of a liquid diluent such as an ether, and optionally in the presence of filler particles.

3,383,333

#### ORGANOMETALLIC CATALYST COMPOSITION AND USE THEREOF IN ALKENE OXIDE POLYMERIZATION

Henry L. Hsieh, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
No Drawing. Filed June 7, 1965, Ser. No. 462,051  
10 Claims. (Cl. 260—2)

Rubbery polymers of alkane oxides are made by polymerizing at least one alkene oxide monomer with a catalyst system comprising an organometallic compound and zinc sulfide.

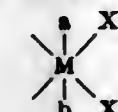
3,383,334

#### PROCESS FOR INORGANIC POLYMERS

Peter Francis Radice, King of Prussia, and Anthony Joseph Saraceno, Devon, Pa., assignors to Pennsalt Chemical Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,608  
8 Claims. (Cl. 260—2)

1. A process for increasing the intrinsic viscosity of a polymer having the repeating units



where M is a trivalent octahedral metal selected from the group consisting of chromium, iron, ruthenium, europium and ytterbium, a is hydroxyl, b is a water molecule, X is a bridging group having the structure R<sub>2</sub>M'(O)OH where R is selected from the group consisting of alkyl, aryl, alkoxy and aryloxy, and M' is an element of group VB having an atomic number greater than 7, which comprises forming a complex of said polymer with a tertiary amine, dissolving the complex in a solvent selected from the group consisting of liquid chlorinated aromatic hydrocarbon and liquid chlorinated aliphatic hydrocarbons and allowing said solution to stand, whereby further polymerization occurs and the intrinsic viscosity of the polymer is increased.

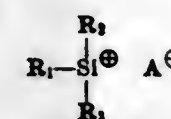
3,383,335

#### METHOD OF PRODUCING POLYMERS OF TRIOXANE AND SIMILAR OXA-COMPOUNDS

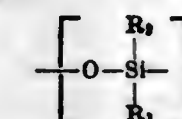
Miloslav Kucera, 32 Hoblikova; Jirina Lanikova, 58 Novackova; and Eduard Spoust, 100 Samalova, all of Brno, Czechoslovakia  
No Drawing. Continuation-in-part of application Ser. No. 266,173, Mar. 19, 1963. This application June 21, 1967, Ser. No. 647,635

Claims priority, application Czechoslovakia, Mar. 23, 1962, 1,782/62  
14 Claims. (Cl. 260—2)

Cyclic oxo-compounds such as epichlorohydrin, trioxane, dioxolane, tetrahydrofuran, oxacyclobutane, ethylene oxide, and cyclic derivatives thereof, are polymerized at temperatures up to about 150° C. in the presence of a catalytic quantity of an organo silicon compound of the formula:



wherein R<sub>1</sub> may be hydrogen, alkyl or a siloxane chain of the general formula:



wherein n is an integer between 0 and 100, each of R<sub>2</sub> and R<sub>1</sub> is CH<sub>3</sub>—, C<sub>2</sub>H<sub>5</sub>— or CH<sub>2</sub>=CH—, and Ac is the anion of a strong acid. Some of the polymers have good emulsifying properties.



3,383,336

**RESINOUS INSOLUBLE REACTION PRODUCTS**

Hiroshi Kuyama, 143-3 5-chome, Takasago-cho, Saitama-ken, Urawa-shi, Japan, and Yoichi Utsunomiya, 1-211 Kita-machi, Nerima-ku, Tokyo, Japan

No Drawing. Continuation-in-part of application Ser. No. 364,767, May 4, 1964. This application June 27, 1966, Ser. No. 560,861

13 Claims. (Cl. 260-2.2)

Insoluble resinous crosslinked copolymers are prepared by copolymerizing mixtures of styrene, divinyl benzene and acrylonitrile. An additional, polar monomer, such as methyl acrylate or methacrylic acid, may optionally be included. These resins are converted to strong acid cation exchangers by sulfonation and to weak or strong base anion exchangers by nitration followed by reduction and, in the case of strong base resins, quaternization.

3,383,337

**METHOD OF TREATING A PLASTISOL COMPOSITION CONTAINING AN EPOXY RESIN ADHESIVE**

Richard A. Garling, Kent, and Walter R. Hausch and Charles W. Thomas, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 2, 1962, Ser. No. 214,214

2 Claims. (Cl. 260-2.5)

1. The process of dissolving resinous vinyl chloride polymer in an ester plasticizer, the plasticizer having dissolved therein an epoxy resin adhesive which is curable at a higher temperature at which the polymer is soluble in the plasticizer, the cured adhesive being substantially insoluble in the plasticizer, which process comprises heating the plastisol with the adhesive distributed in the plasticizer hereof to said higher temperature which is above the temperature of solution of the polymer in the plasticizer and thereby (1) dissolving the plastisol resin in the plasticizer and (2) curing the adhesive and separating at least some of it to the surface of the resulting plasticized resin composition.

3,383,338

**FLAME-RETARDANT, NON-SHRINKING UREA-FORMALDEHYDE FOAMS AND PROCESS OF MAKING SAME**

Rodney L. Wells, Chester, and Ged H. Justice, Hope-well, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 17, 1963, Ser. No. 317,078

4 Claims. (Cl. 260-2.5)

1. A process for preparing a substantially non-shrinking, flame-retardant, solid urea-formaldehyde foam which comprises (1) preparing a dispersion of (a) an aqueous urea-formaldehyde resin solution having a urea-formaldehyde solids content between about 50% and about 65%, the balance water, (b) between about 14% and about 30% by weight based on the weight of the urea-formaldehyde resin solids of a polyethylene glycol having a molecular weight between about 200 and about 600 and (c) at least about 0.6% by weight on the same basis, of a dialkyl alkane phosphonate wherein the alkyl groups contain from 1 to 2 carbon atoms, (2) preparing a foamed hardener solution curing agent comprising an aqueous solution containing a small proportion of a foaming agent and between about 2% and about 6% of phosphoric acid, (3) mixing the resin solution and the foamed curing agent solution in a weight ratio between about 0.5 part and about 2.3 parts foamed-curing agent solution per part of resin solution to form a substantially homogeneous foam, and curing the foam.

3,383,339

**POLYMERIZATION OF VINYL COMPOUNDS IN THE PRESENCE OF BLOWING AGENTS**

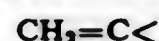
Erich Bäder, Hanau am Main, Werner Unseld, Neiderrodenbach, Hans Landsfeld, Hanau am Main, and Gerhard Morlock, Gross-Aubheim, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roesler, Frankfurt, Germany

Filed June 15, 1964, Ser. No. 375,244

Claims priority, application Germany, Nov. 28, 1963, D 43,040

7 Claims. (Cl. 260-2.5)

Method for the bulk polymerization of a polymerizable mass capable of producing a foamed polymerized product comprising monomeric material consisting of at least one polymerizable monomer having a terminal



group in intimate mixture with a blowing agent with the aid of a catalyst comprising continuously introducing the polymerizable mass into a flexible tube shaped synthetic resin structure and continuously passing the thus filled tube through a polymerization zone maintained at the polymerization temperature required for the polymerizable mass until the polymerization has been effected.

3,383,340

**REINFORCING FILLERS FOR RUBBER**

Robert B. MacCallum, Dalton, and Robert M. Summers, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 12, 1965, Ser. No. 455,296

8 Claims. (Cl. 260-3)

An elastomeric rubber composition reinforced with a 2,6-substituted polyphenylene oxide.

3,383,341

**STABLE RUBBER LATEX FOAMS CONTAINING SODIUM HEXAMETAPHOSPHATE**

Thomas Trogon, Waynesville, and Howard S. Smith, Asheville, N.C., assignors to Dayco Corporation, a corporation of Delaware

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,349

4 Claims. (Cl. 260-18)

Stable rubber latex foams using fillers of feldspar are obtained by using a sequestering agent which forms a chelate with the water soluble calcium or magnesium ions of the filler. Unless the soluble ions are rendered inactive, they tend to react with the foam stabilizing soap to form insoluble foam inhibiting products. Sodium hexametaphosphate is a suitable sequestering agent for such soap reactive ions.

3,383,342

**POLYESTER RESIN COATING COMPOSITIONS CONTAINING HEXAKIS (METHOXYMETHYL) MELAMINE**

James R. Stephens, Gary, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Continuation of application Ser. No. 225,867, Sept. 24, 1962. This application Dec. 9, 1966, Ser. No. 600,658

6 Claims. (Cl. 260-21)

Liquid thermosetting coating compositions consisting essentially of a physical mixture of (I) about 50-90 weight percent of a reaction product, having an acid number of about 10-100, of a polycarboxylic acid having at least 2 carboxyl groups and a triglyceride having at least 3 hydroxyl groups; and (II) about 10-50 weight percent of a monomeric triazine having at least 4 alkoxyethyl groups.

3,383,343

**ELASTOMERIC POLYESTERS DERIVED FROM GLYCOLS, DIMERIZED FATTY ACIDS AND AROMATIC DICARBOXYLIC ACIDS**

All Akbar Mohajer, Cwmbran, and Peter Raymond Thomas, Pontypool, England, assignors to British Nylon Spinners Limited, Pontypool, England

No Drawing. Filed May 15, 1964, Ser. No. 367,882

Claims priority, application Great Britain, June 14, 1963, 23,712/63

6 Claims. (Cl. 260-22)

1. A copolyester having an intrinsic viscosity of at least 0.5 of a polymethylene glycol containing from two to six carbon atoms, a dimeric fatty acid and an aromatic dicarboxylic acid comprising not more than two benzene rings wherein the two carboxyl groups do not occupy peri or ortho positions, the aforesaid dimeric fatty acid constituting from 55% to 65% by weight of the total dimeric fatty and aromatic acids.

3,383,344

**SUBSTANTIALLY ANHYDROUS CERAMIC GLAZES IN PROPELLANT-TYPE CANS**

Laurence David Gill, Baltimore, Md., assignor, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York

Filed Sept. 16, 1964, Ser. No. 396,871

7 Claims. (Cl. 260-22)

A stable combination comprising a novel, substantially anhydrous, sprayable, ceramic glaze composition, canned in a push-button-type spray having a nozzle has been discovered and is described.

The sprayable ceramic composition comprises (A) an eductible frit composition, (B) a volatile organic solvent component, (C) an organic binder component, and (D) a normally gaseous chlorofluoro alkane having 1-2 carbon atoms. The ceramic glaze composition is novel in that it contains a normally gaseous chlorofluoro alkane. The claimed combination of the novel ceramic glaze composition in a push-button-type can provides a propellable stable practical glaze composition in which the glaze components are self-propelled in the proper proportions to provide uniformity in the glazes when fired.

3,383,345

**EPOXY-COAL TAR FILM-FORMING COMPOSITIONS**

Joseph A. Bauer, Louisville, Ky., assignor to Porter Paint Company, a corporation of Kentucky

No Drawing. Filed Oct. 26, 1964, Ser. No. 406,558

1 Claim. (Cl. 260-22)

A composition to be applied in thin films, containing in a solvent, coal tar, a polycarboxylic acid and an epoxy ester conferring good brushing properties on the composition without film sagging.

3,383,346

**PARTICLE SIZE CONTROL IN SEED TECHNIQUE EMULSION POLYMERIZATION USING HYDROXYL GROUP-CONTAINING MODIFIER**

Edwin Studley Smith, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 7, 1965, Ser. No. 446,434

13 Claims. (Cl. 260-23)

1. In the process of preparing a polymer latex having polymer particles of a size wherein 80% by number have a diameter not greater than 1.25 microns and at least 95% by weight have a diameter of at least 0.05

micron in an aqueous dispersion of a polymerizable monomer containing a single olefinic double bond wherein the dispersion contains a surfactant in an amount at all times sufficient to stabilize the latex and in a concentration below that necessary to form micelles in the water phase, a water soluble free radical initiator, seed material of an average diameter of less than 1.25 microns and present in an amount of from about 0.01% to about 50% of the weight of polymer present in the final polymer latex and being of a composition wettable by the monomer being polymerized and insoluble in the monomer under conditions of polymerization and capable of having polymer formed thereon, the improvement which comprises adding an alcohol having the chemical formula  $\text{R}(\text{OR}')_n\text{OH}$  wherein R is a hydrocarbon radical containing from 8 to 28 carbon atoms, R' is a radical selected from the group consisting of ethylene and propylene and n is a whole number less than 6 and including 0 and present in an amount from about 0.5 to 5 parts per 100 parts of monomer being polymerized.

3,383,347

**EPOXY EMULSION COATINGS**

Richard R. Pettit, La Habra, Calif., assignor to American Pipe and Construction Co., Monterey Park, Calif., a corporation of California

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,091

16 Claims. (Cl. 260-28)

Epoxy or coal tar-epoxy coatings are produced by emulsifying the resin components in water, adding water-insoluble, water-dispersible pigments having a surface area in excess of 1 square meter per gram, and curing the mixture at room temperature by the addition of either bridged or unbridged phenol modified polyamines, which are separately packaged and are added to the pigmented emulsion just prior to use.

3,383,348

**COATING COMPOSITIONS CONTAINING WAX AND ETHYLENE-VINYL CYCLOHEXANE COPOLYMER**

Michael H. Granley, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 22, 1964, Ser. No. 420,433

1 Claim. (Cl. 260-28.5)

Coating composition containing petroleum wax and a copolymer of ethylene and vinyl cyclohexane having 80-90 mole percent ethylene monomer units.

3,383,349

**COATING COMPOSITIONS**

Michael H. Granley, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 22, 1964, Ser. No. 420,457

2 Claims. (Cl. 260-28.5)

Petroleum waxes, particularly residual or microcrystalline waxes, are improved particularly with respect to elongation and tensile strength, by the incorporation of a minor proportion, e.g. 5-60% by weight, of an essentially unblocked copolymer of ethylene and cyclopentene and/or 1,5-hexadiene containing from 80-96 mol percent ethylene monomeric units and, resulting from the cyclopentene or 1,5-hexadiene comonomer, chain-integrated rings in which chain carbon atoms form part of the ring, the copolymer having an intrinsic viscosity of 2-7 and an average molecular weight of at least 100,000.



3,383,350

**PROCESS FOR PRODUCING ACRYLONITRILE POLYMER FIBER OF PREDETERMINED FIBER COLOR**

Bobby M. Pettyjohn, Camden, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 261,871, Feb. 28, 1963. This application Dec. 9, 1965, Ser. No. 512,812

4 Claims. (Cl. 260—32.6)

1. In the continuous production of acrylic polymer filaments in which acrylic polymer is dissolved in a solvent to provide a spinning solution and the resulting spinning solution is extruded in a spinning zone to form acrylic filaments which are processed to produce an acrylic fiber form and the color of the filaments determined, that method of adjusting the color of the acrylic fiber being produced comprising sampling spinning solution as it is advanced to the spinning zone and analyzing its color, and adding to the solvent to make additional spinning solution prior to the addition thereof to the previously formed spinning solution, an effective amount of diethylenetriaminepentaacetic acid to reduce the coloration of spinning solution produced thereby to a level to produce fibers of satisfactory color.

3,383,351

**POLYURETHANES, REACTIVE SOLUTIONS AND METHODS AND THEIR PRODUCTION**

Paul Stamberger, 552 W. University Parkway, Baltimore, Md. 21210

No Drawing. Continuation-in-part of application Ser. No. 155,467, Nov. 28, 1961. This application Aug. 12, 1964, Ser. No. 389,184

23 Claims. (Cl. 260—33.2)

A reactive, stable dispersion can be prepared by the in situ polymerization of an ethylenically unsaturated monomer in an appropriate reactive medium such as a polyol. The in situ polymerization produces a dispersed polymer containing reactive radicals. The stable dispersion can be employed in any of a number of reactions, e.g., polyurethane-forming reactions, to introduce into the resultant product, as an integral part thereof, both the polyol and dispersed polymer.

3,383,352

**DISPERSIONS OF SYNTHETIC POLYMERS CONTAINING HETEROATOMS BETWEEN MONOMER UNITS**

Enid Gillian Duell, London, and Harold Robert Thomas, Slough, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Continuation-in-part of applications Ser. No. 367,884 and Ser. No. 367,885, May 15, 1964. This application Sept. 28, 1966, Ser. No. 582,557

Claims priority, application Great Britain, May 16, 1963, 19,505/63, 19,506/63

16 Claims. (Cl. 260—33.6)

A process for producing dispersions of particles of polymers containing heteroatoms other than carbon in links between monomers or comers. Polymerization is carried out with monomer or comer dissolved in organic liquid in which the polymers are insoluble and in the presence of a block or graft copolymer of which one polymeric component is solvated by the organic liquid and another is non-solvated and becomes associated with the precipitated polymer particles. The rate of propagation of the polymerization reaction at the stage when dispersed particles are first formed is such that further units are being added to growing polymer chains at intervals on average not greater than 5 seconds.

3,383,353

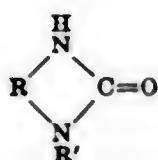
**POLYAMIDE COMPOSITION**

Michio Goto, Mihara-shi, Japan, assignor to Teljin Limited, Kita-ku, Osaka, Japan, a corporation of Japan

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,531  
Claims priority, application Japan, July 8, 1965, 40/41,242

4 Claims. (Cl. 260—45.75)

Polyamide resins are made stable against light, heat and oxidative degradation by the incorporation of a compound of the formula



wherein R is phenylene, 1-methylphenylene or 1,3-dimethylphenylene and R' is hydrogen, methyl or phenyl. The optional addition of cupric chloride, copper iodide or manganese chloride improve the above properties.

3,383,354

**STABILIZED POLYOLEFINS AND PROCESS FOR MAKING THEM**

Eberhard Prinz, Frankfurt am Main, Felix Schilde, Neuenhain, Tannus, and Otto Mauz and Dietrich Schleede, Frankfurt am Main, Germany, assignors to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Sept. 22, 1965, Ser. No. 489,384  
Claims priority, application Germany, Sept. 23, 1964, F 44,040

6 Claims. (Cl. 260—45.85)

Polyolefins, such as polyethylene and polypropylene, are stabilized by the addition of small amounts of a specified benzophenone or salicylate; an amide of phosphoric or polyphosphoric acid; and a phenolic anti-oxidant.

3,383,355

**METHOD FOR PREPARING ORGANOSILOXANE POLYMERS**

Kenneth G. Cooper, Glamorgan, Wales, assignor to Midland Silicones Limited, Reading, Berkshire, England

No Drawing. Filed Aug. 10, 1966, Ser. No. 571,387  
Claims priority, application Great Britain, Aug. 11, 1965, 34,375/65

10 Claims. (Cl. 260—46.5)

The invention relates to a novel method for preparing siloxane polymers having alkoxy groups bonded to terminal silicon atoms by reacting a hydroxylated organosiloxane polymer with an alkoxy silane in the presence of a suitable catalyst.

3,383,356

**HALOCARBON CATALYST INHIBITORS FOR REACTIVE ORGANOSILICON COMPOSITIONS**

John M. Nielsen, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 30, 1967, Ser. No. 626,934  
8 Claims. (Cl. 260—46.5)

The activity of platinum compounds used as catalysts in the addition of  $\equiv\text{SiH}$  containing organosilicon compounds to alkenyl groups is greatly decreased by the addition of a number of halocarbon inhibitors. The inhibitors have two carbon atoms and at least three halogen atoms per molecule. Perchloroethylene is a particularly good inhibitor. The halocarbon inhibited reaction system is activated by evaporation of the catalyst inhibiting halocarbon. The halocarbon evaporation and cure may be at room temperature or at an elevated temperature.

MAY 14, 1968

3,383,357

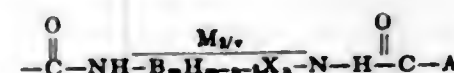
**POLYHEDRAL BORANE DIISOCYANATE POLYMERS**

John C. Sauer, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 25, 1963, Ser. No. 290,891

9 Claims. (Cl. 260—47)

1. A polycarboxamide consisting essentially of recurring units of the formula



wherein

M is a cation selected from the class consisting of a metal;  $\text{U}_3\text{U}'\text{NH}^+$ ,  $\text{U}_3\text{U}'\text{N}^+$ ,  $\text{U}'_4\text{P}^+$ ,  $\text{U}'_3\text{S}^+$ , hydrogen, ammonium, hydrazonium, a complex cation of a metal,  $\text{U}'\text{NH}_3^+$ ,  $\text{UU}'\text{NH}_3^+$ ,  $\text{U}'\text{N}_2\text{H}_4^+$ ,  $\text{U}'_2\text{N}_2\text{H}_3^+$ ,  $\text{U}'_2\text{N}_2\text{H}_2^+$ , and  $\text{UU}'_2\text{N}_2\text{H}^+$ , wherein U is aliphatically saturated hydrocarbyl bonded to the respective N, P, and S atoms through aliphatic carbon; U' is aliphatically saturated hydrocarbyl, and any two U and U' groups can be joined to form a group selected from the class consisting of alkylene and oxygen-interrupted alkylene which forms a ring with the N, P, and S atoms, v is the valence of M, 2/v is the ratio of M groups present to one  $\text{—B}_m\text{H}_{m-2}\text{X}_v\text{—}$  group;

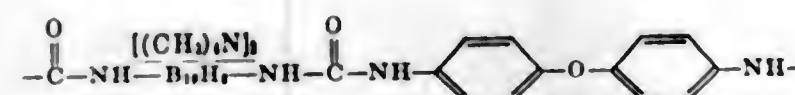
X is selected from the class consisting of halogen, hydrocarbyl, hydrocarbyloxy, hydrocarbyloxyhydrocarbyloxy, hydrocarbylcarbonyl, and hydrocarbylthio, wherein the hydrocarbyl groups are free of aliphatic unsaturation and contain up to 12 carbon atoms;

m is a cardinal number selected from the class consisting of 10 and 12;

n is a cardinal number of from 0 to m—2, inclusive, and

A is a moiety derived from a difunctional reactant in which the functional groups are selected from  $\text{—COOH}$ ,  $\text{—OH}$ ,  $\text{—SH}$ ,  $\text{—NH}_2$  and  $\text{—NH}$  (lower alkyl), said polycarboxamide having a molecular weight of at least 3000.

6. A polycarboxamide consisting essentially of recurring units of the formula



said polycarboxamide having a molecular weight of at least 3000.

3,383,358

**PROCESS OF PRODUCING POLYOXAZOLIDINONE RESINS**

Charles H. Schramm, Easton, Pa., assignor to J. T. Baker Chemical Company, Phillipsburg, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 16, 1965, Ser. No. 480,183

5 Claims. (Cl. 260—47)

A process of producing a thermoplastic polyoxazolidinone resin which comprises dehydrohalogenating at a temperature of 5° C. to 150° C. a poly(beta-haloalkylurethano) resin prepared by reacting a polyisocyanate with a poly(halohydrin) in quantities providing one halohydrin group per isocyanate group. The resins are useful in preparing castings and for use as sealants and coatings.

3,383,359

**OLEFINICALLY UNSATURATED CYANIC ACID ARYL ESTERS AND POLYMERS THEREOF**

Hans Weitzel, Leverkusen, and Karl Dinges and Ernst Grigat, Cologne-Stammheim, and Rolf Pütter, Düsseldorf, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Sept. 9, 1965, Ser. No. 486,207

Claims priority, application Germany, Oct. 9, 1964, F 44,181

10 Claims. (Cl. 260—47)

Homopolymers and copolymers of olefinically unsaturated cyanic acid aryl esters. Preferred comonomers including esters of  $\alpha,\beta$ -unsaturated monocarboxylic acids,  $\alpha,\beta$ -unsaturated carboxylic acids, amides thereof, nitriles thereof, aliphatic vinyl compounds, conjugated diolefins containing 4–6 carbon atoms and aromatic vinyl compounds. Said polymers are cross-linkable at elevated temperatures and/or under the influence of alkaline agents.

3,383,360

**DIEPOXIDE ETHERS OF AZOPHENOLIC COMPOUNDS AND RESINS THEREFROM**

Stuart A. Harrison, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Dec. 14, 1965, Ser. No. 513,840

7 Claims. (Cl. 260—47)

There is disclosed diepoxide ethers of azophenols or azocresols, a process of preparing same and the curing thereof with crosslinking agents having at least one active hydrogen to provide products having high heat distortion temperatures and excellent solvent resistance. The cured products find utility as casting and potting compositions, adhesives and coatings.

3,383,361

**PROCESS FOR SEPARATING A POLYARYLENE ETHER FROM A SOLUTION THEREOF IN TOLUENE**

Jan A. Meijls, Arnhem, and Franciscus L. M. Van Haaren, Velp, Netherlands, assignors to N.V. Onderzoekingsinstituut Research, Arnhem, Netherlands, a Dutch corporation

Filed Feb. 14, 1966, Ser. No. 527,238

2 Claims. (Cl. 260—47)

A polyarylene ether is separated from a toluene solution thereof by adding a precipitant consisting of methanol-toluene azeotrope, filtering to remove the polyether, and distilling the filtrate to reconstitute the azeotrope for use in further separation.

3,383,362

**PHENOL-TERPENE-CYCLIC POLYOLEFIN POLYMER**

Carlos T. Gonzenbach, Scotia, N.Y., assignor to Schenectady Chemicals, Inc., Schenectady, N.Y., a corporation of New York

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,779

15 Claims. (Cl. 260—62)

A reaction product is made from (1) phenol or an alkyl phenol having an ortho or para position open, (2) a terpene, sesquiterpene, triterpene, dihydrotriterpene or low molecular weight propylene polymer and (3) a cyclic polyolefin other than (2). Reactant (3) is added last. The reaction is carried out in the presence of a Friedel-Crafts catalyst and preferably in solution in an aromatic, naphthenic or paraffinic hydrocarbon.



3,383,363

**PERFLUOROCYCLOBUTENE HOMOPOLYMER AND COPOLYMER WITH HEXAFLUOROACETONE**

Edward S. Jones, Hamover Township, Morris County, and Whitney H. Mears, Morris Plains, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed Mar. 16, 1964, Ser. No. 352,357  
7 Claims. (Cl. 260—63)

Homopolymers of perfluorocyclobutene and copolymers of perfluorocyclobutene and hexafluoroacetone are produced by polymerizing mixtures of perfluorocyclobutene and hexafluoroacetone at temperature of about 225° to 350° and pressure of about 5 to 40 kilobars. The perfluorocyclobutene polymers may be utilized in making films, molded or extruded parts and as dielectric materials.

3,383,364

**PROCESS OF PREPARING FORMALDEHYDE-CARBON MONOXIDE COPOLYMER**

Joseph F. Nelson and Isidor Kirshenbaum, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed June 26, 1964, Ser. No. 378,446  
6 Claims. (Cl. 260—67)

1. A process for copolymerizing carbon monoxide with formaldehyde as the sole reactants to a copolymer of less than 50 mole percent carbon monoxide which comprises reacting carbon monoxide and formaldehyde in an inert, substantially anhydrous organic solvent at a temperature of from about -50° C. to about 275° C. and at a pressure of from about 5 p.s.i.a. to about 50,000 p.s.i.a. with a catalyst system which comprises, in combination, (1) a peroxidic compound and (2) a reducing agent selected from the group consisting of secondary amines, tertiary amines, tertiary arsines, tertiary phosphines, and soluble salts of the variable valent metals of Groups I-B, IV, V-B, VI-B, VII-B and VIII, said metals being in a valence state less than maximum.

3,383,365

**POLYURETHANE ELASTOMERS DERIVED FROM DIPIPERIDYL CHAIN EXTENDERS**

Clifton W. Tate, Cary, and Tommy L. Tolbert, Chapel Hill, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed Sept. 9, 1964, Ser. No. 395,289  
5 Claims. (Cl. 260—75)

Fiber forming elastomers having specific viscosities above 0.18 may be prepared by reacting isocyanate terminated polyurethane prepolymers with dipiperidyl or alkyl derivatives thereof. The prepolymers are commonly hydroxy terminated polyethers and polyesters. In an example 1 gm. of 4,4'-dipiperidyl was dissolved in 100 ml. of dimethyl formamide and mixed with 1,020 grams of a polyurethane prepolymer prepared from reacting 80 pts. of 3-caprolactone and 20 pts. methyl caprolactone to form a polyester having a molecular weight of 2,000. 262 gms. of p,p'-methylene diphenyl isocyanate was added to form the prepolymer.

Dipiperidyls are employed as chain extenders in the preparation of linear, segmented, polyurethane elastomers which are particularly useful in the production of elastic fibers.

3,383,366

**POLYESTER-URETHANE-UREA POLYMER FIBERS**

Bernard Taub, Williamsville, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed Nov. 10, 1964, Ser. No. 410,257  
6 Claims. (Cl. 260—75)

Production of elastic fibers or filaments having superior

color stability to ultra-violet light and good elastic recovery by (1) reacting a hydroxyl-terminated polyester with a molar insufficiency of an aromatic diisocyanate to produce a hydroxyl terminated polyester containing urethane groups, (2) reacting said hydroxyl terminated polyester containing urethane groups with an aliphatic diisocyanate to obtain an isocyanate terminated prepolymer, (3) reacting said isocyanate terminated prepolymer with a specified chain-extending agent, p-methane-1,8-diamine, to form a polyester-urethane-urea copolymer, and (4) extruding the copolymer. Chain-extension preferably is effected in the presence of an organic solvent to produce a storage stable solution from which said superior elastic fibers may be obtained by conventional procedures, e.g. by extrusion into water or dry spinning.

3,383,367

**ACTIVATORS FOR THE POLYMERIZATION OF PYRROLIDONE**

William B. Black and Beachley A. Morehead, Decatur, Ala., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware  
No Drawing. Filed Sept. 25, 1958, Ser. No. 763,208  
20 Claims. (Cl. 260—78)

1. A process for polymerizing pyrrolidone which comprises forming under essentially anhydrous conditions a mixture containing monomeric pyrrolidone, a catalyst selected from the group consisting of alkali metals, pyrrolidone salts of alkali metals, hydrides of alkali metals and alkali metal alkyls and aryls, and a polymerization activator selected from the group consisting of the trihalides of aluminum, bismuth and antimony, the tetrahalides of tin, titanium, zirconium and lead, and the pentahalide of antimony, said catalyst being employed in a range of 0.002 to 0.25 chemical equivalents of catalyst, said chemical equivalents being based upon the gram molecular weight of said catalyst divided by the valence of the metal in the catalyst based upon one mole of monomeric pyrrolidone, and said activator being employed in a range of 0.0001 to 0.075 chemical equivalents of activator, said chemical equivalents being based upon the gram molecular weight of the activator divided by the number of halogen atoms in the activator based upon one mole of monomeric pyrrolidone with a slight excess of catalyst over activator being present in said mixture, and subjecting said mixture to a temperature in a range of -70° C. to 100° C.

3,383,368

**NOVEL COPOLYAMIDES OF PHENYLINDAN CARBOXYLIC ACID**

James S. Ridgway, Durham, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed May 21, 1965, Ser. No. 457,828  
10 Claims. (Cl. 260—78)

Copolyamides having high boiling water shrinkage are composed of hexamethylene adipamide and hexamethylene 3-(4-carboxyphenyl)-1,1,3-trimethyl-5-indan carboxylamide. These copolyamides are useful in the production of yarns, fabrics, films, textile fibers and reinforcing cords.

3,383,369

**NOVEL TERPOLYAMIDES OF ALIPHATIC AND AROMATIC ACIDS AND PROCESS**

James S. Ridgway, Durham, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed May 24, 1965, Ser. No. 458,430  
4 Claims. (Cl. 260—78)

Terpolyamides having high boiling water shrinkage are composed of (A) 1 to 98 mole percent of hexamethylene adipamide, (B) 1 to 98 mole percent of hexamethylene 5-t-butylisophthalamide and (C) 1 to 50 mole percent of hexamethylene terephthalamide. These terpolyamides are

useful in the production of yarns, fabrics, films, textile fibers and reinforcing cords.

3,383,370

**PROCESS AND COMPOSITION OF MATTER**

Adel F. Halasa, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio  
No Drawing. Filed Feb. 21, 1966, Ser. No. 528,801  
9 Claims. (Cl. 260—79.5)

1. N-oxadiethylenethiocarbamyl - N',N' - dimethylsulfenamide.

3,383,371

**OLEFIN-ALKENYL CYCLOBUTENE COPOLYMERS AND PROCESS FOR THEIR PREPARATION**

Giulio Natta, Giorgio Mazzanti, Alberto Valvassori, and Guido Sartori, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy  
No Drawing. Continuation-in-part of application Ser. No. 261,523, Feb. 27, 1963. This application Mar. 15, 1966, Ser. No. 534,434  
Claims priority, application Italy, Mar. 2, 1962, 4,189/62; Mar. 16, 1965, 5,760/65  
15 Claims. (Cl. 260—79.5)

This invention provides new vulcanizable, substantially linear, elastomeric, high molecular weight copolymers of  
(a) at least one monoalkenyl cyclobutene and  
(b) at least one monoolefin selected from ethylene, propylene and butene-1,

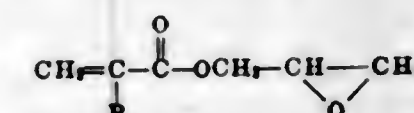
and more particularly to amorphous elastomeric terpolymers which, on vulcanization with conventional sulfur-based recipes, yield vulcanizates having values for the modulus, elongation at break and permanent set, rendering the vulcanizates commercially useful as general-purpose elastomers or synthetic rubbers; and to processes for producing the new copolymers.

3,383,372

**ETHYLENE/GLYCIDYL ESTER COPOLYMERS**

Ben E. Spivey, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed May 21, 1965, Ser. No. 457,826  
2 Claims. (Cl. 260—86.7)

Ethylene copolymers are prepared by polymerizing ethylene with a glycidyl ester having the formula



where R is hydrogen or an alkyl group having 1 to 2 carbon atoms.

The ethylene copolymers have been found to be useful alone or modified with fillers and plasticizers as molding compositions for the manufacture of useful films and coatings.

3,383,373

**ETHYLENE/AMINOALKYL ESTER COPOLYMERS**

George E. Waples, Jr., Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed June 30, 1965, Ser. No. 468,561  
4 Claims. (Cl. 260—86.7)

Ethylene copolymers prepared by reacting ethylene with an ester of acrylic or methacrylic acid and an alkanol amine such as aziridinyl alcohols and amino alcohols. These ethylene copolymers have been found to be useful as molding compositions for the manufacture of useful films and coatings.

3,383,374

**ETHYLENICALLY UNSATURATED 1-ACYLOXYALIPHATIC ETHERS AND POLYMERS THEREOF**

Lucian W. McTeer, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York  
No Drawing. Original application Oct. 31, 1960, Ser. No. 65,943. Divided and this application Dec. 14, 1964, Ser. No. 418,252

7 Claims. (Cl. 260—89.1)

Solid resinous homopolymers of 1,2-ethylenically unsaturated 1-acyloxyaliphatic ethers, and ethylenically unsaturated di(1-acyloxyaliphatic) ethers.

3,383,375

**TREATMENT OF POLYPROPYLENE ARTICLES**

Anne K. van der Vegt, Willy H. J. Badrian, and Engelbert A. de Groot, Delft, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed May 14, 1963, Ser. No. 280,450  
Claims priority, application Netherlands, May 18, 1962, 278,575

7 Claims. (Cl. 260—93.7)

1. A process for the improvement of the impact strength of shaped articles which are at least 0.5 mm. in thickness and consist essentially of crystalline polypropylene, comprising the steps of heating the shaped article, without connecting it to the melt state, at a temperature between the melting point of the polypropylene and 10° C. below it for a period sufficient to bring the entire article to the desired temperature and not exceeding 15 minutes at said temperature, and thereafter permitting the article to cool at a rate equivalent to cooling in a still gaseous atmosphere at room temperature.

3,383,376

**PROCESS FOR THE POLYMERIZATION OF BUTADIENE-1,3 USING AS CATALYST A GROUP VIII METAL, METAL ALKYL AND CYCLOOCTADIENE-1,5 AS A MOLECULAR WEIGHT REGULATOR**

Ettore Giachetti, Milan, and William Bortolmi, Bologna, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy  
No Drawing. Filed Feb. 11, 1964, Ser. No. 343,935  
Claims priority, application Italy, Feb. 13, 1963, 2,989/63

2 Claims. (Cl. 260—94.3)

Regulation of molecular weight of resulting polybutadiene-1,4 in polymerization of butadiene-1,3 in presence of catalysts obtained from Group VIII metal compounds and metal alkyl compounds by using cyclooctadiene-1,5 as the molecular weight regulator.

3,383,377

**PROCESSABILITY OF CONJUGATED DIENE POLYMERS CONTAINING CARBON-METAL BONDS BY TREATMENT WITH ACIDIC MATERIALS**

Carl A. Uraneck and Gerald R. Kahle, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware  
No Drawing. Filed Mar. 4, 1963, Ser. No. 262,335  
14 Claims. (Cl. 260—94.7)

1. A process for improving the processability of a conjugated diene polymer containing carbon-tin bonds which comprises mixing said polymer with an acidic material.

3,383,378

**POLYMERIZATION OF ETHYLENE**

Herman S. Bloch, Skokie, and Ernest L. Pollitzer, Hinsdale, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
No Drawing. Filed Apr. 22, 1964, Ser. No. 361,899  
12 Claims. (Cl. 260—94.9)

1. A process for the polymerization of ethylene for the production of a solid polymer of a molecular weight



in excess of about 1,000 and a liquid polymer of from about 8 to about 18 carbon atoms and having a molecular weight of up to about 250, which comprises treating said ethylene, at a temperature in the range of from about 80° to about 200° C. and at a pressure in the range of from about 500 to about 2500 p.s.i.g., with a catalyst comprising an alkali metal hydride disposed on a substantially anhydrous refractory inorganic oxide support having a surface area of from about 25 to about 500 square meters per gram which has been promoted by the addition of a compound selected from the group consisting of the salts and hydroxides of the alkali metals and alkaline earth metals and thereafter calcined, said compound being in sufficient amount to completely neutralize the acidity of said support, and recovering the resultant polymers.

3,383,379

## AZO N-PHENYLTHIOMORPHOLINE DIOXIDE DYES

David J. Wallace and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed May 19, 1965, Ser. No. 457,224

9 Claims. (Cl. 260—152)

Phenyl-azo phenyl compounds containing a 4-thiomorpholino-1,1-dioxide group are useful as dyes for hydrophobic textile materials.

3,383,380

## CARBOXIMIDO CATIONIC AZO DYESTUFFS

James M. Straley and John G. Fisher, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed May 24, 1965, Ser. No. 458,385

11 Claims. (Cl. 260—158)

Thiazolyl-azo-aniline and benzothiazolyl-azo-aniline compounds containing a dicarboximidoalkyl group attached to the aniline nitrogen atom and in which the ring nitrogen atom of the thiazolyl and benzothiazolyl groups is quaternized are useful as dyes for acrylonitrile polymer textile materials.

3,383,381

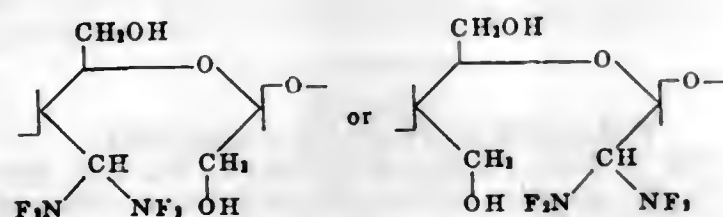
## FLUORO-AMINO CELLULOSE DERIVATIVES

James Macgregor Couper and Andrew Cochran Currie, Largs, Scotland, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
No Drawing. Filed Feb. 19, 1965, Ser. No. 434,743

Claims priority, application Great Britain, Feb. 28, 1964, 8,519/64

12 Claims. (Cl. 260—212)

1. A difluoraminated cellulose derivative comprising in its molecular chain reduced difluoramino dialdehyde cellulose units of the formula



and nitrates thereof.

3,383,382

## N-AMINO-IMINODIBENZYL

Aaron Cohen and Basil Heath-Brown, Welwyn Garden City, England, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey  
No Drawing. Original application May 25, 1965, Ser. No. 458,766. Divided and this application Nov. 15, 1967, Ser. No. 683,114

Claims priority, application Great Britain, June 2, 1964, 22,738/64; Apr. 14, 1965, 16,042/65

2 Claims. (Cl. 260—239)

N-amino-iminodibenzyl and acid addition salts thereof. These compounds are useful intermediates in the preparation of 11-lower alkyl-octahydro-1-benzazepine[3,2,1-h,i]pyrido[4,3-b]indoles. The last mentioned compounds are antidepressants.

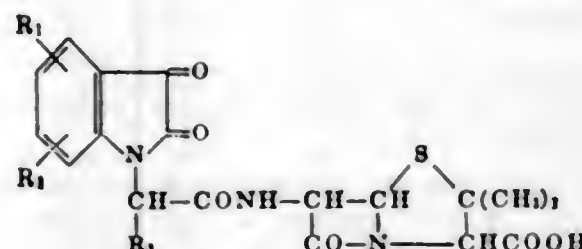
3,383,383

## PENICILLANIC ACID DERIVATIVES

Fritz Gapp, Johann Margreiter, and Ekkehard Schmid, Tirol, Austria, assignors to Biochemie Ges.m.b.H., Vienna, Austria  
No Drawing. Filed June 20, 1967, Ser. No. 647,330

41 Claims. (Cl. 260—239.1)

1. A compound selected from the group consisting of a compound of formula:



in which R<sub>1</sub> and R<sub>2</sub> are the same or different and each is hydrogen, fluorine, chlorine, bromine or iodine, lower alkyl of 1 to 4 carbon atoms, or lower alkoxy of 1 to 4 carbon atoms, and R<sub>3</sub> is hydrogen or lower alkyl of 1 to 4 carbon atoms, and the pharmacologically acceptable alkali metal or alkaline earth metal salts thereof.

3,383,384

## PROCESS AND INTERMEDIATES FOR MANUFACTURE OF 19-NORSTEROIDS

Raphael Pappo, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 401,223, Oct. 2, 1964; Ser. No. 494,930, Oct. 11, 1965; and Ser. No. 502,373 and Ser. No. 502,374, Oct. 22, 1965. This application Nov. 15, 1965, Ser. No. 507,714

5 Claims. (Cl. 260—239.5)

A novel process and novel intermediates useful in the manufacture of pharmacologically valuable 19-norsteroidal derivatives. Those intermediates are manufactured by an alkali metal-ammonia reduction of the 3-aminoestra-1,3,5(10)-triene starting materials. Hydrolysis of the resulting enamines results in the corresponding Δ<sup>4</sup> or Δ<sup>5(10)</sup>-3-keto compounds which are pharmacologically useful themselves or can be converted by known methods to known pharmacologically useful 19-nor compounds.

3,383,385

## PROCESS FOR THE PREPARATION OF STEROID DERIVATIVES OF THE PREGNANE SERIES

Robert Bucourt, Cléchy-sous-Bois, Germain Costerousse, Montrouge, and Gerard Nomine and Andre Pierdet, Noisy-le-Sec, and Jean Tessier, Paris, France, assignors to Roussel-Uclaf, Paris, France, a corporation of France  
No Drawing. Filed July 30, 1964, Ser. No. 386,375

Claims priority, application France, Aug. 7, 1963, 944,032, 944,033; Jan. 16, 1964, 960,549

15 Claims. (Cl. 260—239.57)

The present invention relates to a novel process for the preparation of steroid derivatives of the pregnane

series which comprises reacting a 17-ketone steroid with a carbanion of a phosphorane ethylidene or a carb-low-er-alkoxymethyl-phosphonate, subjecting the resultant Δ<sup>17(20)</sup>-pregnene to a hydroxylating oxidation and recovering a steroid derivative of the pregnane series. The invention also involves novel intermediates in the synthesis.

3,383,386

## PROCESS FOR MAKING ALKALI METAL QUATERNARY AMMONIUM SILICATES

Helmut Hans Wilhelm Welles, Havertown, Pa., assignor to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania  
No Drawing. Original application Aug. 22, 1960, Ser. No. 50,877, now Patent No. 3,239,549, dated Mar. 8, 1966. Divided and this application Oct. 21, 1965, Ser. No. 500,328

6 Claims. (Cl. 260—247.7)

1. A method of preparing compounds having the formula:



wherein:

M represents at least one alkali metal;

X is between about 0.5 and 1.5;

n indicates the number of nitrogen atoms and is a small integer less than 10;

R represents an organic radical that forms an NR base selected from the group consisting of alkylamines, alkanolamines, heterocyclic amines and cyclic amines which produce solutions with a pH of at least 9;

p is equal to the number of R groups and is at least 4 and up to 4n;

s is an integer from 1 to p indicating the number of different types of R groups;

Y is between 2 and 10;

Z is between 1 and 40;

which comprises reacting a quaternary ammonium hydroxide having a pH of at least 9 with an alkali metal silicate, crystallizing and recovering the crystallized product.

5. The method according to claim 1 wherein said hydroxide is N,N'-bis-beta-hydroxyethyl morpholinium hydroxide.

3,383,387

## 2,3,5,6-TETRAHYDROXYPIPERAZINE-1,4-DISULPHONIC ACID

James Andrew Gibson, Prestwick, and James Brown Parker, Kilwinning, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,562

Claims priority, application Great Britain, Apr. 21, 1965, 16,879/65

10 Claims. (Cl. 260—268)

There is provided new piperazine derivatives of 2,3,5,6-tetrahydroxypiperazine-1,4-disulphonic acid which may be used as explosive, sensitizers for explosives or energy-providing ingredients for explosives. There is also provided a process for the production of such compounds comprising reacting glyoxal with sulphamate in an inorganic basic solution.

3,383,388

## ISOQUINOLONE INTERMEDIATES

William J. Houlihan, Mountain Lakes, and Robert E. Manning, Parsippany, N.J., assignors to Sandoz Inc., Hamover, N.J.

No Drawing. Filed Aug. 17, 1965, Ser. No. 480,479

6 Claims. (Cl. 260—289)

The compounds are of the classes of 10b-substituted-1,5,6,10b-tetrahydropyrrolo[2,1-a]isoquinolin-3(2H)-ones; 11b-substituted-1,2,6,7-tetrahydro-11bH-benzo[a]quinolizin-4(3H)ones and 12b-substituted-1,2,3,7,8,12b-

hexahydro-azepino[2,1-a]isoquinolin-5(4H)-ones. The compounds are useful in the preparation of their corresponding tri-cyclic amines, which are pharmaceutically useful, e.g., as hypotensive-anti-hypertensives.

3,383,389

## PROCESS FOR SYNTHESIS OF VINYL-TETRAZOLE MONOMERS

Ronald A. Henry, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy  
No Drawing. Original application June 2, 1960, Ser. No. 33,605, now Patent No. 3,351,627, dated Nov. 7, 1967. Divided and this application Jan. 30, 1962, Ser. No. 169,975

2 Claims. (Cl. 260—308)

1. The process for synthesizing 1- and 2-methyl-5-vinyltetrazoles which comprises reacting for periods up to 24 hours at a temperature from about 122–124° C. dimethylaminopropionitrile hydrochloride and sodium azide in a solution of dimethylformamide, methylating the residue with dimethyl sulfate and boiling the methylated product for up to 6½ hours in an aqueous base solution.

3,383,390

## REACTION OF DIMETHYLDIHYDROXYETHYLENEUREA WITH p-DIOXANE AND REACTION PRODUCT

Elwood J. Gonzales, Kenner, and Ruth R. Benerito, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Filed Feb. 11, 1965, Ser. No. 432,022

2 Claims. (Cl. 260—309.7)

The invention comprises the preparation of bis(dimethyldihydroxyethyleneurea)-p-dioxane by reacting dimethyldihydroxyethyleneurea with an excess of p-dioxane. The product obtained is useful in modifying the breaking strength and crease recovery properties of cotton cellulosic textiles.

3,383,391

## IMIDE TERMINATED POLYAMIDE RESINS USEFUL IN INKS

Daniel J. Cartick, Berkeley Heights, Arnold H. Gruben, Cedar Grove, and Samuel B. McFarlane, Jr., Summit, N.J., and William J. Kisel, New York, N.Y., assignors to Sun Chemical Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Dec. 19, 1963, Ser. No. 331,929

14 Claims. (Cl. 260—326)

Novel polyamide compositions are prepared by reacting certain chain terminating agents, such as an hydrogenated phthalic acid or anhydride with polyamines and exhibit increased solution stability and solubility.

3,383,392

## PROCESS FOR MAKING 2-AMINOMETHYL-3,4-DIHYDRO-2H-PYRAN FROM 2-FORMYL-3,4-DIHYDRO-2H-PYRAN, HYDROGEN AND AMMONIA IN THE PRESENCE OF METALLIC COBALT OR NICKEL

Frank Clifford Mawer, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Continuation-in-part of application Ser. No. 427,943, Jan. 25, 1965. This application Dec. 30, 1966, Ser. No. 606,008

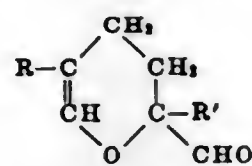
Claims priority, application Great Britain, Jan. 29, 1964, 3,821/64; July 15, 1964, 29,113/64; July 23, 1964, 29,659/64; Jan. 15, 1965, 1,913/65

6 Claims. (Cl. 260—345.1)

A process for producing organic amines containing a



3,4-dihydro-2H-pyran ring by reacting an aldehyde of the formula



wherein R and R' represent hydrogen or alkyl radicals with hydrogen. The reaction is carried out in the presence of ammonia, a primary or a secondary amine and also in the presence of a metallic cobalt or nickel catalyst which has been produced by the reduction of the corresponding metal oxide.

3,383,393

## NOVEL 7-ALKYL-19-NOR-STERIODS

Hendrik Paul de Jongh, Oss, Netherlands, assignor to Organon Inc., West Orange, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 13, 1964, Ser. No. 411,109  
Claims priority, application Netherlands, Nov. 20, 1963, 300,774

1 Claim. (Cl. 260—397.5)

1. A compound selected from the group consisting of  $\Delta^5$ -7 $\alpha$ -methyl-17 $\beta$ -hydroxy-17 $\alpha$ -ethynyl-oestrone and the 17-acylates thereof.

3,383,394

## NOVEL 17-ACYLATING PROCESS AND PRODUCTS THEREOF

Lois Weber, Springfield, Elliot L. Shapiro, Cedar Grove, Lawrence E. Flackner, Wayne, and Hershel L. Herzog, Glen Ridge, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 30, 1965, Ser. No. 483,808

10 Claims. (Cl. 260—397.45)

This invention relates to the process for the direct esterification of the tertiary 17 $\alpha$ -hydroxy group of a 17 $\alpha$ -hydroxy pregnane which comprises treating a 17 $\alpha$ -hydroxy pregnane, at about room temperature, with an acylating agent comprising a hydrocarbon carboxylic acid, trifluoroacetic anhydride and a strong acid catalyst. The invention also relates to the novel products produced by the foregoing process.

3,383,395

## STABILIZATION OF ORGANIC MATERIALS WITH BIPHENYLTRIOLS

Seymour Schmukler, Dalton, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 3, 1965, Ser. No. 436,958

9 Claims. (Cl. 260—398.5)

As a new compound, 3,3',5,5'-tetra-substituted-2,4,4'-trihydroxybiphenyl and a process for its formation comprising reaction of an alcohol with a 3,3',5,5'-tetra substituted -2,4,4'-triacetoxibiphenyl.

3,383,396

## PREPARATION OF SURFACE-ACTIVE AGENTS USING A DISSOLVED ZIRCONIUM CATALYST

Arno Cahn, Pearl River, N.Y., and Henry Lemaire, Leonia, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 30, 1963, Ser. No. 319,987

10 Claims. (Cl. 260—400)

1. A process for preparing a compound of the formula  $\text{RCOOR}'\text{SO}_3\text{M}$ , wherein R is an aliphatic hydrocarbon having from 7 to 19 carbon atoms, R' is selected from the group consisting of acyclic di-valent hydrocarbon radicals containing from 2 to 4 carbon atoms and di-valent aryl and alkylaryl hydrocarbon radicals having

from 6 to 8 carbon atoms, and M is an alkali metal, the process comprising heating an acid of the formula



with a compound of the formula  $\text{HOR}'\text{SO}_3\text{M}$  in the presence of a zirconium compound selected from the group consisting of zirconium and zirconyl salts of strong mineral acids and zirconium and zirconyl soaps of acids of aliphatic hydrocarbons having from 8 to 20 carbon atoms, and at a temperature of about 200° to 240° C., the ratio of  $\text{RCOOH}$  to  $\text{HOR}'\text{SO}_3\text{M}$  being at least about 1.2 moles per mole.

3,383,397

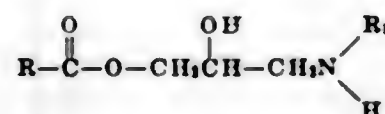
## 3-AMINO-2-HYDROXYPROPYL ESTERS AND METHODS FOR PREPARING THE SAME

John Edward Mills and Robert Dally Dworkin, Stamford, Conn., assignors to Arizona Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 14, 1965, Ser. No. 425,606

11 Claims. (Cl. 260—404)

1. A compound selected from the group consisting of amino ester of the structure:



where R is an  $\alpha$ -carbon unbranched alkyl substituent of from 1 to 22 carbon atoms and R<sub>1</sub> is an  $\alpha$ -carbon branched selected from the group consisting of cycloalkyl of from 3 to 6 carbon atoms, phenyl and naphthyl, and the dimethylsulfate and benzyl chloride acid addition salts thereof.

3,383,398

## PRODUCTION OF CARBOXYLIC ACIDS IN THE PRESENCE OF PYRIDINE

David W. Peck, Charleston, W. Va., and Lawrence W. Newton, Chappaqua, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation of application Ser. No. 433,188, Feb. 16, 1965. This application July 26,

1967, Ser. No. 656,295

8 Claims. (Cl. 260—413)

The reaction of an olefinically unsaturated compound containing a vinylene group ( $-\text{CH}=\text{CH}-$ ) with ozone, when conducted in the presence of pyridine or an alkyl derivative thereof as a solvent, results in the conversion of each carbon atom of the vinylene group to a carboxyl group. Thus, cyclododecene, when reacted with ozone in the presence of pyridine, is converted directly to 1,12-dodecanedioic acid.

3,383,399

## SALTS OF BORON-HYDRIDE ANIONS AND BORON CONTAINING ORGANIC CATIONS AND METHOD OF THEIR PREPARATION

Stanley Frank Staffel, Springdale, and Edward Andrew Takacs, South Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 9, 1964, Ser. No. 351,586

7 Claims. (Cl. 260—453)

Salts of boron-containing cations and boron-containing anions, their method of preparation by the metathetical reaction of other salts of boron-containing cations with boron-hydride salts and their use as high energy solid rocket propellant ingredients, burning rate modifiers for rocket propellants, and boron-containing gasoline additives are disclosed.

3,383,400

## ACYLATED UREA POLYISOCYANATES AND PROCESS FOR THE PREPARATION THEREOF

Ernst Meisner, Leverkusen-Schleibach, Gerhard Menzies, Opladen, and Kuno Wagner, Leverkusen, Germany, assignors to Farbwerke Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Jan. 5, 1965, Ser. No. 423,599

Claims priority, application Germany, Jan. 11, 1964,

F 41,720

7 Claims. (Cl. 260—453)

Acylated urea polyisocyanates are prepared by reacting an aliphatic diisocyanate with an aliphatic dicarboxylic acid in such proportions that there are at least 4 mols of organic polyisocyanate per mol of dicarboxylic acid. These polyisocyanate products may be used as adhesives; components in the production of plastics, lacquers and coatings or in the preparation of various polyurethanes.

3,383,401

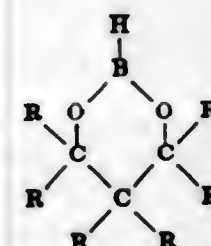
## ALKYL-SUBSTITUTED 1,3-DIOXA-2-BORINANE COMPOUNDS AND PROCESS FOR THEIR PRODUCTION

William G. Woods, Fullerton, and Philip L. Strong, Anaheim, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,465

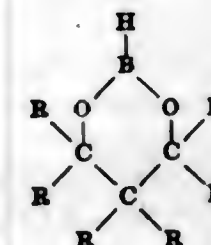
4 Claims. (Cl. 260—462)

1. A compound of the formula

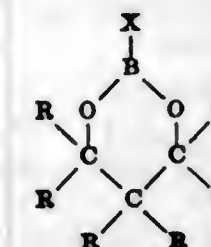


where R is selected from the group consisting of hydrogen and alkyls of from 1 to about 4 carbon atoms, at least one of said R's being alkyl.

3. The process for producing a compound of the formula



and diborane which comprises reacting sodium borohydride with a compound of the formula



where R is selected from the group consisting of hydrogen and alkyls of from 1 to about 4 carbon atoms, at least one of said R's being alkyl, and X is selected from the group consisting of bromine and chlorine atoms.

3,383,402

## SYNTHESIS OF DIMETHYL BIBENZOATE

Robert P. Yumick, Schenectady, N.Y., assignor to Schenectady Chemicals, Inc., Schenectady, N.Y., a corporation of New York

No Drawing. Filed Apr. 13, 1965, Ser. No. 447,886

12 Claims. (Cl. 260—475)

4,4'-dimethyl bibenzoate is prepared by reacting 4,4'-diacetyl biphenyl with a member of the group consisting of an alkali metal hypochlorite and an alkaline earth metal hypochlorite in a solvent comprising aqueous methanol.

3,383,403

## DIMERIZATION PROCESS

Kenneth A. Pollart, Kirkwood, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,038

11 Claims. (Cl. 260—479)

Preparation of propiolate ester dimers by the dimerization reaction of alkyl, aryl, alkenyl, or alkynyl propiolates in an inert non-active hydrogen containing liquid media in the presence of a tertiary amine catalyst at temperatures of from about -10° C. to about 100° C.

3,383,404

## ESTERIFICATION OF FATTY DIACIDS WITH EXCESS HF

Eugene J. Miller, Jr., Wheaton, and Ago Male, La Grange Park, Ill., assignors, by mesne assignments, to Armour Industrial Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 9, 1964, Ser. No. 409,967

13 Claims. (Cl. 260—485)

Long chain ( $\text{C}_8$  to  $\text{C}_{24}$ ) fatty diacids and their anhydrides are esterified with straight or branched chain primary alcohols using HF in large excess.

3,383,405

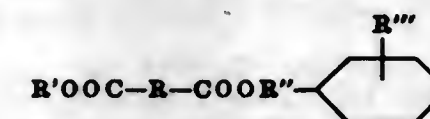
## METHOD OF PREPARING MIXED DIESTERS

Paul J. Sniogowski, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Aug. 31, 1965, Ser. No. 484,131

4 Claims. (Cl. 260—485)

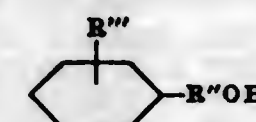
1. A method of preparing mixed diesters of the general formula:



wherein R is a straight chain alkylene radical having from 3 to 11 carbon atoms, R' is a branched chain alkyl radical having from 5 to 10 carbon atoms, R'' is a straight chain alkylene radical having from 1 to 3 carbon atoms and R''' is a member of the group consisting of hydrogen and chlorine by the esterification of a branched chain alkyl half ester of the general formula:



wherein R and R' are as above with an alkanol of the general formula:



wherein R'' and R''' are as above, which comprises heating a reactant mixture of said branched chain alkyl half ester and a large excess of said alkanol which is from about 5 to 10 times the stoichiometric amount for the esterification reaction in the presence of a small amount



of an acid esterification catalyst and of a water-immiscible organic solvent for the reactants which forms an azeotrope with water, said water immiscible organic solvent being present in amount sufficient to carry off all the water of the reaction, and azeotropically distilling off the water of reaction until substantially all, but not all of the same is removed from the reaction mixture, said esterification reaction producing in addition to the mixed diester, a small amount of the corresponding symmetrical branched chain alkyl diester and relative to the latter, a larger amount of the corresponding aromatic alkyl symmetrical diester, neutralizing the reaction mixture from the esterification with dilute aqueous alkali, evaporating the volatile organic solvent from the neutralized reaction mixture and distilling the unreacted alkanol therefrom, dissolving the residue in a large volume of an n-alkane having from 5 to 7 carbon atoms, cooling said alkane solution to a temperature substantially below that at which the formed symmetrical aromatic alkyl diester crystallizes, filtering the crystallized symmetrical diester from solution and distilling the filtrate under reduced pressure to recover the mixed diester.

## 3,383,406

## PROCESS FOR PRODUCING VINYL ESTERS

René Achard and Philippe Perras, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Dec. 9, 1964, Ser. No. 417,231  
Claims priority, application France, Dec. 26, 1963, 958,498

4 Claims. (Cl. 260—497)

In the process for producing vinyl esters of saturated lower aliphatic acids by reacting ethylene with a saturated lower aliphatic acid in the presence of a p-quinone, which is reduced to the corresponding p-diphenol, the rhodium catalysts used in the catalytic reoxidation with oxygen of the diphenol to the quinone are advantageously pretreated with hydrogen in order to promote the rate of oxidation, and reduce the need to replace the catalyst in successive oxidations.

## 3,383,407

## MEDICINES ACTING AS NERVE REGULATORS

Joseph Nordmann, Paris, and Henri Blaise Swierkot, Bondy, France, assignors to Etablissements Kuhlmann, Paris, France

No Drawing. Filed Apr. 22, 1964, Ser. No. 361,878  
Claims priority, application France, Apr. 26, 1963, 932,811

3 Claims. (Cl. 260—500.5)

1. The compound of formula:



2. The addition product of N-methylaminoethanol and 3,4,5-trimethoxy benzohydroxamic acid having the empirical formula  $C_{22}H_{35}N_2O_{11}$ , having a melting point on a Marquenne block of 139° C. to 140° C. and on a Culatti block of 130° C.

3. The addition product of monoethanolamine and 3,4,5-trimethoxy benzohydroxamic acid having the empirical formula  $C_{22}H_{35}N_2O_{11}$ , having a melting point in a capillary tube of 138–139° C. and a melting point on a Marquenne block of 157° C. and, when recrystallized, having a melting point of 140 to 142° C. in a capillary tube.

## 3,383,408

## PROCESS FOR PREPARING (1-ALKYLALKYL) GUANIDINE SALTS

Thomas Andrew Lies, Montgomery Township, Somerset County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed Nov. 16, 1964, Ser. No. 411,550  
6 Claims. (Cl. 260—501.14)

1. A process for the preparation of higher alkyl branched-chain guanidine salts which consists in the steps of: reacting at a temperature ranging from about 70° C. and about 150° C. in substantially equimolar quantities (a) a higher alkyl, branched-chain alkyl amine of the structure:



where R is an alkyl substituent containing from 7 to 17 carbon atoms and  $R_1$  is a lower alkyl substituent, (b) a lower alkanolic acid and (c) an aqueous cyanamide solution, introducing an inert gas into said reaction medium during reaction to remove water therefrom, continuously removing water as reaction proceeds to completion and, thereafter, recovering resultant higher alkyl, branched-chain guanidine monoalkanoic acid addition salt in good yield and purity.

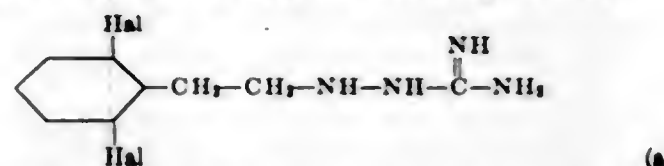
## 3,383,409

## β-(2,6-DIHALOPHENYL)ETHYLAMINO GUANIDINES AND THE SALTS THEREOF

John Bernard Bream, Redbourn, Claude Wolfgang Picard, Welwyn Garden City, and Trevor George White, King's Langley, England, assignors to Dr. A. Wander S.A., Bern, Switzerland, a corporation of Switzerland  
No Drawing. Continuation-in-part of application Ser. No. 453,172, May 4, 1965. This application Nov. 10, 1966, Ser. No. 593,311

3 Claims. (Cl. 260—501.14)

2,6-dihalogenated phenyl ethylaminoguanidine compounds which exhibit anti-hypertensive pharmacological properties without causing a large increase in the blood pressure or in the pulse rate for prolonged periods after administration and which have the following formula:



wherein Hal stands for halogen; and (b) the pharmaceutically acceptable acid addition salts of (a).

## 3,383,410

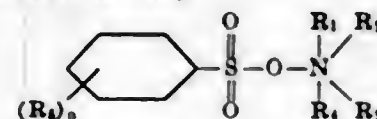
## PROCESS FOR THE PREPARATION OF TETRA-ALKYLAMMONIUM SALTS OF BENZENE SULFONIC ACIDS

Robert Johnson and Le Moyne W. Plischke, Pensacola, Fla., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Feb. 26, 1964, Ser. No. 347,362

10 Claims. (Cl. 260—501.21)

1. A process for the production of tetra-alkylammonium salts of benzenoid hydrocarbon sulfonic acids having the general structure,



wherein  $R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$  are selected from the group consisting of alkyl radicals having from 1 to 5 carbon atoms,  $R_5$  is selected from the group consisting of hydrogen and alkyl radicals having from 1 to 5 carbon atoms,  $n$  is a number from 1 to 4, and the total number of carbon atoms in the  $(R_5)_n$  alkyl radicals is from 1 to 20, comprising the steps of:

- bringing an alkyl benzenoid hydrocarbon sulfonate into reacting contact with an aqueous solution having a molar excess of trialkylamine therein to produce an aqueous solution of the tetra-alkylammonium salt of a benzenoid hydrocarbon sulfonic acid; and
- passing said aqueous salt solution to a zone having vaporizing conditions therein, thereby removing unreacted trialkylamine.

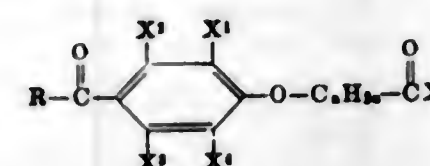
## 3,383,411

## 4-ALKANOYLPHENOXY-ALKANOIC ACIDS

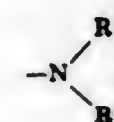
Everett M. Schultz, Ambler, and James M. Sprague, Gwynedd Valley, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey  
No Drawing. Continuation-in-part of application Ser. No. 155,961, Dec. 6, 1961. This application Feb. 17, 1964, Ser. No. 345,062

19 Claims. (Cl. 260—521)

1. A compound of the formula



wherein R is a member selected from the group consisting of a lower alkyl group containing at least 3 carbon atoms, cycloalkyl, cycloalkylalkyl and mononuclear aralkyl, X is a member selected from the group consisting of hydroxy, alkoxy and



wherein  $R^1$  and  $R^2$  represent a member selected from the group consisting of hydrogen and lower alkyl,  $X^1$  is a member selected from the group consisting of hydrogen, halogen, lower alkyl and nitro,  $X^2$  is a member selected from the group consisting of halogen, lower alkyl, trifluoromethyl, acetamido, and carboxyalkoxy,  $X^3$  and  $X^4$  each represents a member selected from the group consisting of hydrogen, halogen and lower alkyl and  $n$  is an integer having a value of 1–5.

## 3,383,412

## PROCESS FOR PREPARING DICARBOXYLIC ACIDS

William E. Wellman, Edison, and Allen R. Kittleson, Westfield, N.J., assignors to Emsco Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Nov. 1, 1963, Ser. No. 320,854  
8 Claims. (Cl. 260—537)

2,2,6,6-tetramethylpimelic acid is prepared by reacting a dialkali or dialkaline earth metal salt of phoronic acid, such as the disodium salt of phoronic acid, with hydrogen in the presence of an active hydrogenation catalyst at temperatures of from about 200 to 400° C. High purity products are obtained if the hydrogen is added to the phoronic acid reaction mixture after the mixture has been heated to a temperature of at least 200° C.

## 3,383,413

## RECOVERY OF ADIPIC ACID FROM A CYCLO-HEXANE OXIDATE MIXTURE WITH 1,2-DICHLOROETHANE

Fred Jaffe, Rockville, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut  
No Drawing. Filed Jan. 3, 1964, Ser. No. 335,683  
1 Claim. (Cl. 260—537)

In abstract, this invention is directed to a method for recovering adipic acid from cyclohexane oxidate mixtures, said mixture comprising adipic acid, glutaric acid, succinic

## 3,383,414

## BENZOCYCLOALKYL SULFAMIDES

William J. Houllhan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hamover, N.J.  
No Drawing. Filed Aug. 26, 1964, Ser. No. 392,328  
5 Claims. (Cl. 260—556)

This disclosure concerns benzocycloalkylsulfamides, e.g., N-(2,4-dichlorobenzyl)-N-1-indanyl sulfamide. These compounds have central nervous system activity.

## 3,383,415

## 2-TERTIARY-AMINOMETHYL-N-(LOWER-ALKYL)ANILINES

Philip M. Carabatsos, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Aug. 17, 1964, Ser. No. 390,218. Divided and this application May 15, 1967, Ser. No. 638,610

2 Claims. (Cl. 260—570.9)

2-[N' - (lower-alkyl)-N'- $R_2$ -aminomethyl]-N-(lower-alkyl)-N-Ac-anilines where  $R_2$  is lower-alkenyl, halo-(lower-alkenyl) or (lower-cycloalkyl)-(lower-alkyl) and Ac is hydrogen, lower-alkanoyl or lower-alkanesulfonyl, found to be analgesic antagonists and anticonvulsants, are prepared by various means, e.g., by reacting an N-(lower-alkyl)-isatoic anhydride with a secondary amine,  $NH(R_2)$ (lower-alkyl), reducing the resulting 2-(lower-alkylamino)-N-(lower-alkyl)-N- $R_2$ -benzamides to form the above compounds where Ac is hydrogen and acylating the latter to obtain said compounds where Ac is lower-alkanoyl or lower-alkanesulfonyl.

## 3,383,416

## PROCESS FOR PREPARING AMINOPHENOL

Roland G. Bonner, 21 Pine Court, New Providence, N.J. 07974  
No Drawing. Filed July 8, 1965, Ser. No. 470,589  
8 Claims. (Cl. 260—575)

Para-aminophenol is prepared by reducing nitrobenzene with hydrogen in the presence of aqueous sulfuric acid and a metal-containing catalyst selected from the group consisting of platinum, palladium and mixtures thereof at reaction temperatures ranging from about 60° to 120° C. The reduction of the nitrobenzene is interrupted prior to completion, and the reaction product mixture contains a sufficient amount of unreacted nitrobenzene to form an immiscible layer of nitrobenzene containing the catalyst suspended therein and a separate aqueous layer containing the para-aminophenol product. The aqueous layer is then separated from the nitrobenzene layer, and the latter can be employed in a subsequent reduction step.

## 3,383,417

## METHOD FOR THE PREPARATION OF AMINOETHYLETHANOLAMINE

Myri Lichtenwalter, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,119

2 Claims. (Cl. 260—584)

Aminoethylethanolamine is obtained in preponderant yield by contacting monoethanolamine in the absence of added ammonia with a catalyst containing a major amount



of nickel, copper and a minor amount of chromium oxide, manganese oxide, molybdenum oxide and/or thorium oxide at a temperature of 150° to 250° C. and a pressure of 2,000 to 4,000 p.s.i.g. correlated so as to provide for the total conversion of about 10% to 30% of the monoethanolamine.

3,383,418

# PROCESS FOR THE PREPARATION OF 2,2,4-TRIMETHYL-3-KETO-1-PENTANOL

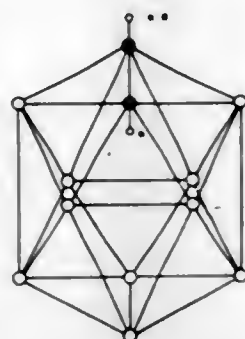
David C. Hull and Sam H. Johnson, Jr., Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed Jan. 17, 1966, Ser. No. 520,912  
4 Claims. (Cl. 260-594)

A process for preparing 2,2,4-trimethyl-3-keto-1-pentanol which comprises dehydrogenating 2,2,4-trimethylpentane-1,3-diol monoisobutyrate in the liquid phase over a Raney nickel catalyst. The 2,2,4-trimethyl-3-keto-1-pentanol is particularly useful as a solvent and as an intermediate, for example, for plasticizers.

3,383,419

# PARA-CARBORANE AND THE PREPARATION THEREOF

Theodore L. Heying, North Haven, and Stelvio Papetti, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia  
Filed Nov. 18, 1964, Ser. No. 412,082  
4 Claims. (Cl. 260-606.5)



1. A method for preparing para-carborane which comprises heating a material selected from the group consisting of orthocarborane and meta-carborane and mixtures thereof at a temperature of from about 585° C. to about 620° C. to form a reaction mixture containing para-carborane and recovering the said para-carborane from the reaction mixture.

3,383,420

# 5-(γ-HYDROXYPROPYL)-5H-DIBENZO[a,d]CYCLOHEPTENES

Norman L. Wendler, Summit, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey  
No Drawing. Continuation-in-part of application Ser. No. 203,446, June 19, 1962. This application Mar. 13, 1964, Ser. No. 351,817

13 Claims. (Cl. 260-607)

1. 5H-dibenzo[a,d]cycloheptenes which are substituted at the 5-position with γ-hydroxypropyl or γ-hydroxy lower-alkyl propyl groups and which may be substituted at the 3-position of the benzo moieties with lower-alkyl, lower-alkoxy, lower-alkylsulfonyl, lower-alkylmercapto or mercapto.

12. 10-chloro-5-(γ-hydroxypropyl)-5H-dibenzo[a,d]cycloheptene.

3,383,421

# PROCESS FOR THE FORMATION AND PURIFICATION OF AROMATIC SULFONES

Daniel W. Fox and Popkin Sheman, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York  
No Drawing. Filed Mar. 1, 1965, Ser. No. 436,303  
4 Claims. (Cl. 260-607)

Process for the formation and purification of a bis(3,5-dialkyl-4-hydroxyphenyl)-sulfone comprising reaction of sulfuric acid with a phenol within a temperature range of 155 to 170° C., in the presence of an organic liquid capable of forming an azeotrope with the water of reaction, and recovery of sulfone by dissolution in an aqueous caustic or ammonia media followed by neutralization to pH of between 4 and 6.

3,383,422

# ALKOXYCAMPHANE AND CAMPHOR PROCESS

Bernard J. Kane, Atlantic Beach, and Rudolph M. Albert, Jr., Jacksonville, Fla., assignors, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed Jan. 27, 1965, Ser. No. 428,565  
3 Claims. (Cl. 260-611)

A process for preparing 2-lower alkoxy camphanes which comprises contacting at a temperature of from about 10° C. to about 125° C. at from about atmospheric pressure to about 100 p.s.i.g., a liquid comprising a lower aliphatic alcohol having dissolved therein a hydrocarbon selected from the group consisting of camphene, tricyclene and mixtures thereof with a substantially water-free, solid cation exchange resin in the hydrogen form until a solution comprising a 2-lower alkoxy camphane dissolved in said lower aliphatic alcohol is formed.

2-lower alkoxy camphanes are valuable intermediates in the synthesis and production of camphor and a process for preparing camphor is also described. The invention for preparing camphor is also described. The invention is advantageous in that the 2-lower alkoxy camphanes can be used to make camphor directly without the time-consuming purification steps required by previously known processes.

3,383,423

# METHOXYALKYLADAMANTANES

Robert E. Moore, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey  
No Drawing. Filed Apr. 25, 1967, Ser. No. 633,385  
5 Claims. (Cl. 260-611)

Four new adamantane derivatives are disclosed, viz.: 1-methoxy-3,5-dimethyladamantane; 1-methoxy-3,5,7-trimethyladamantane; 1-methoxy-3-ethyl-5-methyladamantane; and 1-methoxy-3-ethyl-5,7-dimethyladamantane. These compounds exhibit antiviral activity against tobacco mosaic virus in plant tests and against herpes simplex and other viruses in virology tests with mice.

3,383,424

# PREPARATION OF DIOLS CONTAINING AN ADAMANTANE NUCLEUS

Robert E. Moore, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey  
No Drawing. Continuation-in-part of application Ser. No. 421,614, Dec. 28, 1964. This application Aug. 30, 1967, Ser. No. 664,311

12 Claims. (Cl. 260-617)

Preparation of 1,3-diols of adamantane or C<sub>11</sub>-C<sub>18</sub> alkyladamantanes by contacting the parent hydrocarbon with an acetic acid solution of chromic acid in amount such that the Cr to hydrocarbon molar ratio is in excess of 3:1.

3,383,425

# SEPARATION OF HYDROXYDIPHENYLALKANES

Geoffrey Harry Mansfield, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
Filed Sept. 28, 1964, Ser. No. 399,577  
Claims priority, application Great Britain, Oct. 1, 1963, 38,597/63

8 Claims. (Cl. 260-619)

1. A process for the separation of p-cumylphenol from decomposition products of cumene hydroperoxide in which the sodium salt of p-cumylphenol is precipitated from the decomposition product by reacting it at a temperature between 0° and 40° C. with such an excess of aqueous sodium hydroxide that the concentration of sodium ions, apart from those associated with sodium p-cumylphenate in the liquid reaction product is greater than the concentration of sodium ions in a 2% by weight aqueous solution of sodium hydroxide and the precipitated sodium p-cumylphenate is acidified to obtain p-cumylphenol.

3,383,426

# HYDROFORMYLATION PROCESS FOR POLYMERS

Neville Laverne Cull, Baker, and Joseph Kern Mertzweiler and Horace Marion Tenney, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Sept. 9, 1963, Ser. No. 307,359  
7 Claims. (Cl. 260-635)

1. The method of preparing hydroxylated polymers which comprises reacting in a first stage at temperatures of about 300-400° F. and pressures of about 300-2000 p.s.i.g. an unsaturated hydrocarbon compound having a molecular weight of from about 30 to about 1,000,000 with carbon monoxide and hydrogen in an H<sub>2</sub>/CO molar ratio of about 1:1 in the presence of a hydrocarbon soluble complex selected from the class consisting of the following general formulae:



and



where in Formulae I and II, M is a transition metal selected from the group consisting of iron, cobalt and rhodium, B is a Group V-A atom selected from the group consisting of phosphorus and arsenic, R is an alkyl radical containing from 1 to about 20 carbon atoms, in Formula II, R' is a pi-bonded conjugated diolefin containing from 3 to 6 carbon atoms, x is an integer from 1 to 2, y is an integer from 1 to 2, with the proviso that when x is 1, then y is 2, and when x is 2, then y is 1, to produce an intermediate carbonylated polymer, and in a second stage reacting said carbonylated polymer with hydrogen at temperatures of about 375-425° F. and pressures of about 500-3000 p.s.i.g. and about 10 to 200 p.s.i.g. partial pressure of carbon monoxide in the presence of said hydrocarbon soluble complex.

3,383,427

# PROCEDURE FOR SYNTHESIS OF PROPARGYL ALCOHOL

Donald H. Wolfe, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 244,927, Dec. 17, 1962. This application Oct. 21, 1966, Ser. No. 588,314

2 Claims. (Cl. 260-642)

The present invention concerns a method for the production of acetylenic alcohols from their chlorinated ethylenic intermediates by reacting at from 20° to about 130° C. a liquid nitrogenous compound, for example, ammonia or lower amono, di and tri C<sub>1-4</sub> alkyl amines, an alkali metal hydroxide and the ethylenically unsaturated chlorinated alcohol having from 3 to 5 carbon atoms, the nitrogenous compound being present in an amount sufficient to dissolve the reactants and the reaction products.

3,383,428

# PRODUCTION OF CYCLICS AND AROMATICS

Jennings H. Jones and Merrell R. Fenske, State College, Pa., assignors to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Feb. 23, 1966, Ser. No. 529,236

14 Claims. (Cl. 260-666)

Unsaturated cyclics and aromatics are prepared from carbonyls, olefins, alcohols, and mixtures thereof by condensation in liquid phosphoric acid, which may be followed by hydrogenation to naphthenes or dehydrogenation to aromatics, the utility of the process being in the upgrading of available materials to more important and less readily available materials.

3,383,429

# PROCESS FOR DEHYDROGENATING HYDROCARBONS

Charles R. Noddings, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich.

No Drawing. Continuation-in-part of application Ser. No. 448,287, Apr. 15, 1965. This application Mar. 1, 1967, Ser. No. 619,596

14 Claims. (Cl. 260-669)

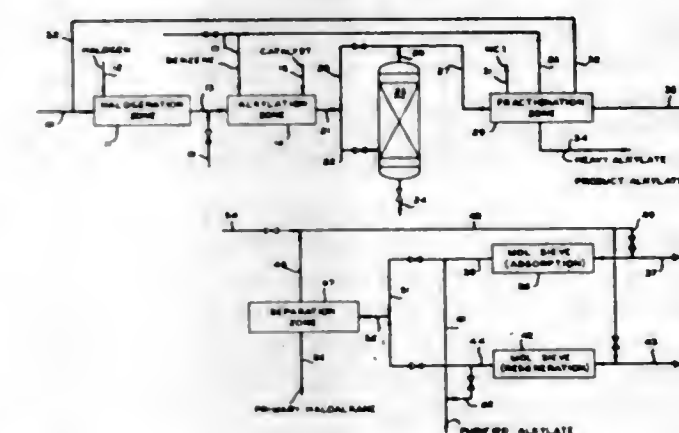
This invention relates to an improved process for dehydrogenating saturated aliphatic and monoolefinic hydrocarbons to produce olefins and diolefins by passing the hydrocarbons over a calcium nickel phosphate catalyst in the presence of steam, oxygen, and bromine or a bromine yielding compound.

3,383,430

# PURIFICATION OF ALKYLATES AND PRODUCTION OF PRIMARY HALOALKANES

Thomas Hutson, Jr., and Allan D. Holiday, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware  
Filed July 20, 1964, Ser. No. 383,730

5 Claims. (Cl. 260-674)



Primary haloalkanes which are present in alkylate products as an impurity are removed therefrom by contacting the alkylate with a molecular sieve to selectively adsorb said haloalkanes. The alkylate recovered from the contacting zone is of increased purity and eminently suited for the manufacture of high grade detergents. The primary haloalkanes can be desorbed from the molecular sieve and recovered as a second high purity product of the process.



3,383,431

**DEHYDROGENATION OVER CATALYST OF Pd ON MOLECULAR SIEVE TREATED WITH ALUMINUM MONOFLUORIDE VAPOR**

Norman A. Fishel, Lansing, Mich., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed June 30, 1967, Ser. No. 650,228  
10 Claims. (Cl. 260-683.3)

A paraffinic hydrocarbon is dehydrogenated utilizing a catalyst comprising a crystalline aluminosilicate chemically combined with a metal subfluoride vapor.

3,383,432

**EPOXIDE COMPOSITION CONTAINING THE POLYGLYCIDYL ETHERS OF 2,4-BIS-(4-HYDROXY-CUMYL)-PHENOL, BIS-(4-HYDROXY CUMYL)-BIS-(4-HYDROXY-PHENYL) 2,2-PROPANE AND 2,2-BIS-(4-HYDROXY-PHENYL)-PROPANE**

Heinrich Krimm, Krefeld-Bockum, Hermann Schnell, Urdingen, Rolf Kubens, Leverkusen, and Karl-Helz Andres, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Mar. 29, 1965, Ser. No. 443,671  
Claims priority, application Germany, Apr. 17, 1964, F 42,638

2 Claims. (Cl. 260-830)

Epoxy ethers of polyhydroxy diarylalkanes containing at least one hydroxyphenyl alkylene radical bonded to at least one of said aryl nuclei and preparation of cross-linked products therefrom.

3,383,433

**EPOXIDE RESINS CURED WITH PHENOLIC NOVOLACS AND TRIAZOLES OR TETRAZOLES**George A. Salensky, Metuchen, N.J., assignor to Union Carbide Corporation, a corporation of New York  
No Drawing. Filed Sept. 22, 1964, Ser. No. 398,394  
9 Claims. (Cl. 260-831)

Epoxide resins may be cured with mixtures of phenolic novolac resins and a heterocyclic compound selected from triazoles and tetrazoles. The ratio of phenolic hydroxyl groups in the novolac to oxirane groups is from 0.5 to 1.5 respectively. In an example 100 pts. epoxide were combined with 41 pts. novolac and 0.75 pts. curing agent. The curing agents are exemplified by benzotriazole, 3-amino-1,2,4-triazole and pentylene-tetrazole.

3,383,434

**COPOLYMERIZATION OF UNSATURATED POLYESTERS, EPOXIDE RESINS, AND POLYAMINES**Earl F. Carlston, El Cerrito, Calif., assignor to Chevron Research Company, a corporation of Delaware  
Continuation-in-part of application Ser. No. 120,780, June 29, 1961. This application June 24, 1965, Ser. No. 466,608

20 Claims. (Cl. 260-835)

Novel copolymerized resin compositions are prepared by reacting a diepoxide resin having an epoxy equivalent between about 175 and 1150, an unsaturated polyester having an acid number below about 50, and an epoxy resin-curing polyamine which has two primary amino groups or which is piperazine.

3,383,435

**BLEND OF A POLYPHENYLENE ETHER AND A STYRENE RESIN**Eric P. Cizek, Ann Arbor, Mich., assignor to General Electric Company, a corporation of New York  
Continuation-in-part of application Ser. No. 423,702, Jan. 6, 1965. This application Aug. 11, 1967, Ser. No. 659,901

23 Claims. (Cl. 260-874)

A thermoplastic composition comprising a polyphenylene ether and a styrene resin. The mixture of polyphen-

ylene ether and styrene resin provides a thermoplastic composition having many properties improved over those of the polyphenylene ether or styrene resin individually. In addition, with various systems, the ratio of styrene resin to polyphenylene ether provides a composition capable of custom formulation to predetermined properties ranging between those of the styrene resin and the polyphenylene ether.

3,383,436

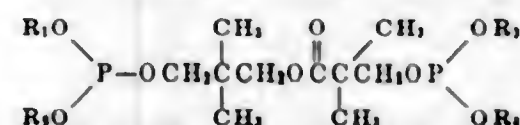
**NEO CARBOXYLATE DIPHOSPHITES**

Millard S. Larrison, Livingston, N.J., assignor to Weston Chemical Corporation, Newark, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 376,202, June 18, 1964. This application July 13, 1965, Ser. No. 471,711

13 Claims. (Cl. 260-928)

1.

where R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are selected from the group consisting of alkyl of 1 to 20 carbon atoms, phenyl, alkyl phenyl having 1 to 12 carbon atoms in the alkyl portion, naphthyl, chlorophenyl and bromophenyl.

3,383,437

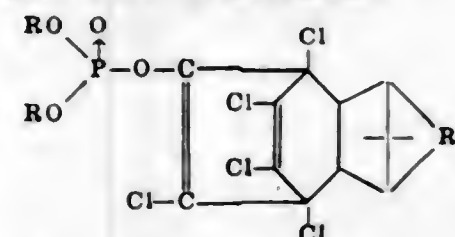
**TETRACYCLO TRIDECA PHOSPHORUS ESTERS**

Hans F. W. Röchling, Hangelar, Germany, and Johannes Th. Hackmann, Herne Bay, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 29, 1965, Ser. No. 443,691  
Claims priority, application Great Britain, Apr. 3, 1964, 13,850/64

4 Claims. (Cl. 260-957)

1. A phosphorus ester of the formula:



wherein each R independently contains up to 10 carbon atoms and is a member of the group consisting of alkyl and middle halogen-substituted alkyl, and R' represents a member of the group consisting of ethylene, sym-dichloroethylene, vinylene and vic-epoxy.

3,383,438

**CALCINATION OF CLAY**

Aldo P. Allegrini, Westfield, Victor Puskar, Piscataway, and Ernest W. Greene, Westfield, N.J., assignors, by mesne assignments, to Engelhard Minerals &amp; Chemicals Corporation, Newark, N.J., a corporation of Delaware

Filed Dec. 17, 1965, Ser. No. 514,457  
4 Claims. (Cl. 263-52)

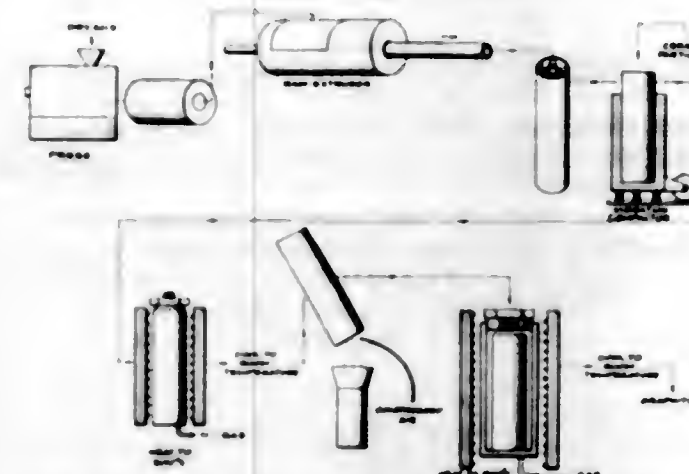
Kaolin clay is calcined to produce a pigment grade of the clay having low abrasion properties by feeding dry,

powdered kaolin clay to the upper end of an indirectly fired inclined rotary calciner provided with countercurrent flow of combustion gases. Loss of clay material with flue gases is minimized by the formation of small clay balls as a result of the tumbling action within the calciner.

3,383,439

**PROCESS FOR MAKING GRAPHITE**

Geoffrey R. Tully, Jr., Poway, Alan S. Schwartz, Del Mar, and Leonard Bailey, Poway, Calif., assignors, by mesne assignments, to the United States Atomic Energy Commission

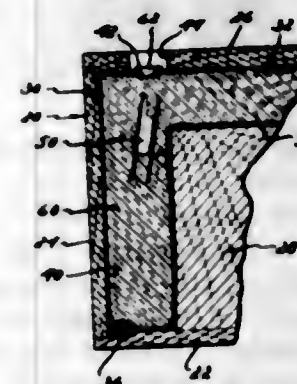
Filed Mar. 18, 1965, Ser. No. 440,965  
10 Claims. (Cl. 264-29)

This invention concerns a process for making graphite products by heating the green article under restraint, cooling the article and relieving the restraint, and reheating.

3,383,440

**FOAM POUR METHOD**

William Chaldekas, Livonia, Mich., assignor to American Motors Corporation, Detroit, Mich., a corporation of Maryland

Filed Apr. 14, 1965, Ser. No. 448,142  
1 Claim. (Cl. 264-45)

A method of interconnecting to conduct from a supply source liquid foam insulation into a wall space of a cabinet and disposing of the interconnection following use by dropping same into the wall space.

3,383,441

**METHOD AND APPARATUS FOR PRODUCING BODIES OF SYNTHETIC THERMOPLASTIC MATERIAL**

Lars Sten Robert Norrbode and Erik Torsten Linde, Alvangen, Sweden, assignors to Isoleringstekniska AB WMB, Goteborg, Sweden, a joint-stock company of Sweden

Continuation of application Ser. No. 258,105, Feb. 7, 1963. This application July 27, 1966, Ser. No. 568,296  
5 Claims. (Cl. 264-51)

A method and apparatus by which a mass of individual heat expandable granules of a synthetic thermoplastic material is converted into a foamed coherent agglutinated

body which comprises feeding the granules continuously into the input end of an open-ended channel having a heating zone along a portion thereof in which the granules are progressively expanded against the constraining sur-

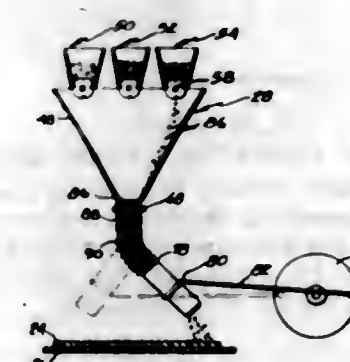


faces of the channel by contact with steam while the thus foamed body is being moved therethrough and cooled progressively while moving through a cooling zone along a portion of the channel between the heating zone and the discharge end of the channel.

3,383,442

**METHOD AND APPARATUS FOR MANUFACTURING DECORATIVE THERMOPLASTIC COVERING MATERIAL**

George Robert Mountain, Somerset, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Mar. 18, 1965, Ser. No. 440,687  
12 Claims. (Cl. 264-74)

Thermoplastic particles are collected in groups of contrasting appearance and are deposited on a moving sheet so that the particles of each group are substantially segregated from particles of other groups. Heat and pressure are applied to bond the particles together to form a decorative thermoplastic sheet of covering material.

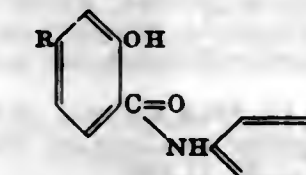
3,383,443

**METHOD OF DYEING SAUSAGE CASING**

Thomas E. Leahy and Albin F. Turbak, Danville, Ill., assignors to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 4, 1965, Ser. No. 423,318  
14 Claims. (Cl. 264-78)

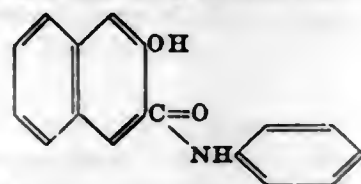
In the manufacture of cellulosic meat casings wherein viscose is extruded through an annular die at a linear rate of 15-75 feet per minute into a coagulating and regenerating bath and continuously removed and washed to remove reactants and by-products, the casing while in the gel state is continuously dyed prior drying. The casing is continuously fed from the wash bath at a linear speed equal to the rate of extrusion and is passed first through an aqueous alkaline solution of a single naphthol selected from the group consisting of



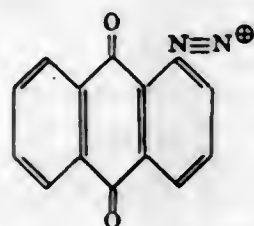
where R is selected from the group consisting of carbocyclic and heterocyclic radicals, including radicals fused to the aromatic nucleus; and derivatives containing substituents only on the anilide radical, the casing having



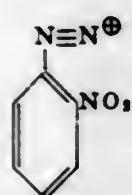
a residence time in the naphthol bath of 1 to 300 sec. preferably about 3-20 sec. The casing is then fed through an aqueous solution of a single fast color salt maintained at a temperature less than about 20° C. and a pH of 2.5-5.9, at the aforementioned extrusion speed, the casing having a residence time in the fast color salt solution of 2-300 sec., preferably about 3-20 sec. The fast color salt used in developing the naphthol color is a stabilized diazo salt having a coupling speed with



at least as fast as

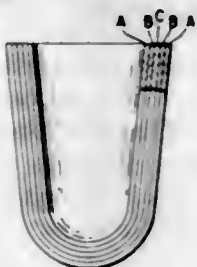


and no faster than



3,383,444

**METHOD OF CONSTRUCTING RADOME**  
Donald L. Loyet, Palos Verdes Peninsula, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed Sept. 15, 1965, Ser. No. 487,642  
2 Claims. (Cl. 264-87)



A high-strength low-weight radome of high radar transparency and method of making same, which method includes filling a radome-shaped mold with slip material, applying pressure to the mold contents, and then removing excess slip material to leave a thin-wall hollow core in the form of a radome. By repeating the process with slip material of different electrical characteristics, the microwave attenuation characteristics of the radome may be varied.

3,383,445

**PROCESS FOR THE MANUFACTURE OF BI-AXIALLY STRETCHED POLYETHYLENE FILMS**

Horst Gebler, Ludwig E. H. Klenk, and Walter F. Seifried, Wiesbaden-Biebrich, and Kurt Richard, Bad Soden, Taunus, and Wilhelm Müller, Frankfurt am Main-Unterliederbach, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany

Filed Dec. 16, 1964, Ser. No. 418,608  
Claims priority, application Germany, Dec. 19, 1963, K 51,680

5 Claims. (Cl. 264-95)

This invention relates to a process for the manufacture of biaxially stretched polyethylene films in which high pressure polyethylene having a density less than 0.92

gram/cm<sup>3</sup>, a melt index of 0.2 to 0.4 gram/10 min. measured at 190° C., and an RSV value of 1.3 to 1.6 is extruded at a temperature not more than 90° C. above the melting point of the high-pressure polyethylene and which is advantageously between 150 and 200° C., the melt leaving the annular nozzle is cooled and at the same time formed into a tubular film at a blow ratio of 2.2 to 2.6 and a longitudinal drawing-off ratio of 1.5 to 1.9, the tube is cut into a flat film, the flat film thus obtained is stretched in two perpendicular directions, with stretch ratios of 2 to 4, at a temperature between the crystallite melting point of the high-pressure polyethylene and a temperature not more than 50° C. below the crystallite melting point, and the stretched film is then cooled under tension to a temperature below 40° C.

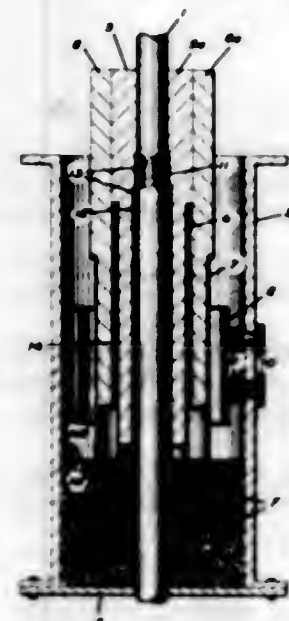
3,383,446

**METHOD OF PRODUCING ELECTRICAL BUSHINGS**

Hermann Brennecke, Munchenstein, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

Filed Sept. 10, 1965, Ser. No. 486,463  
Claims priority, application Switzerland, Sept. 17, 1964, 12,106/64

14 Claims. (Cl. 264-122)



In a process for forming an electrical bushing an elongate conductor member is aligned in a mould and an electrically conductive hollow cylinder is located in the mould such that it surrounds and is spaced apart from the conductor member by a generally tubular member disposed therebetween. Filler material is then introduced into the mould to at least a level sufficient to support the cylinder in its spaced relationship with the conductor member, the tubular members are withdrawn, and filler material is introduced into the remainder of the mould. Finally, resin is introduced into the mould and hardened to produce the bushing.

3,383,447

**METHOD OF MANUFACTURING SYNTHETIC FIBERS OF POLYVINYL ALCOHOL HAVING GOOD STABLE CONFIGURATION AND WATER SOLUBILITY**

Shigekazu Onishi and Eiichi Morka, Okayama, Japan, assignors to Kurashiki Rayon Company Limited, Kurashiki, Japan, a corporation of Japan

No Drawing. Filed Apr. 10, 1964, Ser. No. 358,925  
Claims priority, application Japan, Apr. 23, 1963, 38/20,843

3 Claims. (Cl. 264-205)

A process for the preparation of polyvinyl alcohol fibers having excellent dimensional stability and water solubility,

comprising dry or semi-melt spinning an aqueous solution of polyvinyl alcohol having a concentration of greater than 30 percent by weight, adjusting the moisture content of the resultant fibers to a value between 50 and 120 percent by weight, stretching said fibers to a ratio of from 1.1 to 3.0 at a temperature of from 0° C. to 100° C., drying such stretched fibers until the moisture content thereof is reduced to a value between 4 and 20 percent by weight, again stretching the said fibers to a ratio of from 2 to 6 at a temperature of less than 160° C., maintaining the said fibers at the constant length and strain imparted thereto by the latter stretch, and thence setting such strain. The resultant polyvinyl alcohol fibers are useful for base cloths in the manufacture of chemical laces.

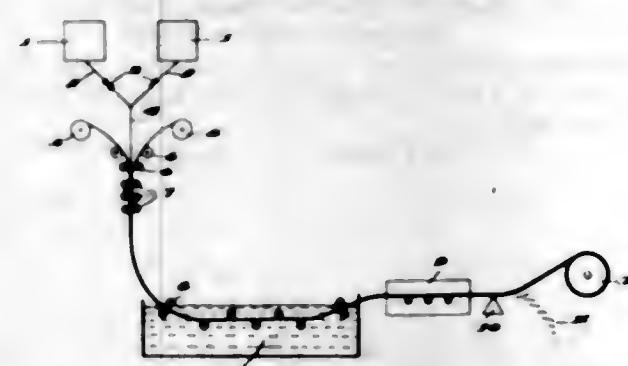
3,383,448

**POLYMERIZATION PROCESS**

Erich Bäder, Hannam am Main, Werner Unseld, Niederrodenbach, Hans Landsfeld, Hannam am Main, and Gerhard Morlock, Gross-Anheim, Germany, assignors to Deutsche Gold- und Silber-Schneidmanufaktur vormals Roessler, Frankfurt am Main, Germany

Filed May 4, 1964, Ser. No. 364,597  
Claims priority, application Germany, May 4, 1963, D 41,489; Dec. 3, 1963, D 43,076

4 Claims. (Cl. 264-214)



Method for the continuous bulk polymerization of a polymerizable mass comprising a material selected from the group consisting of polymerizable monomers having a terminal CH<sub>2</sub>=C< group and mixtures thereof while excluding molecular oxygen comprising continuously introducing the polymerizable mass into a tube shaped syn-

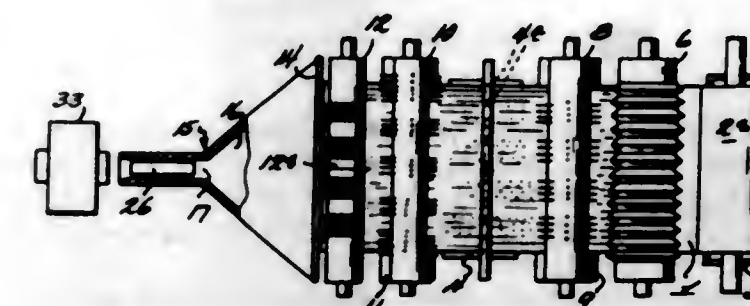
thetic resin structure while at least practically completely displacing all air in such tube and continuously passing the thus filled tube through a polymerization zone maintained at the polymerization temperature required for the polymerizable mass until the polymerization has been effected. The preferred synthetic resin for said tube shaped structure is polyethylene and preferably the filled shape tube shaped structure is substantially flattened out as it is passed through the polymerization zone.

3,383,449

**METHOD FOR PRODUCING AN ENDLESS FILTER STRING**

Paul Adolf Müller, Triesenberg 389, Liechtenstein  
Application Apr. 24, 1964, Ser. No. 362,438, now Patent No. 3,226,280, dated Dec. 28, 1965, which is a division of application Ser. No. 504,647, Apr. 28, 1955, now Patent No. 3,161,557, dated Dec. 15, 1964, which in turn is a continuation-in-part of application Ser. No. 502,016, Apr. 18, 1955. Divided and this application Oct. 1, 1964, Ser. No. 400,860

3 Claims. (Cl. 264-287)



A process for treating paper strip material to both improve its effectiveness for use as a filter for filter-tip cigarettes and facilitate its being laterally gathered and shaped into a cylindrical filter string which can be cut into short sections to make filter plugs wherein the paper strip is moved along a path, moistened, thereafter continuously longitudinally corrugated while two narrow longitudinal zones along each corrugation are held against lateral displacement so that the paper therebetween is stretched, thereafter dried, and optionally flattened somewhat by a knurling operation.

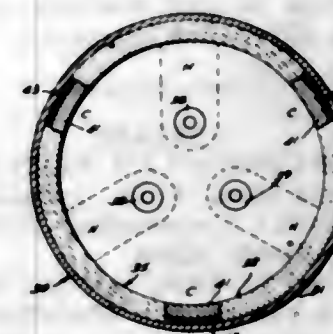
## ELECTRICAL

3,383,450

**ELECTRIC MELT VESSEL HAVING MEANS FOR REDUCING COLD SPOT AREAS THEREIN**

Paul W. Dillon and Charles G. Robinson, Sterling, Ill., assignors to Northwestern Steel & Wire Company, Sterling, Ill., a corporation of Illinois  
Original application Nov. 23, 1964, Ser. No. 413,264. Divided and this application May 24, 1967, Ser. No. 651,079

3 Claims. (Cl. 13-9)



Direct arc electric melting vessel having multiple electrodes leading through the roof of the vessel, to a posi-

tion adjacent the melting zone of the vessel, in which the heat balance within the melting vessel is equalized by recessing current conducting blocks in the refractory lining of the melting vessel, along the cylindrical wall portion of the vessel in the cold spot areas of the vessel between the electrodes. The rows of current conducting blocks are each connected to a single phase of a multi-phase transformer. The current conducting blocks may be energized independently of or simultaneously with energization of the electrodes.

3,383,451

**SIGNAL GENERATING APPARATUS**

Leslie B. Robinson, Edmonds, Wash., Morris H. Stephenson, Jr., Claremont, Calif., and Richard R. Stockman and Charles S. Walker, Seattle, Wash., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Dec. 14, 1966, Ser. No. 601,723

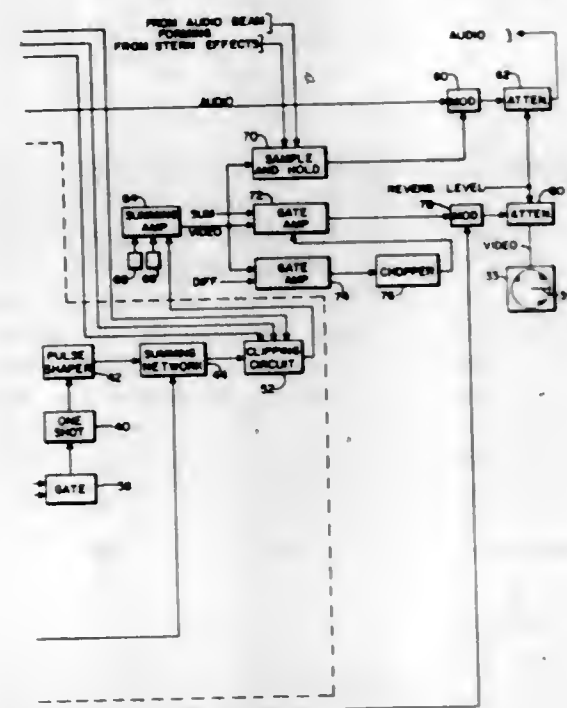
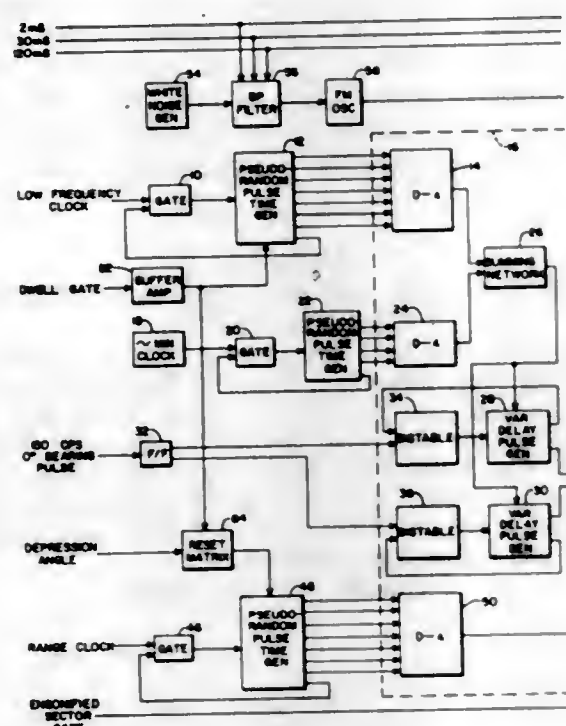
7 Claims. (Cl. 35-10.4)

A circuit for generating apparently random "blotches" on a CRT display. The circuit comprises two pseudorandom pulse sequence generators one of which controls intensity of the pulses and the other controls angles on the



spiral sweep display. The pseudorandom intensity generator normally allows a plurality of pulses of a given angle

nected to different ones of the input lines to provide the desired pulse combination sequence generated from the



to pass such that a given angle is illuminated on several successive revolutions of the spiral sweep.

3,383,452

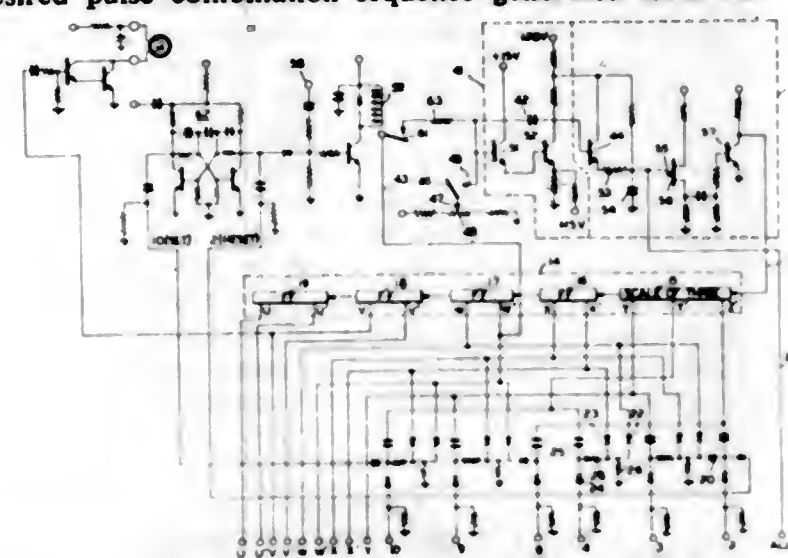
**MUSICAL INSTRUMENT**

Donald M. Park, Raleigh, N.C., and Richard H. Campbell, Jr., Gilford, N.H., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware

Filed June 26, 1964, Ser. No. 378,364

10 Claims. (Cl. 84-1.03)

A repetitive sequence of pulse combinations for actuating rhythm sound generators of an electronic musical instrument according to the said sequence is provided by an oscillator driving a frequency dividing counter and a matrix having a set of input lines connected to the outputs of the counter stages. The matrix output lines are con-



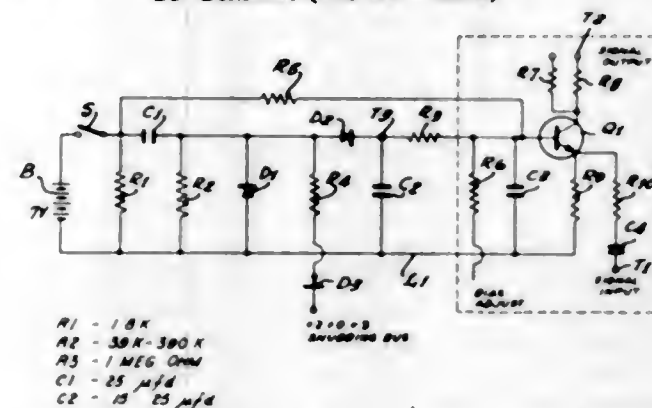
unique combination of states of the counter stages operating to enable a given output line.

**3,383,453  
PERCUSSION CIRCUIT FOR  
ELECTRONIC ORGANS**

Paul H. Sharp, % Electro Music, P.O. Box 2267D, Altadena, Calif. 91105

Continuation-in-part of application Ser. No. 214,331, Aug. 2, 1962. This application June 28, 1965, Ser. No. 467,219

15 Claims. (Cl. 84-1.26)



1. In an electrical musical instrument: an electrically operated generating device that produces a signal corresponding to a musical tone with an intensity related directly to the intensity of electrical energization: an operating capacitor; an operating circuit for said generating device including said operating capacitor; a single pole key switch cooperable with a source of direct current; a control capacitor; circuit means providing charging and discharging circuits for said control capacitor, and operable respectively in accordance with the position of said key switch; and unidirectionally conductive means interconnecting the operating circuit and said control capacitor upon operation of said key switch; said circuit means having characteristics determining the continued effectiveness of said unidirectionally conductive means following key switch operation.

3,383,454

**MICROMODULAR PACKAGE**

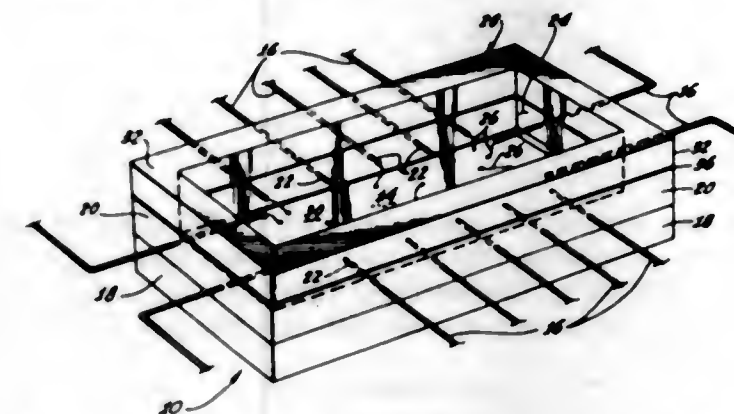
Sydney Dix, Costa Mesa, Calif., assignor, by mesne assignments, to GTI Corporation, Providence, R.I., a corporation of Rhode Island

Filed Jan. 10, 1964, Ser. No. 337,081

6 Claims. (Cl. 174-52)

1. A micromodular semiconductor package, including the combination of:  
a plurality of side walls and a base arranged to at least partially define a space,

a plurality of electrical leads extending through said side walls with the inner ends thereof being disposed in said space,  
at least one semiconductive device disposed in said space and interconnected with said inner ends to form at least one electrical circuit, and



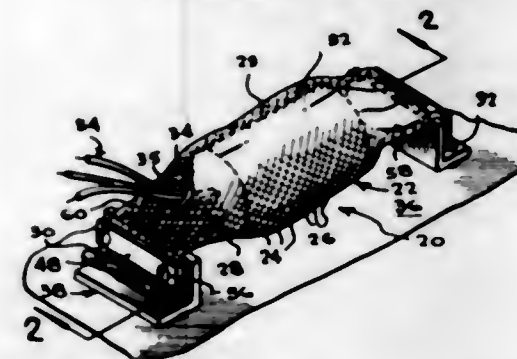
a cover having a transparent window and a metal frame surrounding and hermetically bonded to the periphery of the window, said frame being hermetically sealed to said side walls so as to seal the electrical circuit in the space, said window being positioned to register with the space and permit a visual viewing of the circuitry in the space.

**3,383,455  
ISOLATOR**

James J. Kerley, Jr., 6203 Forest Road, Chevy Chase, Md. 20785

Filed June 28, 1966, Ser. No. 564,708

11 Claims. (Cl. 174-52)



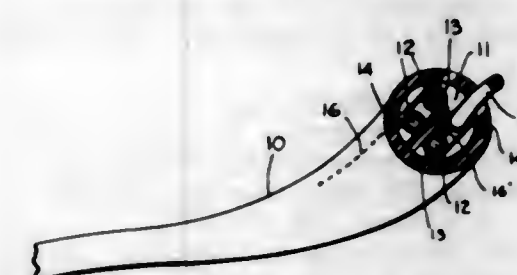
Isolation means for fragile component in which a sleeve of mesh material envelopes the component and is anchored at the ends of the sleeve in such manner as to minimize shock damage to the component.

**3,383,456  
CONDUIT WITH INTERNAL RUPTURABLE  
CONDUCTORS**

Arno Kosak, Madrid 111, Mexico City, Mexico

Filed Aug. 17, 1966, Ser. No. 572,936

4 Claims. (Cl. 174-68)



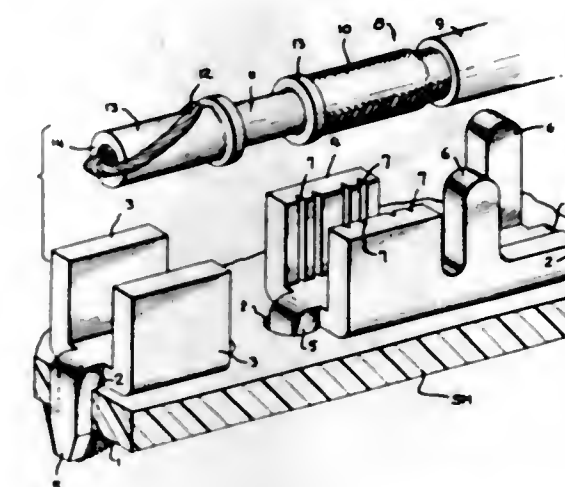
A conduit in the wall of which are integrally and internally carried conductors rupturable from said wall, including polarization and identification means for the conductors, the conduit being capable of longitudinally receiving other and separate conductors therein independent of the integrally carried conductors.

**3,383,457  
CONNECTOR MEANS FOR CONNECTING  
COAXIAL CABLE TO A PRINTED CIRCUIT  
BOARD**

William Ludlow Schumacher, Camp Hill, and John Henry Huber, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Apr. 5, 1966, Ser. No. 540,410

10 Claims. (Cl. 174-68.5)

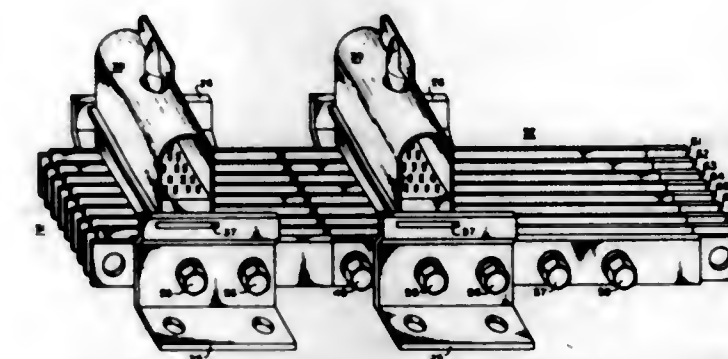


A structure for terminating conductive members of a coaxial cable on a dielectric supporting member comprises U-shaped ferrule members, means for securing the ferrule members on the dielectric supporting member in spaced relationship for receiving therein respective conductive members of the coaxial cable, the ferrule members being crimpable onto the respective conductive members with the dielectric supporting member being part of an anvil during the crimping operation. Ferrule elements are disposable on the inner insulation of the coaxial cable and in engagement with the respective conductive members to assure minimum disturbance to the insulation when the ferrule members are crimped onto the ferrule elements.

3,383,458

**MODULAR POWER DISTRIBUTION SYSTEM**  
Nicholas M. Raskhodoff, Chevy Chase, Md., and Douglas A. Venn, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy  
Filed Aug. 30, 1965, Ser. No. 483,890

6 Claims. (Cl. 174-72)



Bus bar assembly units which may be interconnected to form an assembly of any desired length. Each assembly unit comprises a plurality of bus bars separated by insulating strips with the ends of each bar having a ship lap form. A multi-pin connector may be connected to the bus bars by including in each bus bar a plurality of holes into which leads from the connector may be soldered. Compressible elastomers are attached to the bus bar ends to provide additional insulation at the joints.



3,383,459

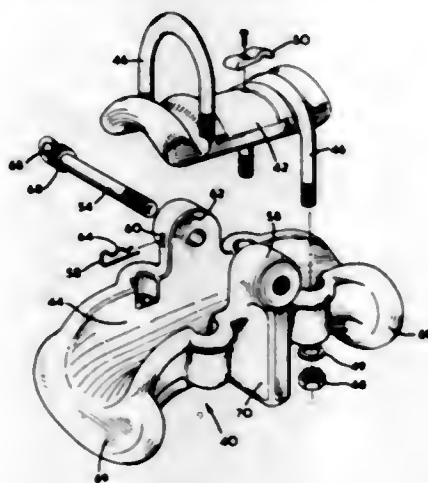
**ANTICORONA SUSPENSION CLAMP**

Herbert Douglas Short, Newmarket, Ontario, Canada, assignor to Loral Industries Limited, Newmarket, Ontario, Canada

Filed Oct. 31, 1966, Ser. No. 590,611

Claims priority, application Canada, Nov. 1, 1965, 944,230

1 Claim. (Cl. 174-144)



The invention is a suspension clamp assembly for an electricity transmitting cable having three integral corona flanges extending outwardly of the body, one at each end and one at the centre of the body. The centre flange terminates in spheroidal formations which extend above the cable receiving channel and which are adapted to receive a pin for connecting the unit to an insulator chain.

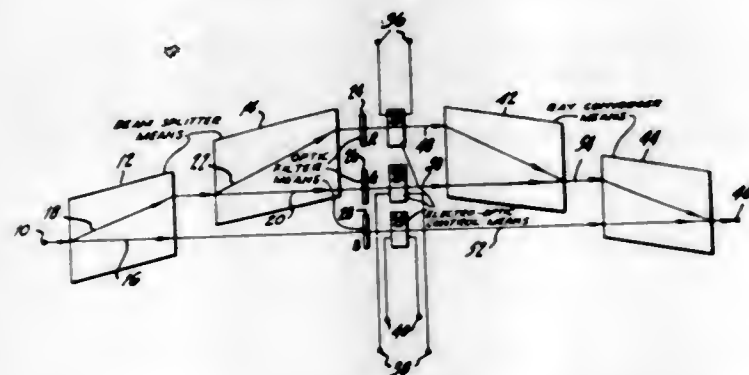
3,383,460

**LIGHT BEAM MODULATION AND COMBINATION APPARATUS**

Dalton H. Pritchard, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Aug. 25, 1965, Ser. No. 482,355

10 Claims. (Cl. 178-5.4)



Apparatus for modulating individual components of a collimated beam of light and for combining the modulated components with perfect registry through the use of bi-refractive crystals and electro-optic controls.

3,383,461

**REDUCED BANDWIDTH VIDEO COMMUNICATION SYSTEM UTILIZING SAMPLING TECHNIQUES**

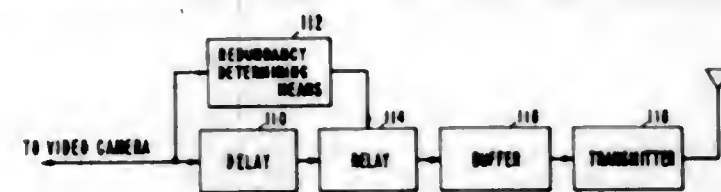
Hugh L. Dryden, Deputy Administrator of the National Aeronautics and Space Administration with respect to an invention of Leonard R. Malling, Altadena, Calif.

Filed Aug. 17, 1964, Ser. No. 390,251

6 Claims. (Cl. 178-6)

A system for decreasing the time-bandwidth requirements in transmitting or storing information, comprising a circuit for monitoring an input signal to indicate which portions are varying rapidly and which are not. The

monitoring circuit controls a sampling circuit which samples the input signal at long intervals for those portions which vary slowly and at short intervals for those signal portions wherein a rapid variation occurs. The samples are entered into a buffer storage apparatus which trans-



mits the samples at regular intervals, regardless of the intervals between which the samples were taken. Marker signals indicating the intervals between which the samples were taken, are mixed with the samples for entry in the buffer.

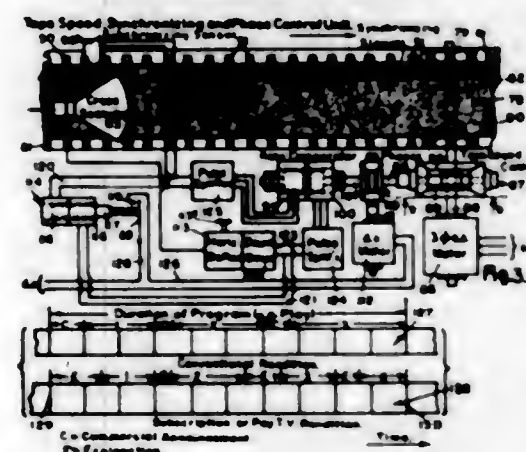
3,383,462

**SYNCHRONIZING AND PHASING BROAD CROSS-SCAN TAPE RECORDINGS**

Thomas A. Banning, Jr., Apt. 1408, 5500-5520 S. Shore Drive, Chicago, Ill. 60637

Original application May 27, 1965, Ser. No. 459,399. Divided and this application Sept. 30, 1965, Ser. No. 491,749

19 Claims. (Cl. 178-6.6)



This case includes structures constituted to compare the rate of arrival of cross-scans previously recorded on the tape, and corresponding to lateral deflections of the kinescope beam, or the signals producing such lateral deflections. Any disparity between such rate of arrival, compared to the rate of lateral deflections, during a playing-back operation is corrected, either by slight adjustment of the one rate or the other rate. Phasing is produced by comparing the instants of production of synchronizing signals from the lateral deflection (or other unit), with the instants of sensing previously recorded synchronizing signals, on the tape. Phasing corrections are based on any disparity between such instants.

3,383,463

**SIGNAL PROCESSING FOR REPRODUCING MAGNETICALLY RECORDED TELEVISION SIGNALS**

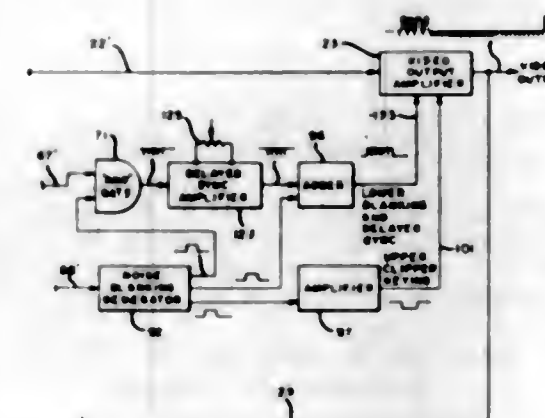
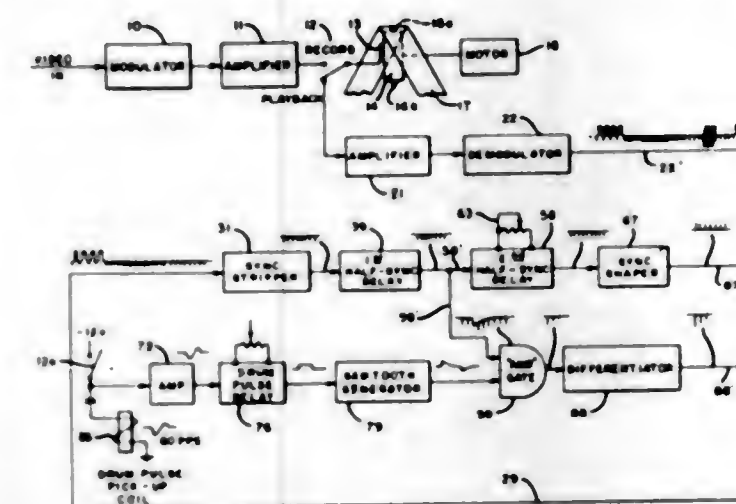
William F. Goodell, Milpitas, and Arturo E. Stosberg, Palo Alto, Calif., assignors to Machtronics, Inc., Palo Alto, Calif., a corporation of California

Filed Aug. 17, 1964, Ser. No. 389,902

5 Claims. (Cl. 178-7.5)

Apparatus for processing a composite video signal which signal includes a noise signal occurring during a portion of the vertical blanking interval. The apparatus includes means for eliminating the horizontal synchronizing and noise signals from the vertical blanking signal during the portion of the vertical blanking interval during which the noise signal occurs. Also, means are included for adding a delayed horizontal synchronizing

signal to the vertical blanking signal during that portion of the vertical blanking signal that the horizontal syn-



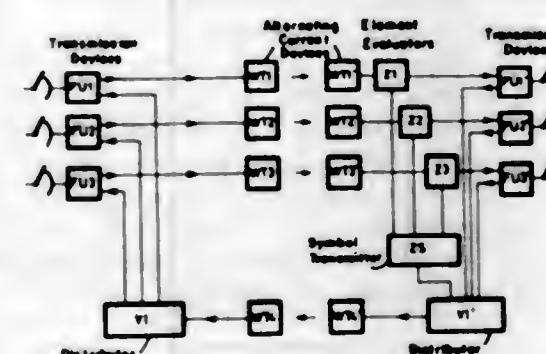
chronizing signal is eliminated whereby none of the synchronizing pulses are lost by reason of the noise eliminating operation.

3,383,464

**TELEPRINTER SYSTEM WITH PLURAL FORWARD CHANNELS AND COMMON TIME-DIVISION-MULTIPLEXED RETURN CHANNEL**

Herman Radler, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany. Continuation of application Ser. No. 240,965, Nov. 29, 1962. This application Jan. 5, 1967, Ser. No. 607,581

7 Claims. (Cl. 178-50)



A circuit arrangement for teleprinter selection systems having connection paths which are adapted for duplex operation, in which the transmittal time for each connection path utilized for transmission in the forward direction is of greater duration than the corresponding transmittal time thereof, utilized for transmission in the return direction, in which for each connection path there is provided a forward direction channel over which connections are extended, and a collective return direction channel which is common to a given plurality of forward direction channels, with distributor means being provided

for effecting a time-staggered allocation of said common return direction channel to the respective forward direction channels, for transmittal of the respective return transmissions of relatively short duration.

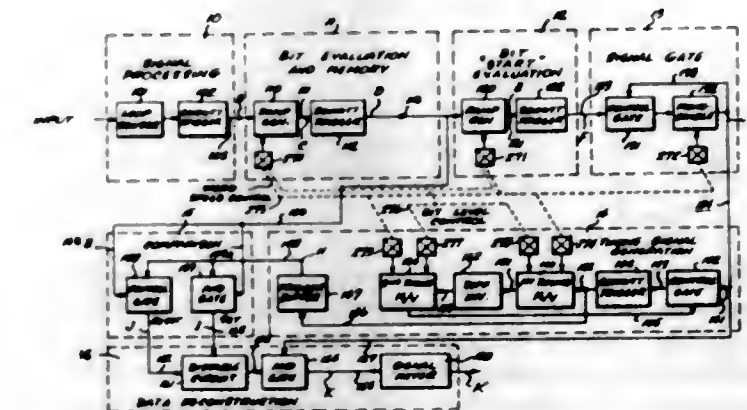
3,383,465

**DATA REGENERATOR**

Patrick F. Wilson, Bellevue, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Mar. 30, 1964, Ser. No. 355,722

19 Claims. (Cl. 178-70)



The present invention relates to data regenerators and more particularly to an improved data regenerator system of the type used in pulse communication systems. The details of a system are disclosed which system operates to regenerate the data signals in a pulse communication system when the data signals being transmitted and received have undergone various types of distortion. A signal evaluation system is disclosed which receives and evaluates each signal and then applies internally generated signals to other parts of the overall signal regeneration system in a manner which provides complete isolation of the signal input and signal output circuits of the overall system. Thus the problems normally associated with input signal fluctuations are avoided. Timing details showing the manner of system operation as well as a schematic circuit diagram of the signal evaluation section are disclosed.

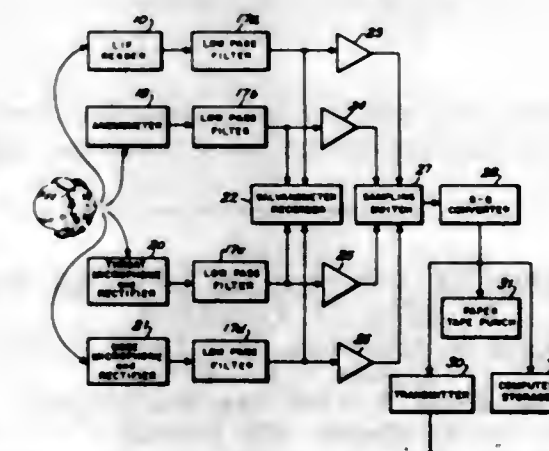
3,383,466

**NONACOUSTIC MEASURES IN AUTOMATIC SPEECH RECOGNITION**

William A. Hillix, San Diego, David C. Milne, Stanford, and Michael N. Fry, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed May 28, 1964, Ser. No. 371,153

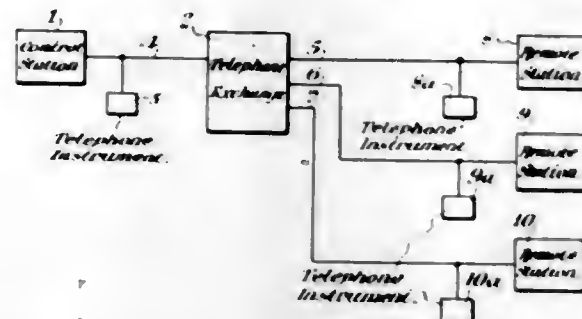
3 Claims. (Cl. 179-1)



In a speech analyzer, lip and face movements, air velocities, and acoustical sounds are sensed and compared, the information being digitally stored and processed.

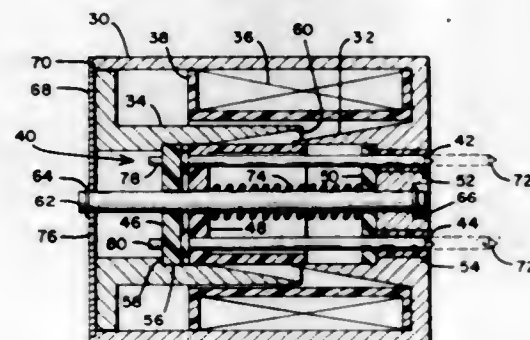


**3,383,467**  
**REMOTE CONTROL SYSTEM USING A COMMERCIAL COMMUNICATION NETWORK TO CONNECT CONTROL AND REMOTE STATIONS**  
 William E. New and Alan E. Collins, London, England, assignors to Westinghouse Brake and Signal Company Limited, London, England  
 Filed Nov. 6, 1964, Ser. No. 409,411  
 6 Claims. (Cl. 179-2)



A remote control system which uses a commercial telephone network to provide individual connections between the control location and each remote station when selected by the system operator. Each station apparatus is capable of transmitting indications and receiving control functions. Station operation after selection is automatic through station identification and an initial indication period. Subsequent operation through alternate control and indication period is contingent upon the reception at the selected station of holding pulses transmitted from the control location as long as it is held active by the operator. Since control reception and indication transmission timing are therefore dependent upon station apparatus, system synchronizing means are unnecessary.

**3,383,468**  
**SOLENOID OPERATED CONTACT PINS FOR INSERTION INTO A TELEPHONE JACK**  
 McNeil Bryan, Centerville, and James E. Moore, Jr., North Oaks, Minn., assignors to Lindsay Controls, Inc., St. Paul, Minn., a corporation of Minnesota  
 Filed Aug. 6, 1964, Ser. No. 387,894  
 2 Claims. (Cl. 179-5)

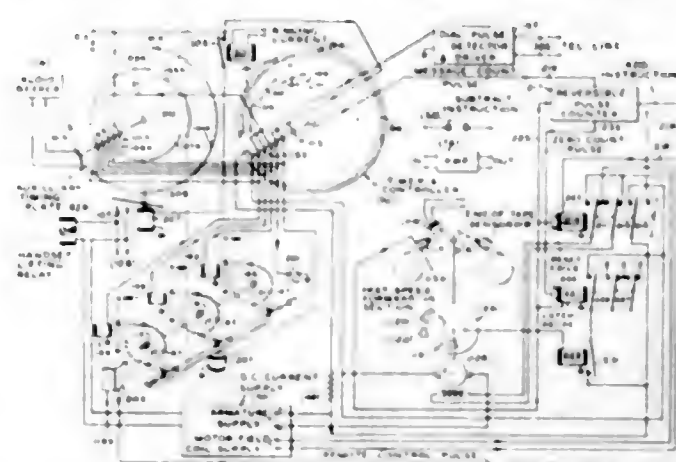


A solenoid actuated electrical coupler for connecting a message transmitting device to a telephone line upon activation.

**3,383,469**  
**TELEPHONE ANSWERING DEVICES WITH REMOTE CONTROL**  
 David M. Goodman, 3843 Debra Court, Seaford, N.Y. 11783  
 Filed Feb. 7, 1963, Ser. No. 256,883  
 16 Claims. (Cl. 179-6)

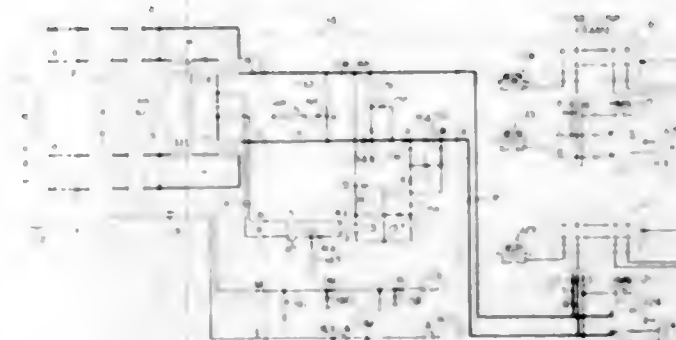
1. A remote control mechanism for an automatic telephone answering device adapted to be located on a subscriber's premises comprising: first means responsive to the ordinary ringing on the telephone line for actuating the device; second means responsive to a pre-determined

sequence of coded signals received after the device has been actuated; control means responsive to the output of said second means for controlling the answering device;



and means alternate to said first means for actuating the device in the "no-answer" mode responsive to a signalling current different from the normal telephone ringing current.

**3,383,470**  
**AUXILIARY LINE CIRCUIT**  
 George F. Doherty, Jr., and William A. Fischer, Matawan, Milton Klein and Donald C. Pilkinton, Metuchen, and Richard A. Walsh and Ralph W. Wyndrum, Monmouth, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
 Filed July 30, 1964, Ser. No. 386,310  
 4 Claims. (Cl. 179-18)

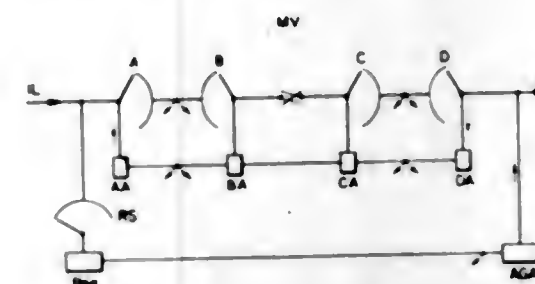


Calling connections from a private line switching network are afforded the use of charging and recording equipment in a commercial switching system by an auxiliary line circuit which is arranged to initiate a dial tone request in the commercial system in response to the enabling of an associated trunk in the private system. The auxiliary line circuit returns a ready signal to the private line network upon the connection of a register and the termination of a predetermined time interval. An answer signal is subsequently transmitted by the auxiliary line circuit to the private network a predetermined interval after the completion of signalling.

**3,383,471**  
**SWITCHING SYSTEM FOR ESTABLISHING CONNECTIONS BETWEEN TRANSMISSION LINES IN TELECOMMUNICATION SYSTEMS OR THE LIKE**  
 Ivan Witalis Grundin, Upplandsgatan 17, Stockholm, Sweden, Karl Arne Anuli, Granbacken 1, Nasbypark, Sweden, and Carl Alfred Berglund, Spelvagen 11, Trangsund, Sweden  
 Filed Sept. 18, 1964, Ser. No. 397,563  
 9 Claims. (Cl. 179-18)

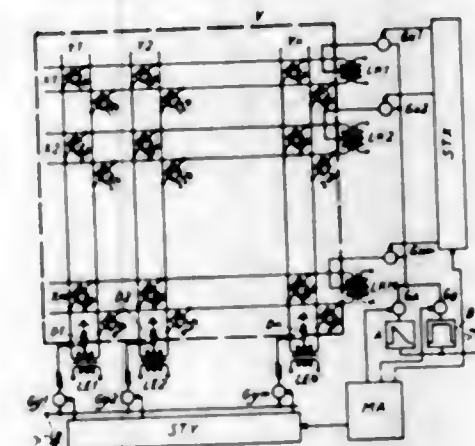
A switching system for connecting transmission lines comprising plural selector stages divided into two-stage groups. The stages are interconnected and certain stages

are also connectable to incoming and outgoing lines. Incoming-outgoing line connections are completed through the selector stages by control circuitry which selects at least one idle outgoing line, a connection to the associated selector stage from the incoming line or lines, and availa-



ble connections in the intervening selector stages. Circuitry responsive solely to the selector stages in which connections are marked completes the selected route from the incoming line through the selector stages to the outgoing line.

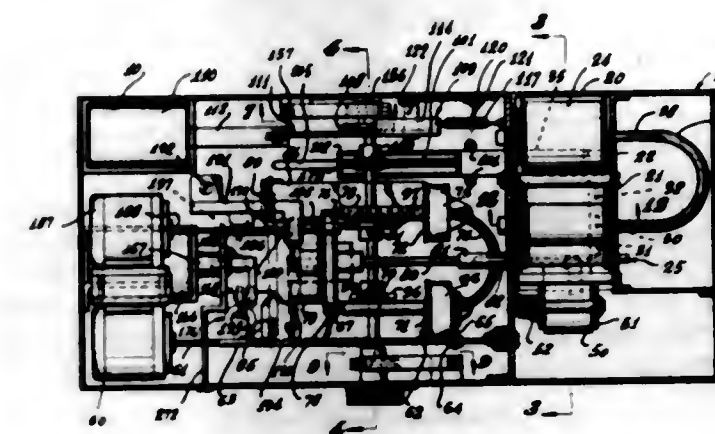
**3,383,472**  
**COORDINATE SWITCH AND TELECOMMUNICATION SYSTEM COMPRISING BILATERAL SEMI-CONDUCTOR SWITCH MEANS**  
 Walter Emil Wilhelm Jacob, Stuvsta, Sweden, assignor to Telefonaktiebolaget L. M. Ericsson, Stockholm, Sweden, a corporation of Sweden  
 Filed July 8, 1965, Ser. No. 470,388  
 Claims priority, application Sweden, July 24, 1964, 9,003/64  
 5 Claims. (Cl. 179-18)



1. Coordinate switch comprising a first group of parallelly arranged conductors and a second group of parallelly arranged conductors located in a crosswise direction relative to said first group of conductors, a plurality of memory elements, each memory element connecting a conductor of the first group at a crossing point to a conductor of the second group respectively, said memory element comprising a body of semi-conducting material, which can be transformed from a non-conducting state to a conducting state by the application of a voltage exceeding a threshold value and reducing the current thus passing through the memory element in a slowly decreasing time sequence, and which may be transformed from a conducting condition to a non-conducting condition by passing through the element a voltage pulse with a steeply decreasing time sequence, a first generating means for generating a voltage pulse with a sloping rear flank, a second generating means for generating a voltage pulse with a steep rear flank and control means for connecting alternatively said first generating means or said second generating means to any conductor of the first group and any conductor of the second group so that an

electric connection may be established or disconnected between said two conductors through the memory element at the crossing point of said conductors.

**3,383,473**  
**BI-DIRECTIONAL TAPE TRANSPORT**  
 Richard E. Schroter, Hollywood, Calif., assignor to Ralph J. Samuels, Los Angeles, Calif.  
 Continuation-in-part of application Ser. No. 803,490, Apr. 1, 1959. This application Feb. 27, 1963, Ser. No. 261,953  
 12 Claims. (Cl. 179-100.2)



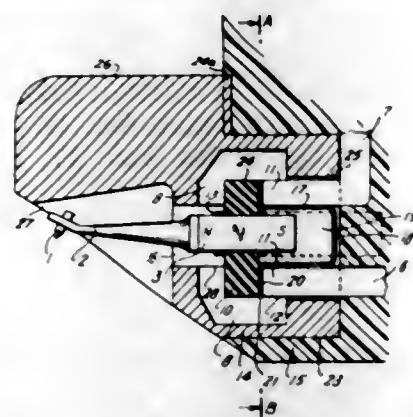
1. In combination with a length of magnetic tape having its ends secured to a pair of reels, and a transducer to be moved transversely of the tape, a tape drive and transducer positioning control system comprising:  
 a unidirectional motor having an output shaft;  
 shaft means to be coupled to said output shaft for driving said reels and tape;  
 coupler means rotatable by said output shaft for coupling said shaft means to said output shaft, said coupler means being movable between two positions wherein it causes said shaft means to rotate in opposite directions;  
 an elongated rack member carrying said transducer at one end thereof;  
 a pinion member engaging said rack and rotatable to impart longitudinal movement to said rack member;  
 cam means for moving said coupler means between its two positions;  
 and a rotatable control shaft mechanically coupled to said pinion member and cam means, said cam means being operable to cam said coupler means alternately between its two positions a plurality of times during a revolution of said control shaft.

**3,383,474**  
**ELECTROMAGNETIC PICKUP WITH EXCHANGEABLE STYLUS ASSEMBLY FOR PHONOGRAPH RECORDS**  
 Walter Kriebel, Kiel, and Gustav Maas, Eutin, Germany, assignors to Electroacustic Gesellschaft mit beschränkter Haftung, Kiel, Germany, a corporation of Germany  
 Filed Dec. 21, 1964, Ser. No. 419,801  
 Claims priority, application Germany, Dec. 23, 1963, E 26,098

22 Claims. (Cl. 179-100.41)  
 The magnetic circuit of an electromagnetic pickup for phonograph records has at least one pair of pole shoes spaced from each other to form a pole gap. An armature is positioned in the gap extending in length substantially parallel to and spaced from the pole shoes and has a length which is less than that of any of the pole shoes. Each of the pole shoes is subdivided into a fixed portion and a removable end portion at the gap and the removable end portion of each engages the corresponding fixed portion and protrudes therefrom. An exchangeable assembly

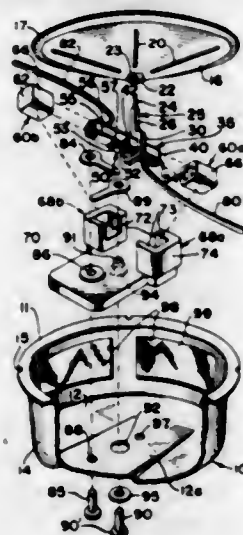


comprises an armature and a stylus carrier secured to the armature and extending colinearly therewith. Each of the removable pole shoe portions is part of the exchangeable assembly and forms, when engaging one of the respective fixed portions and conjointly therewith, an inter-



mediate space between the removable end portion and the corresponding fixed portion laterally of and extending to and opening on the armature. Two opposite ones of the spaces have conjointly with the pole gap a larger width than the pole gap only. An elastic bearing member surrounds the armature and is mounted in the spaces.

**3,383,475**  
**MICROPHONE EMPLOYING PIEZORESISTIVE ELEMENT**  
Alpha M. Wiggins, San Juan, Puerto Rico, assignor to Euphonia Corporation, Guaynabo, Puerto Rico, a corporation of Puerto Rico  
Filed Sept. 8, 1965, Ser. No. 485,760  
11 Claims. (Cl. 179-110)

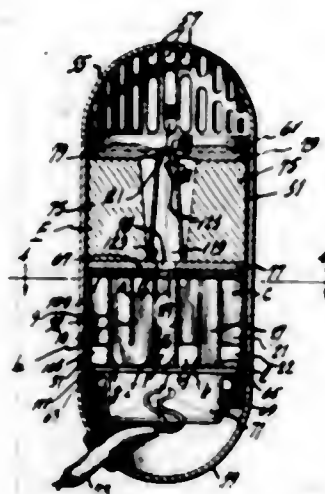


11. A microphone comprising:  
a support;  
a transducer including a piezoresistive element;  
means connecting opposite ends of said transducer to said support in free, slidable, frictional engagement therewith; and  
means for applying bending forces to said element for changing its electrical resistance.

**3,383,476**  
**SOUND TRANSLATING APPARATUS**  
Adolph R. Morgan, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Mar. 17, 1965, Ser. No. 440,576  
10 Claims. (Cl. 179-180)

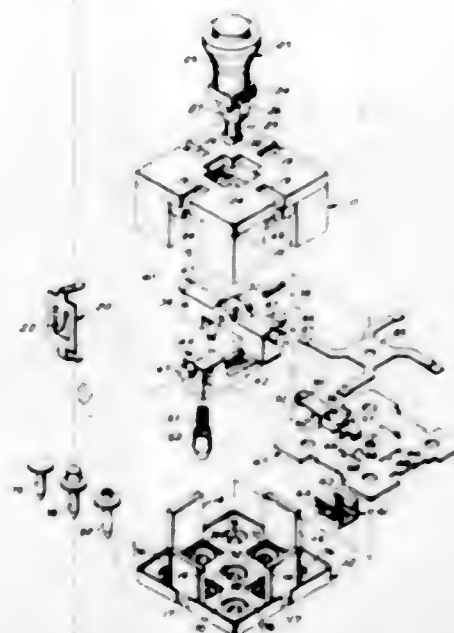
1. In a microphone of the type having a vibratory conductor in a magnetic field,  
a labyrinth structure for loading said conductor comprising first and second groups of partitions disposed in angular relation to each other and interlocked to provide a plurality of cells,

a said cells being successively in communication with each other at opposite ends beginning with a first



one thereof and ending with a last one thereof to thereby provide a continuous passage through all of said cells.

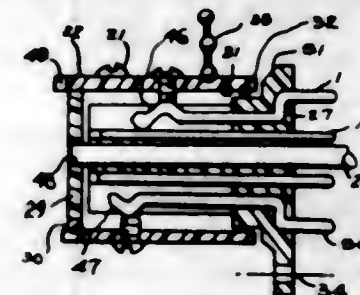
**3,383,477**  
**MULTIPLE POSITION SWITCH**  
William F. Swisher, St. Clair Shores, Mich., assignor to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan  
Filed Sept. 2, 1966, Ser. No. 577,579  
6 Claims. (Cl. 200-6)



An electrical multiple position switch having an operating lever which alternately rotates a pair of rotatable crankshafts and each crankshaft includes a pair of spring loaded plungers. A terminal board is provided having a plurality of fixed contact terminals and a buss plate. A plurality of pivotable contacts are provided with each of the pivotable contacts being associated with one of the fixed contact terminals. Each of the pivotable contacts is normally urged into contacting relationship with the buss plate. When one of the crankshafts is selectively rotated, one of its associated plungers urges one of the pivotable contacts out of contact with the buss plate and into contact with one of the fixed contact terminals. The lever is capable of movement about at least two axes where movement about one of the axes rotates one crankshaft and movement about the other of the axes rotates the other crankshaft. The whole assembly is inclosed in a two-part housing which is clamped together; the crankshafts are

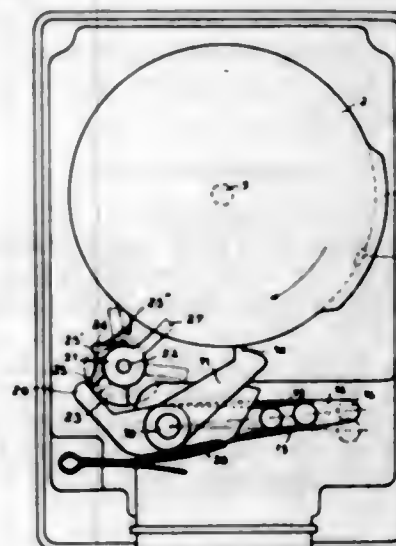
held between the two parts of the housing and the housing prevents movement of the lever about more than one axis at any one time.

**3,383,478**  
**ROTARY SWITCH WITH RADIALLY DISPLACED PRESSURE CONTACT POINTS**  
Eugene V. Mandel, 11 Eldorado Place, Weehawken, N.J. 07087  
Filed Feb. 28, 1966, Ser. No. 534,574  
34 Claims. (Cl. 200-8)



A rotary multiple switch having an external pressure-pip-carrying drum programmable for selectively actuating the individual switches.

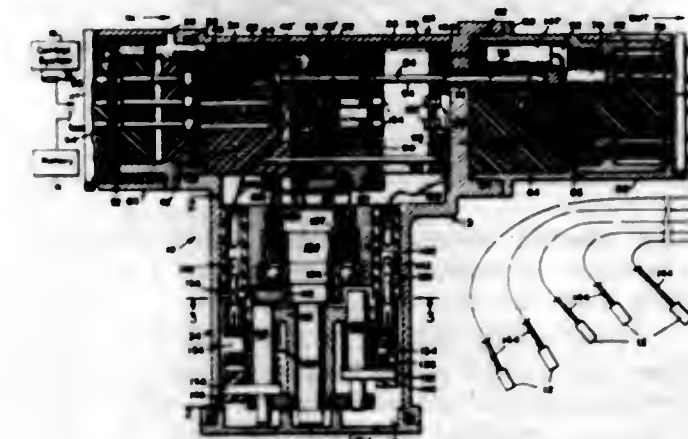
**3,383,479**  
**DEVICES FOR AUTOMATICALLY CONTROLLING THE OPERATION OF MACHINES OR APPARATUS WHOSE FUNCTIONING FOLLOWS A PRESET PROGRAMME, AND PARTICULARLY FOR CONTROLLING THE DEFROSTING OF REFRIGERATORS**  
Nicolas Lazzio, Centre Commercial E-2, Chaux, Haute-Savoie, France  
Filed Feb. 1, 1966, Ser. No. 524,032  
Claims priority, application France, Feb. 2, 1965, 4,112/62, Patent 1,431,810  
3 Claims. (Cl. 200-38)



Control device for apparatus operating according to a preset program such as for example a refrigerator which uses a synchronous motor driving a cam whose angular position on the shaft of the motor can be adjusted, the cam actuating through a lever, a commutator whose contacts interrupt the electrical circuit of the apparatus to be controlled, the lever system consisting of two levers pivoted on the same shaft and connected together by a spring whereby one of the levers is actuated by the cam driven by the synchronous motor whereas the other lever actuates the commutator, for example to defrost a refrigerator. The lever which actuates the commutator has at its end opposite to that which moves the contact, a tail acted on by a blocking lever, which is itself manually operable

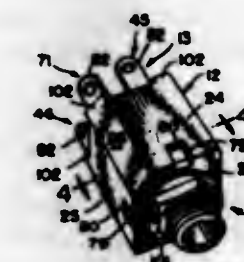
by a control knob, in such a way that the operator can immobilise the lever actuating the commutator in order to make the latter inoperative and thus interrupt the operation, whereby when the cam pivots the second lever the pivoting movement is absorbed by the spring system connecting the two levers.

**3,383,480**  
**ELECTRICAL CONNECTOR**  
John J. Phillips, Rolling Hills, and John R. Abbott, Sherman Oaks, Calif., assignors to Gray & Halegard, Inc., Santa Monica, Calif., a corporation of California  
Filed Aug. 23, 1965, Ser. No. 481,740  
13 Claims. (Cl. 200-51)



This invention relates to electrical systems and switches therefor wherein one or more very sensitive loads are to be energized only in response to particular control signals and not operated as a result of stray radiations, such as electromagnetic energy. Shielding means are provided only around a limited portion of the system containing the loads. The remaining portions of the system, such as the power supply etc. are not shielded whereby the cost, weight, etc. are all reduced. However, any stray currents created in the power supply and other unshielded portions of the system will not cause any undesirable operations of the loads.

**3,383,481**  
**ELECTRICAL JACK WITH AXIALLY MOUNTABLE CONTACT ELEMENTS**  
James R. Bailey, Chicago, and Robert J. Bokosky, Park Ridge, Ill., assignors to Switchcraft, Inc., Chicago, Ill., a corporation of Illinois  
Filed Jan. 29, 1965, Ser. No. 429,023  
13 Claims. (Cl. 200-51.1)

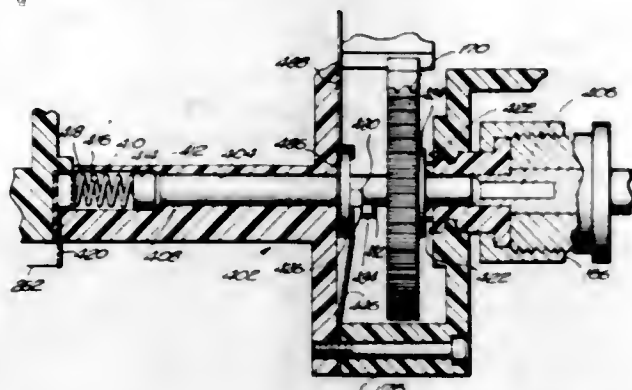


An electrical jack embodying a hollow housing open at one end and having a collar at the opposite end for the guidance of a plug stem therethrough into the housing, the housing having flat lateral walls and spaced pocket forming grooves on the inner faces of said walls in position to receive the opposite edges of flat contact making elements in said pockets in position overlying the inner faces of the housing walls, at least some of the contact elements having portions in position for engagement with a plug stem in the jack.



### 3,383,482 SWITCH DEVICES

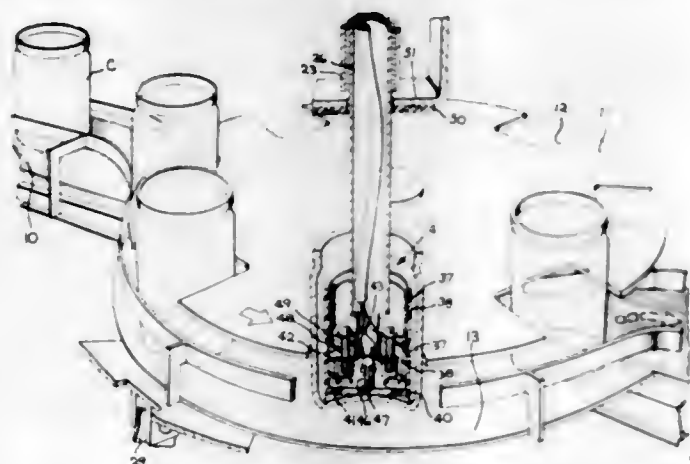
Frank A. Perrino, Attleboro, Mass., assignor, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey  
Original application Nov. 2, 1964, Ser. No. 409,350, now Patent No. 3,325,226, dated June 13, 1967. Divided and this application Aug. 5, 1966, Ser. No. 594,290  
7 Claims. (Cl. 200—61.39)



1. An electric switch movable automatically to an open position in response to rotation of a shaft in one direction and movable automatically to a closed position in response to rotation of the shaft in the opposite direction, said switch comprising a rotatable shaft, a contact button adapted to resiliently engage one end of said shaft, means mounting said shaft for axial movement between a first position wherein said contact button is in engagement with said shaft and a second position wherein it is disengaged therefrom, and cam means associated with said shaft for automatically moving said shaft to said first position when the shaft is rotating in one direction and to the said second position when the shaft is rotating in the opposite direction.

### 3,383,483 INSPECTING WIDE MOUTH GLASS CONTAINERS FOR SPIKES

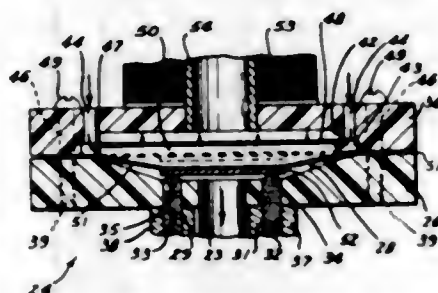
John R. Johnson, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio  
Continuation-in-part of application Ser. No. 498,448, Oct. 20, 1965. This application June 8, 1966, Ser. No. 594,950  
21 Claims. (Cl. 200—61.42)



Apparatus for inspecting wide mouth containers for "spike" defects by the movement of a lightweight member through the open mouth of the container. The lightweight member is reciprocated in the container by a support member whose lowermost position is predetermined by the lightweight contact member, upon contacting a "spike," will be moved upwardly relative to the supporting member. Switch means are provided to be actuated by the upward, relative movement of the contact member with respect to the supporting member.

### 3,383,484 PRESSURE RESPONSIVE SWITCH

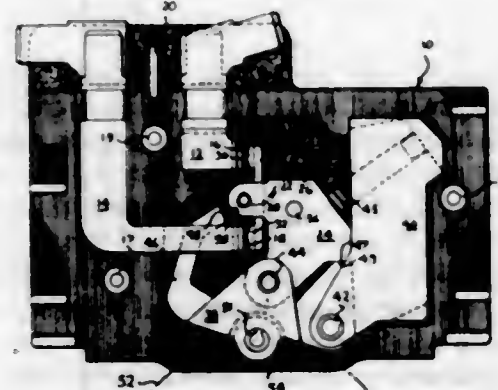
Leon J. Arp, 1221 Marston, and James M. Varnum, 428 Ash, both of Ames, Iowa 50010  
Filed Oct. 13, 1965, Ser. No. 495,649  
1 Claim. (Cl. 200—83)



A pressure responsive switch comprising a pair of plates adapted to be locked together with a cavity formed therein. A pair of separate electric contacts are mounted in one plate, with the contacts being part of a normally open electrical switch, which switch can be connected to for operating any electrically responsive mechanism. A diaphragm is also mounted in the cavity which is responsive to a differential pressure on either side thereof. An opening is formed in the plate of the contacts to transmit, for example, the negative pressure of a person inhaling through the opening, and a positive pressure of a respirator system forcing air therethrough to the person. On the side of the diaphragm facing the contacts, an electrically conductive disc is mounted which disc is operable to simultaneously engage the contacts, thereby closing the switch circuit. On the opposite side of the diaphragm, due to a series of holes formed in the other plate, air under atmospheric pressure is admitted therein for forcing the diaphragm and its disc against the contacts in response to a negative pressure on the disc side of the diaphragm. An electromagnetic device is also mounted on the opposite plate which is operable to vary the sensitivity of the pressure responsive switch by magnetically affecting the disc. The cavity on the electromagnetic device side of the diaphragm has a screen interposed between the diaphragm and the electromagnetic device to prevent the diaphragm from contacting the device, and for insuring air under atmospheric pressure on the entire surface of the diaphragm at all times irrespective of its position.

### 3,383,485 CAM ACTUATED SWITCH MECHANISM PROVIDED WITH AN ACTUATOR LINK HAVING AN EXTENSION FOR TERMINATING WIPING ACTION

John P. Nadzam, North East, Raymond S. Pastewka, Erie, and Ralph E. Walter, North East, Pa., assignors to General Electric Company, a corporation of New York  
Filed Feb. 23, 1967, Ser. No. 618,115  
10 Claims. (Cl. 200—153)



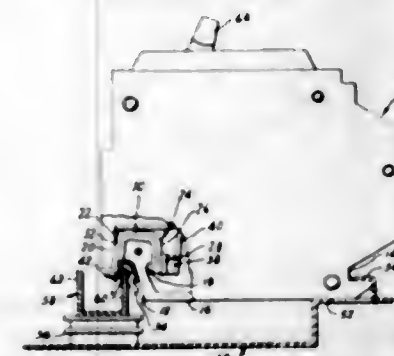
An electric switch includes a pair of spaced stationary contact members and a bridging contact member therefor arranged for relative movement. An actuating link is

mounted for rotation about a fixed point in a casing for the switch. A carrier link, pivotally mounted on the actuating link, has the bridging contact member pivotally mounted thereon in such a manner that a spring urges the bridging member into a normally closed position with respect to the stationary contact members.

As a cam which actuates the electric switch rotates the actuating link through a preselected arc, contact wiping action is produced between the bridging contact member and the stationary contact members. During a rotation of the actuating link beyond this preselected arc, an extension member forming a part of the actuating link engages the bridging contact member, terminating the wiping action and holding the bridging contact member rigid while the switch is opened.

### 3,383,486 ELECTRIC CIRCUIT BREAKER WITH COMBINED PLUG-IN TERMINAL AND CONTACT SUPPORT

David B. Powell, Bristol, Conn., assignor to General Electric Company, a corporation of New York  
Filed Apr. 17, 1967, Ser. No. 631,530  
2 Claims. (Cl. 200—166)



A molded insulating casing type circuit breaker includes a combined socket and contact support member formed of a pair of elongated strips of metallic material joined at one end. A contact is attached to the strips adjacent their joined ends and the opposite ends diverge to facilitate entry of a conductive blade member. The joined strips are bent into a generally U-shaped configuration to facilitate arc blowout.

### 3,383,487 THIN FLEXIBLE MAGNETIC SWITCH

Robert Wiener, 2950 Governor Drive, San Diego, Calif. 92122  
Filed July 18, 1966, Ser. No. 566,077  
22 Claims. (Cl. 200—168)



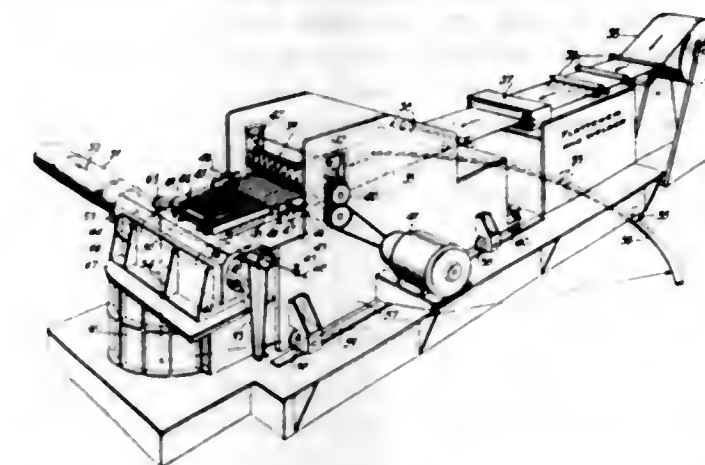
A switch having flexible insulating walls and internal flexible contacts, either printed circuit or adhesively secured, the switch being extremely thin.

### 3,383,488 SPIRAL TUBE FORMING AND WELDING APPARATUS

James Bandura, Haworth, George J. Gendron, Oradell, Lindsey J. Phares, Butler, and Ira W. Henderson, Scotch Plains, N.J., assignors to Raymond International Inc., New York, N.Y., a corporation of New Jersey  
Filed June 9, 1964, Ser. No. 373,687  
10 Claims. (Cl. 219—62)

A spiral tube forming apparatus comprising means for forming a strip of metal against a curved, semi-cylindrical, tube forming surface at a slant angle with

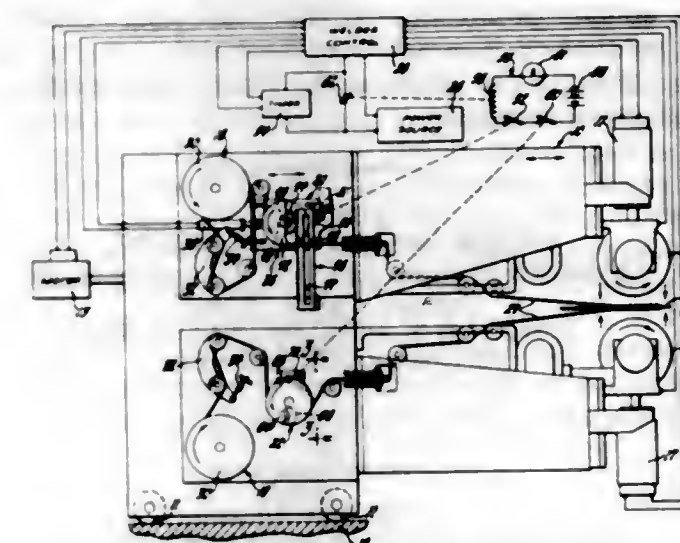
respect to the cylindrical axis of the surface. The slant angle and the cylindrical diameter may be changed and



means are provided to insure the lateral support of the strip between the means which forces it into the forming surface and the forming surface itself.

### 3,383,489 WELDING APPARATUS

Dazo H. Ciranko, Grand Rapids, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Oct. 10, 1963, Ser. No. 315,324  
11 Claims. (Cl. 219—81)



Welding apparatus incorporating detector mechanism that is driven by welding filler material until a rupture occurs. Upon the occurrence of a rupture, the detector mechanism is no longer driven and causes a relay circuit to turn off the power after a timed interval expires.

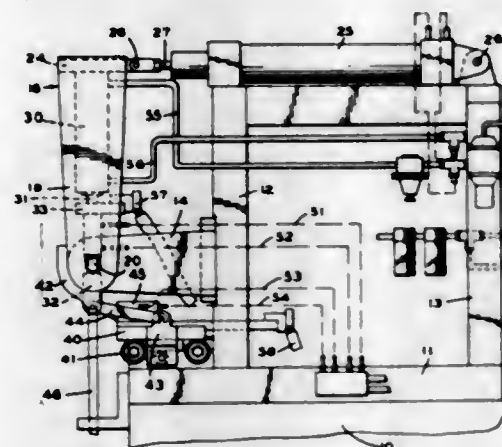
### 3,383,490 WELDING MACHINE

Walter L. Jewett, Royal Oak, Mich., assignor to Allied Welder Corporation, Detroit, Mich., a corporation of Michigan  
Filed Feb. 18, 1965, Ser. No. 433,750  
4 Claims. (Cl. 219—87)

2. A welding machine for welding a workpiece in a series of welds in one operation with the welds overlapped or spaced as desired comprising:  
a first electrode having a curved profile for contacting a workpiece;  
a second electrode mating with said first electrode;  
a rocking head supporting one said electrode;

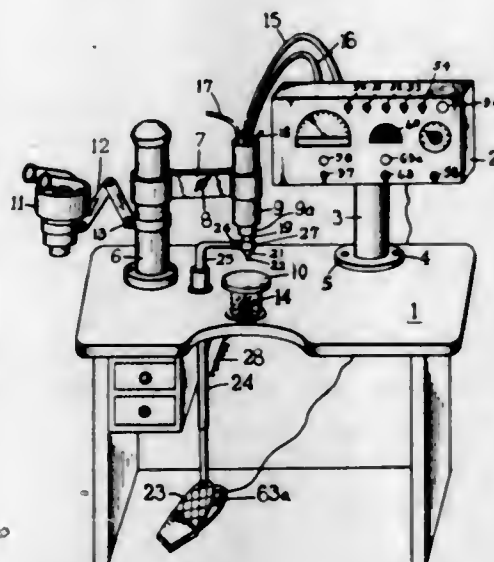


a movable slide supporting the other said electrode; means coordinating the motion of said head and slide to move said electrodes at the same relative rate in the same direction to rock at least one said electrode relative to the other with said curved profile electrode and said mating electrode defining a series of contact points between themselves and through a workpiece interposed between them; means for advancing one said electrode toward the other to forcibly engage a workpiece lying between them;



means for moving at least one said head and said slide to rock said head and move said slide to roll at least one said electrode relative to the workpiece; and means for intermittently supplying welding current to said electrodes while they are defining a series of contact points through the workpiece to weld the workpiece in a series of spot welds at the contact points in the series at the times when welding current is supplied.

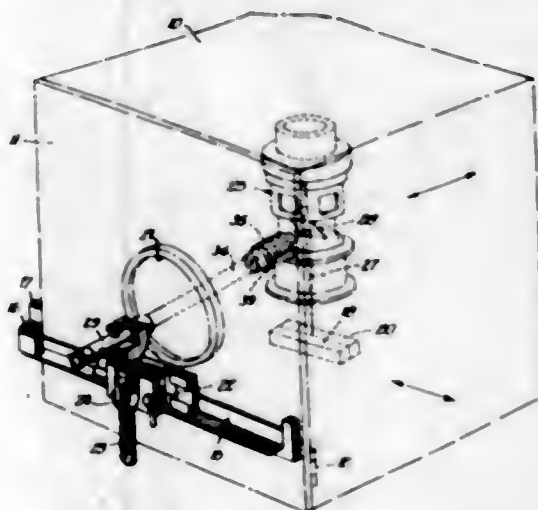
**3,383,491**  
**LASER WELDING MACHINE**  
Hrand M. Muncheryan, 1735 Morningglade St.,  
Orange, Calif. 92667  
Filed May 5, 1964, Ser. No. 364,923  
18 Claims. (Cl. 219-121)



A laser welding machine is described which comprises a work console, a microscope swivelly pivoted thereon, a housing containing an electric power supply supported on said console and provided with an air- or water-cooled laser generator head having at its terminal end means to slidably accommodate thereon a split-tip conical optical system adapted with means to move said system up and down during welding of a workpiece positioned on a heated platen supported on said console in the inferior

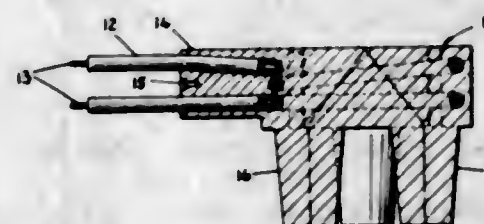
relation of said optical system. A laser triggering means with a temperature-sensitive control means is connected in the circuit of said laser generator and to said means for moving said optical system up and down to trigger said laser generator by downward movement of said optical system and upon contact of said split tip with said workpiece.

**3,383,492**  
**OPTICAL VIEWING SYSTEM FOR ELECTRON BEAM WELDERS**  
Julius L. Solomon, Chicago, Ill., assignor to Welding Research, Inc., Chicago, Ill., a corporation of Illinois  
Filed June 23, 1964, Ser. No. 377,307  
5 Claims. (Cl. 219-121)



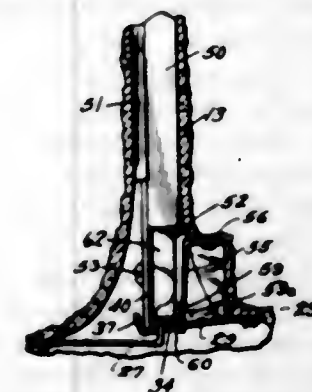
In an electron beam welding apparatus, in combination, an electron beam gun being mounted within a vacuum chamber for adjustable movement in both vertical and horizontal directions, a workpiece providing a seam to be welded, said workpiece also being located within the vacuum chamber and being supported for movement horizontally in a direction parallel to the seam, an optical system for viewing the seam from outside the vacuum chamber before, during and following the welding operations, said optical system including a collimator lens fixed to and movable with the gun and a viewing telescope located exteriorly of and supported by the vacuum chamber, a cross hair reticule mounted at the image plane of the lens and which is capable of adjustment with respect to the image projected by the lens, and means supporting said telescope adjacent a window of the vacuum chamber and in a manner permitting adjustment of the telescope with respect to the image end of the lens.

**3,383,493**  
**HEATER BLOCK AND PROCESS FOR PRODUCING SAME**  
Jobst Ulrich Gellert, 227 Viewmount Ave.,  
Toronto, Ontario, Canada  
Filed Sept. 15, 1965, Ser. No. 487,385  
7 Claims. (Cl. 219-200)



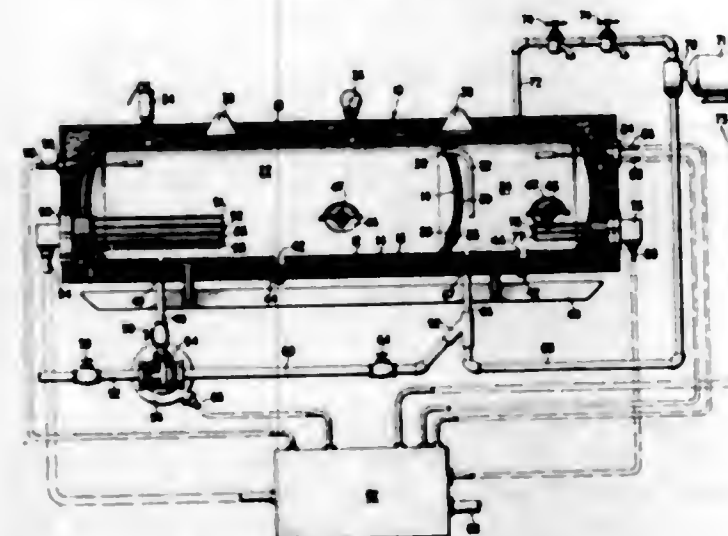
A heater-block or hot-runner for use in plastic-injection moulding machines comprising a unitary, pressure-cast block of beryllium copper, suitably shaped and having cast therein a looped heater element disposed in symmetrical relationship to the block to provide substantially uniform heating thereof.

**3,383,494**  
**ELECTRIC POWERED LIGHTER**  
Leonard D. Hubert, 201 W. Jackson St.,  
Elmhurst, Ill. 60126  
Filed Oct. 21, 1964, Ser. No. 405,400  
15 Claims. (Cl. 219-265)



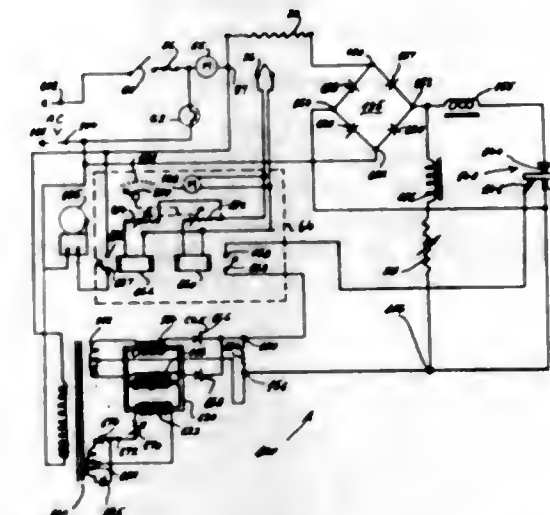
An electric lighter having a heater unit mounted on a handle and a housing disposed for receiving the heater unit therein. Mounted within the housing are contact members connected to a source of alternating current voltage for engaging the heater unit when the handle is depressed within the housing. One contact member is resilient and supports the heater unit in an unbiased position and removed from the other contact member until the heater unit is depressed to a biased position. A bimetallic strip includes a detent which engages the heater unit in the biased position thereof until sufficient heat is generated to deflect the bimetallic strip and release the heater unit.

**3,383,495**  
**HOT WATER HEATING SYSTEMS**  
Herbert L. Laube, Camillus, and John T. Bensley,  
Skanateles, N.Y., assignors to The Singer Com-  
pany, New York, N.Y., a corporation of New  
Jersey  
Filed Apr. 28, 1967, Ser. No. 634,748  
7 Claims. (Cl. 219-321)



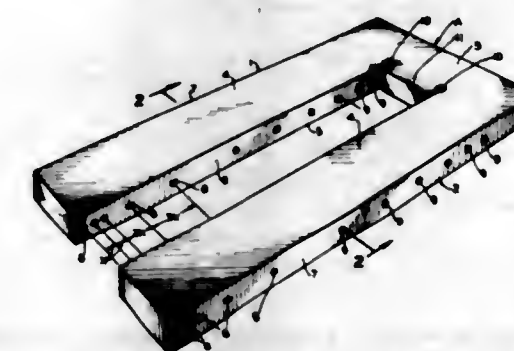
An electrically powered hot water heating system that utilizes a unitary tank divided into two fluidly connected compartments, one substantially larger than the other. The large compartment contains water, drawn from a water supply and heated to a relatively high temperature, and the small compartment contains water at a relatively moderate temperature and from which the water is drawn to be delivered to service outlets, such as kitchen and bathroom faucets. The system, designed preferably for business establishments such as motels, includes a unit for controlling electric power supplied to such establishments which unit monitors and controls the electric energy supplied to the various electrically powered units such as the heaters for the two compartments.

**3,383,496**  
**HIGH TEMPERATURE VACUUM FIRING PORCELAIN FURNACE**  
Leon Ginsburg, Bronx, N.Y.  
(244 Liberty Road, Tappan, N.Y. 10983)  
Filed Aug. 27, 1965, Ser. No. 483,280  
6 Claims. (Cl. 219-501)



A temperature and a firing rate control system for a heating chamber of a furnace whereby the temperature is maintained at a predetermined level in spite of changes in electrical resistance of a heater element used to heat the chamber, maintaining a predetermined time for the temperature level to be reached, thus allowing very accurate repeatable cycles. The system includes a power supply with a resistance heater element in series with the power supply. A silicon controlled rectifier is connected in series with the heater element, the rectifier normally maintained in a nonconductive condition. A magnet controls the rectifier, setting a certain current level in the heater element; a feedback circuit is provided in circuit with the heater element and amplifier to sense any change in current in the heater element and to restore said certain current level. A thermoelectric temperature meter with a thermocouple connected to the meter for measuring the exact temperature of the chamber. A relay is connected in circuit with the thermocouple meter and the rectifier arranged to open the circuit of the rectifier when the chamber is at a predetermined temperature.

**3,383,497**  
**ELECTRIC RESISTANCE HEATERS**  
Darrel M. Harris, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
Original application Dec. 2, 1964, Ser. No. 415,363, now  
Patent No. 3,351,742, dated Nov. 7, 1967. Divided and  
this application Feb. 3, 1967, Ser. No. 641,389  
5 Claims. (Cl. 219-553)

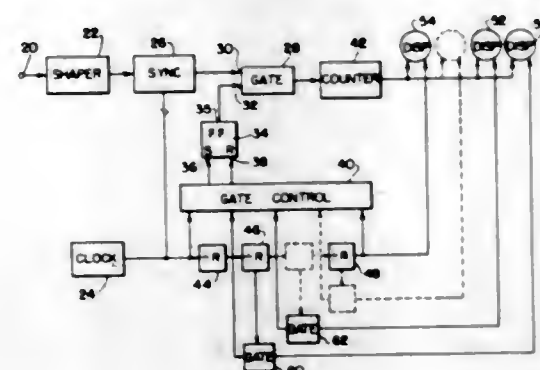


A graphite heating element for epitaxial deposition furnaces which comprises a pair of legs connected by a bight portion, each of the legs is tapered from a point centrally of its end so that it is thicker in the center. The



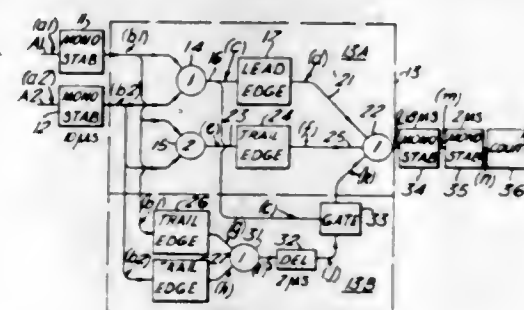
taper is such that the cross sectional area provides uniform electric resistance and uniform heat distribution throughout. The bight portion is substantially thicker than each of the legs and includes a larger central aperture at the point of connection with each of the legs. A second modification is also provided and attains uniform electric resistance characteristics and uniform heat distribution by selectively drilling apertures transversely through the legs so that the apertures are concentrated near each of the ends of the legs.

**3,383,498**  
**DIGITAL CIRCUIT**  
Bernard M. Gordon, Hesperus Ave.,  
Magnolia, Mass. 01930  
Filed Dec. 18, 1964, Ser. No. 419,377  
12 Claims. (Cl. 235-92)



A system for digitally counting a number of signals using only a single digital counter capable of counting only digits of  $R^1$  significance where  $R$  is the radix of the numerical counting system. The device includes a control which gates the signals to the counter for a predetermined time period. The state of the counter is successively sampled during that period at the end of a number of intervals, each of which commences with the beginning of the time period, each interval being a unique fraction,  $1/R^n$ , of the time period.

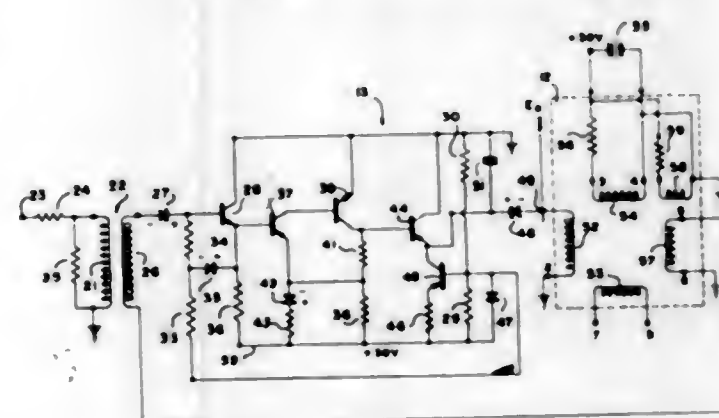
**3,383,499**  
**ELECTRICAL PULSE COUNTING SYSTEMS**  
Neil Rutherford Laidlaw, Edinburgh, Scotland, assignor to  
Ferranti Limited, Hollinwood, England, a company of  
Great Britain and Northern Ireland  
Filed May 28, 1965, Ser. No. 459,731  
Claims priority, application Great Britain, May 30, 1964,  
22,478/64  
5 Claims. (Cl. 235-92)



1. A system to enable a counter to accept without loss electrical input pulses delivered over two input channels in each of which the pulse spacing is at least twice the minimum acceptable to the counter including for each channel an input-pulse expanding stage for deriving from each input pulse in that channel an expanded input pulse the duration of which is not less than said acceptable

minimum spacing and not greater than the difference between the minimum input pulse spacing and the minimum acceptable spacing, an Or-gating stage connected to the pulse expanding stages for combining the expanded pulses in a common channel, a first differentiating stage connected to the Or-gating stage for deriving a first edge pulse in synchronism with the leading edge of each pulse in said common channel, an And-gating stage connected to the pulse expanding stages for producing an And-gated pulse defined by the overlap in time of two expanded pulses, one from each channel, a second differentiating stage connected to the And-gating stage for deriving a second edge pulse in synchronism with the trailing edge of each And-gated pulse, stages connected to the pulse expanding stages for deriving a third edge pulse in synchronism with the trailing edge of each expanded input pulse, a delay stage connected to the last-mentioned stages for imparting to each of the third edge pulses a delay less than the duration of each expanded input pulse, a transmission gating stage connected to the Or-gating stage and to the delay stage for passing each delayed third edge pulse that occurs during the presence of a pulse in said common channel, and output connections from the differentiating stages and the transmission gating stage to the counter to pass as output pulses to it each of the first and second edge pulses and each edge pulse passed by the transmission gating stages.

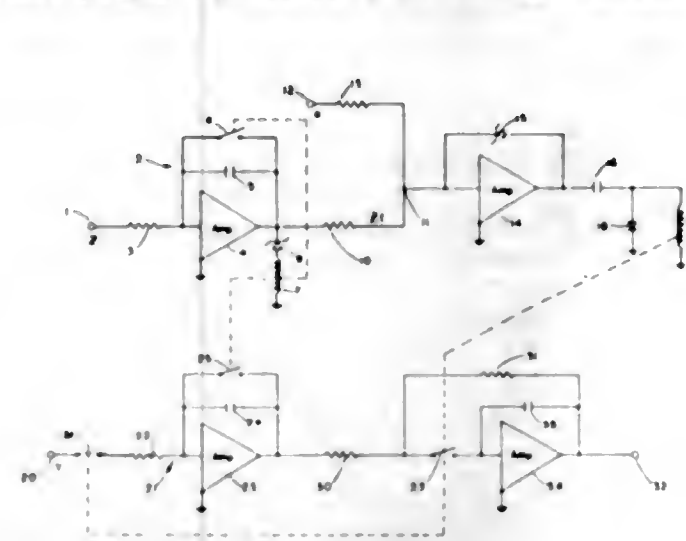
**3,383,500**  
**ANALOG COMPUTER CIRCUITS FOR MULTIPLYING, DIVIDING AND ROOT-TAKING WITH MAGNETIC AMPLIFIER IN A FEED-BACK LOOP**  
Leonard J. Ernst, Lake Hiawatha, N.J., assignor to  
General Magnetics, Inc., Bloomfield, N.J., a corporation of New Jersey  
Filed Mar. 24, 1965, Ser. No. 442,301  
17 Claims. (Cl. 235-193.5)



Disclosed is an analog computer circuit having a forward loop gain of  $A_1$ , as well as positive and negative feedback loops of gain  $A_2$ . In the positive feedback loop, the forward loop signal is multiplied by an offset factor, while in the negative loop the forward loop output signal is multiplied by a signal indicative of a denominator representing signal or by itself to effect root extraction. The circuit may be utilized as a voltage regulator. Multiplication in the feedback loop is effected with a magnetic amplifier having an input winding to which the offset voltage is applied.

**3,383,501**  
**ARITHMETIC CIRCUIT FOR MULTIPLYING AND DIVIDING**  
Thomas A. Patchell, Havertown, Pa., assignor to  
Honeywell Inc., a corporation of Delaware  
Filed Oct. 27, 1964, Ser. No. 406,675  
7 Claims. (Cl. 235-195)  
An arithmetic circuit including multiplier and divider

functions is provided. Integrator circuits operate on input signals until a signal is produced by one integrator to effect provided for connecting the battery to the bulb, the circuit includes the links of the chain, whereby the bulb will



the transfer of the signal generated by another integrator to a storage means.

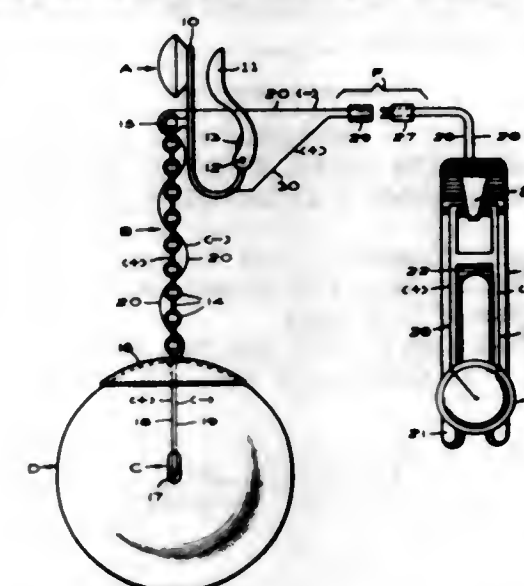
**3,383,502**  
**TELEVISION LAMP**  
Werner H. Brinkner, Kaiserstrasse 40,  
Frankfurt am Main, Germany  
Filed May 7, 1965, Ser. No. 454,078  
Claims priority, application Germany, Sept. 8, 1964,  
B 58,928, B 58,929; Jan. 15, 1965, B 60,372  
6 Claims. (Cl. 240-2)



This invention relates to a type of lamp intended particularly for use with television sets. The lamp comprises appropriately wired and longitudinally movable telescopic tubular elements and a switch for operating bulbs positioned in opposite ends of the tubular elements. The tubular elements are associated through a spring element, the tension of which may be overcome to allow securing the lamp to the back of a television set by spaced hook elements.

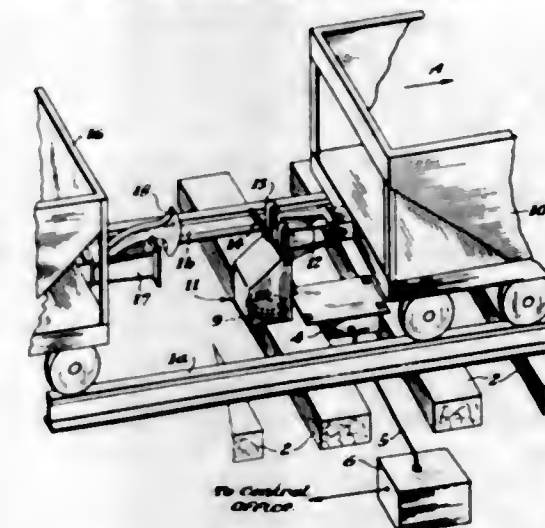
**3,383,503**  
**EARRING WITH FLASHING ELECTRIC BULB**  
James E. Montgomery, 1933 Garden Drive,  
Burlingame, Calif. 94010  
Filed Sept. 19, 1966, Ser. No. 580,236  
3 Claims. (Cl. 240-59)

An earring with flashing electric bulb wherein a clasp is engageable with a wearer's ear, the clasp having a chain depending therefrom and a bulb is supported at the lower end of the chain. A battery-carrying clip is concealable in the wearer's hair, and an electrical circuit is



flash "on" and "off" when adjacent links are moved into and out of contact with one another, respectively, in response to movements of the wearer's head.

**3,383,504**  
**CHECK-OUT DEVICE**  
Henry F. Dennison, London, England, assignor to West-  
inghouse Brake and Signal Company Limited, London,  
England  
Filed June 7, 1966, Ser. No. 555,839  
14 Claims. (Cl. 246-249)



1. A check-out device carried by a vehicle moving along a predetermined path, said device comprising means for signaling the passage of the vehicle at a given location along the path, and means for rendering said signaling means ineffective when an additional vehicle comes in coupling relationship with the vehicle carrying said device.

**3,383,505**  
**PROCESS FOR COPYING UTILIZING HEAT-SENSITIVE COPYING MATERIALS CONTAINING WATER OF CRYSTALLIZATION THAT CAN BE RELEASED BY HEATING**  
Kintaro Nasu, 538 Mukaida, and Kintji Ohkubo, 525 Mukaida, both of Minamishigara-machi, Ashigarakami-gun, Kanagawa-ken, Japan; and Toshiko Nagai, late of Kanagawa-ken, by Kenichi Nagai, sole heir, Tokyo, Japan  
No Drawing. Filed Mar. 9, 1965, Ser. No. 440,062  
Claims priority, application Japan, Mar. 12, 1964,  
39/13,503  
16 Claims. (Cl. 250-65)

Heat-sensitive copying materials containing water of crystallization that can be released, in whole or part, by heating. A process for copying wherein the copying mate-

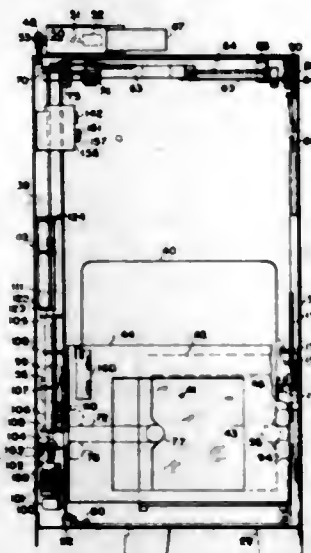


rial is placed over an original, the printing is by transmittance or reflection of infrared light and the developing is with toner, the toner being attached to the wetted portions of the copying material.

3,383,506

# X-RAY SPOT FILM DEVICE WITH AN IMPROVED SEQUENCER AND CARRIAGE DECELERATING MEANS

John W. Bock, Greendale, and Harold E. Teske, Milwaukee, Wis., assignors to General Electric Company, a corporation of New York  
Filed Nov. 5, 1965, Ser. No. 506,548  
5 Claims. (Cl. 250-66)



A carriage, that moves from parked to exposure positions under spring power, supports a cassette holder which is adapted to move crosswise of the carriage to expose all or selected portions of the film in the cassette when it is in the X-ray beam. A shaft is located parallel to the line of movement of the carriage. A cylinder is slideable on the shaft and has radially projecting stops of which one at a time is positioned to intercept the carriage and terminate its movement in a selected exposure position. The shaft supports a piston inside the cylinder to compress air and decelerate the carriage. The angular position of the shaft also sets a latch to engage different stops on a counterweight. The latter is spring-loaded by the same motor that returns the carriage. The spring transfers the cassette holder laterally during certain exposure sequences. The final position of the cassette holder depends on which stop is engaged by the latch.

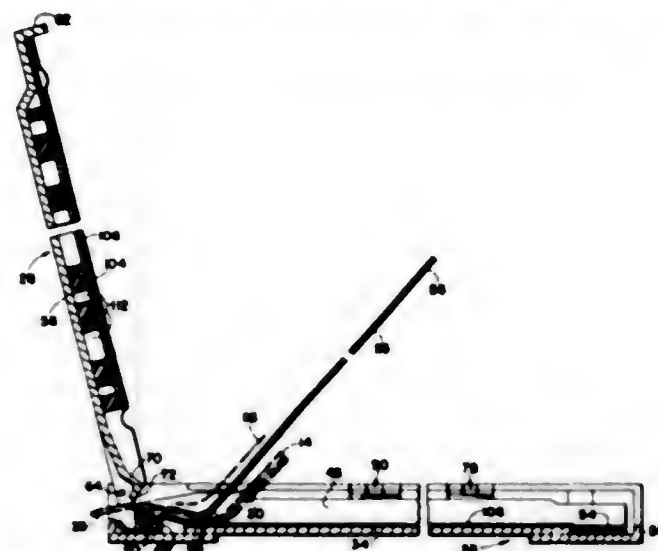
3,383,507

# X-RAY FILM CASSETTE HAVING MEANS FOR PERMITTING SLIDABLE MOVEMENT OF THE FILM WITH RESPECT TO THE CASSETTE

Robert D. Brackett, Wakefield, Herman E. Erikson, Winchester, and Philip E. Young, Schuette, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a Corporation of Delaware  
Filed July 12, 1965, Ser. No. 471,090  
2 Claims. (Cl. 250-68)

The present application relates to a cassette, including separately pivotally mounted cover and intensifying screen elements and releasable latching means, for making ready and holding a photosensitive film material for exposure and, after exposure, rendering it in a condition protected from ambient light. Resilient biasing means are provided of a quality capable of both holding the film material firmly positioned for exposure but permitting slidable movement of a protective covering envelope relative thereto. A non-linear path terminating in an aperture for partial slidable removal of the envelope preliminary to the exposure is formed at an end of the cassette adjacent to the separate pivotal means mounting the cover and

intensifying screen. The indirect path and aperture, thus formed, when taken in conjunction with the material of

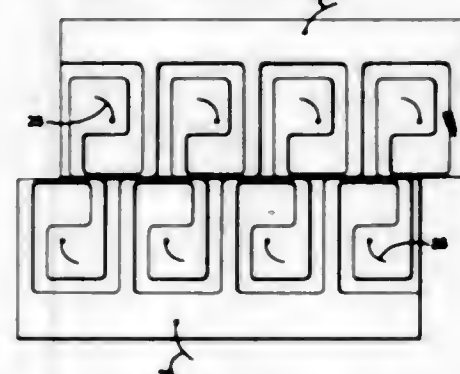


the envelope per se, prevent the entrance of ambient light to the film material when uncovered for exposure.

3,383,508

# INFRARED RADIOMETER ARRAY COMPRISING A PAIR OF MULTI-ELEMENT SUBARRAYS

Raymond M. Russell, Newton, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware  
Filed Feb. 23, 1965, Ser. No. 434,322  
6 Claims. (Cl. 250-83)

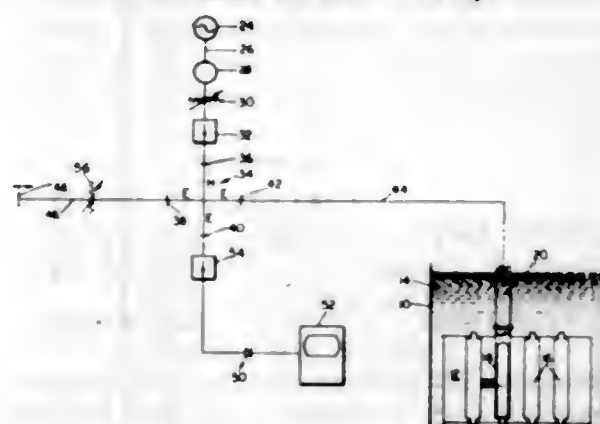


An improved radiometric array made up of a pair of cooperative, multi-element subarrays, and an improved method for making the subarrays and preparing them for assembly.

3,383,509

# USE OF GAMMA RADIATION RESPONSIVE GAS IONIZED BY GAMMA RADIATION IN A NUCLEAR REACTOR AND MEASURING THE GAMMA RADIATION IONIZATION EFFECTS

Ladislav Goldstein and Felix T. Adler, Urbana, Ill., assignors to University of Illinois Foundation, Urbana, Ill., a corporation of Illinois  
Filed Nov. 29, 1965, Ser. No. 510,253  
3 Claims. (Cl. 250-83.6)



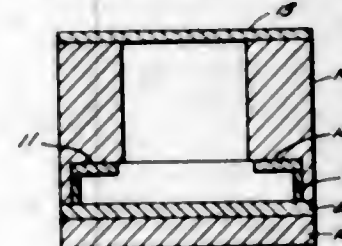
A gaseous medium inserted into a nuclear reactor to be ionized by gamma radiation during the reaction. The

effects of the ionization of the gaseous medium resulting from the gamma radiation are measured using electromagnetic measuring apparatus to determine reactor characteristics such as reactor power level, etc.

3,383,510

# ALPHA PARTICLE EXCITED MONOCHROMATIC X-RAY SOURCE

Francis B. Sellers, Sudbury, Mass., assignor to Parametrics, Inc., Waltham, Mass., a corporation of Massachusetts  
Filed Dec. 7, 1964, Ser. No. 416,363  
5 Claims. (Cl. 250-86)

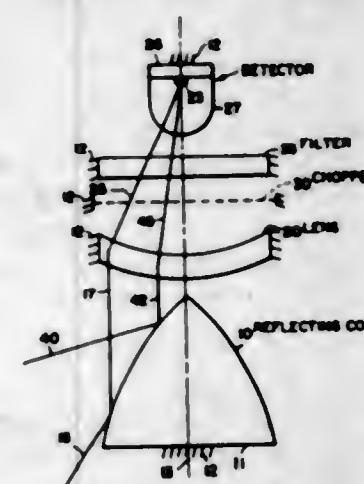


A substantially monochromatic X-ray source in which an alpha particle emitter is used to bombard a target material to produce X-rays characteristic of the target material. A narrow band filter is used to further narrow the spectrum of X-rays produced. The filter, target and alpha emitter are arranged on a base so that only the characteristic X-rays from the target are allowed to strike the filter.

3,383,511

# HORIZON SCANNER WITH SPECIAL REFLECTOR

William E. Palmer, Inglewood, Calif., assignor to Honeywell Inc., a corporation of Delaware  
Filed June 18, 1963, Ser. No. 288,793  
6 Claims. (Cl. 250-203)



5. A reflector having a closed reflecting surface of revolution characterized with a shape which approximates the relationship

$$\theta_s = \theta_{min} + (\theta_{max} - \theta_{min}) \left( \frac{R_x}{R_{max}} \right)^2$$

where  $\theta_s$  is the surface angle relative to the axis of revolution at any point on the surface,  $R_x$  is the distance from the axis of revolution of any corresponding point on the surface,  $\theta_{max}$  is the largest surface angle in the surface,  $\theta_{min}$  is the smallest surface angle on the surface and  $R_{max}$  is the greatest distance from any point on the surface to the axis.

6. A horizon scanner comprising:

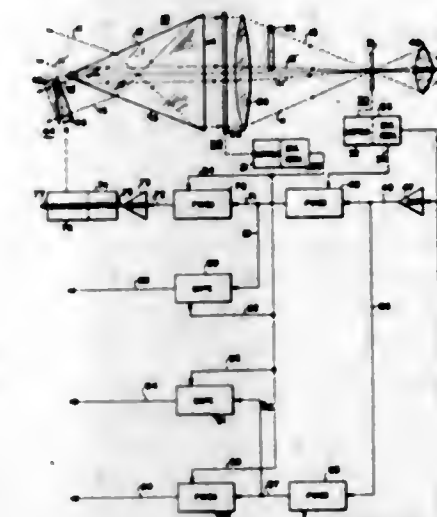
a body having a closed surface of revolution according to claim 5 mounted to receive radiant energy from a celestial body, and reflect it parallel with the axis of the surface of revolution; and

energy detecting means mounted to receive the energy reflected from said surface of revolution and to produce an output indicative of the radiation received.

3,383,512

# SPACE VELOCITY METER UTILIZING THE ABERRATION OF STARLIGHT

Willis O. Unruh, Clearwater, Fla., assignor to Honeywell Inc., a corporation of Delaware  
Filed Oct. 31, 1963, Ser. No. 320,475  
4 Claims. (Cl. 250-203)



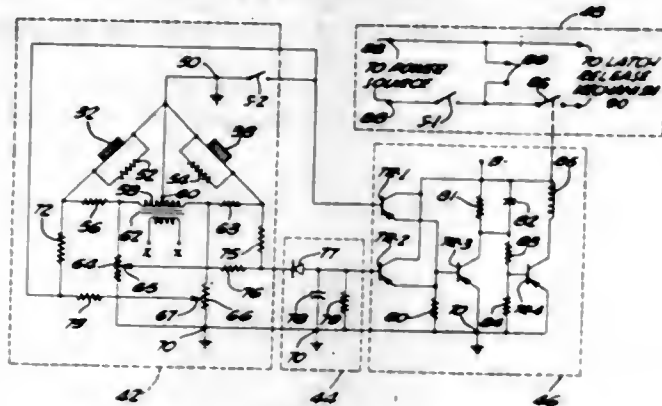
1. A space velocity meter comprising:

- a colinearizing prism having the characteristic of simultaneously passing light beams from two light sources situated at given respective angles from said prism;
- adjustable optical means, mounted in the light path of one such light source, for displacing the light path of the source a variable amount in a desired direction upon proper energization;
- first chopping means, mounted in optical alignment with said prism, for alternately passing light from the two light sources and providing an electrical output signal indicative of the source of the light passing therethrough;
- mechanical chopping means rotatably mounted in optical alignment with said first chopping means for endowing the light passing therethrough with intensity and phase information indicative of the magnitude and direction of displacement from the rotational axis;
- sensing means mounted to receive the light passing through said mechanical chopping means, for providing an electrical output signal indicative of the intensity and phase of the light applied thereto;
- pickoff means connected to said mechanical chopping means for providing electrical signals indicating the rotational position of said mechanical chopping means in terms of a pair of orthogonal coordinates having the rotational axis of said mechanical chopping means as an origin and contained within the plane of the mechanical chopping means;
- means, connected to receive said electrical signals from said first chopping means, said sensing means and said pickoff means, for providing energization to said adjustable optical means sufficient to displace the light path of one of the sources to a position where the light beams from both sources coincide at said mechanical chopping means; and
- means attached to said adjustable optical means for providing an output signal indicative of an apparent change of angle between the two light sources.



3,383,513

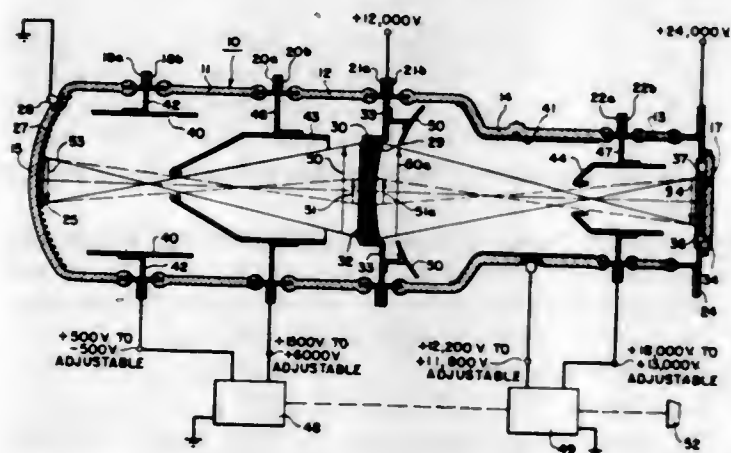
**ELECTRIC KEY-CARD SYSTEM WITH A PLURAL PHOTOELECTRIC CELL BRIDGE CIRCUIT**  
David W. Douglas, Sherman Oaks, Calif., assignor to Wendell L. Thompson, Burbank, Calif.  
Filed Mar. 22, 1965, Ser. No. 441,478  
5 Claims. (Cl. 250-208)



1. An electronic circuit adapted to respond to a predetermined condition of relative intensity values of a pair of light beams, said circuit comprising, a pair of photoresistors for receiving corresponding ones of said light beams; resistive circuit means having two output terminals and coupled to said photoresistors to provide an electrical bridge circuit; means for exciting said bridge circuit with an AC voltage; summing means coupled to said circuit means to produce an AC output voltage of substantially zero amplitude at each of said terminals upon the occurrence of said predetermined condition; gating means coupled to said output terminals and adapted to produce an output signal in response to a zero output voltage at each of said terminals; and lock-opening means operable in response to said output signal.

3,383,514

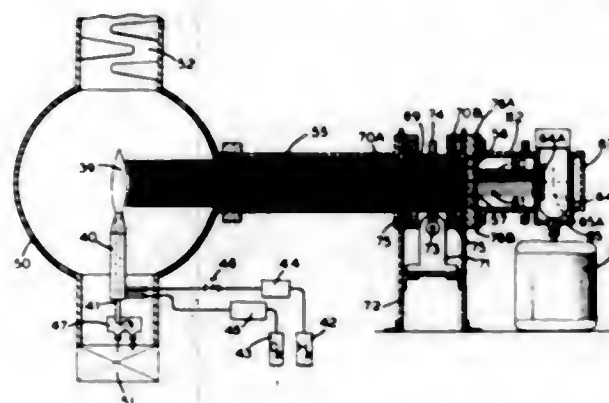
**MULTI-STAGE IMAGE CONVERTER WITH BOTH MAGNIFYING AND MINIFYING STAGES**  
Paul J. Dolon, Skokie, and Wilfrid F. Niklas, Park Ridge, Ill., assignors to The Rauland Corporation, Chicago, Ill., a corporation of Illinois  
Filed Jan. 26, 1965, Ser. No. 428,143  
13 Claims. (Cl. 250-213)



A multi-stage electron tube image converter including a plurality of cascaded image conversion stages at least one of which includes electron optical magnifying means and at least another of which includes electron optical minifying means. A fiber optic element is provided for interstage coupling, and the electron optical systems of the magnifying and minifying stages are ganged to permit variation in the magnification factors in the individual stages which maintain an overall magnification factor of unity. The invention provides improved image resolution and/or improved signal-to-noise ratio as compared with a tube having the same number of stages with unity magnification factor in each stage.

3,383,515

**DUAL BEAM NULL METHOD AND APPARATUS FOR DETERMINING THE CONCENTRATION OF IMPURITIES IN A SAMPLE**  
Robert V. Cobb, Sebring, Earl E. Coulter, Akron, and William T. Hage, Alliance, Ohio, and James K. Rice, Pittsburgh, Pa., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey  
Filed Aug. 21, 1964, Ser. No. 391,161  
15 Claims. (Cl. 250-218)

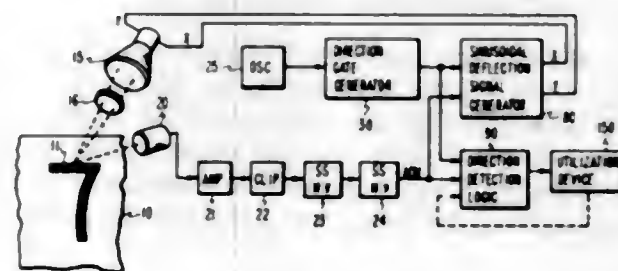


This invention is a method and device for determining the concentration of an element in a sample. The sample is introduced into an ionizing heat source from which light characteristic of the element is emitted. A standard light value also emitted from the heat source is compared with the characteristic light to determine the difference therebetween. The comparison is made by generating an electrical signal which is a function of the difference between light intensities and using it to attenuate the characteristic light with respect to the standard, and to visually indicate the concentration of the element in the sample. The structure includes sampling apparatus for continuously aspirating discrete amounts of sample to a flame enclosed in a housing having a reflective surface for concentration of light and heat therein. Stationary and rotatable polarizing materials, disposed in the path of light emitted from the housing, cooperate to eliminate the difference in intensity between the standard and characteristic light beams. The light beams are filtered from the heat source and polarized for impingement on a detecting means. The detecting means produces an unbalanced electrical signal representative of the difference in intensity between beams for operating a device for indicating the concentration of the element in the sample, and rotating a polarizer to eliminate the difference in intensity between beams.

3,383,516

**DIRECTION DETERMINATION FOR CURVE FOLLOWERS INCLUDING RING FOR PROVIDING DIGITAL SIGNALS**

John J. Leimer, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Jan. 5, 1966, Ser. No. 518,841  
7 Claims. (Cl. 250-219)



An electronic ring is advanced so as to provide digital signals which are indicative of beam directions and which have a constant phase relationship with beam deflection

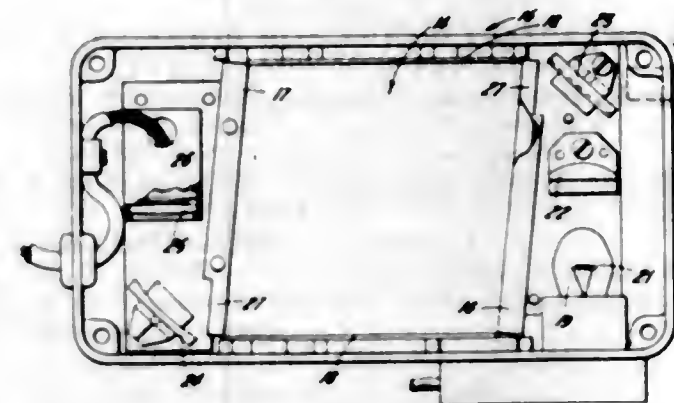
signals for a curve follower scanner. A beam advance signal for advancing the center of the curve follower circle samples the ring to determine the active position thereof. The active position at beam advance time is indicative of beam direction. The beam directions are stored in latches and subsequently transferred to a utilization device.

3,383,517

**PHOTOELECTRIC DETECTING APPARATUS FOR THE PASSAGE OF AN OBJECT THROUGH AN APERTURE UTILIZING THE OVERSHOOT PULSE FROM THE DETECTOR**

Alan Phillipson and Basil Harry Royston Spiller, London, England, assignors to Decca Limited, London, England, a British company

Filed Dec. 4, 1964, Ser. No. 415,872  
Claims priority, application Great Britain, Jan. 22, 1964, 2,829/64; Mar. 31, 1964, 13,202/64; May 12, 1964, 19,787/64  
6 Claims. (Cl. 250-221)



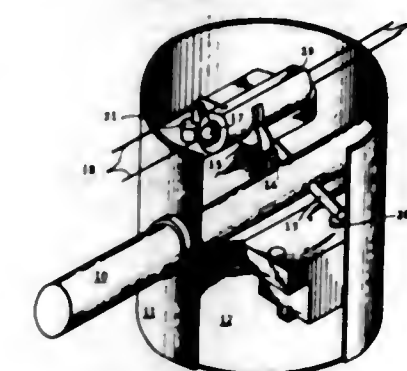
An apparatus for detecting the passage of articles of any shape falling randomly through an aperture. Facing each other across the aperture are two plane reflectors and a light beam is caused to traverse the aperture by successive reflections from the reflectors, the beam being directed in the plane of the aperture and inclined to the reflectors at an angle at least as great as the angle whose tangent is twice the separation of the reflectors divided by the beam width. A photoelectric detector is disposed to detect the beam of light after the beam has traversed the aperture. This arrangement ensures that a continuous output pulse is produced provided that some part of the object is in the plane of the aperture. The detector produces a final overshoot pulse as the object finally leaves the plane of the aperture. A detecting arrangement differentiates, limits and then integrates the output of the detector such that the final integrated output attains a predetermined threshold output only in response to the final overshoot pulse. A trigger device is arranged to produce a single pulse output when the integrated output attains the aforementioned threshold value. In this way a single output pulse only is provided for each object falling through the aperture and undesirable effects such as double-counting are substantially eliminated.

3,383,518

**LIGHT SHUTTER AND SUPPORT ROD OPERATING SWITCHES AT LIMITS OF SHUTTER MOVEMENT**  
James G. Copland and Edward J. Thor, Roanoke, Va., assignors to General Electric Company, a corporation of New York  
Filed June 28, 1965, Ser. No. 467,232  
2 Claims. (Cl. 250-231)

1. A control device having a variable resistance output comprising a light sensitive element having a resistance proportional to the quantity of light received, a light source arranged to illuminate the said element, said source and said element being encapsulated in a common container, a slot in said container intermediate of said source and

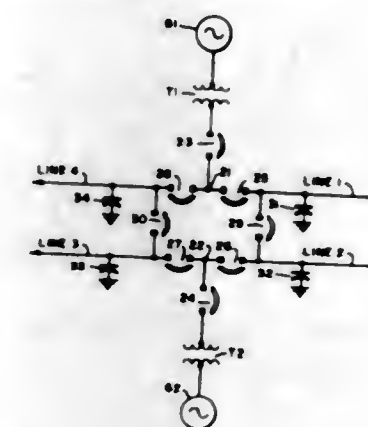
said element, a shutter arranged to operate within said slot to control the amount of light from said source to said element, a control member for operating said shutter



between predetermined limits, and means under control of said member at said limits for disrupting the output of said variable resistance output.

3,383,519

**ELECTRIC POWER DISTRIBUTION SYSTEMS**  
Robert G. Colclaser, Jr., Franklin Township, and Robert E. Friedrich, Upper St. Clair Township, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Dec. 23, 1963, Ser. No. 332,747  
2 Claims. (Cl. 307-93)



1. In a high-voltage high-power electrical power distribution system, in combination:  
(a) a high-voltage high-power bus,  
(b) a high-voltage high-power transmission line adaptable for supplying high power to a physically remote location,  
(c) a high-voltage high-power circuit breaker for electrically interconnecting the high-voltage line to the high-voltage bus, and  
(d) capacitance means electrically connected directly between the transmission line and ground on the line side only of the high-voltage high-power circuit breaker,  
(e) said capacitance means being of such magnitude as to appreciably lower the initial rate of rise of the recovery voltage, transient imposed across the breaker contacts following a fault current interruption.

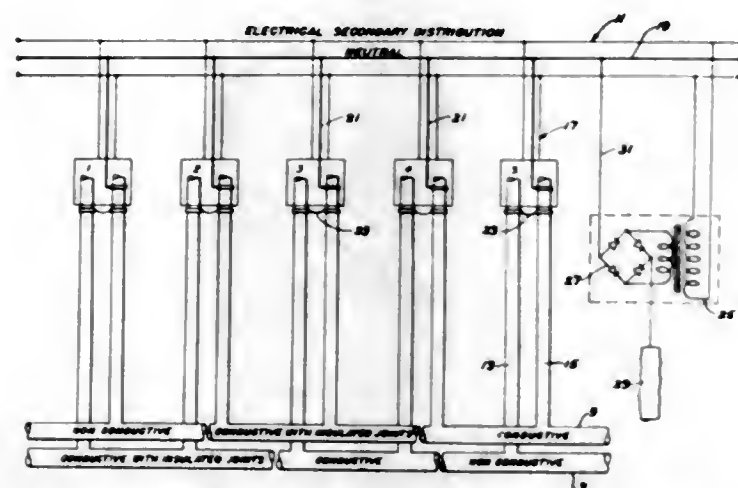
3,383,520

**UTILIZATION OF THE ELECTRICAL NEUTRAL WITH CATHODIC PROTECTION**  
Arthur F. Hoffman, 637 Missouri St., Fairfield, Calif. 94533  
Filed Mar. 9, 1964, Ser. No. 350,485  
3 Claims. (Cl. 307-95)

1. In cathodic protection for underground structures including an electrical power circuit having a neutral conductor, a water pipe and a gas pipe electrically connected



to said neutral conductor and a sacrificial anode, the improvement comprising a cathode lead connecting said

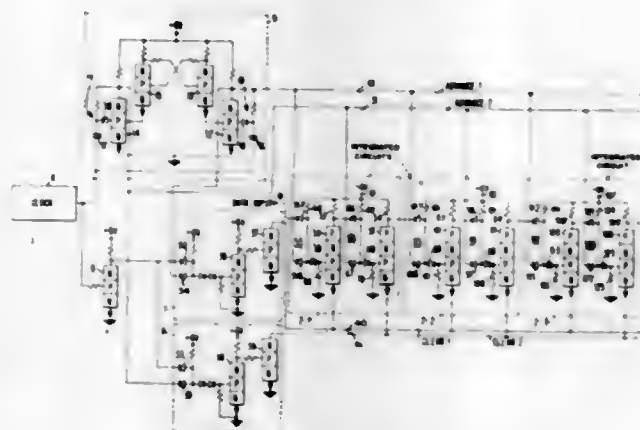


neutral and sacrificial anode and a source of D.C. current disposed between said neutral conductor and anode.

3,383,521

## SHIFT REGISTER STORAGE DEVICE

Allan Greenberg, Binghamton, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Oct. 22, 1965, Ser. No. 502,009  
7 Claims. (Cl. 307-221)



This invention relates generally to an improved data storage means; and more particularly, to an improved high speed shift register which is low in cost and adapted for monolithic fabrication. The improved register includes first and second controlled rectifiers per stage, each rectifier having a logical AND circuit coupled to its input. First and second data advance lines couple pulses alternately to the AND circuits of the first and second rectifiers to advance data bits into the second then the first rectifiers during succeeding half cycles of operation. First and second clear lines couple turn-off pulses alternately to the first and second rectifiers after data therein is transferred to succeeding rectifiers.

3,383,522

## UNDERVOLTAGE SENSING CIRCUIT

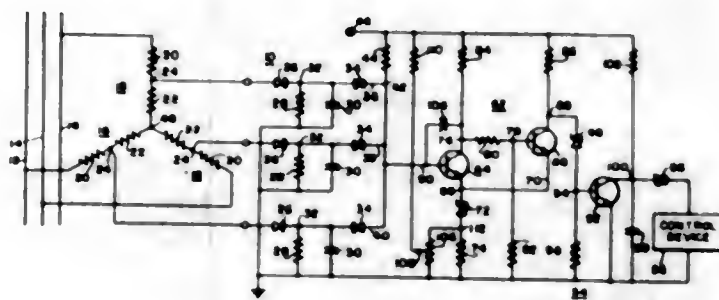
Otto L. Apfelbeck, Fort Shawnee, and Norman G. Eversole, Columbus Grove, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 30, 1965, Ser. No. 483,635

9 Claims. (Cl. 307-235)

1. An undervoltage sensing circuit for a three phase line comprising three resistance voltage dividers Y connected to the three phase lines with a floating common terminal, an AND circuit having three diodes connected in respective paths between a DC source and a ground terminal, means connecting an intermediate junction of

each of said voltage dividers to the respective diode paths in said AND circuit so as normally to bias said diodes to

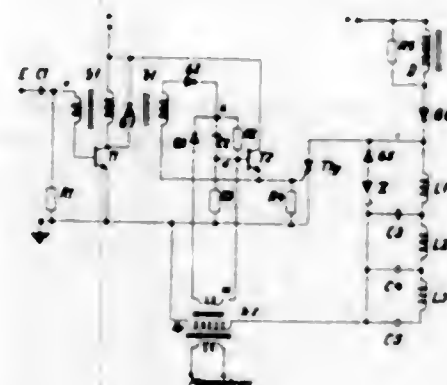


a non-conductive state with reverse DC voltage, and means for generating an output signal when any of said diodes becomes conductive.

3,383,523

## MODULATOR CIRCUIT FOR PULSE-MODULATED MAGNETRON TRANSMITTERS

Armin Hürliemann, Schlieren, Switzerland, assignor to Albiwerk Zurich A.G., Zurich, Switzerland  
Filed Jan. 28, 1965, Ser. No. 428,683  
Claims priority, application Switzerland, Mar. 4, 1964, 2,738/64  
6 Claims. (Cl. 307-265)



The disclosure relates to pulse-modulated magnetron transmitters, such as used for transponder and responder beacons, and in which a thyatron controls the magnetron tube through a pulse-forming network, and a pulse transformer is controlled by a blocking oscillator through a pulse amplifier. Such modulators frequently have the disadvantage that the thyatron is caused to conduct permanently, by disturbances occurring during charging time of the pulse-forming network, due to the fact that the recovery time of the thyatrons is not negligibly small so that, upon occurrence of disturbing pulse during charging of the pulse forming network, the charging current maintains the thyatron in a conductive state.

In accordance with the disclosure, such permanent conduction of a thyatron in such a modulator is prevented by providing a gate circuit including means determining the blocking time, this gate circuit being between the blocking oscillator and the pulse amplifier. The means determining the blocking time is charged by pulses from an additional winding of the pulse transformer, after each pulse. By way of example, the gate circuit may comprise the series combination of a diode and a resistance, blocked by a condenser, with the pulses for blocking of the gate circuit being supplied to the condenser through another diode. The pulse-forming network preferably is fed through a saturated iron choke, and a series connection of a diode and a Zener diode, of opposite polarity, is connected in parallel with the pulse-forming network.

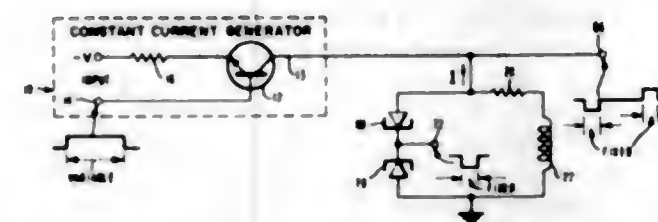
3,383,524

## SOLID STATE PULSE GENERATOR WITH CONSTANT OUTPUT WIDTH, FOR VARIABLE INPUT WIDTH, IN NANOSECOND RANGE

Norman M. Garrahan, Silver Spring, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Oct. 21, 1965, Ser. No. 500,446

5 Claims. (Cl. 307-265)



Apparatus for the generation of fixed duration output pulses from variable length input pulses, in which a constant current generator is employed in conjunction with a pulse control circuit. The control circuit utilizes a tunnel diode connected in parallel with an inductor.

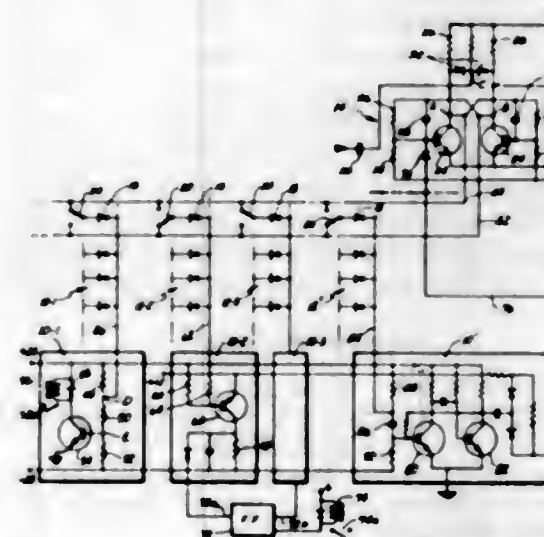
3,383,525

## SELECTABLE CYCLE TIMER WITH PLURAL OUTPUTS OF DIFFERENT TIME INTERVALS AND AUTOMATIC RESET

Graydon W. Arksey, Edmonton, Alberta, Canada, assignor to Chemcell Limited—Chemcell Limited, a corporation of Canada

Filed Jan. 21, 1966, Ser. No. 522,131

15 Claims. (Cl. 307-269)



An electronic cycle timer is provided having a counter driven by clock pulses and having a series of relay circuits and a reset circuit, each operated when respective preset counts are reached. A relay stage may be on-and-off during one clock-pulse interval, or the relay stage may be turned "on" by one preset-count detector and "off" at another preset count. Successful use of many preset-count detectors is promoted by particular circuit features.

3,383,526

## CURRENT DRIVER CIRCUIT UTILIZING TRANSISTORS

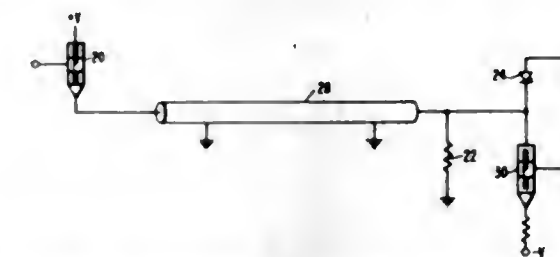
Andrew R. Berding, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 17, 1964, Ser. No. 419,050

9 Claims. (Cl. 307-270)

A low impedance voltage source is coupled to drive a current pulse down a line terminated by an impedance element shunted by a second termination comprising a current sink coupled to normally forward bias a diode. The voltage source is turned on to produce an initial current

wave on the line and the forward biased diode appears as a short circuit to this initial current wave on the line. The current wave is reflected successively between the shorted termination and the voltage source, and the reflected current adds to the incident current to produce a higher current.



rent. When this current amplitude reaches the current accepted by the current sink, the diode becomes reverse biased and the line is then terminated by the impedance element. The result is a current pulse having the fastest rise time to the final line current from a given voltage source.

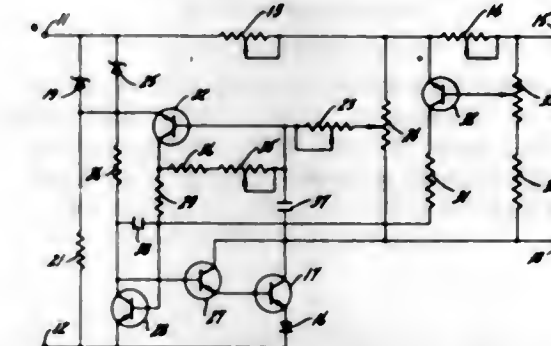
3,383,527

## LOAD CURVE SIMULATOR

Robert G. Yeager, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 16, 1965, Ser. No. 440,331

2 Claims. (Cl. 307-297)



A solid state electronic simulator device for simulating the output load curve characteristics of nonlinear direct current power sources including solar cells. An output voltage comparison and control circuit comprised of a transistor, a Zener diode, and a potentiometer, and a current comparison and control circuit comprised of a transistor and an adjustable resistance, are coupled via respective isolation resistances to a transistor regulating control circuit to form voltage and current feedback systems for causing the invention to exhibit relatively constant voltage and constant current characteristics. Adjustable resistances are coupled in a manner to permit selection of the desired slopes for the relatively horizontal voltage and vertical current portions, and of the desired curvature of the "knee" of the load curve to be simulated.

3,383,528

## DEVICE FOR IMPARTING HORIZONTALLY OSCILLATORY ROTATING MOVEMENT TO ARTICLES

Reijiro Ito, Tokyo, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, and Kokusai Display Kogyo Kabushiki Kaisha, Tokyo, Japan

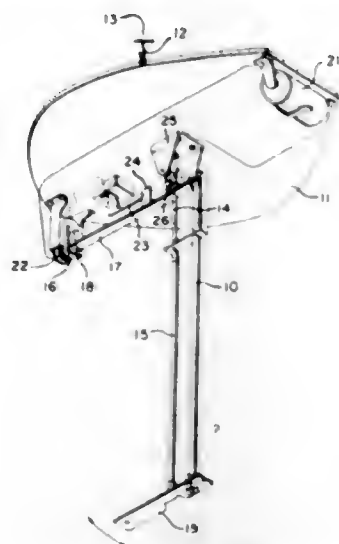
Original application Aug. 30, 1965, Ser. No. 483,404, now Patent No. 3,325,759, dated June 13, 1967. Divided and this application Jan. 31, 1967, Ser. No. 630,159

Claims priority, application Japan, Sept. 4, 1964, 39/70,100; Nov. 24, 1964, 39/90,996; June 16, 1965, 40/48,551; June 30, 1965, 40/39,871  
2 Claims. (Cl. 310-32)

A device for imparting horizontal oscillatory movement to a display article including a resilient means fixedly mounted to a stationary member and depending

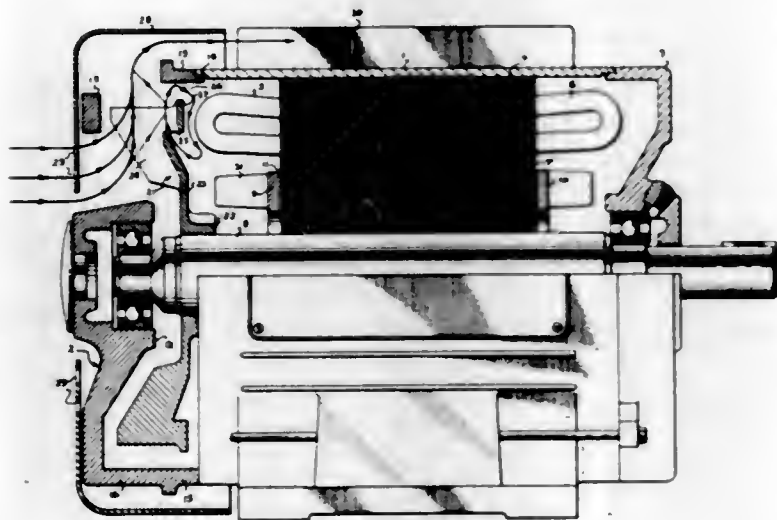


therefrom. The free end of the resilient means being fixed to a member including a horizontal oscillatory arm with a permanent magnet mounted on the free end thereof in opposition to an electromagnet fixed on the stationary



member. Switch contact means are mounted on each member so that contact is made when the resilient means is in the rest position whereby a repulsive force will be developed in the energized electromagnet to drive the permanent magnet in one direction or the other.

**3,383,529**  
**DYNAMOELECTRIC MACHINE COOLING**  
Frederick W. Baumann, Scotia, N.Y., and George B. Dunn, Jr., Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York  
Filed Nov. 9, 1965, Ser. No. 506,942  
6 Claims. (Cl. 310-52)

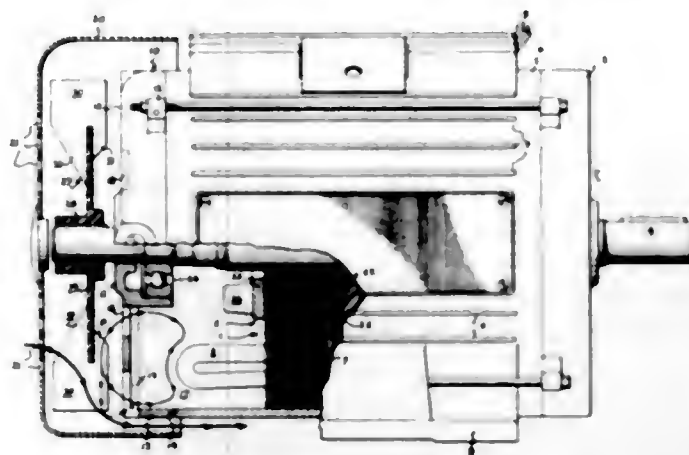


A motor cooling system is adapted for use with a motor of the totally enclosed fan-cooled kind. A rotor-mounted fan is disposed inside a perforate end shield that replaces one of the totally enclosed end shields. The fan plate completes a substantial enclosure for the end turn cavity and includes centrifugal blades that force cooling air over the exterior of the motor, which is preferably equipped with cooling fins. Provision is made in the outer peripheral portion of the fan for mixing a controlled quantity of external air with air in the end turn cavity. The air is not propelled directly into the end turn cavity, but instead enters the end turn cavity indirectly by virtue of a pressure differential. The pressure differential is achieved by a cylindrical portion of the stator, preferably part of the end shield portion thereof, that extends partially into the plane of rotation of the fan blades. The fan serves additionally as a separator, which removes heavier air-borne harmful

ingredients that would otherwise be propelled into the end turn cavity, by virtue of a dished portion of the fan plate that extends axially outward of the aforementioned cylindrical portion of the stator.

**3,383,530**  
**DYNAMOELECTRIC MACHINE**  
George B. Dunn, Jr., Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

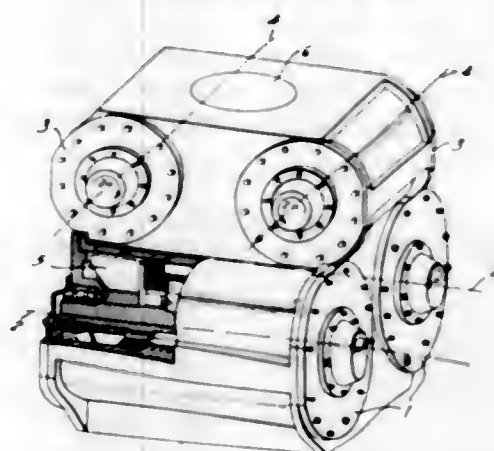
Filed Nov. 9, 1965, Ser. No. 506,983  
2 Claims. (Cl. 310-52)



A perforate end shield is provided at one end of a motor that is otherwise generally of the totally enclosed kind. A centrifugal fan is mounted outside the end shield on an extension of the rotor shaft, and an enclosing fan cover is provided which directs the main coolant flow over the external surface of the motor. The fan includes a circular plate having a set of centrifugal fan blades on either side thereof. One set of blades is adjacent the end surface of the end shield, and coolant outlet passages from the end turn cavity are provided in the end shield radially inwardly of the blades. Coolant inlet passages are provided in the outer peripheral portion of the end shield. The inlet passages are disposed axially inwardly of the plane of rotation of the blades and radially inward of the fan cover and the radial outer extremity of the blades.

**3,383,531**  
**ELECTRIC ONE-WAY UNHARMONICAL VIBRATOR**  
Traian Neculai Gafencu, Bucharest, Rumania, assignor to Ministerul Transporturilor Auto, Navale si Aeriene, Bucharest, Rumania, a firm  
Continuation-in-part of application Ser. No. 373,467, June 8, 1964. This application July 18, 1967, Ser. No. 658,585

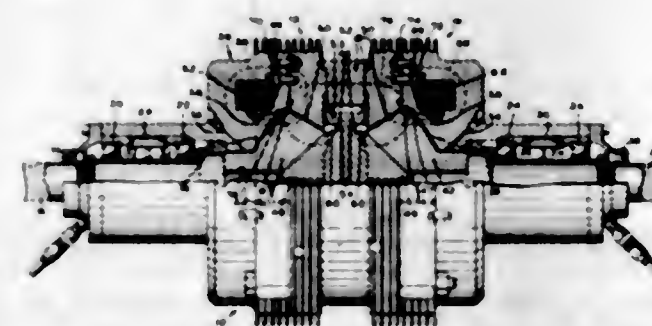
7 Claims. (Cl. 310-81)



Mechanical vibrators of the type which during operation will provide mechanical vibrations for generating at least a nonharmonic, unidirectional force. The vibrator

includes a first pair of identical motors having parallel axes and provided with identical dynamically unbalanced rotors which rotate simultaneously at the same speeds in opposite directions, and these motors have no connection of any kind, so that there is, for example, no mechanical transmission of any type between the motors, so that they operate entirely independently of each other. The vibrator includes a second pair of motors which overlie the first pair of motors and which are also identical with each other and have dynamically unbalanced rotors which rotate simultaneously in opposed directions at the same speeds, the second pair of motors also operating entirely independently of each other so that there is no mechanical transmission of any type between these motors. The parallel axes of the second pair of motors are located in a common plane which is parallel to that in which the parallel axes of the first pair of motors are located, and the parallel axes of the second pair of motors have a nonparallel position with respect to the parallel axes of the first pair of motors, so that the parallel pairs of motor axes extend angularly with respect to each other, preferably at a right angle. The motors respectively carry eccentric weights which respectively have centers gravity which respectively rotate in planes normal to the motor axes, and these weights provide the vibratory forces generated by the vibrator.

**3,383,532**  
**HOMOPOLAR TRANSMISSION**  
Frederic L. Zelzer and Ole K. Nilssen, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed Mar. 23, 1965, Ser. No. 442,066  
8 Claims. (Cl. 310-102)



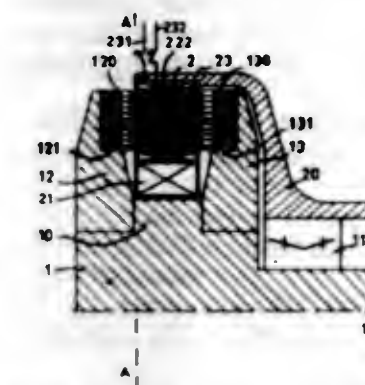
A transmission having axially aligned generally conically shaped power input and output rotors nested in a manner providing electrical contact areas of narrow axial width spaced from each other, the transmission having a common stator center section.

**3,383,533**  
**CONSTANT-FLUX VARIABLE-RELUCTANCE ELECTRIC MACHINE**  
Jean Jarret, La Champanelle, Chemin du Clos, Baron, Fourqueux, Seine-et-Oise, France, and Jacques Jarret, 35 bis Ave. du Belloy, Le Valmet, Seine-et-Oise, France  
Filed Oct. 18, 1965, Ser. No. 497,016  
Claims priority, application France, Oct. 20, 1964, 991,977

4 Claims. (Cl. 310-168)  
A single phase embodiment of a variable-reluctance electric machine comprising a stator having an energizing winding coaxially surrounded by a ring of independent magnetic cores provided with induction windings connected in series in alternate opposite directions and having a rotor which includes a shaft carrying two ferromagnetic end-plates having teeth disposed on either side of and opposite the ring of magnetic elements, wherein the part of the magnetic circuit which experiences variations

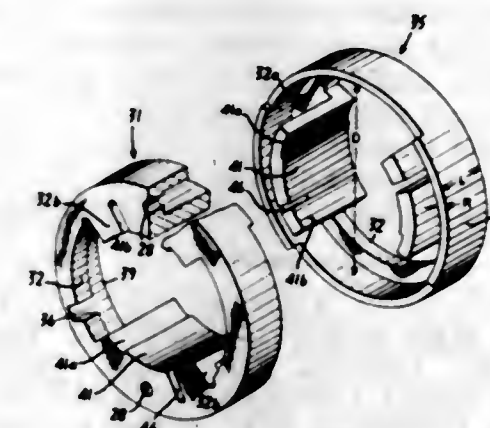
of flux in operation is substantially limited to said cores and teeth by the combination of the following features:

(a) the rotor teeth are embodied with a reduced proportion of ferromagnetic material so as to be completely saturated to the exclusion of the entire remainder of the machine, whereby the flux density in the air gap between the rotary and fixed magnetic elements is uniform around the periphery of the facing elements;



(b) each rotor tooth always covers complementary areas of two adjacent stator cores so that the variations in the covered areas of two consecutive stator magnetic elements are equal and opposite, whereby the algebraic sum of the flux variations in each tooth is zero.

**3,383,534**  
**STATOR FOR ELECTRIC MOTORS**  
John W. Ebbs, Woodstock, N.Y., assignor to Rotron Manufacturing Company Inc., Woodstock, N.Y., a corporation of New York  
Filed Apr. 5, 1965, Ser. No. 445,403  
4 Claims. (Cl. 310-257)



4. In an electric motor having a rotor and a stator, a stator structure comprising, a pair of mating solid annular rings of sintered ferromagnetic metallic material exhibiting high electrical resistivity, said rings being substantially similar in configuration, each having a radial thickness and axial length relatively small with respect to its outer diameter, at least one web portion formed integrally with each of said rings and extending radially inward thereof along at least a part of its arcuate length, each said web portion terminating at its inner extremity with an integral, arcuately formed pole section concentric with its associated ring and extending axially thereof for a distance at least as great as the axial length, the rotor to be supported substantially concentrically between the inner arcuate curved surfaces of said pole sections, a portion of each of said inner curved surfaces of said pole sections adjacent one edge thereof having a greater radius than the remainder to thereby present a step pole face to said rotor, said pole sections and said rings defining a plurality of arcuate channels concentric with said rings for receiving a field coil, a slot provided in at least one of said pole sections and associated webs



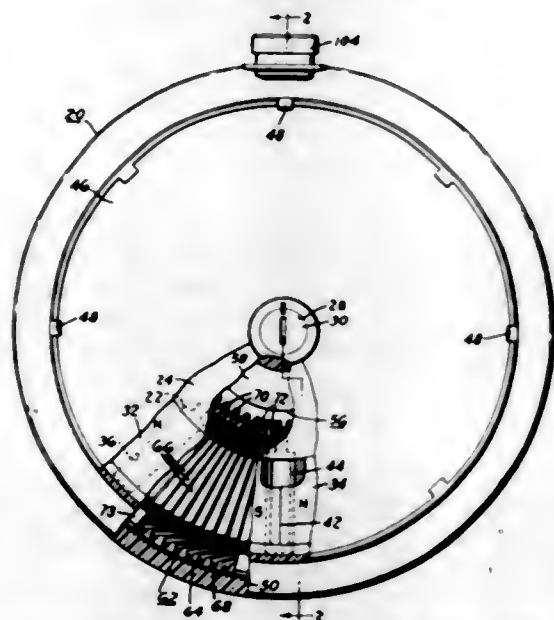
on each ring, said slot being relatively closer to one edge of said pole section than the other, a single closed loop conductor coil disposed in said slot and surrounding the small portion of the web defined thereby, and means to maintain said rings in a coaxial abutting relationship including a snap ring member in engagement with each of said annular rings.

3,383,535

## ELECTRIC MOTOR

Thomas E. Lohr, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 3, 1965, Ser. No. 436,771  
17 Claims. (Cl. 310-268)



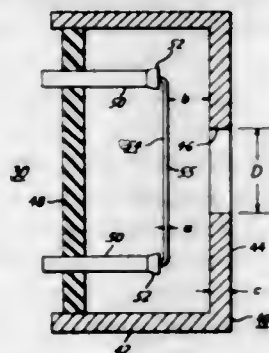
1. An electric motor of the axial air gap type comprising, a housing, a field assembly including flux generating means, said field assembly having a plurality of radially extending slots, said housing having a plurality of ribs fitting within said slots for positioning said field assembly relative to said housing, and an armature rotatably supported by said housing having an end face located in alignment with an end face of said field assembly.

3,383,536

## CATHODE RAY TUBE GENERATING CIRCULAR BEAM BY LINEAL FILAMENT CRITICALLY SPACED FROM CIRCULAR APERTURE

Hilary Moss, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

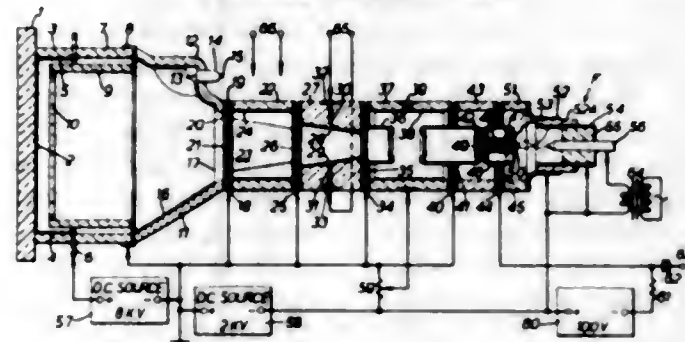
Filed Sept. 22, 1964, Ser. No. 398,203  
14 Claims. (Cl. 313-82)



1. An electron discharge device having a filament element for producing a flow of electrons and a control element having a substantially circular aperture therein for forming said flow of electrons into a beam of a substantially circular configuration, said filament element extending across said aperture in a plane perpendicular to said beam and spaced from said control element a distance not less than  $\frac{1}{10}$  of the diameter of said aperture.

3,383,537  
METAL/CERAMIC CATHODE RAY TUBE  
Frederick John Marshall, Dallas, Tex., assignor, by mesne assignments, to The Rank Organisation Limited, London, England, a firm of Great Britain

Filed Oct. 7, 1965, Ser. No. 493,640  
9 Claims. (Cl. 313-82)



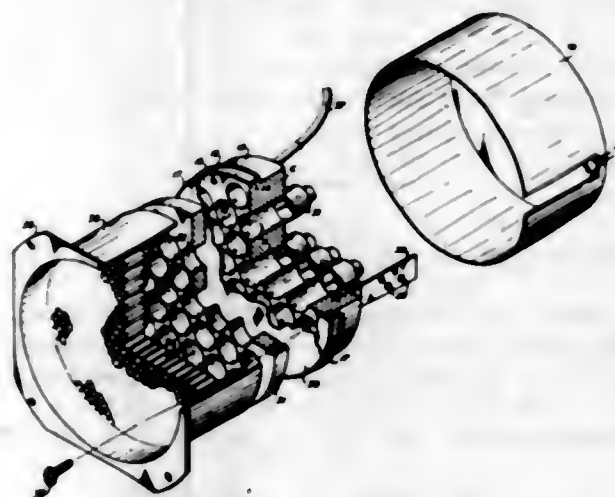
A metal/ceramic cathode ray tube all the parts of which are constructed of materials capable of being conveniently shaped to close tolerances and most connections of which are accessible from the outside of the envelope of the tube. The tube has an envelope portion sealed to a transparent face plate to form a vacuum space, a plurality of electron beam-forming electrodes being disposed within said space. The envelope portion is formed by a plurality of aligned apertured members alternately made of metallic and ceramic material. The tube further comprises a sealed coaxial foot assembly formed by radially juxtaposed members alternately of metallic and ceramic material. A first one of the apertured members of the envelope portion is sealed peripherally to the face plate and a second one of said apertured members is sealed to the foot assembly to close the envelope portion. Each one of the apertured members of the envelope portion other than the aforesaid first and second apertured members are sealed to each of two adjacent ones of the apertured members made of the other one of said materials.

3,383,538

## PROPORTIONAL COUNTER TUBE INCLUDING A PLURALITY OF ANODE-CATHODE UNITS

Charles S. Bowyer, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 30, 1965, Ser. No. 518,517  
8 Claims. (Cl. 313-93)



This invention is directed to a proportional counter tube suitable for detecting low energy X-ray radiation in a range from 1 to 8 Angstrom units. The tube has a large window area for collecting radiation and includes a plurality of anode-cathode units that share a common gas supply within the tube. A honey-comb collimator positioned just above the window provides about 10 degrees total collimation of incoming radiation.

3,383,539

## PROJECTION LAMP

Robert F. Scoledge, Danvers, and Stuart S. Davis, Lynn, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Continuation of application Ser. No. 413,581, Nov. 24, 1964, which is a continuation of application Ser. No. 5,867, Feb. 1, 1960. This application Feb. 6, 1967, Ser. No. 614,785

1 Claim. (Cl. 313-113)



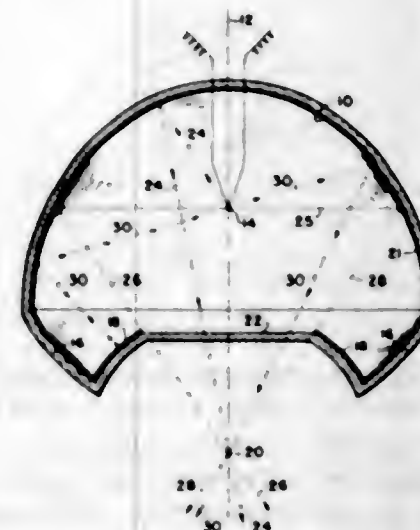
1. An incandescent projection lamp comprising a sealed enclosing envelope, support wires in said envelope, a reflector inside said envelope, and a filament in reflecting relationship to said reflector, said filament comprising a coil having a spud therein at the ends only of said coil, the turn of said coil at the inside ends of said spud being stretched out so that part of it is in contact with said spuds and part of it beyond said spud, the portion of the coil having the spud therein having their longitudinal axes substantially in line with each other, the filament coil being supported solely by said spud, an end of each coil with a spud therein being affixed perpendicularly to a support wire, the support wires being sealed through said envelope at one end thereof, and the portions of the coil having the spuds therein being in line with the top of the coil, the top being taken as the part opposite to that nearest the end of said envelope through which the support wires are sealed, the pulled out turn being in line with the spuds and extending to legs of the coil also in line with each other, whereby any sag in the turns of the coil will bend them outward from each other and thereby prevent short-circuiting.

3,383,540

## PROJECTION LAMP WITH MULTIPLE REFLECTORS

Richard B. Walters, Addison, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Apr. 4, 1966, Ser. No. 539,972  
4 Claims. (Cl. 313-114)



1. A lamp comprising a first reflector section in the form of a portion of an ellipsoid of revolution about an axis, a light source on said axis at the principal focus of

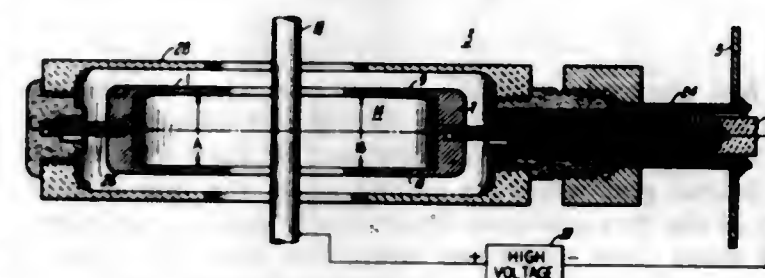
said ellipsoid of revolution, a second reflector section in the form of a portion of a sphere having its center of curvature on said axis at the conjugate focus of said ellipsoid of revolution and having an aperture along said axis, said second reflector section being convex in the direction of said first reflector section and extending in the direction of said axis not substantially farther than the cone defined by light rays emitted from said light source in a plane perpendicular to said axis and reflected toward said conjugate focus by said first reflector section, and a light-transmitting area within said aperture in said second reflector section.

3,383,541

## GLOW DISCHARGE CATHODE HAVING A LARGE ELECTRON BEAM EMITTING APERTURE

Fernand J. Ferreira, Hazardville, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Nov. 17, 1965, Ser. No. 508,302  
12 Claims. (Cl. 313-207)



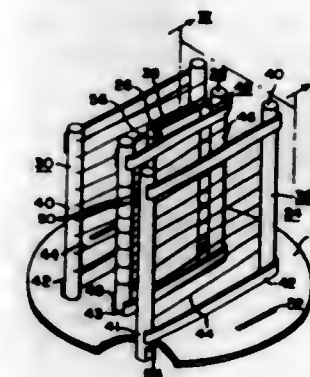
A large apertured hollow cathode is described for producing a collimated beam of electrons and wherein the aperture is either equal or larger than the cathode fall or bears a predetermined relationship to the entire frontal beam emitting surface of the cathode.

3,383,542

## ASSEMBLY OF ELECTRODES WITH ALIGNED GRID WIRES FOR ELECTRON DISCHARGE DEVICES

Anton van der Jagt and Gollardo Miale, Bath, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

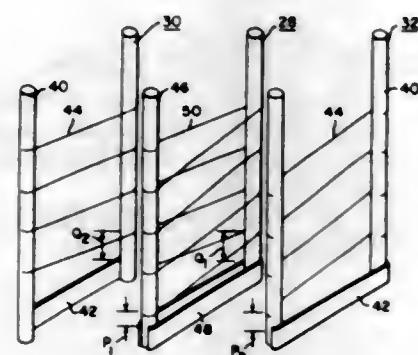
Filed Mar. 9, 1965, Ser. No. 438,272  
14 Claims. (Cl. 313-350)



This invention relates to an assembly of frame type grid electrodes having grid wires which are disposed to be aligned with grid wires of successively disposed electrodes. In one illustrative embodiment, the electrode assembly includes a first (or control) electrode, a second, and a third electrode. The first electrode includes two side support rods to which are secured on both sides

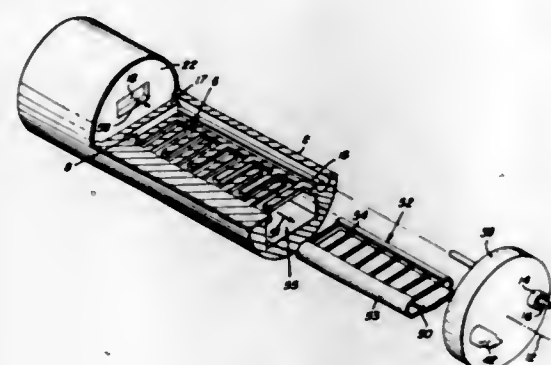


thereof cross straps, and a lateral grid wire wound about the side support rods in a regular helical array. The second and third electrodes include side support rods, at least one cross strap disposed upon a first side of said side rods and a regular array of lateral grid wires disposed upon a second side of the side support rods. Further, the second side of the second and third electrodes is disposed toward the grid wire of the first or control electrode in a close, adjacent relationship. In order to align the corresponding lateral grid wires of



the first electrode with the lateral grid wires of the second and third electrodes, the second and third electrodes are wound in an opposite direction to that with which the lateral grid wires are wound about the side support rods of the first electrode. By critically spacing the lateral grid wires from the cross strap, the lateral grid wires may be so disposed upon the side rods during the winding of the electrodes, so that when they are assembled upon a reference element the lateral grid wires are automatically aligned with each other.

**3,383,543**  
**GRIDDED ION-DRAIN ELECTRODE STRUCTURE FOR TRAVELING WAVE DEVICES**  
Robert Harper, Concord, and Hans-Joachim Krahn, Burlington, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware  
Filed Dec. 21, 1964, Ser. No. 419,719  
3 Claims. (Cl. 315-3.5)

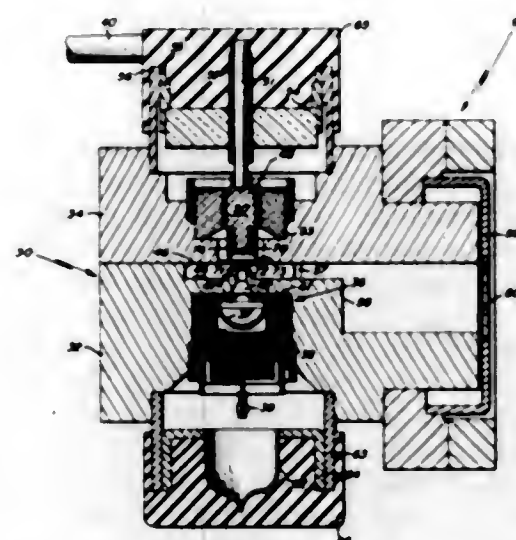


A gridded ion trapping electrode spaced adjacent to the delay line structure of a backward wave type traveling wave-electron beam interaction device to substantially reduce spurious frequency modulations caused by plasma

oscillations of the positive ions which are produced by the electron collisions.

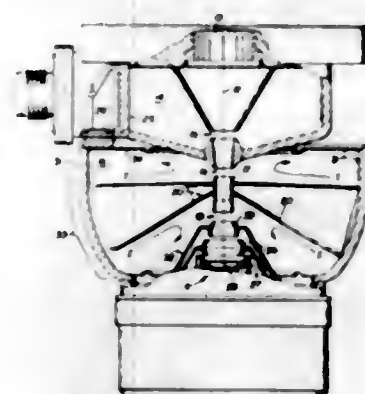
**3,383,544**  
**REFLEX KLYSTRON HAVING A GRIDDED SHIELDING ELECTRODE ADJACENT THE REFLECTOR**

Jerome John Hamilton, Bedford, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware  
Filed Feb. 26, 1965, Ser. No. 435,501  
4 Claims. (Cl. 315-5.18)



A reflex klystron oscillator having a gridded shielding electrode adjacent to the reflector electrode to reduce the sensitivity of phase variations with the changing reflector electrode voltage in the electronic control of the frequency of oscillation without affecting the bunching or tube parameters.

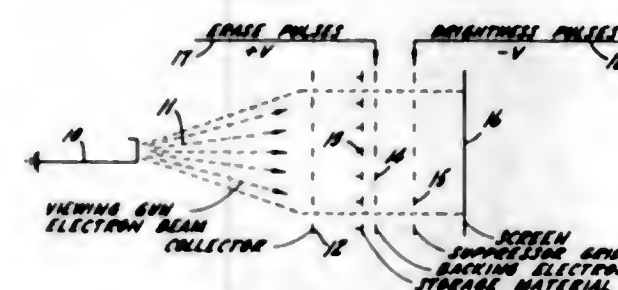
**3,383,545**  
**SUPPORTED DRIFT TUBE KLYSTRON**  
Oskar Heil, San Mateo, Calif., assignor, by mesne assignments, to Varian Associates, a corporation of California  
Filed Nov. 26, 1963, Ser. No. 325,857  
7 Claims. (Cl. 315-5.39)



A two-cavity klystron structure and its operation as a frequency stable oscillator or as an amplifier is described. In such structure a drift tube providing two interaction gaps is rigidly supported within the input cavity by three or more conductive conical supports which provide an appreciable part of the cavity inductance and which are mounted on a spherical surface provided by the inner wall of the input cavity. Tuning of the input cavity, the effect of the loading of the conventional output cavity on power and frequency stability, and other features and design parameters of the structure are discussed.

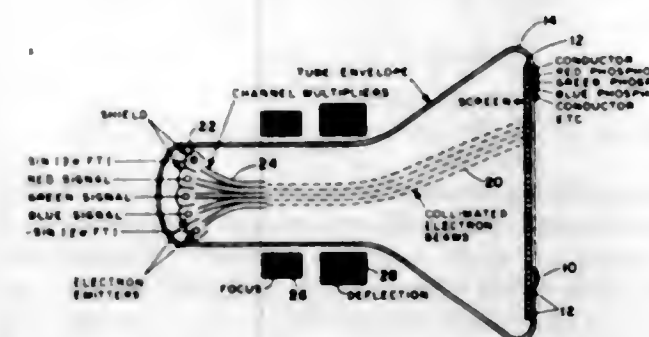
**3,383,546**  
**BRIGHTNESS CONTROL CIRCUITRY FOR DIRECT VIEW STORAGE TUBES**

Albert D. Chokey, Glen Burnie, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed Jan. 15, 1965, Ser. No. 425,976  
4 Claims. (Cl. 315-12)



A brightness control circuit for direct view storage tubes having parallel channels, one channel to develop erase pulses for the backing electrode of the storage tube and the other channel to develop brightness pulses, coincident in initial time and longer in duration than the erase pulses, for the suppressor grid of the storage tube to minimize the flashing effects of the erase pulses. The two channels have a common triggering pulse source and the channel developing the brightness pulse has a brightness pulse generator, the output of which is through an "OR" gate, together with the erase pulses, and through a brightness pulse amplifier to the suppressor grid to insure brightness pulse application although a brightness pulse fails to develop in its channel.

**3,383,547**  
**COLLIMATED COLOR TELEVISION DISPLAY TUBE**  
Frederick C. Alpers, 6455 San Diego Ave., Riverside, Calif. 92506  
Filed Oct. 15, 1965, Ser. No. 496,722  
6 Claims. (Cl. 315-13)



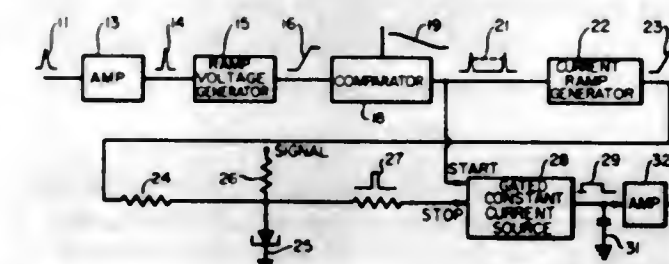
1. In a collimated multiple beam color television display tube, the combination comprising:

- a display reproducing screen,
- groups of parallel bars on said screen, each group including color bars emitting light of different color when impinged upon by radiant energy and arranged in a predetermined pattern between two conducting bars,
- beam producing means generating a plurality of radiant energy beams equal to the number of bars in each group of bars and arranged in said predetermined pattern so that a single beam will impinge only on the corresponding bar according to said predetermined pattern,
- means for applying a first sine wave modulating signal to the beam impinging on one of said two conducting bars,

(e) means for applying a second sine wave modulating signal of opposite phase to said first sine wave modulating signal to the other of said two conducting bars whereby each sine wave modulated beam impinges the same on its corresponding conducting bar,  
(f) means coupled to said conducting bars and being responsive to any signal produced by unequal impingement of said sine wave modulated beams on their corresponding conducting bars to return said modulated beams to equal impingement.

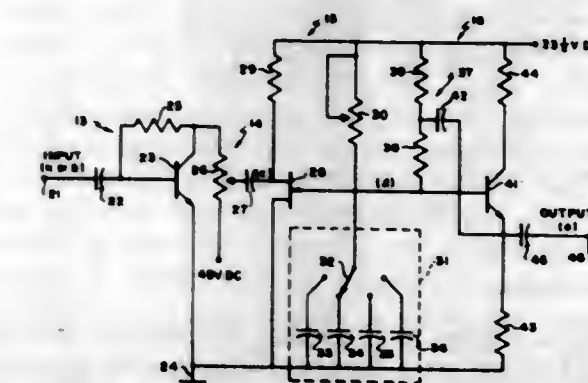
**3,383,548**  
**SAMPLING OSCILLOSCOPE IN WHICH THE VERTICAL DEFLECTION SIGNAL IS DERIVED FROM PULSE WIDTH MODULATED CONSTANT CURRENT PULSES**

Paul E. Goodale, Pleasant Hill, Calif., assignor to E-H Research Laboratories, Inc., Oakland, Calif., a corporation of California  
Filed Feb. 3, 1964, Ser. No. 342,105  
17 Claims. (Cl. 315-25)



1. A circuit of the character described for generating a slow signal representative of a fast repetitive waveform comprising means responsive to a trigger pulse which is in synchronism with the input waveform for generating a delayed pulse which is progressively delayed with respect to successive trigger pulses, means responsive to the delayed pulse forming a current ramp, means for receiving said current ramp and said input waveform and forming an output pulse when they have a predetermined amplitude relationship, and gate means responsive to said output pulse serving to provide an output current pulse having a variable time duration corresponding to the sampled amplitude of said repetitive waveform.

**3,383,549**  
**SAWTOOTH SIGNAL GENERATOR**  
Norman P. Huffnagle, 607 W. 11th St., Panama City, Fla. 32401  
Filed Oct. 9, 1964, Ser. No. 402,977  
9 Claims. (Cl. 315-25)



A transistorized linear sawtooth generator having a synchronization amplifier, a unijunction relaxation oscillator with unique course and vernier frequency adjustments, and an emitter-follower output having a properly

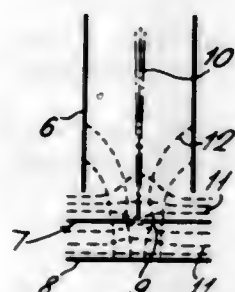


phase-related positive feedback path to said relaxation oscillator for frequency stabilization and linearity improvement purposes.

### 3,383,550 COLD CATHODE, GLOW DISCHARGE DEVICES

Ronald Arthur Dugdale, Blewbury, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Mar. 17, 1966, Ser. No. 535,139  
Claims priority, application Great Britain, Mar. 19, 1965, 11,897/65  
10 Claims. (Cl. 315—31)

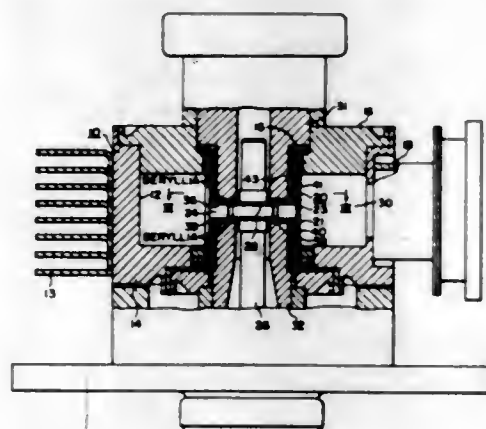


A cold cathode glow discharge device including a means to maintain an enclosure at a low gas pressure, said enclosure including an electrode arrangement having a hollow, open-ended cylindrical anode and a cathode adjacent one open end of the anode. Means are provided to apply potential to the anode and cathode such that during operation a glow discharge takes place. The electrodes forming the electrode arrangement are shaped and positioned so that a stream of electrons which tend to be focused by the electric field associated with the electrode arrangement is derived from the discharge.

### 3,383,551 COAXIAL MAGNETRON WITH IMPROVED THERMAL DISSIPATION

William A. Gerard, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 8, 1965, Ser. No. 431,028  
7 Claims. (Cl. 315—39.77)



This invention relates to a coaxial magnetron wherein high heat conductivity and electrically insulating material is provided in contact with the anode and anode vanes to provide flow of the heat from the anode vanes. In addition, auxiliary heat conductors which may also be electrical conductors may be positioned within regions of the magnetrons so as to not affect the electrical characteristics thereof.

### 3,383,552 AUTOMATIC HEADLIGHT DIMMING SYSTEM WITH TIME DELAY IN SWITCHING FROM HIGH TO LOW BEAM

Eugene W. Brock, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 23, 1967, Ser. No. 617,917  
5 Claims. (Cl. 315—83)

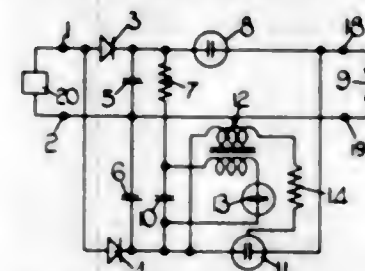


A one way time delay circuit to prevent an automatic headlight dimmer system from switching from high beam to low beam energization upon receipt by the pick-up of short flashes of bright light.

### 3,383,553 SPARK IGNITION APPARATUS

Norman Arthur Parish, Hemel Hempstead, and Keith Douglas Collins, Watford, England, assignors to Rotax Limited, London, England

Filed Sept. 13, 1966, Ser. No. 579,086  
Claims priority, application Great Britain, Sept. 27, 1965, 41,075/65; Oct. 22, 1965, 44,768/65  
7 Claims. (Cl. 315—183)



A spark ignition system wherein a first voltage pulse is applied to a spark plug through a barrier gap from a charged capacitor, after which a second voltage pulse is applied to the spark plug through a second barrier gap which has a higher break-down voltage than the first gap and which has a triggering circuit connected so as to cause breakdown of the second gap at a predetermined voltage to provide a desired discharge of the spark plug.

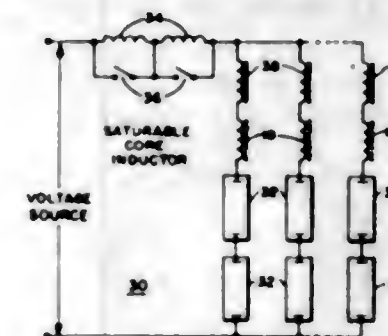
### 3,383,554 CIRCUITS FOR ENERGIZING PARALLEL CONNECTED GASEOUS DISCHARGE DEVICES AND MAINTAINING THE DISCHARGE THEREIN

Wendell A. Oglesbee, Medina, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 10, 1966, Ser. No. 571,614  
10 Claims. (Cl. 315—189)

5. A circuit for operating a plurality of gas-discharge devices at predetermined and adjustable brightnesses, said circuit comprising:  
a plurality of parallel-connected circuit branches adapted to be connected to a source of alternating current;

at least one discharge device connected serially in each of said circuit branches;  
an adjustable current-limiting means serially connected between the source of alternating current and said plurality of circuit branches for controlling the current through said discharge devices and adjusting the brightness thereof;  
at least one discharge device connected serially in each of said circuit branches;  
a ballast means serially connected with said at least one discharge device in each of said circuit branches for ballasting said discharge devices; and



an additional current limiting means serially connected with said at least one discharge device in each of said circuit branches, said additional current limiting means displaying a maximum impedance for low values of current therethrough and displaying a minimum impedance for higher values of current therethrough, said additional current limiting means requiring a predetermined time to shift from said maximum impedance to current flow to said minimum impedance to current flow, and the total impedance in said circuit causing a substantial phase displacement between the input voltage and the current through said discharge devices; whereby an energizing voltage is applied across each said discharge device once during each half-cycle of said alternating current to maintain the discharge in said discharge devices even while said discharge devices are operating in the dimmed condition.

### 3,383,555 REGULATED CAPACITOR DISCHARGE IGNITION SYSTEM

Floyd M. Minks, Port Washington, Wis., assignor to Klekhaefer Corporation, Fond du Lac, Wis., a corporation of Delaware

Filed Mar. 1, 1965, Ser. No. 435,832  
13 Claims. (Cl. 315—209)



In a capacitor discharge ignition system, the capacitor is connected to a blocking oscillator for charging. A silicon controlled rectifier is connected across the output

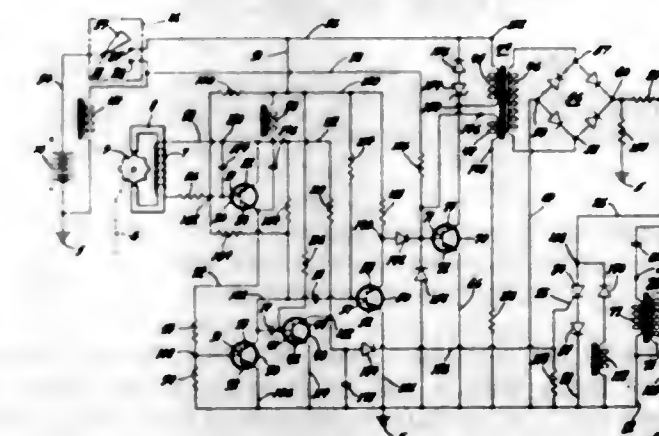
winding of the blocking oscillator. A Zener diode device in series with a resistor is also connected in parallel with the silicon controlled rectifier and the gate of the latter is connected to the junction of the resistor and the Zener diode. In operation, the capacitor was charged to the maximum level established by the Zener diode which will then trigger and fire the SCR to provide a regulated voltage on the capacitor. The discharge circuit for the capacitor includes a pulse transformer and a silicon controlled rectifier. The gate of the latter silicon controlled rectifier is connected to a trigger circuit. The trigger circuit includes a Zener diode and a voltage breakdown switch connected to the junction of a capacitor and a resistor. The same junction is connected to ground by the points. The resistor is connected to the output oscillator by a diode and to the return side of the oscillator by a capacitor.

In operation, when the points close, the latter capacitor is charged. When the points open, the capacitor discharges through the resistor and the first named capacitor. When the voltage across the latter reaches a selected level, it triggers the "Shockley" diode and the capacitor discharges into the gate of the silicon controlled rectifier to thereby discharge the main capacitor.

### 3,383,556 CAPACITOR DISCHARGE IGNITION SYSTEM

Ralph E. Tarter, Plano, Tex., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,530  
10 Claims. (Cl. 315—209)



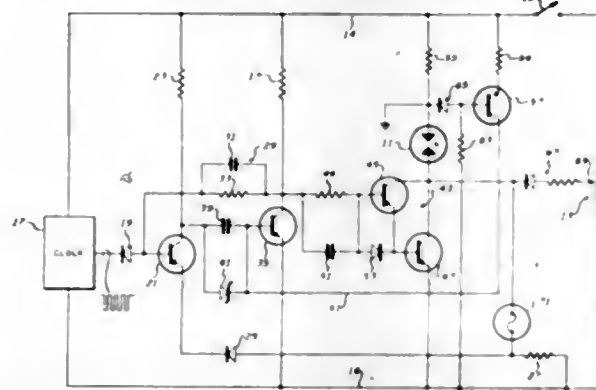
1. A capacitor discharge ignition system for an internal combustion engine comprising in combination with a direct current potential source, a magnetic pulse generator means for producing ignition signal pulses in synchronism with said engine, means responsive to said ignition signal pulses for producing a first and a second trigger signal, converter circuit means including output circuit means for inverting the direct current potential of said potential source, transforming said inverted potential to a potential of a higher magnitude and rectifying said potential of a higher magnitude in response to either one of said first and second trigger signals when said engine is running normally and continuously when said engine is being cranked, means for connecting said converter circuit means across said potential source, a capacitor, an ignition coil having a primary winding and a secondary winding, means for connecting said capacitor and said ignition coil primary winding in series with said converter circuit output circuit means for charging said capacitor and means responsive to the other one of said trigger signals for completing a discharge circuit for said capacitor through said ignition coil primary winding.



3,383,557

## ARC LAMP CONTROLLER

Benjamin W. Green, West Hempstead, and Edward W. Stark, Garden City, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware  
Filed May 2, 1966, Ser. No. 546,963  
6 Claims. (Cl. 315-209)

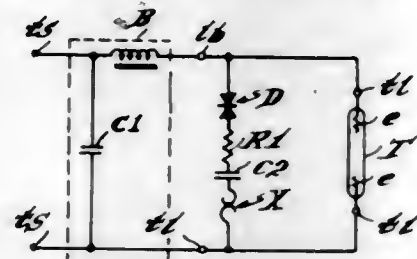


A circuit for stabilizing the light output of an arc lamp includes a clock pulse source that energizes the lamp through a switching circuit. The electrical input to the lamp is monitored and used to control the switching circuit so as to block the flow of selected portions of each clock pulse as determined by the monitoring signal.

3,383,558

## NON-RESONANT STARTING CIRCUIT FOR HIGH PRESSURE DOUBLE JACKETED MERCURY LAMPS

John F. Waymouth, Marblehead, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware  
Filed July 5, 1966, Ser. No. 562,624  
1 Claim. (Cl. 315-242)

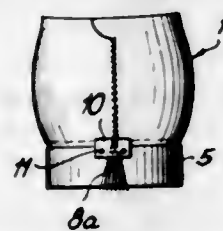


A circuit for starting a high pressure, double jacketed mercury lamp with a ballast inductance in series with the lamp and a solid state, bidirectional breakdown device and a capacitor in series-parallel with the lamp, the inductance and capacitor having a non-resonant charging time constant such as to apply an abrupt lamp starting voltage jump to the lamp during each half-cycle of an alternating current supply.

3,383,559

## ANTISTATIC FOOTWEAR, SUCH AS SHOES, BOOTS, SANDALS AND THE LIKE

Karl Adolf Oesterheld, Luthé, via Wunstorf, Hannover, Germany  
Filed Oct. 1, 1965, Ser. No. 492,115  
Claims priority, application Germany, Oct. 9, 1964, O 7,850  
4 Claims. (Cl. 317-2)



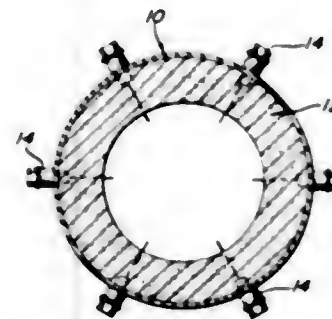
Antistatic footwear having at least one insertion of good, electrically conducting material which is connected

to conducting elements which contact the ground and function to dissipate electrostatic charges from the body of the wearer. The insertion of this invention is a wire placed in grooves having a zigzag shape across the longitudinal center line of the insole.

3,383,560

## METHOD AND APPARATUS FOR NEUTRALIZING ELECTROSTATIC CHARGES IN AN ELECTRICALLY CHARGED LIQUID

Irwin Ginsburgh, Morton Grove, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana  
Filed May 18, 1966, Ser. No. 551,032  
13 Claims. (Cl. 317-2)

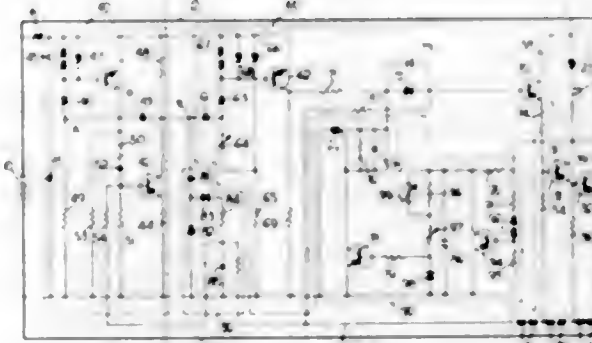


Electrostatic charges in an electrically charged liquid are reduced by flowing the charged liquid through a tubular capacitor having an inner electrically non-conductive dielectric of high resistivity and low dielectric constant and a grounded electrically conductive outer plate. As the charged liquid flows through the capacitor it contacts a plurality of spaced apart sharply pointed grounded electrodes while confined within the dielectric.

3,383,561

## PULSE WIDTH MODULATION CONTROL SYSTEM

Tom N. Thiele, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.  
Filed Apr. 4, 1966, Ser. No. 539,930  
10 Claims. (Cl. 317-13)



1. Current limiting means for a control system that cyclically connects a direct current source to a direct current motor to provide a variable average current to said motor, said means comprising:  
power switching means connected between the source and the motor;  
pulse modulation control means for controlling the power switching means by providing selectably variable pulses delivered to turn on said power switching means for the duration of the pulse;  
means connected across the power switching means for providing a continuous measure of the voltage across said power switching means;  
sensing means responsive to the measure of the voltage for providing an output signal when the instantaneous level of said voltage exceeds a first preselected level indicating an instantaneous overcurrent condition;

means connected to the sensing means and responsive to the voltage across the switching means for deactivating said sensing means when the voltage across the switching means is above a second predetermined level greater than the first preselected level and selected to indicate that said switching means is open; and means responsive to the output signal for controlling the pulse modulation control means to effect instantaneous turn-off of the switching means.

3,383,562

## ELECTRICAL DISTRIBUTION SYSTEM

Jackson F. Fuller, Denver, Colo., and Harold H. Lawson, Philadelphia, Pa., assignors to General Electric Company, a corporation of New York  
Filed May 16, 1966, Ser. No. 550,368  
5 Claims. (Cl. 317-22)



1. In a system of electric distribution that comprises an alternating current network, a pair of feeders for respectively supplying power to the network, and loads other than said network respectively connected to said feeders for receiving power supplied thereto through said feeders, the combination of:

- a first network circuit breaker for connecting one of said feeders to said network,
- a second network circuit breaker for connecting the other of said feeders to said network,
- control apparatus associated with each network circuit breaker for causing opening of the associated network circuit breaker when the direction of power flow is from said network into the associated feeder, and
- means responsive to overcurrent flowing through said first network circuit breaker into said network for causing said second network circuit breaker to open in response to said overcurrent exceeding a predetermined value.

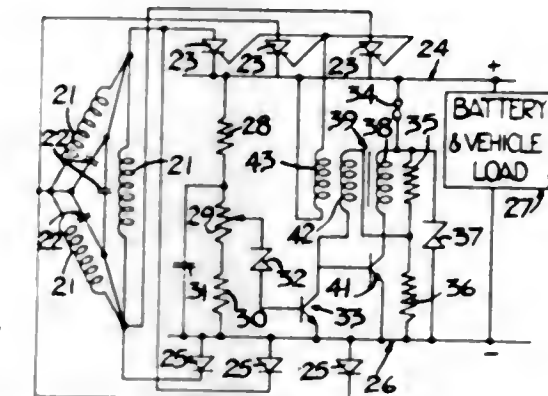
3,383,563

## BATTERY CHARGING SYSTEMS FOR ROAD VEHICLES

Maurice James Wright, Harborne, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Dec. 6, 1965, Ser. No. 511,675  
Claims priority, application Great Britain, Dec. 9, 1964, 50,042/64  
3 Claims. (Cl. 317-33)

In a battery charging system a permanent magnet alternator supplies power to a pair of supply lines through a full wave rectifier including a diode and a thyristor for each phase of the alternator. The battery of the vehicle

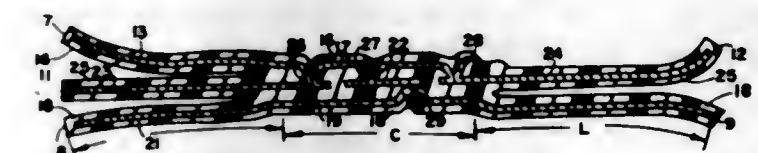


voltage between the supply lines rises above a predetermined value. In order to protect the vehicle loads, a fuse or similar device is connected in series with the oscillator, and a Zener diode or similar device is connected in parallel with the oscillator, so that the oscillator will cut off in the event of an overload condition.

3,383,564

## MULTILAYER CIRCUIT

Harold Laimond and Lewis B. Goody, Nashua, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware  
Filed Oct. 22, 1965, Ser. No. 501,199  
6 Claims. (Cl. 317-101)

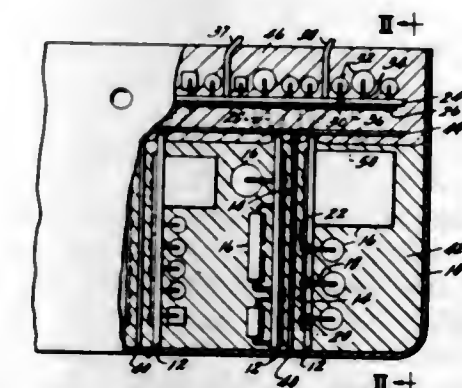


The present invention pertains to a three-dimensional circuit matrix and the method of making the same, the circuit matrix comprising a circuit portion formed of a plurality of printed circuit layers insulatively separated from one another and end flaps extending from the circuit portion and enclosing take-off leads connected to the circuit layers; the end flaps enabling the circuit portion to be connected to externally disposed electrical apparatus.

3,383,565

## PACKAGING OF ELECTRICAL COMPONENTS

Davis M. Gritton, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York  
Filed May 13, 1966, Ser. No. 549,870  
2 Claims. (Cl. 317-101)



The disclosure shows a packaging arrangement for circuit boards having electrical elements mounted thereon. A plurality of such circuit boards is mounted within a

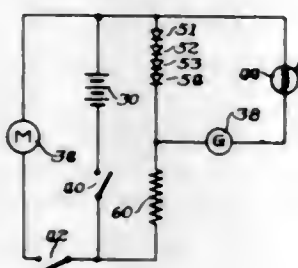


housing and encapsulated with an elastomeric material to a level such that the electrical elements are encapsulated and the upper ends of the circuit boards extend above the elastomeric material. The circuit boards are electrically connected to a horizontal main circuit board, and the main circuit board and the upper ends of the vertical circuit boards are encapsulated in a rigid material which is locked to the housing by indentations formed in the housing.

3,383,566

# DIODE CONTROL OF VOLTAGE IN AN EXPOSURE CONTROL CIRCUIT

Felix Clemmlak, Chicago, and William A. Johnson, Hoffman Estates, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois  
Filed Dec. 2, 1964, Ser. No. 415,533  
2 Claims. (Cl. 317-123)

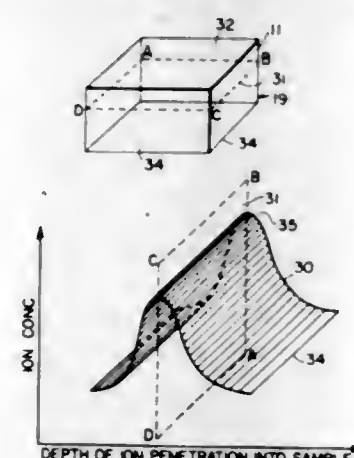


A voltage regulating system for use in a motion picture camera having an electrically energized exposure control system and an electrically energized mechanism drive, both powered by a single, variable low voltage power supply. The regulating system keeps constant the voltage applied to the exposure control system, and includes in parallel circuit with the exposure control system, a plurality of solid state devices operable at the low voltages used with minimum battery drain.

3,383,567

# SOLID STATE TRANSLATING DEVICE COMPRISING IRRADIATION IMPLANTED CONDUCTIVITY IONS

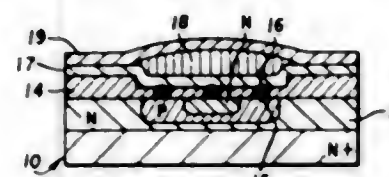
William J. King, Reading, and Claud M. Kellett, Lexington, Mass., assignors to Ion Physics Corporation, Burlington, Mass., a corporation of Delaware  
Filed Sept. 15, 1965, Ser. No. 487,416  
7 Claims. (Cl. 317-234)



A solid body composed of material having a critical temperature which renders it unsuitable for diffusion or alloying selected from the group consisting of diamond, titanium, sulfur, selenium, phosphorous, arsenic, tellurium, tin, bismuth, antimony, their compounds and their oxides, carbon, boron, boron carbide, zinc and cadmium in which ions have been implanted by irradiation to create in the body a zone whose characteristics, by virtue of the implanted ions, are varied from the characteristics of the unimplanted body.

# SEMICONDUCTOR DEVICE UTILIZING GLASS AND OXIDES AS AN INSULATOR FOR HERMETICALLY SEALING THE JUNCTIONS

James A. Cunningham, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware  
Filed Feb. 4, 1965, Ser. No. 430,369  
13 Claims. (Cl. 317-235)

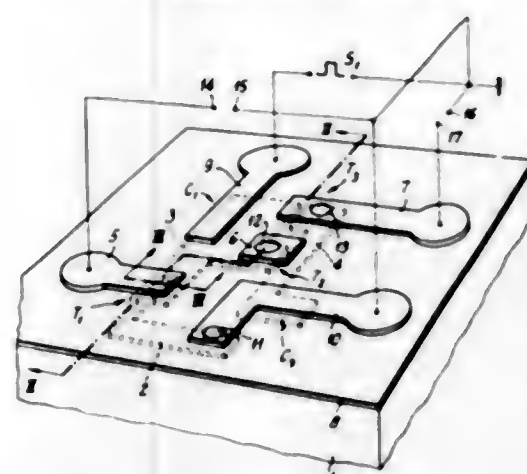


Disclosed is a semiconductor device on which an oxide is placed over a thin film contact and interconnections prior to the application of a glass coating. A second oxide may then be placed over the glass to facilitate additional interconnections.

3,383,569

# TRANSISTOR-CAPACITOR INTEGRATED CIRCUIT STRUCTURE

Jakob Lüscher, Geneva, Switzerland, assignor to Societe Suisse Pour l'Industrie Horlogere S.A., Geneva, Switzerland, a Swiss body corporate  
Filed Mar. 23, 1965, Ser. No. 441,975  
Claims priority, application Switzerland, Mar. 26, 1964, 3,994/64  
9 Claims. (Cl. 317-235)



The invention provides an integrated electronic circuit wherein transistors of the same conductivity type and capacitors of very small size represent ease of integration and are introduced for power consumption in the integrated circuit to be characteristically very low, at least one elementary amplifying circuit of low power consumption being among the transistors and capacitors integrated and correspondingly having one of the transistors and one of the capacitors connected in series and supplied by a periodic voltage source.

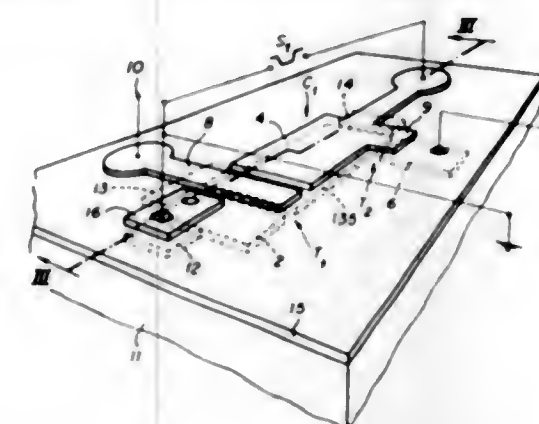
3,383,570

# TRANSISTOR-CAPACITOR INTEGRATED CIRCUIT STRUCTURE

Jakob Lüscher, Carouge, Geneva, Switzerland, assignor to Societe Suisse Pour l'Industrie Horlogere S.A., Geneva, Switzerland, a Swiss body corporate  
Continuation-in-part of application Ser. No. 441,975, Mar. 23, 1965. This application Apr. 7, 1966, Ser. No. 540,999  
Claims priority, application Switzerland, Apr. 9, 1965, 5,031/65  
9 Claims. (Cl. 317-235)

The invention provides an electronic circuit which can both be readily integrated and be of very low power consumption and in which circuit the active components consist essentially of insulated-gate field-effect transistors of

same conductivity type and the passive components consist essentially of capacitors, the integrated circuit being

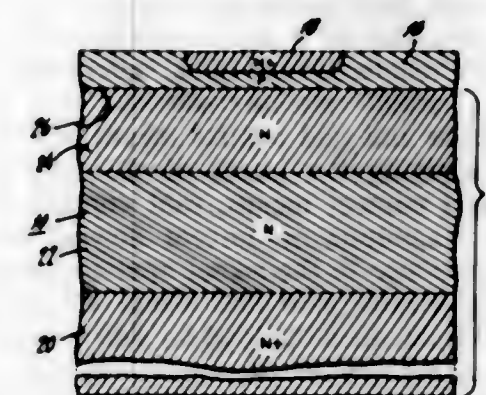


featured by at least one elementary voltage-amplifying circuit having therein a pair of said transistors and a said capacitor, and supplied by a periodic voltage source.

3,383,571

# HIGH-FREQUENCY POWER TRANSISTOR WITH IMPROVED REVERSE-BIAS SECOND BREAKDOWN CHARACTERISTICS

Norman C. Turner, Hopatcong, and Albert F. Chen and Bohdan R. Czorny, Bound Brook, N.J., assignors to Radio Corporation of America, a corporation of Delaware  
Filed July 19, 1965, Ser. No. 472,796  
5 Claims. (Cl. 317-235)



A high-frequency power transistor with improved reverse-bias second breakdown characteristics comprises an emitter region, a base region, and a multi-layer collector region. The collector region comprises at least three layers whose resistivities decrease step-wise, respectively, in the direction away from the base region. The two layers nearest the base region have thicknesses of about the same order of magnitude.

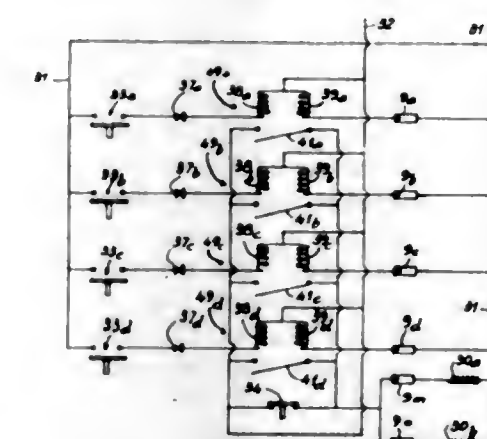
3,383,572

# CONTROL DEVICES FOR MOVABLE CARRIAGES AND THE LIKE

Edmond Moulin, Lyon, France, assignor to "C.O.R.E.C.I. Compagnie de Régulation et de Contrôle Industriel," Lyon, France, a French joint-stock company  
Filed Dec. 1, 1964, Ser. No. 415,096  
Claims priority, application France, Dec. 2, 1963, 44,231  
4 Claims. (Cl. 318-18)

A device to control the displacement of a movable member along a definite path, stopping the member automatically at plural positions therealong. The device is illustrated by embodiments including a rotary programming disc generating by photoelectric means in its various positions different outputs based upon a binary code representative of the next position at which the movable member should stop, and the movable member and path having plural switching means cooperative to develop a binary

output code each time the movable member passes a stoppage position, and this output being representative of that position. The system further includes means for comparing the programmer output with the stoppage position

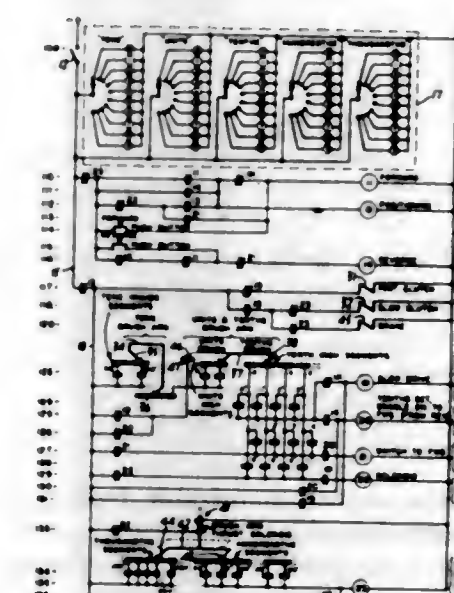


output, and actuating means to stop the movable member when these momentary output codes are identical, the system including auxiliary switching means for operating said stopping means after the output code representing the particular position arrived at has been fully read.

3,383,573

# AUTOMATIC CONTROL POSITIONING MEANS INCLUDING MEANS FOR CHANGING SPEED

Curtis Hillyer, Short Hills, N.J., assignor to Hillyer Corporation, Mountainside, N.J., a corporation of Delaware  
Filed Jan. 19, 1965, Ser. No. 426,498  
7 Claims. (Cl. 318-18)



1. In apparatus for controlling the movement of a controlled element to a predetermined position identified by data having a plurality of components in different denominational orders including data means for indicating positional data components of at least one major denominational order and one minor denominational order representative of the predetermined position, positioning drive means for moving the controlled element to the predetermined position operable at at least two different speeds and having means for changing the speed of movement from a relatively fast speed to a slow speed when the controlled element is substantially located at a position represented by the data component of major denominational order and for stopping the movement of the controlled element when it is located at a position represented by both the major and minor denominational

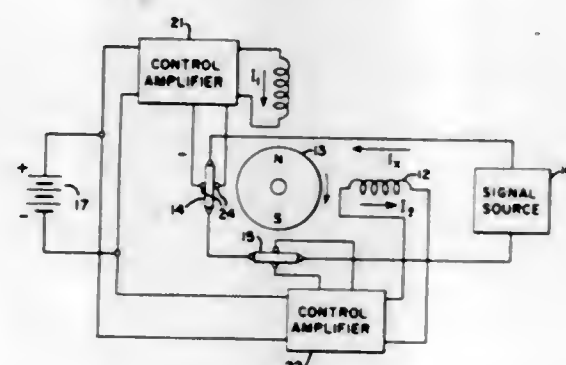


order data components, and position sensing means having major and minor denominational sensors each including a plurality of incremental contact means representative of the different elements of the respective denominational orders and a movable brush means adapted to selectively engage a selected one of the incremental contact means as a function of the position of the controlled element, the movable brush means of the minor denominational sensor being adapted to be selectively brought into operative engagement with the respective incremental contact means of the minor denominational sensor when the controlled element is substantially located at a position represented by the data component of the major denominational order, the position sensing means comprising selectively energizable first control means for effecting the change in speed of movement from fast to slow speed when the major denominational sensor brush means engages a selectively enabled first one of the major denominational incremental contact means, means responsive to the data indicating means for selectively enabling said first one of the incremental contact means, selectively energizable second control means for effecting the operative engagement of the movable brush means and contact means of the minor denominational sensor when the major denominational sensor brush means engages a selectively enabled second one of the major denominational incremental contact means, and means responsive to the data indicating means for selecting said second one of the incremental contact means.

3,383,574

**BRUSHLESS DIRECT CURRENT MOTOR AND TORQUER**

Erich W. Manteuffel, Vestal, N.Y., assignor to General Electric Company, a corporation of New York  
Filed June 30, 1964, Ser. No. 379,150  
7 Claims. (Cl. 318-138)



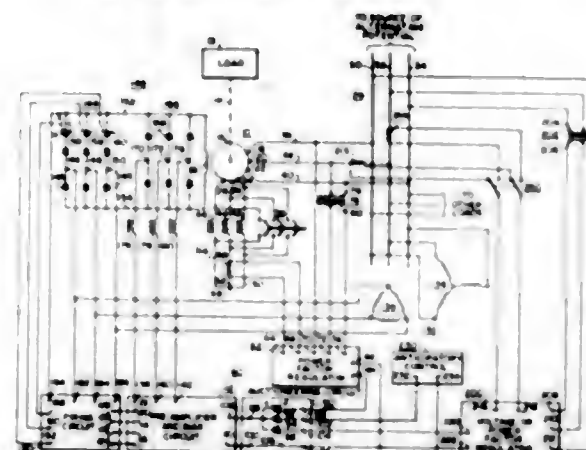
1. An electric motor energizable from a source of uni-directional potential which comprises:
  - (a) a rotor having magnetic poles of opposite polarity thereon;
  - (b) a stator member having a pair of flux-producing windings positioned in torque-producing relation with said rotor;
  - (c) a pair of Hall generators positioned in flux-sensing relationship to said magnetic poles;
  - (d) linear control amplifier means for applying continuous currents to said stator windings;
  - (e) means connecting each of said Hall effect generators to the control amplifier means in such a manner that each of said Hall generators supplies a control signal to said control amplifier means to energize said windings and produce a constant driving torque on said rotor by producing winding currents which are respectively sine and cosine functions of said rotor position; and
  - (f) means including electric signal means for supplying control of the magnitude of the constant driving torque to said linear control amplifier means.

3,383,575

**EXCITATION SYSTEMS**

Powell O. Bobo, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 7, 1966, Ser. No. 519,223  
5 Claims. (Cl. 318-179)



1. An excitation system comprising a synchronous motor having a field winding and input terminals, a source of alternating potential connected to the input terminals of said synchronous motor, a source of direct current potential connected to said field winding, control means connected in circuit relation with said source of direct current potential and said field winding, first regulator means connected in circuit relation with said synchronous motor and providing a first signal responsive to the deviation of the electrical power factor of said synchronous motor from a predetermined value, second regulator means connected in circuit relation with said source of alternating potential and providing a second signal responsive to the deviation of a predetermined electrical quantity from a predetermined value, auctioneering means connected in circuit relation with said first and second regulator means and said control means, said auctioneering means applying the larger of the first and second signals to said control means, said control means controlling the magnitude of current flowing in said field winding in response to the signal applied thereto by said auctioneering means, said first signal being larger than said second signal when the load on said synchronous motor reaches a predetermined magnitude, and the second signal being larger than the first signal when the load on the synchronous motor is below the predetermined magnitude.

3,383,576

**A.C. MOTOR STARTING ARRANGEMENT**

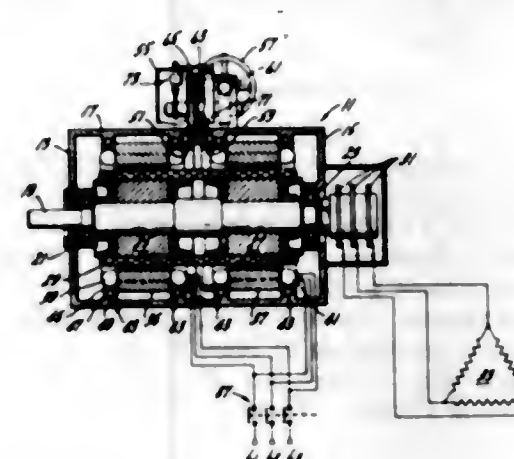
Kenneth S. Kordik, Rockford, Ill., assignor, by mesne assignments, to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware

Filed Mar. 18, 1966, Ser. No. 535,432  
11 Claims. (Cl. 318-214)

1. For use with a polyphase A.C. motor having a rotor winding and a pair of stator windings for inducing through individual rotating magnetic fields a pair of voltages in said rotor winding, at least one stator winding being rotatable to vary the position of said stator windings relative to each other between a null position in which the induced voltages are cancelled and an aligned position in which the induced voltages are added to produce maximum torque, a prescribed stator position starter comprising in combination:
  - (a) a source of polyphase current;
  - (b) control means for connecting said stator windings to said source of current;
  - (c) motor starting means for actuating said control means;
  - (d) means for initially disabling said control means for admitting current to said stator windings in any stator winding position other than a preselected relative stator winding position;

- (e) means for overriding said disabling means and for maintaining said control means actuated, in response to actuation of said control means so that once the control means has been actuated and the motor started with the stator windings in said preselected

for closely controlling the transient and steady state modes of operation. The system provides substantially constant



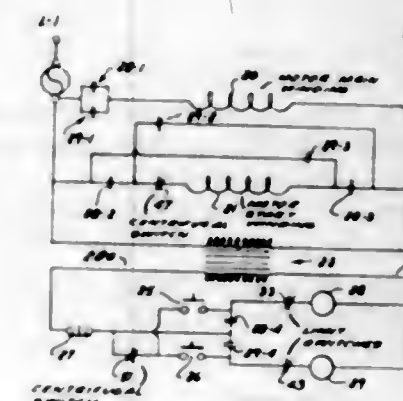
relative position, said control means remains actuated and continues to admit current to said stator windings regardless of subsequent shifting of one stator winding away from said preselected relative position.

3,383,577

**REVERSIBLE MOTOR CONTROL CIRCUITS**

John W. Ellmore, West Chester, Pa., assignor to Allister Manufacturing Company, Inc., Exton, Pa., a corporation of Pennsylvania

Filed May 27, 1965, Ser. No. 459,354  
9 Claims. (Cl. 318-266)



Control circuits provide against running a motor beyond limit switches arranged at two limits of travel. An auxiliary centrifugal switch is connected in series with motor controlling relays in such manner that improper operation of push buttons, e.g., simultaneous operation of push buttons at two control stations, cannot result in a limit switch being bypassed.

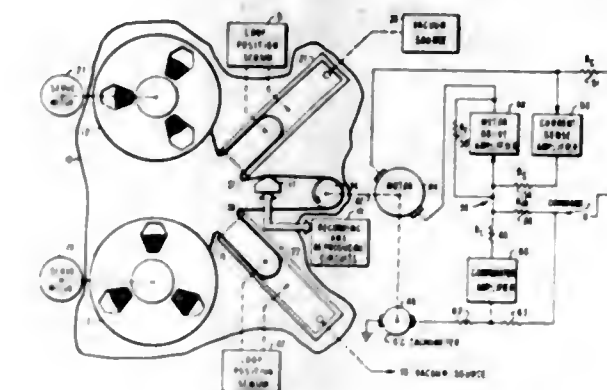
3,383,578

**CONTINUOUS MODE MOTOR SPEED CONTROL SYSTEM**

Martyn A. Lewis, Los Angeles, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Oct. 26, 1964, Ser. No. 406,331  
14 Claims. (Cl. 318-332)

This invention relates to a speed control system for direct current motors and more particularly to a system



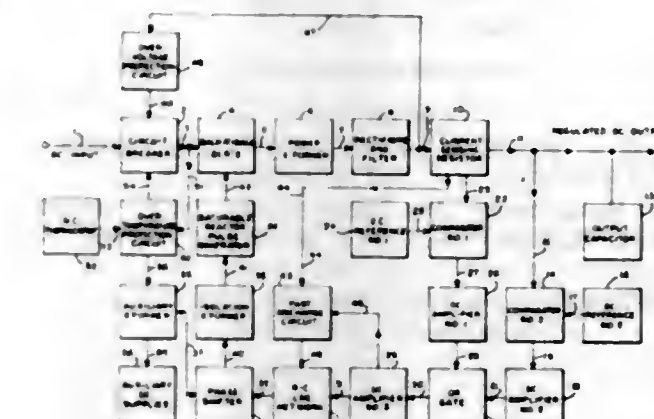
current during the transient mode and substantially constant voltage during the steady state mode.

3,383,579

**INPUT REGULATED POWER SUPPLIES**

Han-Min Hung, Bayside, N.Y., assignor to Forbro Design Corp., New York, N.Y., a corporation of New York

Filed Apr. 19, 1966, Ser. No. 543,627  
7 Claims. (Cl. 321-11)



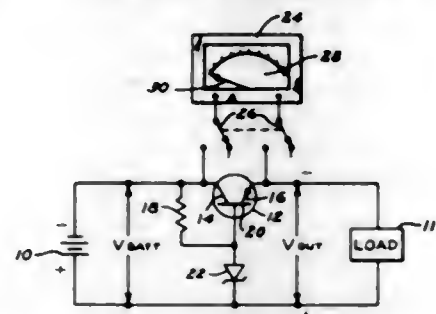
1. In a direct current regulated power supply, the combination of, a power transformer including primary and secondary windings, rectifier and filter means connected to said secondary to provide filtered direct current to output means, two back-to-back silicon controlled rectifiers including gate elements connected to said primary for controlling alternating current from a powerline to said primary, a saturable reactor pulse generator coupled to said gates for controlling the firing of said silicon controlled rectifiers, a source of reference voltage, means for comparing at least a portion of said output voltage with said reference voltage to provide an error signal in accordance with the difference therebetween, means for amplifying said error signal, a resistance capacitance lag network for delaying said amplified error signal, a signal responsive phase shifter coupled to receive an alternating current voltage from the silicon controlled rectifiers connected power line, means for applying said delayed amplified error signal to said phase shifter to phase shift the alternating current voltage applied thereto to provide an alternating current voltage phase controlled by said delayed error signal and means for applying said phase controlled alternating current to said saturable reactor pulse generator for controlling the timing of said pulses in accordance with the phase controlled alternating current whereby the firing of said silicon controlled rectifiers controls the direct current output of said power supply.



3,383,580

**BATTERY-LIFE INDICATOR**

Jacob Lightsey Wallace, Jr., Springfield, Va., assignor to Susquehanna Corporation, a corporation of Delaware  
Filed Mar. 16, 1964, Ser. No. 352,195  
7 Claims. (Cl. 320-48)



The collector-to-emitter voltage of a transistor used in a voltage regulator is monitored to give an indication of the remaining life of the battery which is being regulated. A volt-meter is switched across this collector-emitter path when a reading is desired. The meter face is graduated in hours of remaining battery life and the meter pointer will deflect to give a reading. The amount of deflection will be determined by the voltage difference between the collector, which is at battery potential, and the emitter, which is at the regulated potential.

**ERRATUM**

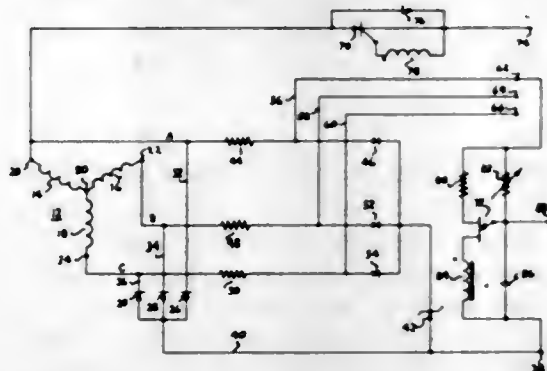
For Class 321-11 sec:  
Patent No. 3,383,579

3,383,581

**POWER SUPPLY HAVING SYNCHRONOUS PERIODIC OUTPUT VOLTAGE**

George M. Rosenberry, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 18, 1966, Ser. No. 565,781  
7 Claims. (Cl. 321-16)



5. A trigger circuit power supply for use with a polyphase source of electric power having a plurality of phase output terminals, said power supply comprising:

- first rectifying means comprising a plurality of diodes having anode and cathode electrodes, means connecting a similar electrode of each of said diodes respectively to said terminals, means connecting the other of said electrodes together and to a voltage reference terminal for the power supply;
- a Zener diode having an anode and a cathode electrode, means connecting the electrode of said Zener diode that is similar to said other of the electrodes in said first rectifying means to said voltage reference terminal;
- a plurality of impedances respectively connected to the output terminals of said polyphase source;
- second rectifying means comprising a plurality of diodes having anode and cathode electrodes, means connecting a similar electrode of each of said last-mentioned diodes respectively to said impedances,

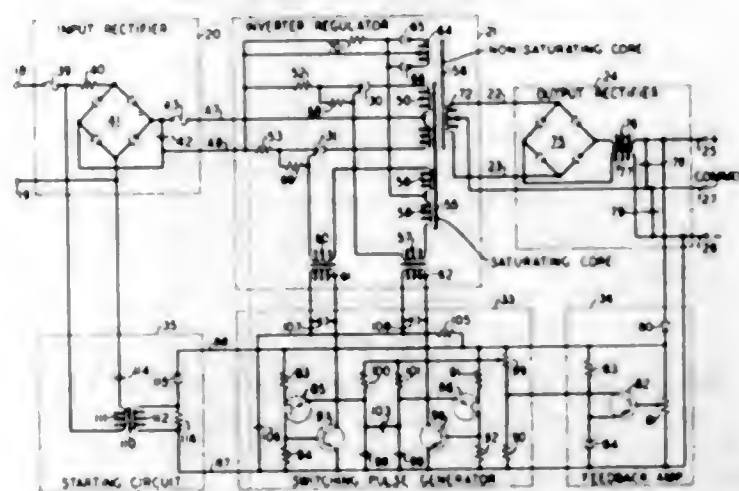
said last-mentioned similar electrode being different from said similar electrode selected in said first rectifying means; means connecting the other electrodes of said second rectifying means together and to the similar electrode of said Zener diode; and,  
(e) power supply output means connected respectively to the junctions of said impedance and said second rectifying means.

3,383,582

**POWER CONVERSION APPARATUS EMPLOYING A MAGNETIC CONTROL CIRCUIT FOR ACTUATING GATE TURN-OFF SWITCHES**

John D. Bishop, Basking Ridge, Edwin T. Calkin, Parsippany, and Frank F. Judd, Chatham, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 7, 1964, Ser. No. 365,726  
8 Claims. (Cl. 321-18)



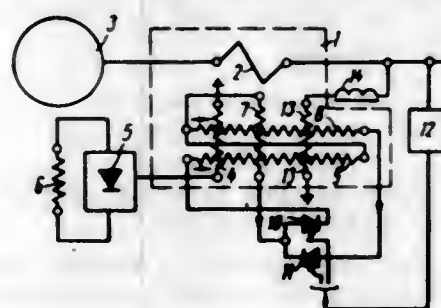
An inverter regulator is disclosed which converts a fluctuating DC supply voltage derived from a rectified AC line voltage into high frequency AC output pulses having constant volt-second area. The inverter includes a pair of gate turn-OFF semi-conductor switches which conduct alternately and connect the DC source to the primary winding of an output transformer supplying current first in one direction and then in the other through the winding. The primary winding is wound on two cores, one of which is arranged to saturate while the other remains substantially linear. A control winding wound on the linear core provides turn-OFF pulses to the switch at the moment the other core saturates, and the switches are gated ON by a load responsive triggering device.

3,383,583

**DEVICE FOR AUTOMATIC FIELD CONTROL IN SYNCHRONOUS GENERATORS**

Lev Zalmanovich Madoraky, Bolshoi Prospekt B O., 82, Kv. 113, and Jury Alexandrovich Nesterov, Basseinaya Ulitsa 71, Kv. 51, both of Leningrad, U.S.S.R.

Filed July 19, 1965, Ser. No. 472,919  
3 Claims. (Cl. 322-25)

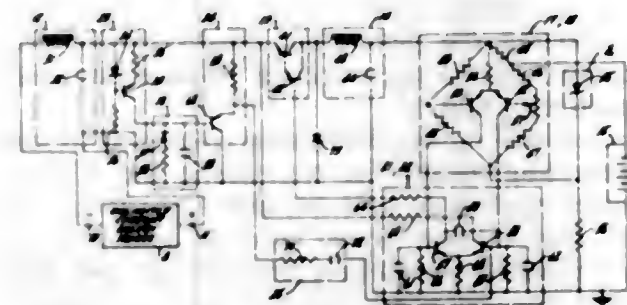


Synchronous generator with an automatic field control in which stator is coupled to the primary winding of current transformer which includes a secondary circuit controlled by controllable rectifiers.

3,383,584

**SOLID STATE SWITCHING REGULATOR CIRCUIT**

Robert R. Atherton, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Mar. 16, 1965, Ser. No. 440,330  
7 Claims. (Cl. 323-4)



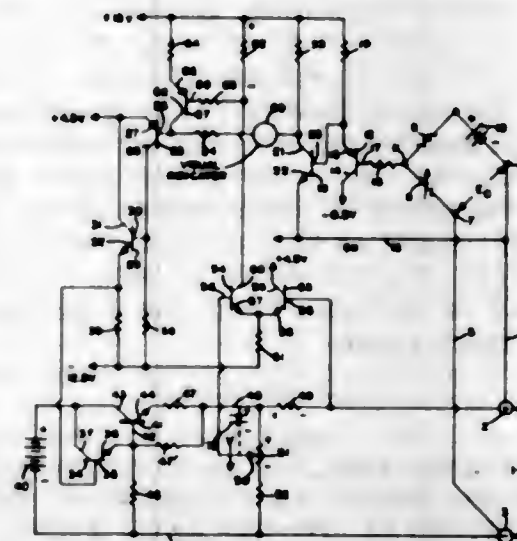
A solid state regulator circuit for controlling the charging current from either a current limited or an unlimited energy source to a load. The regulator compares the level of charging current, supplied by the source to the load, with a reference level. Any difference between the two signals is amplified by a differential amplifier and combined with the output signal of a sawtooth generator, the combined signal being applied to a bistable flip-flop modulator which, in turn, controls the "on" and "off" times of a modulated solid state switching circuit coupled in series between the charging source and the load. Varying the "on" and "off" times of the switching circuit varies the average value of its rectangular output waveform, which is then coupled through an integrating filter circuit for providing to the load a smooth direct current signal whose magnitude is equal to the average value of the rectangular waveform.

3,383,585

**CURRENT CUTOFF CIRCUIT FOR REGULATED POWER SUPPLY**

Joseph R. Gately, Woodside, N.Y., assignor to Forbro Design Corp., New York, N.Y., a corporation of New York

Filed July 26, 1965, Ser. No. 474,553  
4 Claims. (Cl. 323-4)



The present invention provides current limiting in a voltage regulated power supply which under overload conditions causes the current to fold back so that the final current to a short circuit is very low and typically 5-10 percent of the maximum rated current of the supply. This is accomplished by comparing the voltage drop across a current sensing resistor with a portion of the voltage from the voltage regulating circuit and using the

resultant to disable the output voltage control amplifier at an intermediate point in the amplifier.

3,383,586

**POWER SUPPLY INCLUDING NON-CONDUCTIVE MECHANICAL TRANSMISSION MEANS FOR RADIO FREQUENCY EXPLORATION UNIT**

Gustave L. Hoehn, Jr., Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York  
Filed Nov. 12, 1963, Ser. No. 322,984  
6 Claims. (Cl. 324-6)



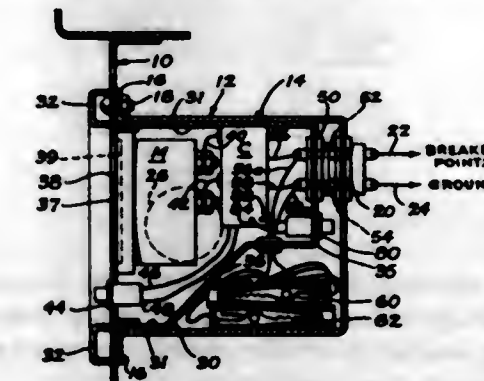
1. A well logging unit having an elongated housing adapted for movement through a well bore which comprises:

- an R.F. transmitter at the lower end of said housing,
- an R.F. receiver in the upper portion of said housing intermediate the length of said housing,
- telemetering means including a prime mover,
- a pair of insulating units separating said receiver from said telemetering unit and said receiver from said transmitter, respectively,
- electric generators in both said transmitter and said receiver,
- a non-conductive mechanical transmission linkage extending from said prime mover to both said generators, and
- means for applying power to said prime mover for energizing said transmitter and said receiver by way of said generators.

3,383,587

**DWELL-TACHOMETER INSTALLATION**

Charles E. Tripp, 15241 Oak Ridge Way, Los Gatos, Calif. 95030  
Filed Oct. 21, 1965, Ser. No. 499,162  
10 Claims. (Cl. 324-16)



A combined dwell angle-tachometer instrument is plug-mounted in the vehicle dashboard and a switch providing for giving readings of either function during driving.



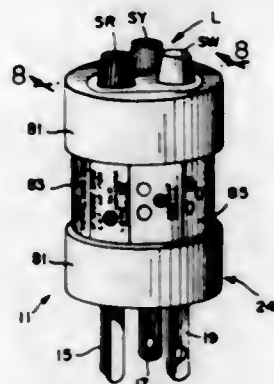
Auxiliary test leads are stored in the dash receptacle for tune up use.

3,383,588

### THREE PRONG CIRCUIT TESTER FOR ELECTRICAL OUTLET SOCKETS INCLUDING A FRAME MEANS FORMED WITH ADJACENT CHAMBERS FOR HOUSING VISUAL INDICATORS

Russell F. Stoll, Northbrook, Alan B. Reed, Oak Park, and Walter A. Wojak, Chicago, Ill., assignors to Daniel Woodhead Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 23, 1965, Ser. No. 481,804  
11 Claims. (Cl. 324-51)



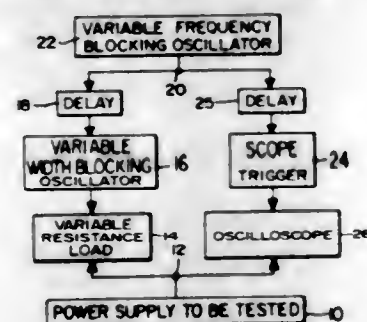
An electrical circuit tester having a composite insulating frame structure of molded components, including a preformed base carrying three connection prongs, a housing component providing separate chambers for receiving each a corresponding indicator lamp, whereby the lamps may be connected with the prongs, in position to extend each in its corresponding chamber, prior to the mounting and attachment of the housing on the base, the chambers extending longitudinally, in the housing, and in parallel, side-by-side relation, whereby the housing may be assembled and secured on the base, merely by applying the housing axially into mounted position on the base, thereby simultaneously sliding the lamps into said chambers, and a sleeve of flexible insulating material forming an enclosing sheath adapted to embrace and interlockingly embrace the sides of the housing and base to aid in holding the components of the structure together as an assembly unit.

3,383,589

### POWER SUPPLY TEST APPARATUS HAVING MEANS TO REPEATEDLY SHORT THE POWER SUPPLY

Norman G. Dugan, Jr., West Chester, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 20, 1964, Ser. No. 353,534  
4 Claims. (Cl. 324-57)



3. The combination for dynamically loading and monitoring the operation of a power supply independently of frequency variation of the energizing voltage applied to the power supply comprising:

an input terminal and a reference potential terminal adapted to be coupled to the output terminals of an independently energized power supply;

a variable impedance electrically connected at one end to said input terminal and at the other end to said reference potential terminal;

triggerable waveform display means adapted to be coupled to said power supply for monitoring the voltage of the power supply;

variable frequency pulse generating means generating periodic pulse signals for repeatedly triggering said display means and changing the impedance of said variable impedance;

first and second individual delay means electrically connecting the generating means to the indicating means and to the variable impedance means, respectively; and

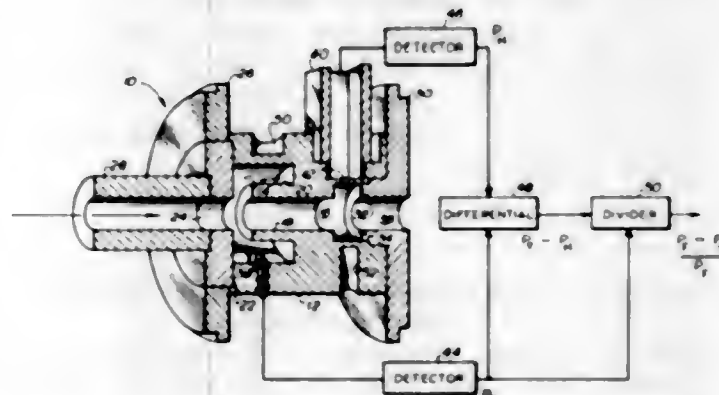
signal control means electrically connected to said pulse generating means for controlling the width of the pulses applied to said variable impedance; whereby the load current drawn through said power supply is repeatedly varied at a selected rate and pulse time width for indicating the dynamic regulation of said power supply.

3,383,590

### RESONANT CAVITY-TYPE MONITOR FOR MEASURING THE BUNCH LENGTH OF A BEAM OF CHARGED PARTICLES IN A PARTICLE ACCELERATOR

Roland F. Koontz, Menlo Park, and Robert H. Miller, Mountain View, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 23, 1965, Ser. No. 450,561  
3 Claims. (Cl. 324-58.5)



A beam bunch monitor inserted as a section of waveguide in a particle accelerator, and having a first cavity tuned to the fundamental beam bunch frequency, and a second cavity tuned to a selected harmonic. Fundamental and harmonic signals induced in the respective cavities by the beam bunches are extracted and applied to arithmetic circuits to derive an output signal equal to  $(P_F - P_H)/P_F$ , where  $P_F$  is the power of the extracted fundamental signal, and  $P_H$  is the power of the extracted harmonic signal. The derived output signal is proportional to the square of the bunch length and is therefore an indication of bunch length.

3,383,591

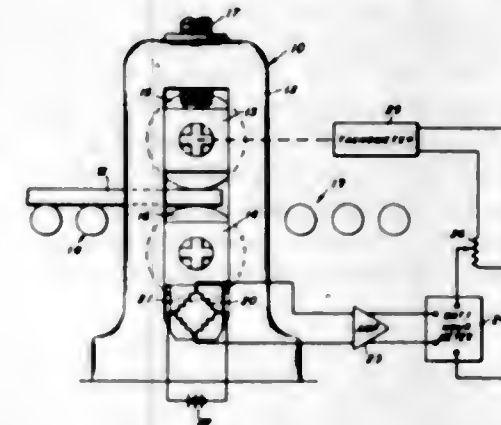
### METHOD AND APPARATUS FOR INDICATING WEAR ON ROLLS BY COMBINING SIGNALS PROPORTIONAL TO ROLLING FORCE AND SPEED

William L. Roberts, Murrysville, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Oct. 14, 1964, Ser. No. 403,758  
6 Claims. (Cl. 324-71)

A method and apparatus for indicating the extent to which a set of rolls have worn. The wear is a function of the force on the rolls and the frequency of use. Invention measures the force with strain gauges on roll housing

and measures the use with a tachometer. The outputs of the strain gauges and tachometer go to a watt-hour meter,



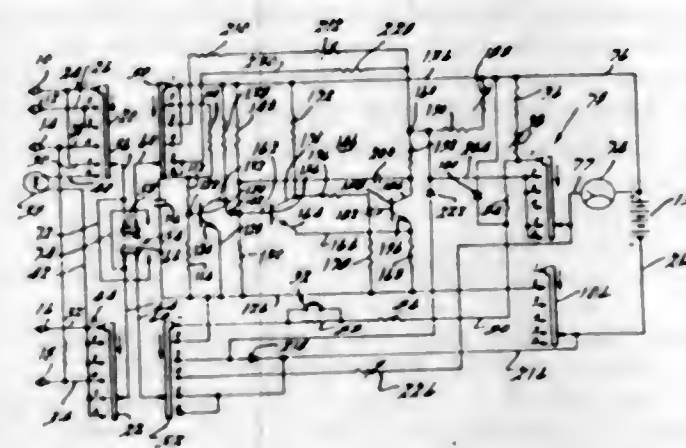
the reading on which furnishes an indication of the wear on the rolls and their remaining useful life.

3,383,592

### AUTOMOTIVE TESTING APPARATUS FOR MEASURING VOLTAGE, FREQUENCY, DWELL TIME, CURRENT AND IMPEDANCE

Robert D. Williamson, Warren, Mich., assignor to Merc-O-Tronic Instruments Corporation, Almont, Mich., a corporation of Michigan

Filed Aug. 16, 1965, Ser. No. 479,933  
10 Claims. (Cl. 324-73)



1. In an electrical testing apparatus, a plurality of test circuits, a multiscale meter common to the plurality of test circuits and operable when selectively switched to any one of said circuits to provide a test reading; said test circuits comprising a voltage measuring circuit including said meter for providing an output signal in accordance with the magnitude of an input voltage; a signal frequency measuring circuit including input circuit means adapted to be coupled to a source of recurrent signals, pulse producing circuit means for producing a series of constant energy pulses in response to said recurrent signals having a frequency which varies in accordance with the frequency of the recurrent signals, and integrating circuit means including said meter for integrating said constant energy pulses and producing a reading on said meter in accordance with the average value of said pulses over a predetermined period of time; a dwell indicating circuit including input circuit means for receiving a series of input pulses having a varying characteristic indicating the dwell, said input circuit means having series impedance means, said meter being connected in shunt circuit relative to said series impedance means for producing an average reading indicative of the variation of the characteristic; a current measuring circuit including input circuit means and adjustable impedance means in circuit with said meter for varying the current through said meter; an impedance measuring circuit for indicating the magnitude of an input impedance including a source of electrical energy, and

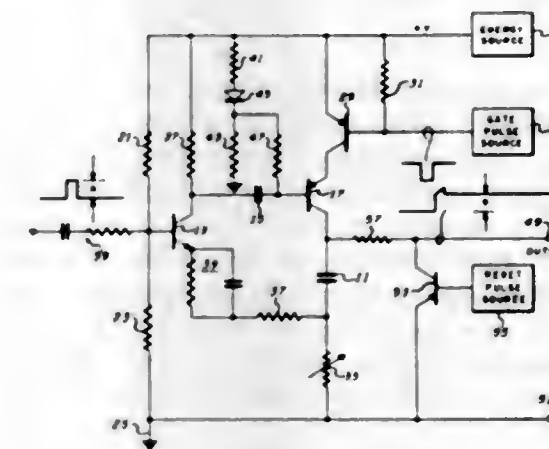
impedance means in series circuit with the input impedance and in shunt circuit with said meter, said meter sensing the magnitude of current from said electrical energy source through said series impedance means; input conductor means; and switch means having a plurality of positions thereon for selectively actuating each of said plurality of circuits from said input conductor means.

3,383,593

### GATED PULSE MEASURING CIRCUIT HAVING REDUCED LEAKAGE CURRENT

Charles R. Miller, Garden City, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Oct. 16, 1964, Ser. No. 404,239  
6 Claims. (Cl. 324-111)



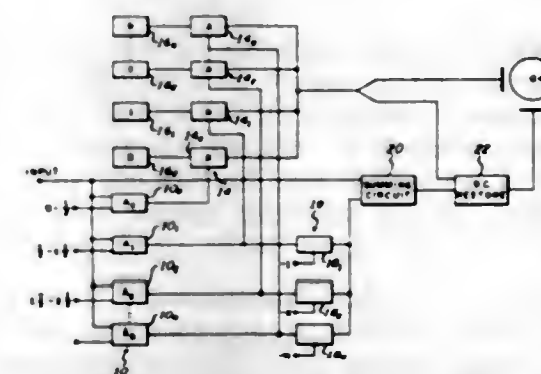
A pulse measuring circuit in which a storage capacitor is charged through a transistor. The transistor is energized only during the occurrence of a gating signal and biased to the instep portion of the characteristic curve of the transistor.

3,383,594

### CATHODE RAY TUBE DISPLAY APPARATUS HAVING DISPLAYED COARSE VALUE DEFLECTED IN ACCORDANCE WITH FINE VARIATIONS

All A. Florietta, Jamaica, and Thomas P. Gismond, Kings Park, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Jan. 18, 1965, Ser. No. 426,249  
13 Claims. (Cl. 324-121)



Analog data conversion apparatus comprising a plurality of amplitude sensitive circuits which respond to discrete ranges of an applied signal for actuating corresponding members of pluralities of respective symbol generating and electron beam deflection circuits to form on the screen of a cathode ray tube a scale which includes the magnitude of the applied signal, the scale being controllable with regard to both the portion of the screen it occupies and the range of values it encompasses.

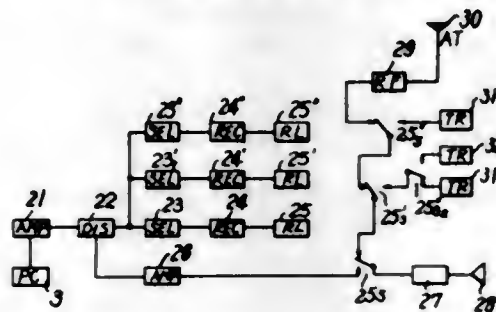


3,383,595

**INFORMATION TRANSMITTING SYSTEM FOR MOVING OBJECT**

Hironaka Obata, 21-15 Takaoka-cho, Kanazawa, Japan  
 Filed Oct. 18, 1965, Ser. No. 497,234  
 Claims priority, application Japan, June 22, 1965, 40/37,151; Aug. 10, 1965, 40/48,842; Sept. 20, 1965, 40/57,096

2 Claims. (Cl. 325-64)



An information transmitting system for moving objects, such as vehicles, is disclosed in which audio information is transmitted by means of electromagnetic induction between a loop antenna installed at fixed location and a loop receiving antenna on the vehicle. A supersonic keying signal is superimposed on the audio information to cause a control device to switch the audio section of the vehicle radio over to reproduce the induced audio signal. Other keying signals may be used to cause playback from units storing prerecorded audio information mounted in the vehicle.

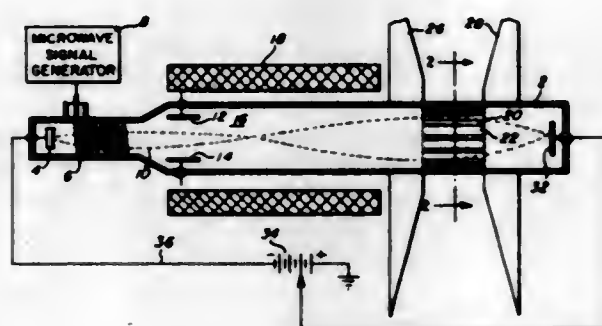
3,383,596

**MICROWAVE ENERGY TRANSMISSION AND COMMUTATION COUPLER**

Howard Scharfman, Lexington, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,231

10 Claims. (Cl. 325-120)



An electron beam coupling device for transmission of microwave energy signals in a circular pattern within an evacuated envelope over a predetermined path for subsequent radiation by discrete stationary antenna elements in a sequential manner without any mechanical components. Rapid scanning speeds may be realized, limited only by the speed of the electron motion.

3,383,597

**MULTIPLE ACCESS SATELLITE COMMUNICATION SYSTEM**

Gerard Battail, 30 Blvd. du Temple, Paris, France, and Pierre Brossard, 9 Rue des Fleurs, Montigny-le Bretonneux, France

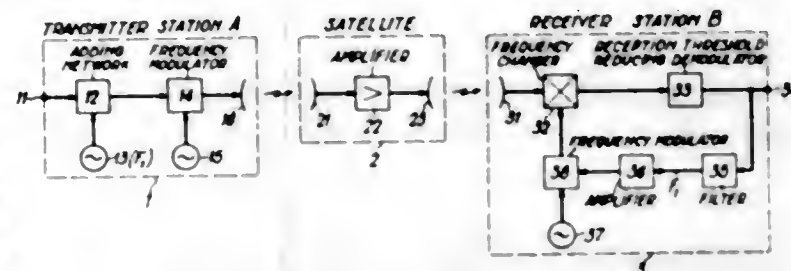
Filed Feb. 28, 1966, Ser. No. 530,460

Claims priority, application France, Feb. 26, 1965, 7,356

5 Claims. (Cl. 325-155)

1. Multiple access, common time and common spectrum, communication system formed by a plurality of land transmitters and receivers and a single satellite repeater comprising in each transmitter a source of com-

munication signals and a source of address signals selectively associated with the receivers of the system, a first carrier wave generator, means for adding said communication signals and said address signals thereby forming composite signals, means for frequency-modulating said first carrier wave by said composite signals and means for transmitting the resultant first frequency-modulated signals, in the satellite means for changing the carrier frequency of said frequency-modulated signals, in each receiver means for receiving said first frequency-modulated signals, frequency changer means connected to said receiving means, a frequency demodulator connected to said



frequency changer means and adapted to only demodulate frequency modulated signals whose variation with respect to time of the instantaneous frequency is equal to or smaller than a given value, means connected to the output of said demodulator for discriminating the address signal associated with the said receiver, a second carrier wave generator, means for frequency-modulating said second carrier wave by the address signal issuing from said discriminating means and means for applying the resultant second frequency-modulated signal to said frequency changer means, whereby the frequency excursion due to the address signal associated with the said receiver is substantially cancelled.

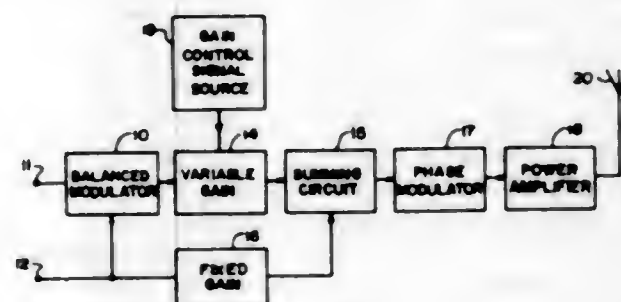
3,383,598

**TRANSMITTER FOR MULTIPLEXED PHASE MODULATED SIGNALING SYSTEM**

Ray W. Sanders, Los Angeles, Calif., assignor to Space-General Corporation, El Monte, Calif., a corporation of California

Continuation-in-part of application Ser. No. 133,447, Aug. 23, 1961. This application Feb. 15, 1965, Ser. No. 432,762

8 Claims. (Cl. 325-163)



This disclosure relates to a multiplex phase modulation information transmission system suitable for transmitting four channels of binary data on a single carrier. The disclosure includes the unique transmitter which develops composite waveforms from a pair of binary input channels and uses this composite wave to phase modulate a carrier. Through the use of a pair of gain control circuits, one fixed and one variable, the signal detectability of either of the two channels may be selectively enhanced as in the case where one channel has higher data rate than the other or is of greater significance.

3,383,599

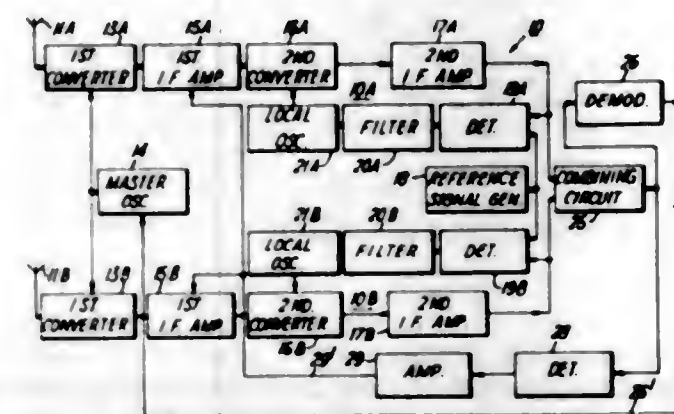
**MULTIPLE SUPERHETERODYNE DIVERSITY RECEIVER EMPLOYING NEGATIVE FEEDBACK**

Manabhai Miyagi, Minato-ku, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Jan. 13, 1964, Ser. No. 337,396

Claims priority, application Japan, Feb. 7, 1963, 38/6,425

13 Claims. (Cl. 325-305)



This invention broadly teaches a diversity receiving system of high-sensitivity in which received signals are "angle modulated." To improve sensitivity of a receiving facility in which the phenomenon of multipath is present, a plurality of receiving antennas are provided spaced at predetermined intervals. Received signals are converted in first converter means under the control of a single master oscillator. The converted signals at each channel are then amplified, and then undergo a second conversion operation, each channel employing its own local oscillator to operate its associated second converter. The output of each second converter undergoes amplification, and all of these amplified outputs are then combined in a single combining circuit. A first feedback path is provided in each channel for coupling a portion of the finally amplified signal to adjust the operation of its associated local oscillator. The feedback path compares the second amplified output signal against the output of a single reference signal generator to provide the appropriate feedback signal.

Signals combined in the combining circuit are demodulated to provide a resultant output signal. A portion of this output signal is applied through a feedback path to control operation of the master oscillator.

A portion of the output signal of the combining circuit is also applied through a third feedback path to control the gain of the first amplification stage in each channel of the diversity receiver system.

3,383,600

**BINARY RADIO RECEIVING SYSTEM**

Richard W. Calfee, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 12, 1964, Ser. No. 351,433

7 Claims. (Cl. 325-320)



A binary FSK receiver incorporating a pair of filters, one for each frequency, a first summer to combine the filter outputs into a single waveshape and a leading edge

peaker for the waveshape including an amplifier shunted by the serial combination of a delay line and differentiator and a second summer in receipt of the signals from the parallel branches.

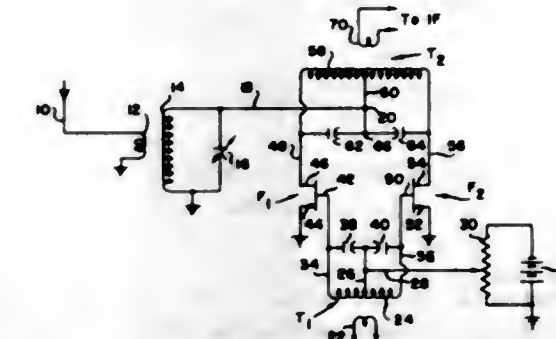
3,383,601

**MIXER CIRCUIT EMPLOYING LINEAR RESISTIVE ELEMENTS**

William K. Squires, 1 Washington Ave., Marlborough, N.J. 08836

Filed May 17, 1967, Ser. No. 639,231

10 Claims. (Cl. 325-450)



The mixer circuit employs a pair of linear and variable resistive elements, such as field effect transistors, connected one at each end of the primary coil of an intermediate frequency transformer. The radio frequency signal is applied to the center tap of the primary coil while the oscillator signal is applied to the variable resistive elements to alternately change their resistance. The linear resistive portion of the characteristics is thereby switched by local oscillator voltage to produce a variation in channel resistance at the local oscillator frequency. When signal current flows in this time varying resistance, the resultant voltage is a linear product of the two applied time-varying functions, and contains components at the sum and difference frequencies.

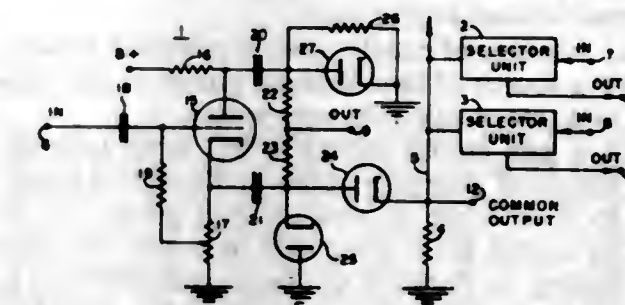
3,383,602

**SIGNAL AMPLITUDE SELECTOR**

Elvin E. Herman, 6864 Glacier Drive, Riverside, Calif. 92506

Filed Dec. 5, 1952, Ser. No. 324,429

16 Claims. (Cl. 328-117)



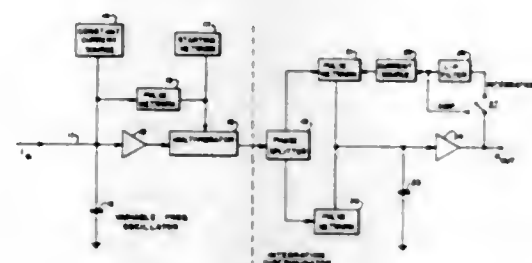
10. Apparatus for selecting from a group of simultaneous pulses the pulse having the highest amplitude comprising a plurality of electron discharge tubes each having at least an anode, a cathode, and a control grid, means for respectively applying said pulses to said control grid, means for deriving a cathode output pulse and a plate output pulse from each of said tubes in response to application of said group of pulses thereto, respective cancellation means coupled to said tubes for balancing out at respective output terminals thereof said cathode and plate output pulses, means for comparing the relative magnitudes of said cathode output pulses, and means responsive to said last named means for rendering ineffective the cancellation means associated with the cathode output pulse having the



greatest magnitude, the uncanceled cathode and plate output pulses effecting an output pulse at the corresponding output terminal.

### 3,383,603 PRECISION ELECTRONIC CURRENT AMPLIFIER AND INTEGRATOR

Mervin W. Oleson, Temple Hills, Md.  
(5018 Spring Drive, Washington, D.C. 20031)  
Filed Aug. 28, 1964, Ser. No. 392,966  
16 Claims. (Cl. 328—127)

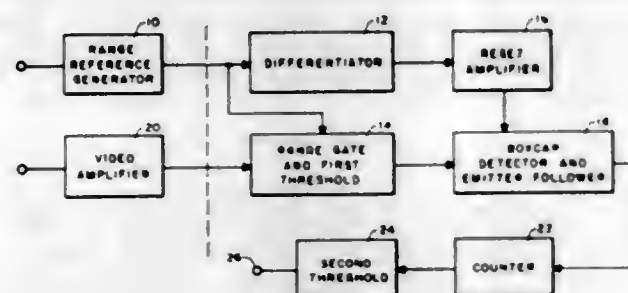


An electrical circuit which can be used either as a precision integrator or a precision amplifier and which includes a voltage controlled oscillator section and a discriminator or an integrating discriminator section.

### 3,383,604 DOUBLE THRESHOLD DETECTION SYSTEM

Richard E. Weiss, Corona, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed May 9, 1966, Ser. No. 548,537  
4 Claims. (Cl. 328—134)

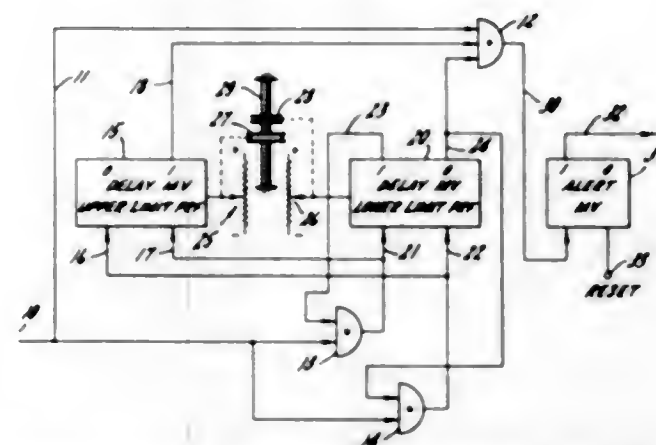


1. In a double threshold target signal detection system, the combination comprising:

- a source of equally spaced reference pulses,
- a source of time-delayed pulses of the same repetition rate as said reference pulses,
- a gate circuit having a first input coupled to said source of reference pulses and a second input coupled to said source of time-delayed pulses for producing an output pulse when said time-delayed pulse occurs during the duration of one of said reference pulses,
- detector circuit means coupled to said gate circuit means for storing pulses received from said gate circuit means,
- control circuit means coupled between said source of reference pulses and said detector circuit means for discharging the stored signal in said detector circuit means and thereby controlling the pulse width of each detector output pulse,
- counter circuit means coupled to said detector circuit means and being responsive to produce an output pulse whose amplitude is proportional to the width and number of the input pulses,
- threshold circuit means coupled to said counter circuit means for producing firing pulse in response to a predetermined amplitude of the output of said counter circuit means.

### 3,383,605 PULSE REPETITION FREQUENCY FILTER WITH CONTINUOUSLY VARIABLE UPPER AND LOW- ER LIMITS

Dorsey Davidoff, New York, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed Nov. 4, 1964, Ser. No. 409,036  
6 Claims. (Cl. 328—138)

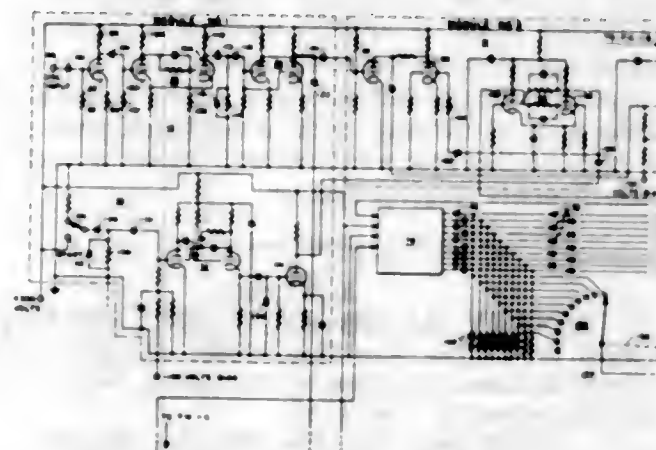


A pulse repetition frequency filter with adjustable upper and lower frequency limits having a first bistable multi-vibrator adjustable to establish a short unstable condition corresponding to the upper limit of pulse repetition frequency and a second bistable multi-vibrator adjustable to establish a long unstable condition corresponding to the lower limit of pulse repetition frequency, the multi-vibrator outputs being coupled to an output "and" gate to control same to conduct pulse repetition frequency signals connected to the "and" gate to gate through pulses within the upper and lower pulse repetition frequency limits to an alert multi-vibrator, the multi-vibrators being reset through a pair of input "and" circuits coupled to the pulse repetition frequency source and the multi-vibrators whenever the pulse repetition frequency is below the lower and above the upper pulse repetition frequency limits.

### 3,383,606 SEQUENTIAL TRIGGER GENERATOR

Dewey A. Roos, Corona, Erwin L. Abadie, Riverside, and Clifford O. Shaw, Orange, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Apr. 11, 1966, Ser. No. 541,864  
9 Claims. (Cl. 328—187)



1. In a sequential trigger generator for generating a selectable sequence of pulses of variable delay, the combination comprising:

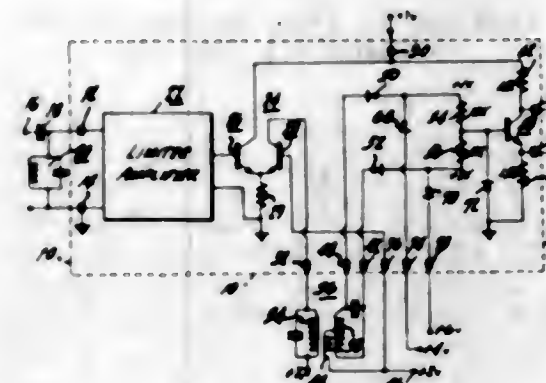
- a first pulse generating circuit for generating output pulses of a predetermined frequency,
- first circuit means coupled to said first pulse generator circuit for allowing a first preselected number of pulses to pass,
- variable delay circuit means,

- second circuit means coupling the last pulse passed by said first circuit means to said first pulse generator for blocking pulses being fed to said first circuit means and to said variable delay circuit means for initiating a pulse after a predetermined time delay,
- a second pulse generator circuit coupled to said variable delay means for generating output pulses of said predetermined frequency,
- third circuit means coupled to said second pulse generator circuit for allowing a second preselected number of pulses to pass when pulses are allowed to be fed to said third circuit means in response to a delayed pulse being received at said second pulse generator circuit from said variable delay means,
- fourth circuit means coupling the last pulse passed by said third circuit means to said second pulse generator circuit for blocking pulses being fed to said third circuit means,
- pulse utilizing means coupled to said first and third circuit means for utilizing said passed pulses.

### 3,383,607 FREQUENCY MODULATION DETECTOR CIRCUIT SUITABLE FOR INTEGRATION IN A MONOLITHIC SEMICONDUCTOR BODY

Jack Avins, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Continuation-in-part of application Ser. No. 396,178, Sept. 14, 1964. This application Feb. 28, 1966, Ser. No. 531,652

35 Claims. (Cl. 329—119)



A high performance frequency modulation detector circuit especially suited for fabrication using integrated circuit techniques, includes a predominantly resistive load network having a time constant of the order of the period or less of an applied angle modulated wave. Average detection is employed, with filtering of the signal frequency and its harmonics being provided by the distributed capacitance of the detector load resistors, with or without augmentation by the capacitance of additional reverse biased rectifiers. The detector circuit drives and provides biasing for an audio amplifier in a manner to maintain the isolation junctions reverse biased when the circuit is in integrated form.

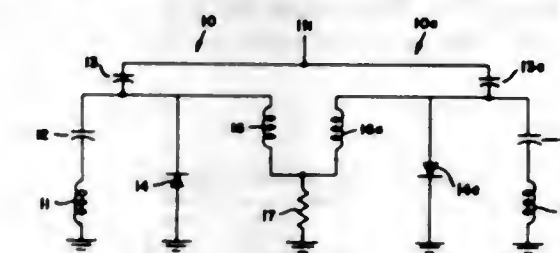
### 3,383,608 HIGH FREQUENCY DISCRIMINATOR

Michael O. Felix, San Carlos, Calif., assignor, by mesne assignments to International Telephone and Telegraph Corporation, a corporation of Delaware

Filed July 19, 1965, Ser. No. 473,012  
5 Claims. (Cl. 329—141)

1. A high frequency discriminator comprising first and second series resonant circuits, each of such circuits including series connected inductive and capacitive means,

one of said circuits being resonant at a frequency above a center frequency, and the other of said circuits being resonant at a frequency below such center frequency, rectifiers respectively connected in series to each of said resonant circuits, input signal means coupled to said resonant circuits, high frequency filters respectively coupled

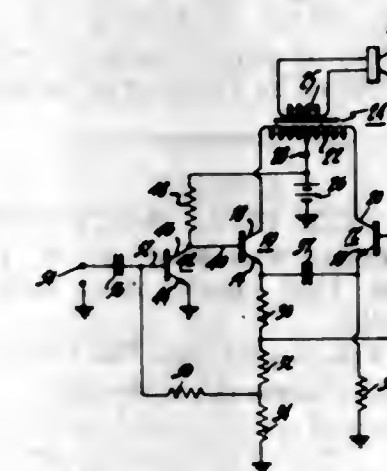


to one side of each of said rectifiers, and a load common to both of said circuits coupled to said filters of said first and second circuits, said load having an A.C. impedance of less than the reactive impedance of either of said inductive means.

### 3,383,609 PUSH-PULL AMPLIFIER CIRCUIT

Carl Franklin Wheatley, Jr., Somerset, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 4, 1964, Ser. No. 415,954  
8 Claims. (Cl. 330—15)



A Class A push-pull amplifier which may be driven from a single ended source and which provides balanced operation over a wide range of temperatures. The amplifier includes a first transistor connected in a common emitter configuration, providing signal drive to, and the bias voltage for, an included second transistor connected in a common base configuration.

### 3,383,610 HIGH GAIN OPERATIONAL AMPLIFIER HAVING CONSTANT FREQUENCY RESPONSE CHARACTERISTICS

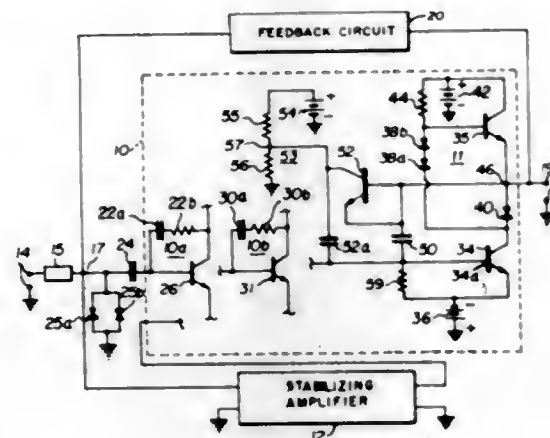
Leonard Kedson, Elberon, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey

Filed Sept. 16, 1964, Ser. No. 396,956  
9 Claims. (Cl. 330—16)

A transistor direct coupled operational amplifier having multiple stages is provided with an output stage formed of at least one output transistor. To correct for variable



output capacitance and thus variable frequency response due to output voltage variation, a compensating transistor having the same voltage capacitance characteristics as the output transistor is connected in circuit with its input terminal connected to the output terminal of the output transistor with the input terminal of the output transistor connected to the output terminal of the compensating transistor. The compensating transistor is biased such that when the potential between the input and output



of the output transistor increases, the potential between the input and output of the compensating transistor decreases and vice versa with resulting changes in the capacitance of one transistor cancelling out capacitance changes in the other transistor, the output capacitance of the last stage being determined by the frequency response shaping element of that stage. In this manner, the total frequency response of the amplifier is determined by the individual frequency response shaping elements of each stage and is not affected by variation of the output voltage.

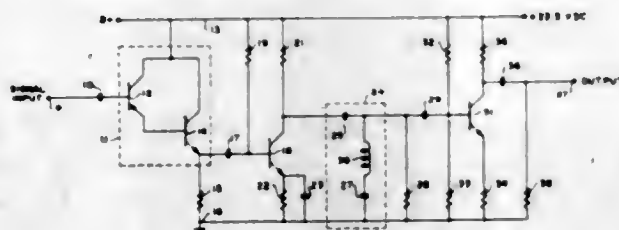
3,383,611

**AMPLIFIER WITH HIGH INPUT IMPEDANCE**

Norman P. Huffnagle, Box B-4, 607 W. 11th St., and Rufus L. Cook, 1208 Lisenby Ave., both of Panama City, Fla. 32401

Filed Feb. 5, 1965, Ser. No. 430,775

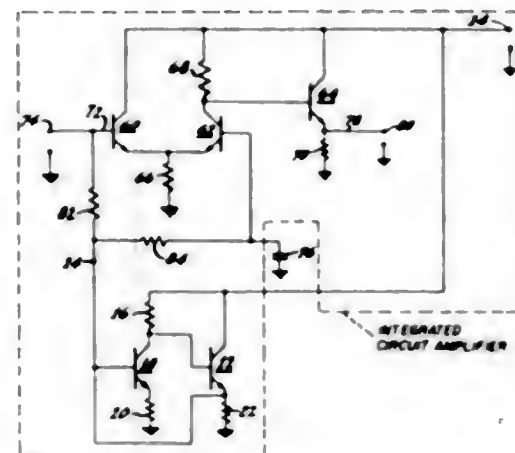
12 Claims. (Cl. 330-16)



A high impedance broad frequency range preamplifier, having a cascaded dual-transistor first amplifier stage for effecting frequency stabilizing degenerative feedback therein, for producing a circuit isolated amplified output signal thereat; a high frequency stabilized second amplifier stage, having emitter stability enhancement effected by local degenerative feedback circuitry incorporated therein, for further amplifying said circuit isolated output signal; a high-pass, low-frequency, rejection filter for filtering said further amplified output signal in such manner as to enhance the high frequency response thereof; and a transistorized third stage, having sufficient base-to-collector capacitance for effecting a negative feedback therein, for amplifying and improving the high frequency stability of said further amplified output signal.

**3,383,612  
INTEGRATED CIRCUIT BIASING ARRANGEMENTS**

Leopold A. Harwood, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Nov. 29, 1965, Ser. No. 510,307  
10 Claims. (Cl. 330-22)



A low output impedance bias supply for integrated circuit amplifier configurations capable of delivering an output voltage that is a constant fraction of a power supply potential.

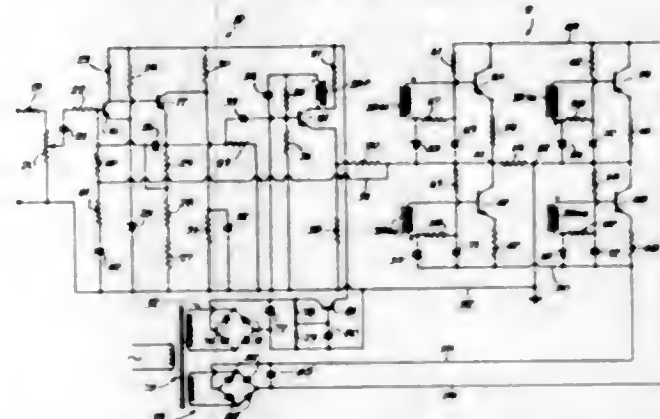
3,383,613

**OUTPUT TRANSFORMERLESS PUSH-PULL FULL BRIDGE POWER AMPLIFIER HAVING FLOATING POWER SUPPLY**

James F. Novak, La Grange Park, Ill., assignor to The Muter Company, Chicago, Ill., a corporation of Illinois

Filed Apr. 11, 1966, Ser. No. 541,798

3 Claims. (Cl. 330-22)



1. In an amplifying apparatus comprising a driver amplifier, a power supply for said driver amplifier and a power amplifier, the improvement comprising: said power amplifier being a full-bridge amplifier; feedback means forming a direct electrical connection between said power amplifier and the driver amplifier for supplying a feedback signal from the power amplifier to the driver amplifier, said feedback means having a grounded portion; and an additional, separate, power supply for supplying power to the power amplifier, the latter power supply floating with respect to ground.

3,383,614

**TEMPERATURE STABILIZED SEMICONDUCTOR DEVICES**

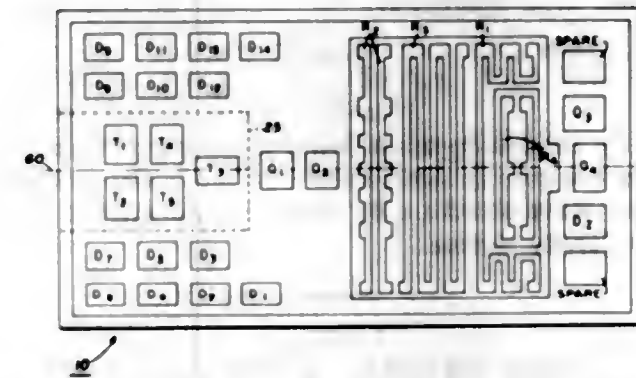
Stephan P. Emmons and Walter T. Matzen, Richardson, Robert A. Meadows, Dallas, and Hilton W. Spence, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,320

20 Claims. (Cl. 330-23)

Disclosed is a temperature stabilized semiconductor device which is thermally insulated from the ambient,

said device including a heat source and a heat sensor, which are ranged to sense the average temperature on the



substrate for maintaining the substrate at a substantially constant temperature.

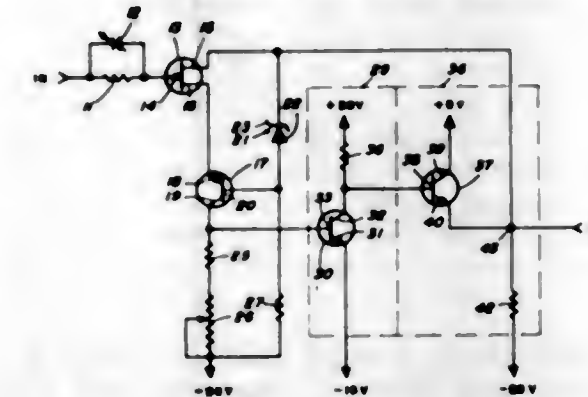
3,383,615

**WIDE-BAND LINEAR POWER AMPLIFIER**

Walter E. Milberger, Severna Park, Algidus Siaurusaltis, Baltimore, and Seymour J. Rogal, Hyattsville, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 16, 1965, Ser. No. 480,212

6 Claims. (Cl. 330-24)



The invention is directed to a wide-band linear amplifier. An emitter follower circuit having a field effect transistor (FET) in its feedback path is utilized. A transistor and a Zener diode are connected between the source and the drain of the FET. The circuit operates in response to input signals at the gate of the FET.

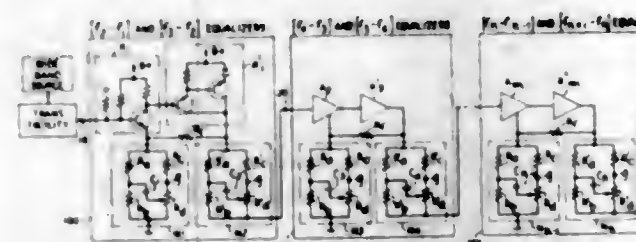
3,383,616

**FEEDBACK AMPLIFIER WITH ADJUSTABLE EQUALIZATION**

Joseph J. Friend, Cranford, and Walter R. Lundry, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 7, 1964, Ser. No. 416,365

15 Claims. (Cl. 330-26)



A pair of one-port variable impedance bridge networks are used in a two-stage feedback amplifier to obtain an adjustable equalizer arrangement. Equalization is obtained by means of a one-port bridge network of fixed D.C. and variable A.C. impedance where the break point frequency of the network is substantially independent of its A.C. impedance.

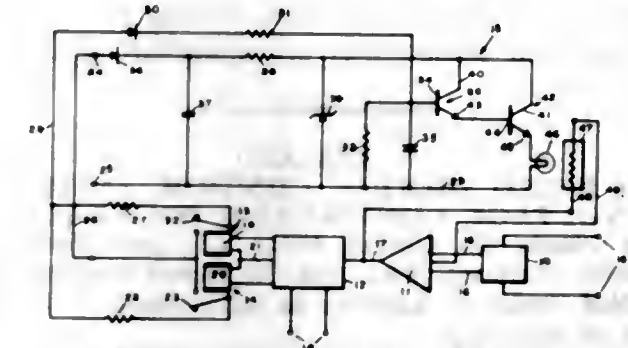
3,383,617

**ELECTRONIC PROPORTIONING CIRCUIT INCLUDING A LIGHT CONTROL MEANS IN THE AMPLIFIER CIRCUIT**

Robert J. Harkewider and John L. Moe, Winona, Minn., assignors to Wayco, Inc., Winona, Minn., a corporation of Minnesota

Filed Nov. 25, 1964, Ser. No. 413,806

6 Claims. (Cl. 330-59)



A time proportioning circuit is provided for controlling an environment whereby the control point is anticipated by the output of the circuit being turned off and on before the control point is actually reached. An "on" to "off" time relationship is established which adds small bursts of energy to the environment being controlled to maintain the environment at the desired control point. In operation, an error signal such as from a bridge is amplified and used to actuate a switching device. The switching device then actuates a negative feedback circuit. The negative feedback circuit includes means for gradually charging a circuit to actuate an energy sensitive element such as a light dependent resistor which gradually increases the negative feedback to cause the switch to de-energize. Should the environment be away from the control point, the switch will be again immediately actuated and the procedure repeated. The error signal or amplifier gain is then reduced as a function of time beginning with the switch being energized.

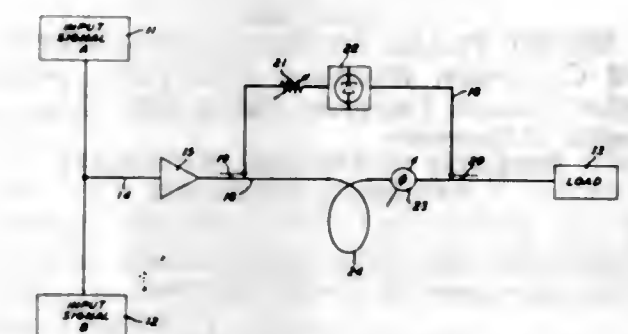
3,383,618

**SUPPRESSION OF INTERMODULATION DISTORTION**

Rudolf S. Engelbrecht, Bernardsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 10, 1966, Ser. No. 533,150

7 Claims. (Cl. 330-149)



3. In combination:  
an input line for transmitting energy at two discrete signal frequencies;  
an electronic device connected to the input line for simultaneously operating on energy at both frequencies and for transmitting it to an output line, said operation resulting in the generation of spurious first distortion components which are also transmitted to the output line;



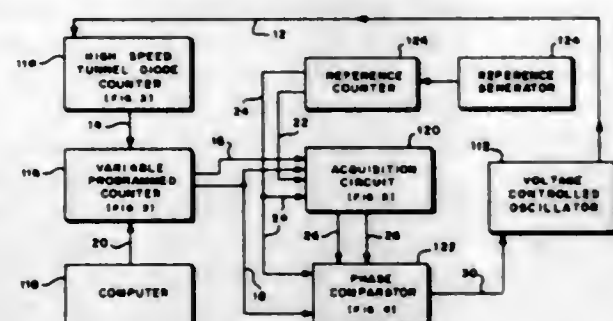
means comprising a compensation circuit for deriving a predetermined quantity of the energy at the two signal frequencies from the output line;  
 means comprising a non-linear element in the compensation circuit for generating second distortion components in response to the derived energy;  
 output coupler means for coupling the second distortion components onto the output line;  
 and means for adjusting the relative phase of the first and second distortion components to be at substantially 180 degrees, whereby at least part of the first distortion components are cancelled at the output coupler.

3,383,619

# HIGH SPEED DIGITAL CONTROL SYSTEM FOR VOLTAGE CONTROLLED OSCILLATOR

Henry Naubereit, Cherry Hill, N.J., and Salvatore R. Picard, Hatboro, Pa.; said Naubereit assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 9, 1966, Ser. No. 600,660  
 11 Claims. (Cl. 331-4)



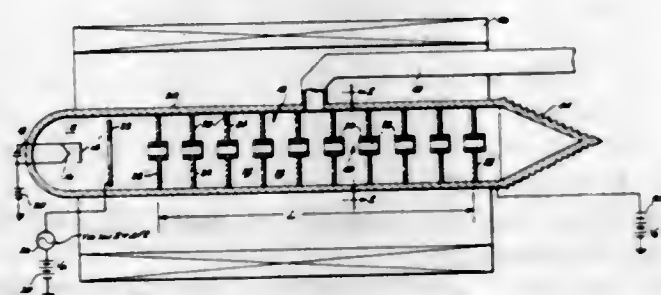
A digitally controlled frequency generator is provided having a selectively variable output frequency with crystal controlled accuracy and stability. Should the desired output frequency drift, however, a phase comparator detects the drift and compares the phase thereof with a provided reference signal. The resultant error signal is then fed into the frequency generator to shift the frequency back to its original value. In addition, should it be desired to change the output frequency of the frequency generator, a new program is applied to a variable program counter which produces an electronic response representative of the new program. This response is sensed by both the phase comparator and an acquisition circuit, the acquisition circuit providing signals to the phase comparator to achieve a "lock-in" of the system at the new desired frequency.

3,383,620

# SHORT PULSE MICROWAVE SOURCE

Donald C. Forster, Woodland Hills, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed May 15, 1967, Ser. No. 638,371  
 4 Claims. (Cl. 331-82)



This disclosed microwave pulse source includes a slow-wave structure of length L disposed about a stream of electrons traveling with a velocity substantially synchronous with the phase velocity  $v_p$  of microwaves propagating

along the slow-wave structure. The ends of the slow-wave structure are electrically short circuited to provide a resonant electromagnetic system, the quality factor Q of which is varied at a frequency

$$\Delta f = \frac{v_p}{2L}$$

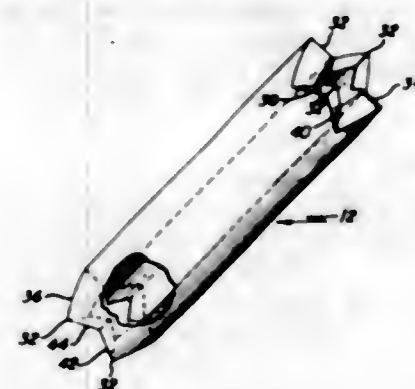
either by amplitude modulating the electron stream or by varying the energy dissipation in a lossy element adjacent the slow-wave structure by means of a magnetic field controlled ferrite device.

3,383,621

# LASER CRYSTAL WITH PRISMATIC END SURFACE

Clarence F. Luck, Jr., Waltham, Danilo V. Minsio, Arlington, and Georg Rupprecht, West Newton, Mass., assignors to Raytheon Company, Waltham, Mass., a corporation of Delaware

Continuation of application Ser. No. 176,498, Feb. 26, 1962. This application May 18, 1962, Ser. No. 197,814  
 3 Claims. (Cl. 331-94.5)



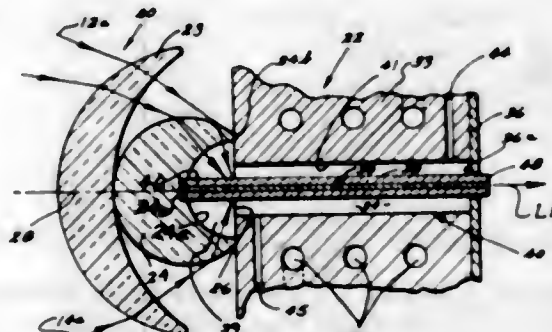
1. In combination, a device producing coherent radiation, and pumping means for supplying input energy to the device to produce the coherent radiation, the axes of the device and the pumping means being coaxial and coincident, the ends of the device being provided with a set of prisms, the apices of the set of prisms on one end being located opposite the valleys of the set of prisms on the other end.

3,383,622

# END PUMPED LASER STRUCTURES EMPLOYING IMMERSION OPTICS

Edgar O. Dixon, East Woodstock, and George R. Simpson, South Woodstock, Conn., assignors, by means of assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware

Filed Nov. 4, 1963, Ser. No. 321,030  
 5 Claims. (Cl. 331-94.5)



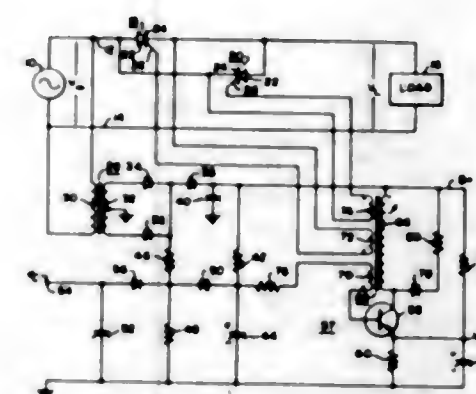
End pumped laser structures employing improved optics and immersion means for increasing operative efficiencies thereof.

3,383,623

# PULSE GENERATORS FOR PHASE CONTROLLED SYSTEMS

Leonard C. Vercellotti, Penn Hills Township, Verona, and Richard A. Johnson, Monroeville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 28, 1964, Ser. No. 407,162  
 17 Claims. (Cl. 331-112)



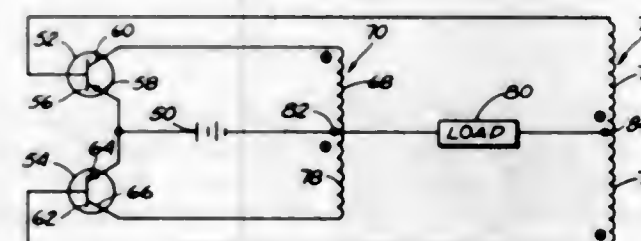
1. In apparatus for producing at least one train of pulses during each cycle of an input alternating current voltage, and wherein the phase relationship of the first pulse in each train with respect to the starting point of a cycle of said alternating current voltage may be varied; the combination of an oscillator having a normally cut-off transistor therein and adapted to produce said train of pulses when the transistor is rendered conductive during a cycle of said alternating current voltage, a capacitor, means for charging said capacitor at least once during each cycle of said alternating current voltage, a bidirectional current path connecting one terminal of said capacitor to the base of said transistor whereby the transistor will be rendered conductive when the voltage across the capacitor exceeds a predetermined magnitude, and means for controlling the time during a cycle of said alternating current voltage required to charge the capacitor to a voltage exceeding said predetermined magnitude.

3,383,624

# AUTOTRANSFORMER POWER SUPPLY

Harvey E. Flala, Downey, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Mar. 31, 1965, Ser. No. 444,311  
 15 Claims. (Cl. 331-113)



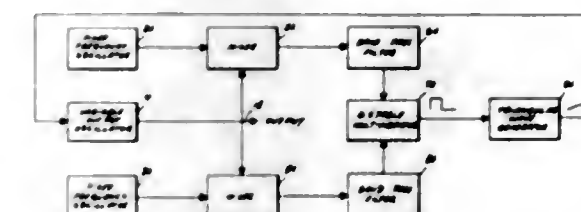
A power-supply comprising an electronic transistorized oscillator whose output may be AC and/or DC signals of desired magnitude. An "autotransformer" type of circuitry permits the battery voltage to be added to the transformer voltage, so that the transformer requirements are minimized, and the ripple of the output voltage is minimal. The output voltage is used to "condition" the transistors; and circuitry is shown for protecting the transistors from excessively high conditioning voltages.

3,383,625

# SYSTEM FOR GENERATING A SMOOTHLY AND CONTINUOUSLY VARYING SIGNAL HAVING A VARIABLE FREQUENCY

Robert P. Grenier, Newburyport, Mass., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 4, 1966, Ser. No. 584,226  
 4 Claims. (Cl. 331-178)



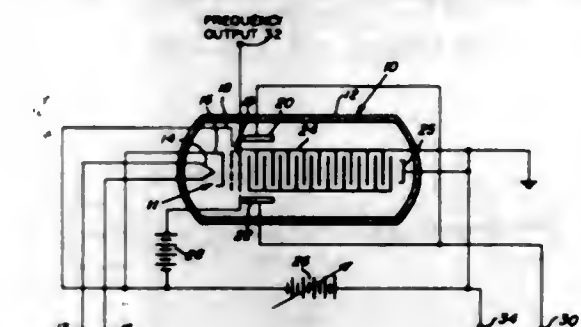
A sweep frequency generator includes two fixed frequency oscillators, which respectively regulate upper and lower sweep frequency limits for a variable frequency oscillator. A mixer and a band-pass filter are associated with each fixed frequency oscillator for passing a beat frequency only upon the variable frequency oscillator reaching the respective desired frequency limit. Passed beat frequencies from alternating filters successively trigger a bistable multivibrator between alternative states of operation. A triangular wave generator is coupled to the bistable multivibrator and functions to alternately increase and decrease a control voltage applied to the variable frequency oscillator as alternating limit frequencies are attained.

3,383,626

# BACKWARD WAVE OSCILLATOR INCLUDING MODULATION ELECTRODES

Robert Harper, Concord, and Robert M. Unger, Wayland, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed May 21, 1964, Ser. No. 369,258  
 4 Claims. (Cl. 332-7)



A modulating electrode structure positioned adjacent to a slow wave propagating delay line in a backward wave oscillator device to vary the coupling and interaction between electron beam waves and radio frequency circuit waves on the delay line at the same time that the frequency is varied.

3,383,627

# WAVE SELECTOR WITH TAPERED ACOUSTIC TRANSDUCER

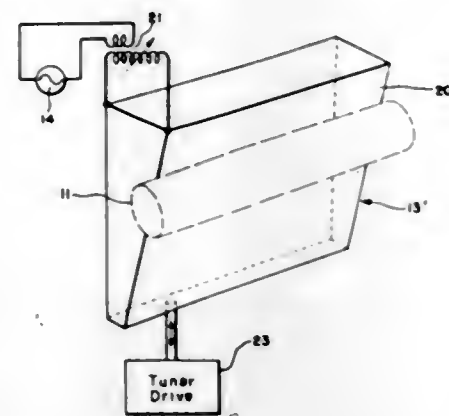
Peter C. J. Desmazes, Chicago, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed Aug. 3, 1965, Ser. No. 476,872  
 8 Claims. (Cl. 332-7.51)

1. Wave selection apparatus comprising: means for developing a beam containing waves of spatially coherent substantially monochromatic light;



means responsive to acoustic signals variable over a predetermined range for propagating acoustic waves in a predetermined direction, including a transducer having a thickness which is tapered along a dimension thereof transverse to said direction and with said taper in thickness enabling a variation in response of said transducer corresponding to said range of signals;



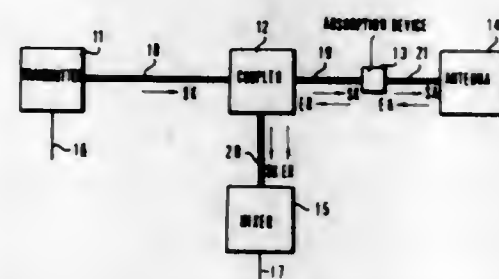
means for effecting relative movement of said transducer and said beam to align said acoustic waves in interacting relationship with said beam in correlation with the region of said transducer productive of the acoustic waves at a selected frequency of the acoustic signals;

and means responsive to a portion of said light beam diffracted by said acoustic waves for developing a corresponding signal.

3,383,628

### TRANSMIT-RECEIVE HYBRID HAVING POLARIZATION FILTER

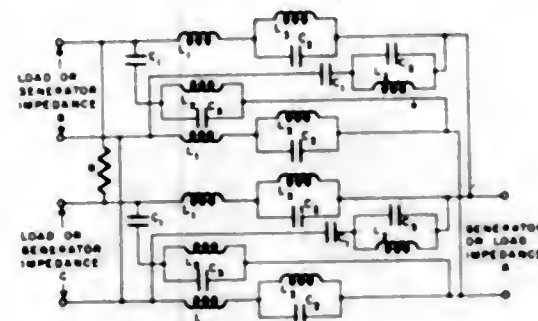
Gottfried Tschannen, Zurich, Switzerland, assignor to Albiswerk Zurich A.G., Zurich, Switzerland  
Filed Nov. 3, 1964, Ser. No. 408,605  
Claims priority, application Switzerland, Nov. 8, 1963, 13,767/63  
10 Claims. (Cl. 333-11)



A transmit-receive polarization filter, for use in transmitting and receiving energy in which the transmitted energy and the received energy have mutually perpendicular polarization planes, and including wave guide means coupling all of the received energy and a part of the transmitted energy to a receiver along a coupling direction, is disclosed as including means for preventing interference in the receiver by transmitted energy reflected from the antenna. The means comprises a wave absorption device effective to angularly displace the polarization planes of the transmitted and received energy, in the form of microwaves, relative to the coupling direction and by an amount such that the polarization plane of the reflected energy is substantially perpendicular to the coupling direction.

3,383,629  
**LUMPED CONSTANT HYBRID JUNCTION**  
Claude Strother, Jr., Encinitas, Calif., and William J. Hogan, Princeton, N.J., assignors to the United States of America as represented by the Secretary of the Navy  
Continuation-in-part of application Ser. No. 254,525, Jan. 28, 1963. This application May 19, 1965, Ser. No. 457,232

9 Claims. (Cl. 333-11)



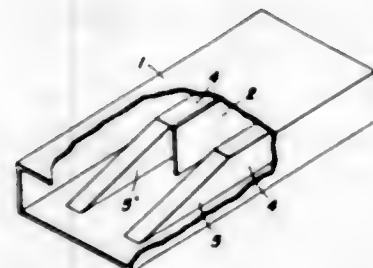
1. A hybrid junction circuit for RF signal multiplexing comprising:

- a pair of circuit output terminals,
- a plurality of delay line sections, equal to the number of inputs to be connected to the circuit output, each having their outputs connected in parallel across said output terminals,
- a plurality of pairs of input terminals equal to the number of delay lines, a pair of said input terminals connected to the input to each of said delay line sections,
- at least one series resistance path cross coupling together the various delay lines at the inputs thereto,
- the input impedance across each of said plurality of input terminals being substantially equal and matched to the load impedance across said output terminals.

3,383,630

### ELECTROMAGNETIC WAVE TRANSMISSION DEVICE HAVING LARGE WAVEGUIDE JOINED TO TWO SMALLER RIDGED WAVEGUIDES

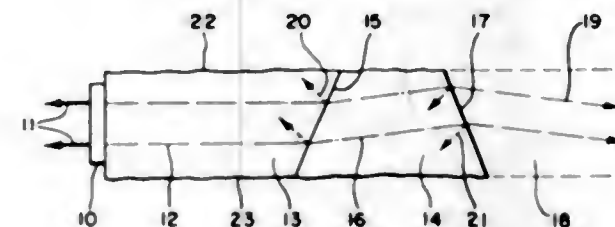
Takaji Kuroda, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan  
Filed June 1, 1966, Ser. No. 554,462  
Claims priority, application Japan, June 9, 1965, 40/34,207  
2 Claims. (Cl. 333-11)



1. An electromagnetic wave transmission device comprising a first rectangular waveguide and a plurality of second waveguides branching out from said first waveguide and having equal total width as said first waveguide, each of said second waveguides including at least one aligned ridge that provides a common transmission path to a band of frequencies between said second waveguides and said first waveguide.

3,383,631  
**ACOUSTIC IMPEDANCE MATCHING**  
Adrianus Korpel, Prospect Heights, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware  
Continuation-in-part of application Ser. No. 476,875, Aug. 3, 1965. This application Sept. 16, 1965, Ser. No. 490,160

4 Claims. (Cl. 333-30)

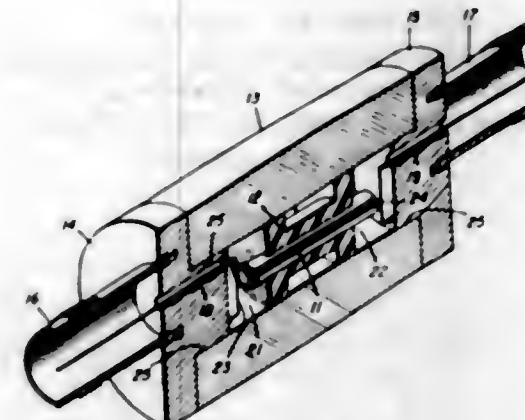


Improved coupling of sound between a transducer and a low-effective-transfer-impedance medium such as water is obtained by an impedance matching system interposing one or more solid media. The medium coupled to the transducer is selected to have the impedance preferred by the transducer to attain a desired bandwidth. Other media impedance relationships provide maximum power transmission between the transducer and the water. The common boundary between the different media are oriented relative to the path of sound waves in one material to effect dispersion of the reflected energy.

3,383,632

### FERRIMAGNETIC ACOUSTIC MICROWAVE DELAY LINE

Richard A. Sparks, Silver Spring, and Edgar L. Higgins, Hyattsville, Md., assignors to Litton Systems, Inc., Silver Spring, Md.  
Filed Oct. 11, 1965, Ser. No. 494,461  
10 Claims. (Cl. 333-30)



A single crystal delay line for microwaves characterized by being biased by a permanent magnet and providing increased preselected time delays by optimally coupling to given ones of direct or internally reflected waves.

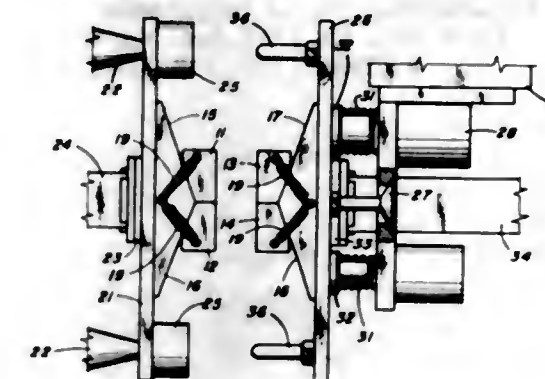
3,383,633

### AUTOMATIC QUICK-OPENING WAVEGUIDE CLOSURE

Alexander M. Havlicsek, Litchfield Heights, and Roger F. Hansen, Glen Burnie, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed May 25, 1966, Ser. No. 552,991  
5 Claims. (Cl. 333-98)

1. An automatic-operating closure device useful to close small passages to airborne contaminants when such

passages are opened at a break in a hostile environment comprising:  
two pairs of covers, each pair being positioned to cover a respective face in the break in the passages to be covered, and

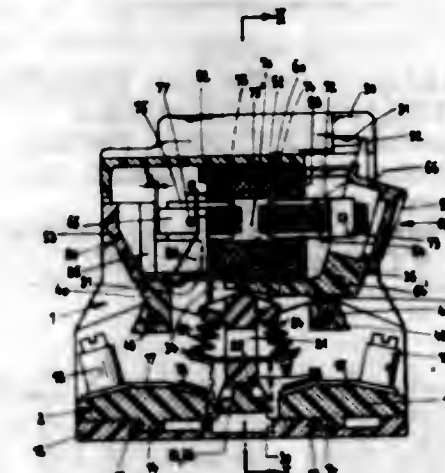


four pairs of parallel, inclined plane tracks, each of said covers riding on a respective pair of said tracks such that when each one of a pair of said covers is slid to the apex of its respective pair of tracks the covers mate and are in their closed position, each pair of covers abuttingly engaging the other when the faces of the break in the passages are brought together, each of said covers sliding on its respective tracks as the faces of the break are forced together thereby separating to either side of the passages and allowing the faces of the break to come into contact.

3,383,634

### ELECTROMAGNETIC SWITCH

Franz Bauer and Karl Freisler, Vienna, Austria, assignors to Hubert Lorenz Naimer, Vienna, Austria  
Continuation-in-part of application Ser. No. 453,962, May 7, 1965. This application Sept. 8, 1967, Ser. No. 666,399  
Claims priority, application Austria, June 3, 1964, A 4,787/64  
2 Claims. (Cl. 335-124)



An electromagnetic switch whose core and armature have opposite pole faces in the passage of the magnetic winding in which they are axially movable, the winding, armature, and core being enveloped in plastic except for the pole faces, and the clearance between the slidably engaged axial plastic surfaces permitting tilting movement of core and armature for full area contact between the pole faces. A lever pivoted on the switch housing is engaged by stub shafts on the armature envelope with sufficient clear-

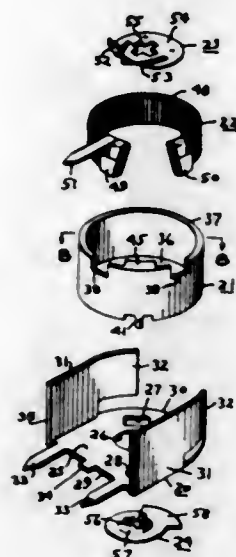


ance for rectilinear axial armature movement during the contact-opening or closing angular movement of the lever.

by insulating members separately mounted on an electrically conductive electrical guard member for intercepting insulation leakage current.

### 3,383,635 VARIABLE RESISTOR

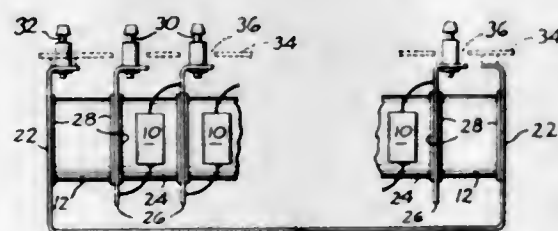
Joseph M. Vananzi and John S. M. Nagel, Meadowbrook, Pa., assignors to Continental-Wirt Electronics Corporation, Philadelphia, Pa., a corporation of Pennsylvania  
Filed Nov. 13, 1967, Ser. No. 682,318  
9 Claims. (Cl. 338-162)



A variable resistor having an open faced housing, an insulating liner fitted and detented to the housing, a resistance element with end terminals detented in the liner, and a contact rotor engaged with the resistance element, all of the foregoing parts being held together by a locking plate having tabs projected through the housing and liner and rotor and turned outward to prevent withdrawal. The locking plate electrically connects the rotor to the housing and the latter is provided with circuit contact legs. A detent projection from the liner extends through a housing wall and in conjunction with an extension on the locking plate provides rotation stops for the contact rotor.

### 3,383,636 HIGH VALUE ELECTRICAL RESISTANCE TRANSFER STANDARD

Merle L. Morgan and Jack C. Riley, Portland, Oreg., assignors to Electro Scientific Industries, Inc., Portland, Oreg., a corporation of Oregon  
Filed Mar. 17, 1965, Ser. No. 440,510  
8 Claims. (Cl. 338-200)

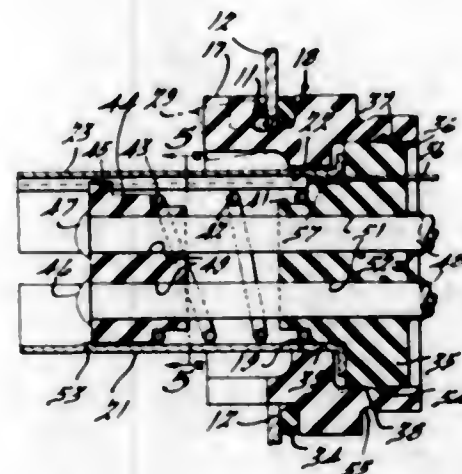


A plurality of high value electrical resistance standards are connected electrically in series by electrical connector members adapted for connecting the junctions selectively to an external circuit. Connector members and adjacent resistors or associated insulators support each other out of contact with other parts of the structure, in order to eliminate insulation leakage currents to other parts of the circuit. The end connector members are supported

A contact receptacle is provided for mounting on a printed circuit board or the like and for receiving a male tab member at right angles to the board. The receptacle will electrically connect the component from which the tab extends to the circuitry on the board. The contact spring fingers lie parallel to the board and are designed to permit minimum tab length and minimum overall receptacle size. The fingers also are designed to permit entry of the tab from either side of the board.

### 3,383,637 PLASTIC LAMP SOCKET

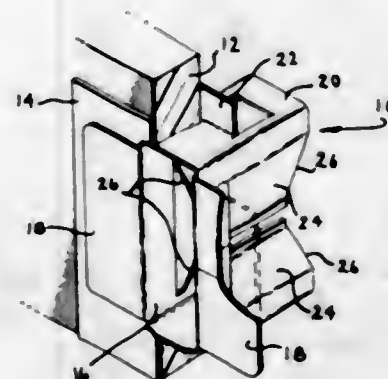
Don L. De Lano, Mount Clemens, Mich., assignor, by mesne assignments, to Vare Corporation, New York, N.Y., a corporation of Delaware  
Filed Sept. 16, 1966, Ser. No. 579,861  
4 Claims. (Cl. 339-14)



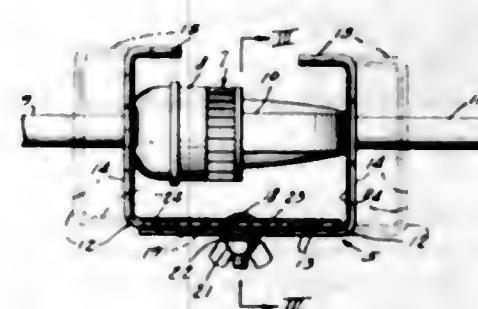
A vehicle lamp socket comprising a grounded tube which receives a bayonet type lamp base and is removably secured at one end between a conductor-receiving plug and a housing portion. A spring biases a contact-carrying block in the tube to engage the lamp base. The housing portion has resilient fingers adapting it to be secured in an apertured panel, of varying thickness, in bayonet fashion.

### 3,383,638 ELECTRICAL CONTACT

Daniel Russell Coldren, Enola, Pa., assignor to AMP Incorporated, Harrisburg, Pa.  
Filed Mar. 2, 1966, Ser. No. 533,132  
1 Claim. (Cl. 339-17)

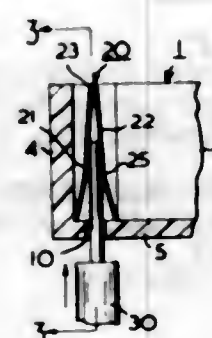
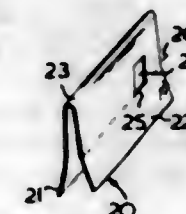


3,383,639  
**CORD EXTENSION COUPLING CLAMPS**  
Fred H. Anderson, 622 W. Aldine 60657, and Fred H. Anderson, Jr., 2540 N. Halsted St. 60614, both of Chicago, Ill.  
Filed Apr. 6, 1966, Ser. No. 540,732  
5 Claims. (Cl. 339-75)



A cord extension coupling clamp has a pair of complementary clamp members of sheet material each of which has a base flange from one end of which extends angularly a clamping flange having a terminal retainer flange projecting angularly into overlying spaced relation to the base flange. Each of the clamping flanges and its retainer terminal flange is divided by a longitudinally extending medial open ended cord-clearing slot into a pair of fingers. Longitudinally extending reinforcing ribs in the base flanges and the fingers are interlocked in the base flanges and a clamping screw retains the clamp members in longitudinally slidably adjusted relation.

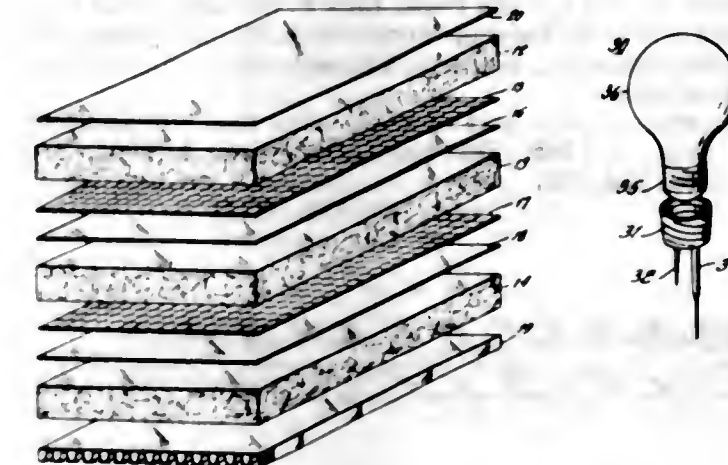
3,383,640  
**QUICK CONNECT WIRE CONNECTOR**  
Zdzislaw R. Godziemba-Dambeki, Bolton, Ontario, and Joseph F. Duffield, Georgetown, Ontario, Canada, assignors to Smith & Stone Limited, Toronto, Ontario, Canada, a corporation of Canada  
Filed Jan. 4, 1966, Ser. No. 518,692  
Claims priority, application Canada, Aug. 5, 1965, 937,363  
4 Claims. (Cl. 339-95)



A low current quick connect electrical terminal or contact of particular utility in combination with receptacles receiving male plug-in type contacts, and wherein electrical connection is effected with a locally stripped conductor received between a pair of resilient arms forming part of a U-shaped member, which arms are restrained from outward extension and at least one arm of which includes sharp cutting edge positioned for preventing inadvertent release of said conductor, there being provided means for releasing said conductor when necessary.

### 3,383,641 ELECTRIC SUPPLY MEANS

David Piel, New York, N.Y., assignor of ten percent to Barry R. Goldberg and Fredric B. Gershon, both of New York, N.Y.  
Filed Jan. 20, 1966, Ser. No. 521,938  
10 Claims. (Cl. 339-96)



A planar conductive means capable of permitting electrical connection thereto at any location desired over the surface of the assembly which is comprised of a pair of pierceable conductive means spaced from one another by suitable pierceable insulation means. Connection thereto is made by a connecting assembly comprised of first and second tapered pins. One of said pins is of a length sufficient to pierce only one of the conductive layers. The remaining pin is of a length sufficient to pierce both conductive layers and is provided with an insulating coating or sheathing to electrically insulate the longer pin from the conductive layer which the shorter pin pierces. A power source may be coupled to the conductive layers through a connection means similar to that described above or any other desirable arrangement. The connection means coupling the energized planar assembly may be employed to couple lamps, characters capable of being illuminated or any other sort of load to the power source.

3,383,642  
**WIRE SPLICE**  
Joseph A. Nava, Villa Park, Jack F. Shearer, Lake Forest, and Alvin R. Burton, Northbrook, Ill., assignors to The Fyle-National Company, Chicago, Ill., a corporation of New Jersey  
Filed Sept. 2, 1965, Ser. No. 484,657  
1 Claim. (Cl. 339-205)



A cylindrical wire splice device having an internal metallic connector portion formed by rolling a pre-cut metal strip, and an insulating cover rolled about the connector portion to insulate the electrical contact of the connector portion from points external of the device. The ends of the wires to be spliced have a radially enlarged collar which is engaged between oppositely axially directed tines of the connector portion to fixedly position the ends of the wires within the device. Gripping surfaces at the center of the connector portion rigidly grip the ends of the wires to form a proper electrical contact therebetween. The ends of the insulating cover have resilient plug members which are inserted therein to seal the wires both before and after insertion into the device. The plug members have an opening to allow the insertion of the wires therein, and a portion of the



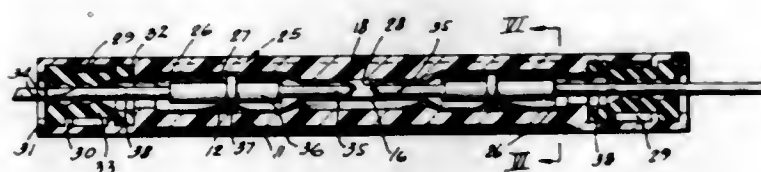
plug member extends across the opening to seal the interior of the connector portion in the absence of wires being inserted into the device.

3,383,643

### WIRE SPLICING DEVICE HAVING A CANTILEVER CONTACT ARM

Joseph A. Nava, Villa Park, Jack F. Shearer, Lake Forest, and Alvin R. Burton, Northbrook, Ill., assignors to The Pyle-National Company, Chicago, Ill., a corporation of New Jersey  
Continuation-in-part of application Ser. No. 484,657, Sept. 2, 1965. This application Feb. 2, 1966, Ser. No. 524,382

3 Claims. (Cl. 339-205)



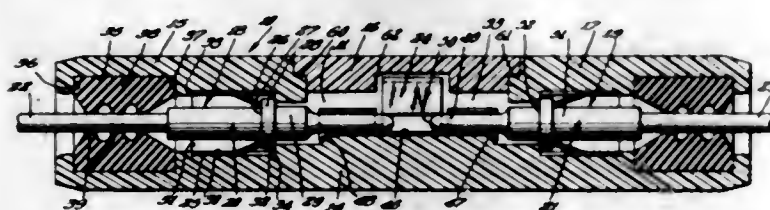
A wire splicing device having an insulating cover and a generally hollow interior with a generally tubular internal connector portion positioned within said cover at said hollow interior. The internal connector has radially inwardly extending lines for gripping a collar of the contact ends of a pair of wires and, in addition, has a cantilever supported resilient pressure contact arm extended axially inwardly within the hollow interior for making contact with the innermost portion of a pair of wires to be spliced.

3,383,644

### WIRE SPLICER

Joseph A. Nava, Villa Park, Jack F. Shearer, Lake Forest, and Alvin R. Burton, Northbrook, Ill., assignors to The Pyle-National Company, Chicago, Ill., a corporation of New Jersey  
Continuation-in-part of applications Ser. No. 484,657, Sept. 2, 1965, and Ser. No. 524,382, Feb. 2, 1966. This application Aug. 1, 1966, Ser. No. 569,118

11 Claims. (Cl. 339-205)



A wire splicing unit having an insulating housing and a plurality of generally side-by-side hollow interior portions. Each of the hollow interior portions have an internal connector member for receiving a pair of wires to be spliced. Each of the internal connector members have a conductive loop connecting adjacent members and extending above the hollow interior portion and to the vicinity of an access opening formed transversely across a plurality of side-by-side hollow interior portions.

3,383,645

### FEMALE SOCKET CONTACT HAVING A SPRING-CLIP

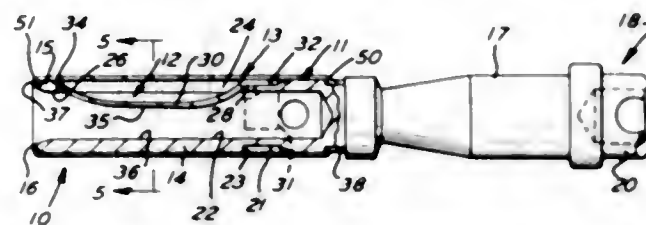
Arthur Milanese and Albert Pons, Philadelphia, Pa., assignors to Elco Corporation, Willow Grove, Pa., a corporation of Delaware

Filed Apr. 4, 1967, Ser. No. 628,469

6 Claims. (Cl. 339-217)

A closed entry female socket contact designed to mate with a cylindrical pin inserted into an axial bore in the cylindrical body of the contact, utilizes a cambered leg

of a spring-clip projecting through an axial slot in the body to resiliently retain the pin in the bore. Joined to one end of the leg is a pair of resilient fingers that wrap around the body of the contact and seat in a circumferential groove for the purpose of retaining the leg in the



slot during the final assembly operation which involves sliding a tubular sleeve over the sub-assembly of the body and spring-clip. Such assembly is facilitated because both the fingers and the free end of the leg are entirely contained within the projected area of the body and do not interfere with the tubular sleeve.

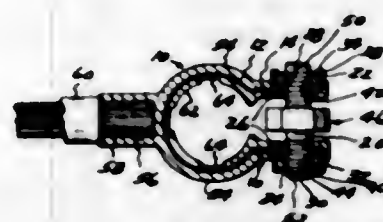
3,383,646

### ELECTRICAL TERMINAL CLAMP

John D. Otto, 22841 Shakespeare, East Detroit, Mich. 48205

Filed July 1, 1966, Ser. No. 562,348

7 Claims. (Cl. 339-226)



An electric terminal clamp for connecting an electrical cable to a terminal post and having a soft metal annular clamp member imbedding a thin metallic spring member, the thin metallic spring member forming parallel extending ends on which are welded nut retainers holding non-corrosive nuts of opposite threads. A bolt having oppositely threaded ends engaging the nuts is rotatable in one direction to expand the clamp and in an opposite direction to contract the clamp around the terminal post. Additionally, the inner surface of the clamp may be provided with longitudinal slots, and electrolytic anti-corrosion metallic inserts are disposed in the slots.

3,383,647

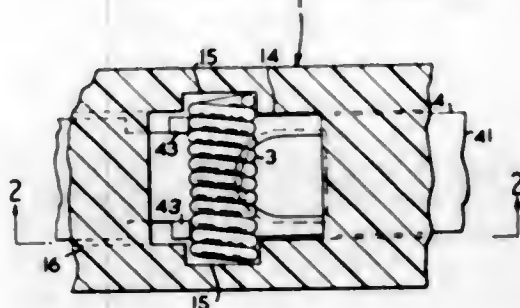
### SPRING LOADED SIDE CONTACT

Joseph F. Duffield, Rte. 1, Georgetown, Ontario, and Zdzislaw R. Godziemba-Dambaki, Rte. 4, Bolton, Ontario, Canada

Filed Dec. 8, 1965, Ser. No. 512,474

Claims priority, application Canada, Sept. 30, 1965, 941,793

3 Claims. (Cl. 339-256)



An electrical receptacle for receiving a plug wherein electrical connection is effected by means of a coil spring the center section of which is laterally deflected from its axis by said plug, while the ends of the spring are pre-

vented from movement by abutment with tabs forming the means of electrical connection with the circuit with which the spectacle is energized.

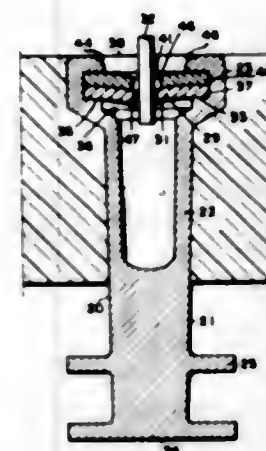
3,383,648

### MINIATURE SOCKETS

Adam Tems, Cherry Hill, N.J., assignor to Milton Ross Controls Co., Inc., Southampton, Pa., a corporation of Pennsylvania

Filed Aug. 20, 1965, Ser. No. 481,206

4 Claims. (Cl. 339-258)



An elongated miniature headed tubular contact socket having an annular catch plate in the head disposed in a plane transverse to the tubular axis, the catch plate having fingers or tongues extending radially inward toward one another with their free ends projected into the path of an entering contact so that they are engaged and deflected axially by penetration of the contact. An overlying gauge plate and/or underlying support for the catch plate are provided to prevent deflection of the tongues beyond their elastic limit by a contact.

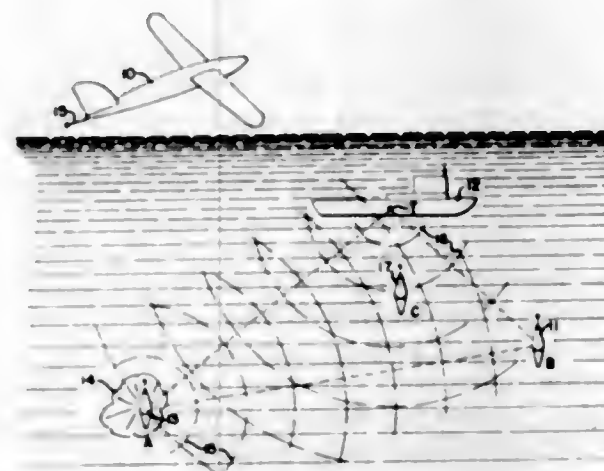
3,383,649

### METHOD OF ECHO RANGING

Norman D. Peck, Cornwall-on-Hudson, and Donald M. Saling and Thomas C. Smith, Poughkeepsie, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Mar. 7, 1962, Ser. No. 178,533

13 Claims. (Cl. 340-3)



Underwater objects are detected by placing a plurality of sonobuoys in the area to be searched and producing sound signals in the area by means of one or more explosive charges. The direct and reflected sound signals are received by the sonobuoys, converted to radio signals and

transmitted on different frequency channels to a remote station where the signals are recorded to give an indication of the location of the object.

3,383,650

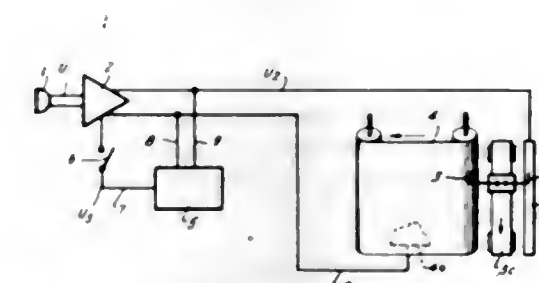
### ECHO SOUNDING APPARATUS FOR RECORDING SONAR ECHOES OF GREATLY VARYING AMPLITUDES

Hans Drenkelfort, Kiel-Elmschenhagen, Germany, assignor to Electroacoustic Gesellschaft mit beschränkter Haftung, Kiel, Germany, a corporation of Germany

Filed Jan. 5, 1965, Ser. No. 423,533

Claims priority, application Germany, Jan. 10, 1964, E 26,202

5 Claims. (Cl. 340-3)



1. Sonar apparatus, comprising a transducer for translating received sonic echoes to echo voltage, a recorder for producing echograms on electrically sensitive recording paper, each of said echograms comprising a plurality of spaced substantially parallel lines each representing one recording cycle of said recorder and each including a contour portion of determined length representing the bottom of a body of water and an additional portion representing floating objects in the body of water, and an amplifier connecting said transducer to said recorder for applying recording voltage to the paper in response to said echo voltage, an electronic voltage control device connected between said amplifier and said recorder and having a plurality of electronically variable resistance means connected in parallel relation to the paper resistance of said recorder, said resistance means having respective input means connected to said amplifier for response to the echo voltage and each of said resistance means having one voltage threshold value corresponding to a given echo amplitude in the low-amplitude portion of the total receivable amplitude range, each of the threshold values being different from the others, so as to reduce by one of said resistance means, when said echo voltage is above the threshold value of said one of said resistance means, the recording voltage to below the one obtaining at said given echo amplitude thereby considerably shortening the determined length of the contour portion of each line of said echogram to considerably increase the ratio of the length of the additional portion of each said line to said determined length of each said line so that a considerably greater contrast is provided between said additional and contour portions and therefore between said floating object representations and said bottom representations.

3,383,651

### PLANE COORDINATE COMPUTING SYSTEM

Sol N. Koblick, North White Plains, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

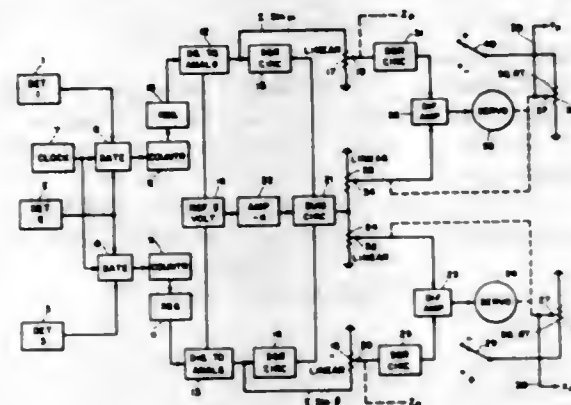
Filed Jan. 31, 1967, Ser. No. 613,052

3 Claims. (Cl. 340-6)

The plane coordinate computer system disclosed utilizes a bottom mounted acoustic pinger to mark a reference location, and this pinger periodically radiates pulses which are detected by an orthogonal hydrophone receiver.



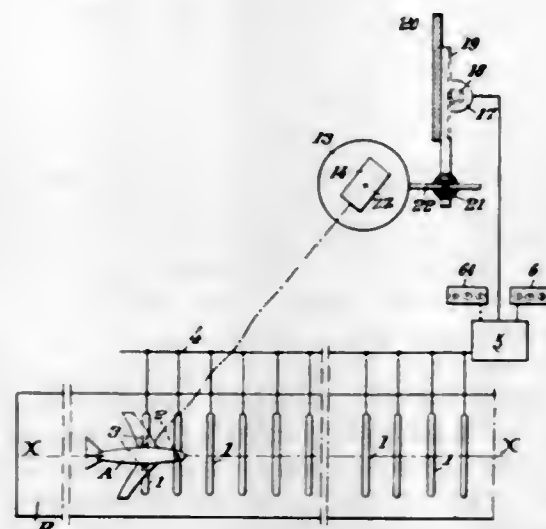
ing array mounted on a vessel whose coordinate location, with respect to said reference location, is desired. The three hydrophones which make up the receiving array are located at the apices of a right isosceles triangle, and



the output of these hydrophones is fed to a computing system, including servomechanism devices, which solves for the X and Y coordinates of the vessel with respect to the reference location.

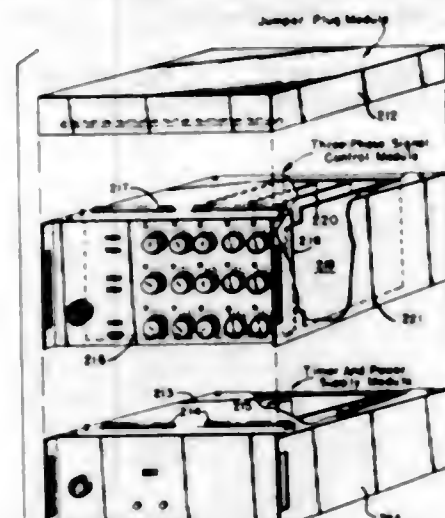
**3,383,652**  
**INSTALLATIONS FOR CONTROLLING THE TRAJECTORY WITH RESPECT TO THE GROUND OF VEHICLES AND IN PARTICULAR AIRCRAFT**  
Georges Auguste Charot, Vitrolles, and Pierre Issartier and Robert Gaston Labouyrie, Marseille, Paul Antoine Revest, St-Victoret, and Jacques Valensi, Marseille, France, assignors to Centre National de la Recherche Scientifique, Paris, France

Filed Apr. 19, 1965, Ser. No. 449,131  
Claims priority, application France, Apr. 24, 1964, 972,130; Mar. 2, 1965, 7,631  
13 Claims. (Cl. 340-27)



Apparatus for determining the trajectory of aircraft with respect to the ground during takeoff and landing periods which involves the use of a track laid out along the runway and characterized by a multiplicity of crushable detection elements arranged transversely on the track at equally spaced intervals corresponding to the distance between the nose wheel of the airplane and its main landing gear. An electrical signalling circuit is provided which is actuated responsive to the crushing of the detection elements by a wheel of the aircraft. The signalling circuitry also includes an indicating arrangement to show the time and place where the nose wheel of the aircraft lifts off from the track during takeoff and comes into contact with the track during landing.

**3,383,653**  
**MODULAR TRAFFIC SIGNAL CONTROLLER**  
Norman A. Bolton, Scottsville, and Larry Appleman, Terence W. Brady, and Barry L. Smith, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York  
Filed Dec. 21, 1965, Ser. No. 515,388  
18 Claims. (Cl. 340-37)

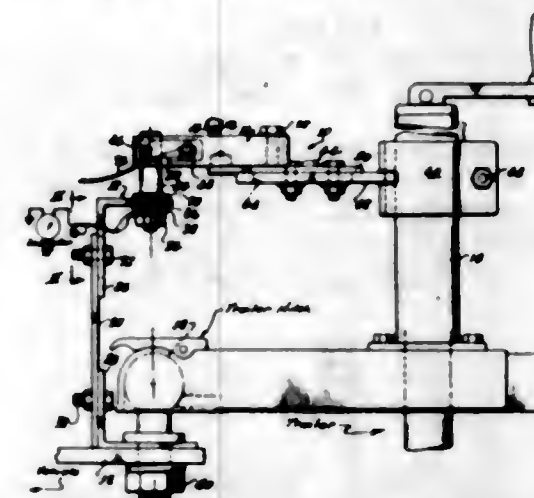


1. A traffic signal controller comprising a first chassis having a plurality of first interval register steps mounted thereon, said first chassis having a plural terminal first electrical connector adjacent an exterior side of said first chassis, first gating input and output lines on said first chassis interconnecting the inputs and outputs of all but two of said plurality of first interval register steps, one of said two interval registers in said plurality of first register steps having a gating output line connected to a first terminal of said first connector and the other of said two interval registers having a gating input line connected to a second different terminal of said first connector, an external connector adapted to separably mate with said first electrical connector to complete a circuit between said first and second terminals whereby said plurality of first interval register steps are interconnected in a first ring counter configuration adapted to control a first plurality of signal lights in a predetermined sequence, a second chassis having a plurality of second interval register steps thereon, said second chassis having a plural terminal second electrical connector adjacent an exterior side of said second chassis, second gating input and output lines on said second chassis interconnecting the inputs and outputs of all but two of said plurality of second interval register steps, one of said two interval registers in said plurality of second interval register steps having a gating input line connected to a first terminal of said second connector and the other of said two interval register steps having a gating output line connected to a second different terminal of said second connector, said second connector being constructed to mate with said first connector in place of said external connector to complete circuits between said first terminals and said second terminals of said first and second connectors respectively thereby to separably interconnect the inputs and outputs of all of said first and second interval registers in a second ring counter configuration having a number of stages greater than said first ring counter configuration, and adapted to control a second plurality of signal lights, greater in number than said first plurality of lights, in a predetermined sequence.

**3,383,654**  
**FLATTENED TIRE INDICATOR**  
Reinhold G. Hendricks, 609 Temer Ave., Warren, Ariz. 85642  
Filed July 26, 1965, Ser. No. 474,882  
11 Claims. (Cl. 340-58)

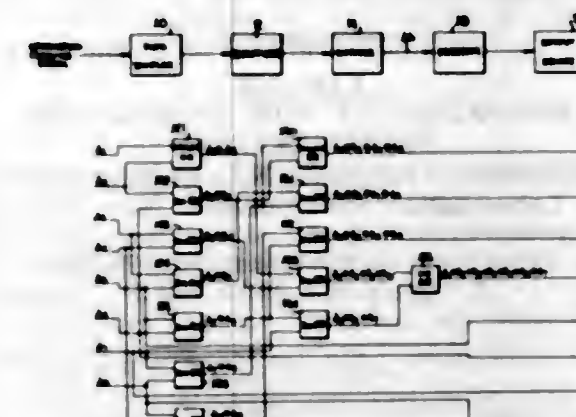
The description discloses a flattened tire indicator for use with a vehicle which is pulling a trailer. The indicator

may include a switch means which is divided into two portions, one portion being adapted to be mounted to the vehicle and the other portion being adapted to be mounted to the trailer. The switch portions are cooperable with one another between their mountings to function as a switch for operating in one condition when the trailer



tires are inflated and operating in another condition when any of the tires are flattened. The switch may be connected to a light or buzzer for making positive indication to the vehicle operator. Simplicity has been obtained by mounting one portion of the switch substantially directly over the ball of the trailer hitch.

**3,383,655**  
**CODE CONVERTERS**  
Daniel D. McRae, Melbourne, Fla., assignor to Radiation Incorporated, Melbourne, Fla., a corporation of Florida  
Filed Sept. 24, 1964, Ser. No. 398,946  
16 Claims. (Cl. 340-146,1)

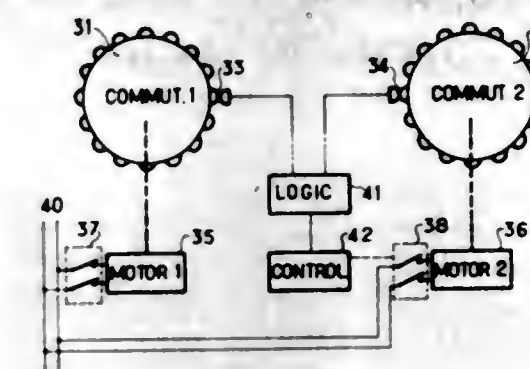


A code converter wherein data in analog or digital form is converted into an error-accentuating binary type code requiring no parity or redundant bits to provide the error accentuation function. The code is characterized by plural groups of bits, each group representing a discrete level of data. The groups are arranged in subdivisions of successive data levels, each group in a subdivision differing from all other groups in that subdivision in at least half of its bit location assignments.

**3,383,656**  
**ALTERNATE SYNCHRONIZATION DEVICE FOR TWO ROTATING SWITCHES**  
Jean Lavergne, Epinay-sur-Orge, France, assignor to CIT—Compagnie Industrielle des Telecommunications, Paris, France  
Filed Oct. 7, 1963, Ser. No. 314,440  
Claims priority, application France, Oct. 9, 1962, 911,691  
3 Claims. (Cl. 340-147)

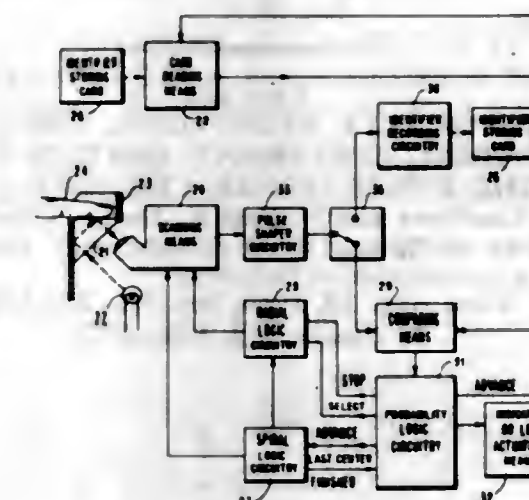
In an assembly comprising two rotating commutators having a plurality of switch positions identified by corre-

sponding addresses, one of which rotates at its operating speed while the other one is started when the positions of said two commutators have identical orientations with respect to a reference position by means of a logical circuit having two inputs which receives on one input thereof



the numerical information being characteristic of the instantaneous position of said first commutator and on the other input thereof the numerical information being characteristic of the position of said commutator. The numerical data is furnished by a logical element wired so as to be integral with each position of each commutator.

**3,383,657**  
**PERSONNEL SECURITY SYSTEM HAVING PERSONALLY CARRIED CARD WITH FINGER-PRINT IDENTIFICATION**  
Claus Helmut Claassen, Fremont, and Louis Dell Green, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed May 28, 1965, Ser. No. 459,694  
6 Claims. (Cl. 340-149)



A given person is identified by the print of a predetermined one of his fingertips. The identification is made by comparing identifiers generated by scanning the fingertip optically with identifiers previously generated by scanning that fingertip in the same manner and recording the resulting identifiers on a portable personnel identification card personal to the given person and carried by him. Indicating means or lock actuating means are operated in response to a favorable comparison of the identifier on the card and the identifier generated by scanning the actual fingertip. The system is operable independently of a central file of identifiers and the given person is free to approach any identifying station in the system.

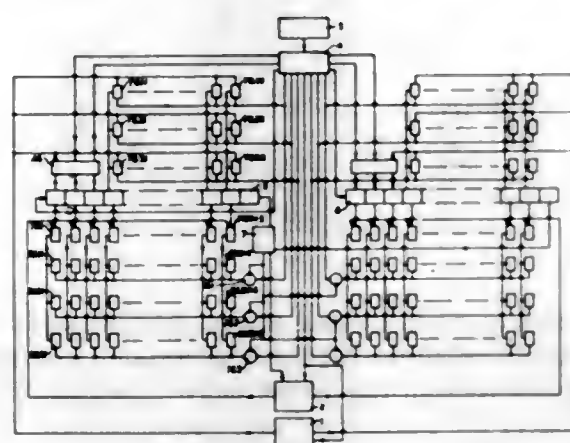


3,383,658

**CENTRAL TO REMOTE SIGNALLING SYSTEM  
HAVING COUNTER CONTROLLED INFORMATION TRANSMISSION**

John David Martin, David John Norton, Edgar Ian White, and William Ernest New, London, England, assignors to Westinghouse Brake and Signal Company, Limited, London, England

Filed Mar. 9, 1964, Ser. No. 350,484  
Claims priority, application Great Britain, Mar. 12, 1963, 9,719/63  
15 Claims. (Cl. 340-163)



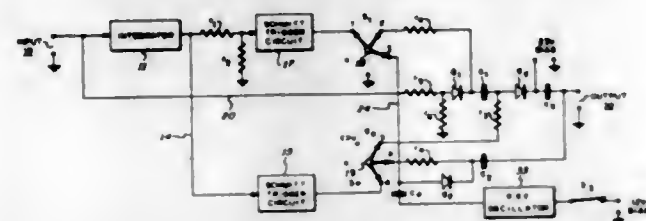
An information scanning transmission system wherein a station which transmits and receives information is provided with a "short" counting chain capable of being successively stepped to unique conditions to scan successive items of information for transmission, the counting chain being "short" in that the number of possible counting steps therein is fewer than the number of items of information to be scanned for transmission. A selector circuit connects the counting chain to successive banks of transmission gates to gate items of information corresponding to that received from remote locations. A second "short" counting chain is also provided to enable interlace of operation whereby virtually continuous transmission to and from the station is achieved, one counting chain transmitting while the other is receiving and vice-versa.

3,383,659

**AUTOMATICALLY RESPONDING CIRCUIT FOR  
PROVIDING DIFFERENT OUTPUT SIGNALS  
AS THE INPUT SIGNAL CHANGES**

John K. Lauchner and William F. Trepas, Phoenix, Ariz., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Apr. 10, 1964, Ser. No. 358,810  
10 Claims. (Cl. 340-172)



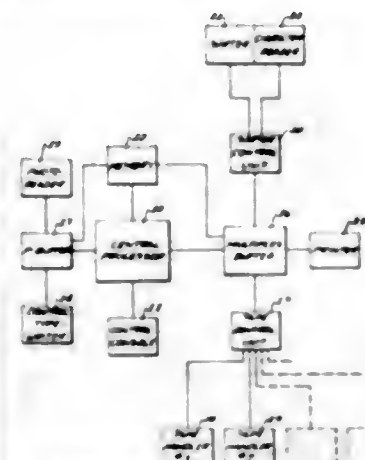
An automatic mode selecting circuit for converting a pulse transponder to a free running (self-sustaining oscillation) beacon in the event that the amount of transponder interrogation is below or above pre-established values. The interrogation amount is detected to provide respective controlling signals which actuate diode gating circuits to selectively connect either the received interrogation pulses or internally generated oscillations to the transponder output in accordance with the detected amount of transponder interrogation.

3,383,660

**DATA PROCESSING SYSTEM**

Henry L. Herold, Palo Alto, Calif., and David W. Masters, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed Feb. 12, 1960, Ser. No. 8,392  
23 Claims. (Cl. 340-172.5)



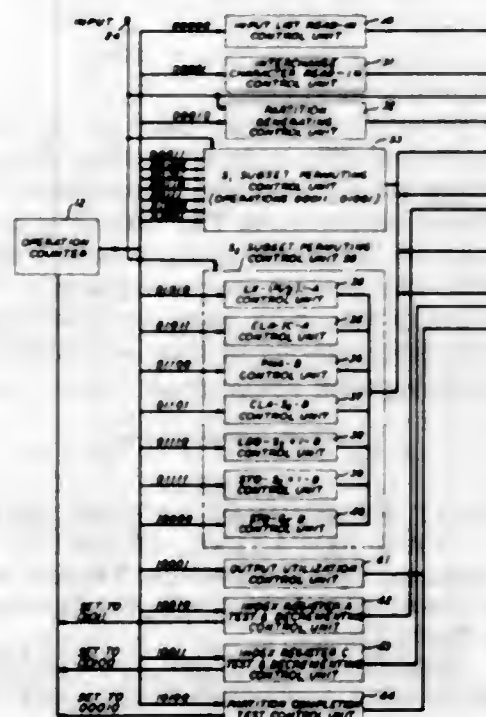
1. In a system comprising a data storage unit for storing a plurality of data items and a data processing unit connected to communicate with said data storage unit and adapted to execute a program of distinct commands in sequential order by executing corresponding distinct operations on said data items, wherein said data processing unit is to be denied communication with said data storage unit for an interval; means to provide a signal prior to said interval; means responsive to said signal for interrupting, for the duration of said interval, execution of operations which are adapted to continue through said interval and to require said data processing unit to communicate with said data storage unit during said interval; and means responsive to said signal for interrupting, for the duration of said interval, execution of said program when the operation being executed when said signal occurs terminates before said interval.

3,383,661

**ARRANGEMENT FOR GENERATING  
PERMUTATIONS**

Alan J. Goldstein, Livingston, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 30, 1964, Ser. No. 400,329  
8 Claims. (Cl. 340-172.5)



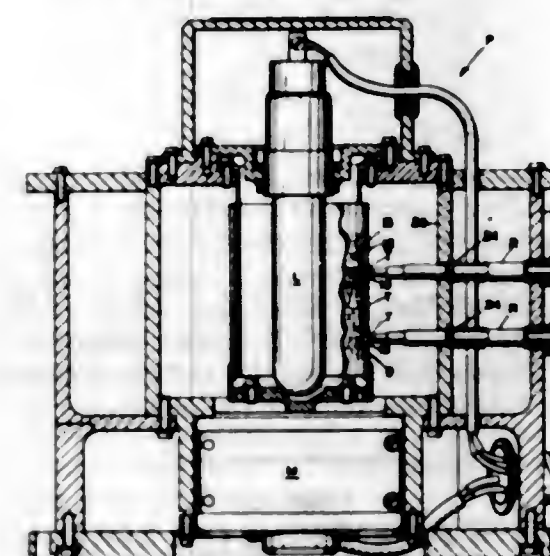
An arrangement is proposed for generating the permutations of a set of input signals. The arrangement provides for implementing an algorithm which embodies a plurality

of nested iteratively traversed functional loops. The outer loop partitions the signals into fixed size subsets, and the inner loops respectively comprise signal interchanging routines for generating the permutations of a corresponding subset of signals.

3,383,662

**ADJUSTMENT DEVICE WITH FOUR DEGREES  
OF FREEDOM FOR AN ELECTRO-OPTICAL  
SENSOR**

Bernard Spleker, New Milford, and Israel L. Fischer, Harrington Park, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware  
Filed Apr. 28, 1964, Ser. No. 363,084  
9 Claims. (Cl. 340-173)



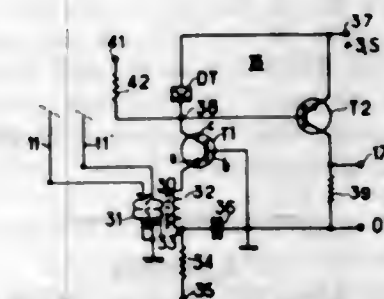
An optical memory system for digital computers whereby light from a light source is transmitted or stopped by a memory drum having transparent or opaque images on the drum and said transmitted light falling upon a readout device capable of four degrees of freedom translating the light into electrical voltages.

3,383,663

**BALANCED SENSE LINE PERMANENT  
MEMORY SYSTEM**

Charles Antoine Marius David, Paris, France, assignor to Compagnie des Machines Bull (Societe Anonyme), Paris, France

Filed Sept. 14, 1964, Ser. No. 396,244  
Claims priority, application France, Sept. 27, 1963, 948,895  
1 Claim. (Cl. 340-173)

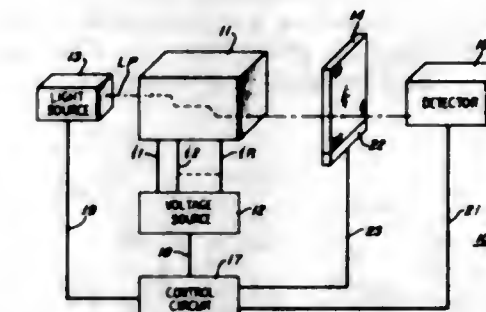


In a matrix permanent memory system for storing  $m$  words, each of  $n$  bits, resistive elements effect couplings between each of the  $m$  word conductors and some of the  $n$  column conductors. In view of cancelling undesirable signals due to capacitive couplings, a second column conductor is provided for each bit position, parallel to the corresponding first column conductor. In each output amplifier, two oppositely coupled primaries of a transformer are connected to said first and second column conduc-

3,383,664

**ELECTRO-OPTICAL STORAGE ARRANGEMENT**

Fang-Shang Chen, New Providence, and Richard T. Denton, South Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York  
Filed Mar. 31, 1967, Ser. No. 627,492  
10 Claims. (Cl. 340-173)



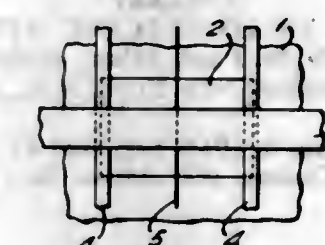
Electrooptic materials such as lithium niobate and lithium tantalate, normally employed for modulators in digital light deflectors, exhibit damage when exposed to a laser beam of prescribed intensity. The damage, although detrimental when such materials are used for modulators, is turned to account by employing a sheet of such a material as an optical storage plane. Damage is selectively provided in bit locations in the plane by means of a first laser of suitable wavelength and intensity. Reading is by means of a second laser beam, insufficient to cause damage, in cooperation with means responsive to a change in the direction of the polarization vector of the second beam for detecting the presence and absence of damage.

3,383,665

**THIN-FILM MEMORY WITH TWO OUTPUT LINES**

Etsuo Kashiwagi, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed May 5, 1964, Ser. No. 365,015  
Claims priority, application Japan, June 8, 1963, 38/30,252  
5 Claims. (Cl. 340-174)

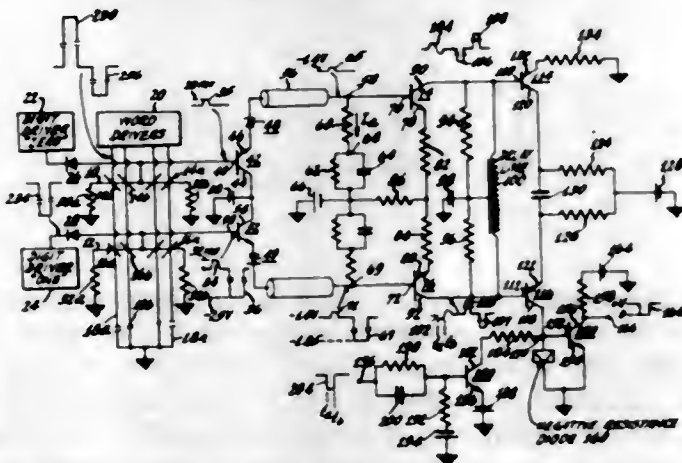


1. An improved magnetic memory element structure for storing information comprising  
a substrate,  
a thin-film of magnetic material of generally rectangular shape on said substrate, said film having discrete boundaries,  
a drive current line disposed along one axis of said film for receiving a drive current,  
a pair of information current lines disposed substantially perpendicular to said drive current line,



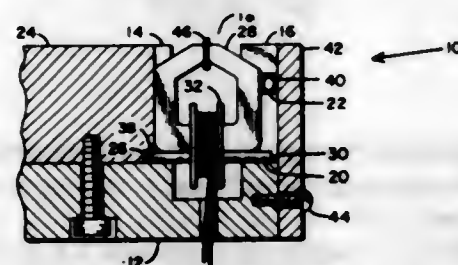
said information lines being disposed parallel to one another and located adjacent said film at two opposed edges thereof, said information current lines being adapted to receive information current to store information on said film and also to read said stored information, and a sense line for discriminating said stored information during readout, said sense line being positioned between said information current lines.

**3,383,666**  
**MULTISTAGE AMPLIFIER CIRCUITRY USED IN CONJUNCTION WITH HIGH SPEED DIGITAL COMPUTER MEMORIES**  
Thomas R. Mayhew, Willingboro, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed May 28, 1964, Ser. No. 370,960  
11 Claims. (Cl. 340-174)



1. The combination comprising:  
an amplifying device having a first electrode and an output electrode defining a conduction path, and a control electrode;  
a transmission line, a first resistor and a second resistor serially connected between the first electrode and a junction point;  
means for connecting a source of bias potential between said output electrode and said junction point;  
a by-pass capacitor connected across said second resistor;  
said first resistor having a value to terminate the transmission line in its characteristic impedance, and said second resistor having a value to bias the amplifying device at a desired quiescent operating current level; and  
input signal means coupled to said input electrode.

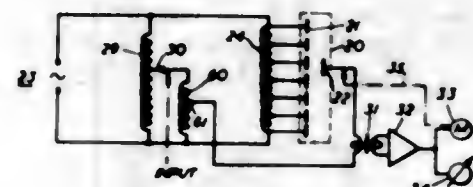
**3,383,667**  
**MAGNETIC HEAD SPACING APPARATUS**  
William H. Stark, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware  
Filed Jan. 4, 1965, Ser. No. 423,132  
5 Claims. (Cl. 340-174.1)



A magnetic transducer head structure, including an improved structural assembly, is described. A transducer spacer element is shown for holding the transducer assembly out of contact with the head block mounting slot, and a method of assembly is described.

**3,383,668**  
**CAPACITIVE POTENTIOMETER REBALANCING SYSTEM**

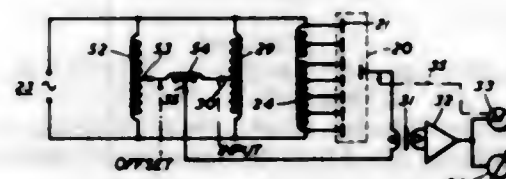
Caleb Frederick Wolfendale, Great Brick Hill, near Bletchley, England, assignor to Sogenique (Electronics) Limited  
Original application Sept. 26, 1961, Ser. No. 140,874, now Patent No. 3,287,716, dated Nov. 22, 1966. Divided and this application Mar. 3, 1966, Ser. No. 531,574  
Claims priority, application Great Britain, Sept. 27, 1960, 33,144/60  
4 Claims. (Cl. 340-187)



The application discloses an automatically balancing bridge including a capacitive potentiometer comprising a line of discrete stator electrodes coupled electrostatically to a movable pick-off electrode, a manually settable reference potential divider, a servo responsive to the potential difference between the reference divider tap and the pick-off electrode, and a selectable switch system for altering and controlling the scale of the movement.

**3,383,669**  
**CAPACITIVE POTENTIOMETER REBALANCING SYSTEM**

Caleb Frederick Wolfendale, Great Brick Hill, near Bletchley, England, assignor to Sogenique (Electronics) Limited  
Filed Mar. 3, 1966, Ser. No. 531,613  
Claims priority, application Great Britain, Sept. 27, 1960, 33,144/60  
7 Claims. (Cl. 340-200)



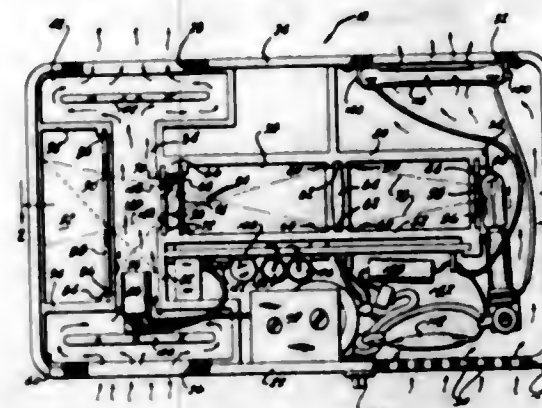
The application discloses an automatically balancing bridge including a capacitive potentiometer comprising a line of discrete stator electrodes coupled electrostatically to a movable pick-off electrode, a manually settable reference potential divider, a servo responsive to the potential difference between the reference divider tap and the pick-off electrode, and a potential divider connected to give a zero off-set capability.

**3,383,670**  
**SMOKE AND HEAT DETECTION UNIT**

Gordon A. Roberts, 2120 Washtenaw Road, Ann Arbor, Mich. 48104  
Filed July 13, 1964, Ser. No. 382,173  
11 Claims. (Cl. 340-237)

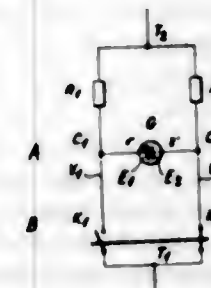
A unit for detecting the presence of suspended matter such as smoke in the air in which a casing is provided with partitions that form an upright detection compartment, light traps at the ends of the detection compartment, a light transmission conduit which is perpendicular to the detection compartment and is positioned on one side of the detection compartment, and a light receptacle which is positioned on the opposite side of the detection

compartment. Aperture plates are mounted on the partitions so as to communicate the light transmission conduit and the receptacle with the detection compartment. A light energy source and a lens in the light transmission conduit cooperate to provide for the transmission of light into the detection compartment so as to form a light interaction region therein. A light detecting photocell is



positioned within the compartment to one side of the light interaction region. Light from the energy source is focused by the lens within an orifice formed in a plate disposed within the light transmission conduit so as to concentrate the light in the interaction region of the detection compartment and thereby to at all times maintain a low background light level at the detector.

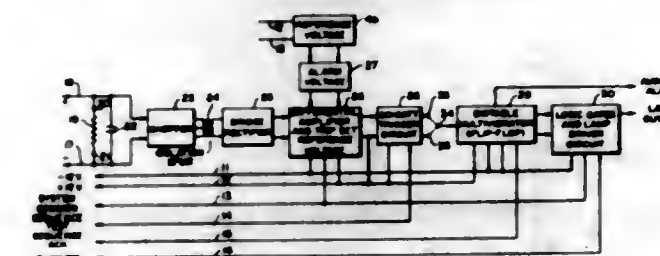
**3,383,671**  
**SWITCHING SYSTEM INDICATING APPARATUS**  
Ferenc Pálos and János Elmer, Budapest, Hungary, assignors to Magyar Villamosági Kihirakodalmi Vállalat, Budapest, Hungary  
Filed Sept. 30, 1964, Ser. No. 400,483  
6 Claims. (Cl. 340-248)



1. An indicating apparatus for indicating the position of a two-position device remote from the apparatus, said apparatus comprising an electric circuit having a pair of parallel branches, each branch extending from the apparatus to said device and each having a high impedance therein at the apparatus end, a switch blade in each branch at the device end thereof, said switch blades being connected to move together and so that when one closes the other opens and vice versa and being adapted for actuation by said device so that in one position of said device one of said switch blades is closed while in the other position of said device the other of said switch blades is closed, a gas discharge tube at the apparatus end of said branches having two electrodes, one electrode being connected to each branch between the impedance and switch blade thereof, the respective ends of said branches being connected together, and a source of direct current supply at a voltage sufficient to fire said tube and having its opposite sides connected to the respective interconnected ends of said branches, whereby one or the other electrode of said

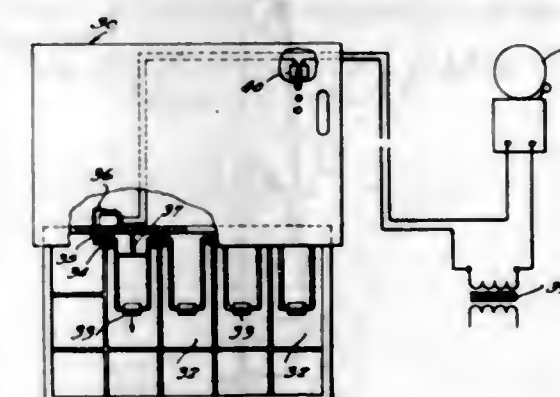
tube will glow depending on which one of said switch blades is closed and the tube thus serving as an indicator to indicate the respective position of said device.

**3,383,672**  
**SET POINT MODULE SYSTEM FOR ANNUNCIATORS**  
Chester H. Clarridge, Pittsford, N.Y., assignor to Rochester Instrument Systems, Inc., Rochester, N.Y., a corporation of New York  
Filed Feb. 25, 1965, Ser. No. 435,236  
15 Claims. (Cl. 340-248)



An annunciator is formed of set point modules each including a Zener diode for providing a reference voltage, an adjustable potentiometer to select a portion of the reference voltage as an alarm voltage, a resistor for connection to a current-modulated control loop to produce an analogue voltage, a chopper, transformer, and rectifier for producing a test voltage as a function of the analogue voltage and for isolating the module from the control loop, a differential amplifier for comparing the test voltage with the alarm voltage, and logic circuitry actuated by the differential amplifier for producing warning signals as a function of the comparison. Such an arrangement provides DC isolation of annunciator's circuitry from control loop circuitry and allows convenient arrangement of set point circuitry on removable and interchangeable printed circuit module cards in the annunciator housing.

**3,383,673**  
**ALARM CIRCUIT**  
Lawrence A. Gertling, 2469 Wintthrop Drive, Dallas, Tex. 75228  
Filed Oct. 21, 1965, Ser. No. 499,503  
1 Claim. (Cl. 340-274)



1. In combination with a cash register having a drawer, and having compartments in said drawer and having a pivoted, weighted arm in one of said compartments, said arm having a loose pivotal connection whereby it may be displaced slightly by pulling it radially with respect to its pivotal axis, the combination of a switch in said cash register having a normally open contact connected by linkage to said arm whereby said switch is adapted to be closed upon radial displacement of said arm, said switch being connected electrically in a circuit which includes also an electrically operable alarm device.

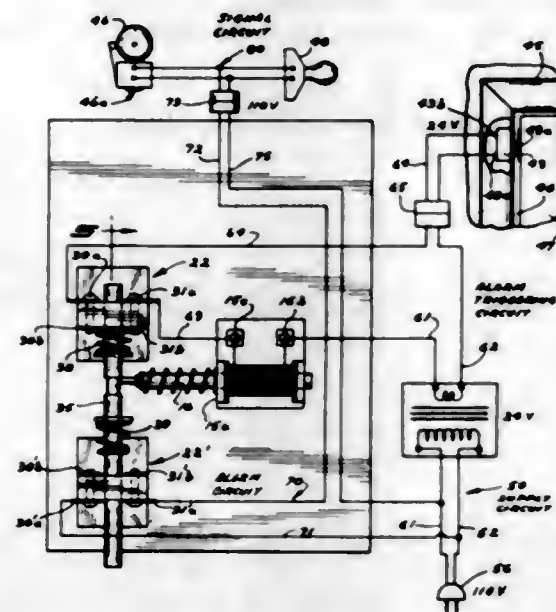


3,383,674

**BURGLAR ALARM SYSTEM**

Henry J. Soltau, 4020 Stinson Blvd. NE. 55421, and Edward Werder, 4639 France Ave. N. 55422, both of Minneapolis, Minn.

Filed July 29, 1965, Ser. No. 475,788  
1 Claim. (Cl. 340-276)



A burglar alarm system comprising detection elements at points of entry adapted to energize a triggering circuit, a housing remote from the detection elements containing energizing elements in connection with said triggering circuit to actuate an alarm circuit, said housing containing a selective circuit closing member manually reset with respect to the triggering circuit and movable axially to close the alarm circuit by the action of a solenoid energized in connection with the triggering circuit.

3,383,675

**ROTATING BEACON WAND**

Edward R. Allardice, Los Angeles, Calif. (20701 Vanowen, Canoga Park, Calif. 91306), and Lea Carrothers, Los Angeles, Calif. (1329 N. Old Topanga Road, Topanga, Calif. 90290)

Filed Aug. 20, 1965, Ser. No. 481,262  
8 Claims. (Cl. 340-321)



A rotating beacon wand comprising an elongated light-transmitting casing, a light source, means directing light from the source into the casing along a path coinciding with the major axis of the casing, a rotatable reflector within the casing positioned in the light path to reflect

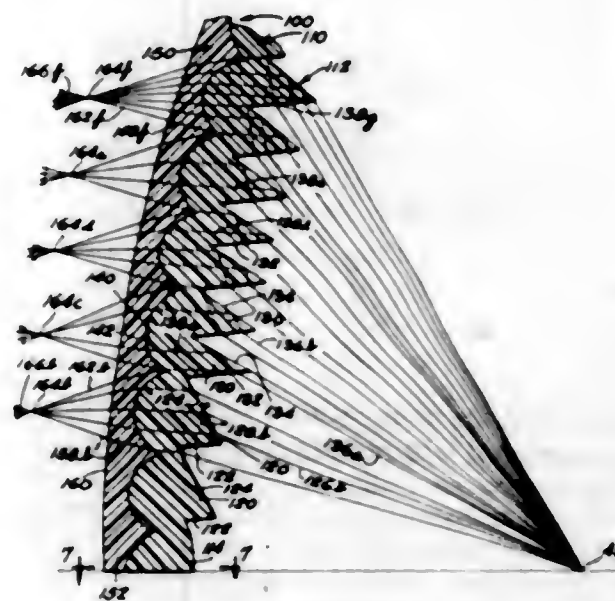
a portion of the light transversely to the path, and means rotating the reflector about an axis coinciding with the light path.

3,383,676

**LENTICULAR SIGNAL LENS HAVING A SMOOTH OUTER SURFACE**

Robert I. Nagel, 3729 Roth, Skokie, Ill. 60076

Filed Feb. 14, 1963, Ser. No. 258,453  
15 Claims. (Cl. 340-383)



1. A rigid lens comprising a first transparent body of a first plastic and having a rear surface and a front surface thereon, said rear surface on said first body having collimating optical elements thereon, said front surface on said first body having first controlled spreading optical elements thereon for directing light passing therethrough into a predetermined pattern, and a second transparent body of a second plastic and having a rear surface and a front surface thereon, said rear surface on said second body having second controlled spreading optical elements thereon shaped complementary to said first controlled spreading optical elements for directing light passing therethrough into said predetermined pattern, said front surface on said first body and said rear surface on said second body being in both physical contact and optical contact throughout the adjacent areas thereof to provide a single interface therebetween, said front surface on said second body being smooth and regular and free of pits and crevices and the like thereby readily to shed therefrom water and dirt and other debris falling thereon, said first plastic having an index of refraction substantially different from that of said second plastic thereby to obtain a substantial refraction of the light passing therebetween and through said first and second optical elements and said single interface.

3,383,677

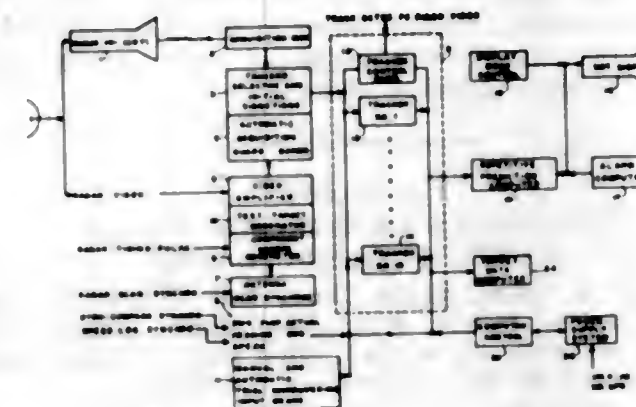
**RADAR DATA COMPUTER AND INDICATOR SYSTEM**

Richard V. Baum and Gregory L. Martin, Phoenix, Ariz., assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Continuation-in-part of applications Ser. No. 328,640, Dec. 6, 1963, and Ser. No. 507,619, Oct. 22, 1965.  
This application Oct. 24, 1966, Ser. No. 589,026  
10 Claims. (Cl. 343-5)

The invention relates to a radar data computing and display system which can simultaneously track, compute, and visually display present and future relationships between a carrying vessel and a plurality of target vessels to simplify the problem of collision avoidance of moving

vehicles by providing an automatic tracker which instantaneously displays the present situation and the predicted TV camera in positions, relative to model airport, representative of aircraft's position relative to real airport.



display of the future situation based on the facts of the present situation on a standard radar display scope.

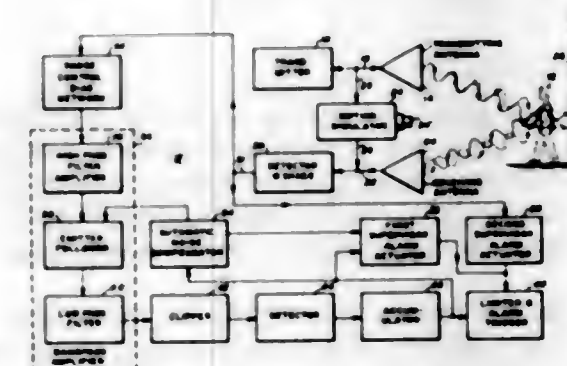
The radar tracks the aircraft and directs the simulating device.

3,383,678

**MOVING OBJECT DETECTION SYSTEM**

James L. Palmer, Cupertino, Calif., assignor to Advanced Devices Laboratory, Inc., San Jose, Calif., a corporation of California

Filed Dec. 23, 1966, Ser. No. 604,430  
24 Claims. (Cl. 343-5)



A Doppler system moving object detector, such as may be employed for protecting a specific volume under surveillance from intruders, which is sensitive only to a selected class of objects and then only when such objects move with a velocity within a selected range in the specific volume. The moving object detector employs a wave energy transceiver for generating a Doppler signal when the wave energy is reflected from a moving object, filters for rejecting Doppler signals other than those naturally attributable to objects moving within a selected velocity range, memory devices to rejected Doppler signals other than those naturally attributable to objects with a selected class and various self-testing means for operation assurance.

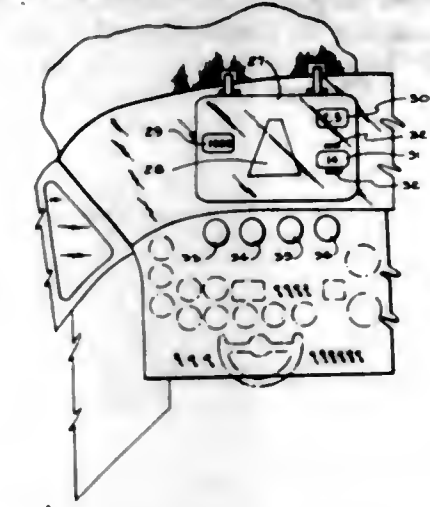
3,383,679

**VISUAL LANDING SIMULATOR FOR INSTRUMENT FLYING**

Roger P. Baird, Jr., 6910 Lakewood Drive, Richmond, Va. 23229

Filed July 15, 1966, Ser. No. 565,557  
2 Claims. (Cl. 343-6)

A simulating device for Instrument Landing Systems of the type which utilize airborne TV receivers in connection with ground based model airport, TV camera, TV transmitter, radar and simulating device all for providing blind flying pilots with simulated views of their airport. This simulating device supports and moves the



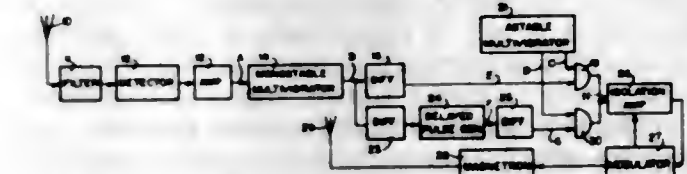
3,383,680

**MULTI-PULSE MODULATOR FOR RADAR TRANSPONDER**

Liscum Diven, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Apr. 26, 1966, Ser. No. 545,323

15 Claims. (Cl. 343-6.8)



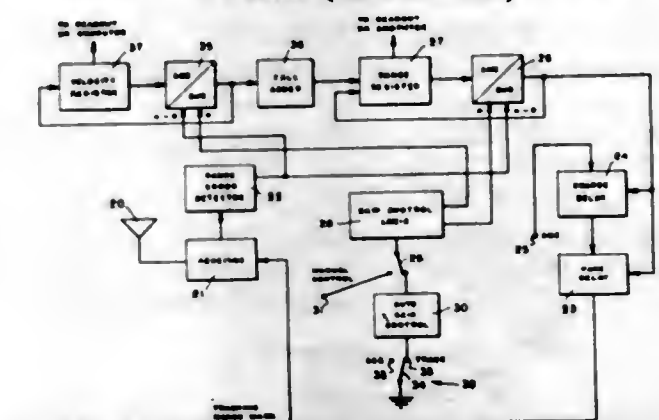
A radar transponder receiving repetitive pulses and selectively providing different delays for such pulses. A plurality of paths each having a different delay period to successively pass different pulses. The outputs of the paths are joined such that the transponder emits a train of pulses respectively having selectively varied time positions within such train for identifying the transponder.

3,383,681

**DIGITAL RANGE UNIT**

Kenneth O. Bryant, Ridgecrest, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 30, 1967, Ser. No. 613,076  
1 Claim. (Cl. 343-7.3)

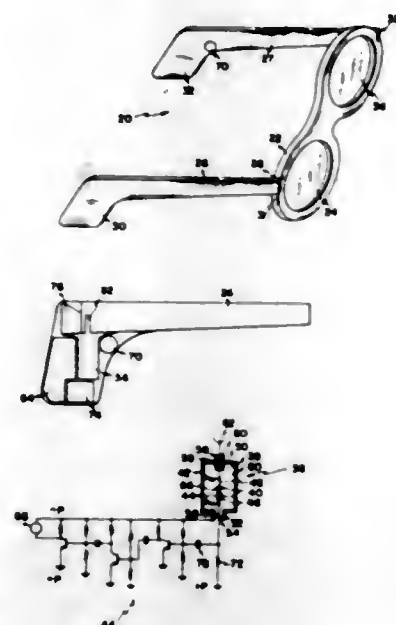


The invention comprises a digital range unit which drives the radar range setting to the slant range of the designated target, generates the necessary signals for display and automatic tracking of the return video and generates and continually updates target range data. In addition, the range unit generates a time-zero signal for the radar synchronizer, triggers the radar transmitter and computes range velocity of the target.



3,383,682

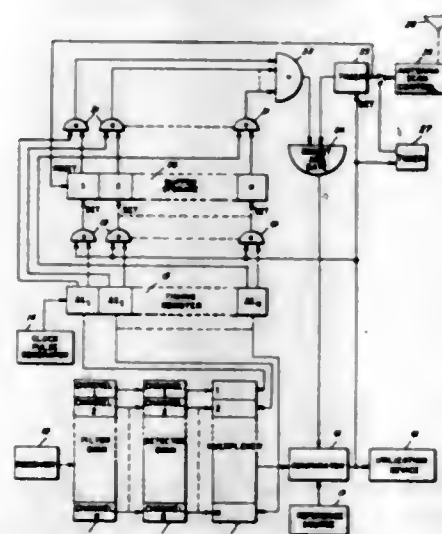
**RADAR GLASSES FOR THE BLIND**  
Kenneth Dean Stephens, Jr., Salt Lake City, Utah,  
assignor to University of Utah  
Filed Oct. 24, 1966, Ser. No. 589,110  
7 Claims. (Cl. 343-7.7)



A navigational method and apparatus for blind persons incorporated in a pair of eye glasses, at least one temple portion of which comprises a directional antenna for both transmitting and receiving signals and a heel portion of which contains a single circuitry unit to generate signals at a predetermined frequency and receive and amplify echoed signals having frequencies different from the transmitted frequency. A detectable warning system connected into the receiving and amplifying circuitry unit communicates the amplified signal to the person using the apparatus.

3,383,683

**PULSE DOPPLER RADAR SYSTEM FOR SELECTIVELY INHIBITING TARGET DETECTION**  
Keith A. Harriger, Glen Burnie, and John G. Hurt, Jr., Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed Dec. 19, 1966, Ser. No. 603,407  
11 Claims. (Cl. 343-7.7)



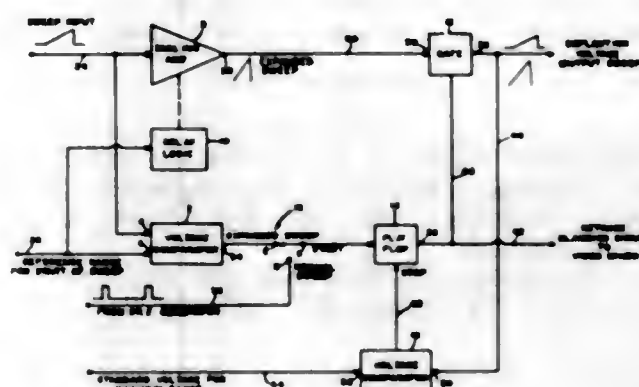
The invention is directed to a Doppler radar system which unambiguously detects a plurality of targets at a given azimuth. A target signal received at a given azimuth

is stored in a memory device. If a second signal is received from the same target, the memory is activated and the output of the system is inhibited to prevent the passage of this signal to the utilization network. If a signal is received from a second target at the same azimuth as the first, the memory will not be activated and the signal will pass to the utilization network.

3,383,684

### SCAN RATE GENERATOR FOR A LAND MASS SIMULATOR

Raymond A. Long, Santa Clara, and Edward E. Gray and Lew A. Ramey, Palo Alto, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy  
Filed Dec. 4, 1963, Ser. No. 328,143  
8 Claims. (Cl. 343-11)



1. A sweep generator having a normal and expanded mode of operation for providing deflection voltages for display indicators when supplied with a sweep signal, a reference range signal, and pulse signals having a repetition rate equal to the frequency of the sweep signal comprising:

- trigger means, having two inputs, for providing a trigger output signal when signals applied to the two inputs are equal in magnitude;
- scaling means for scaling a signal applied thereto;
- first connecting means directly connected to one of said inputs of the trigger means and said scaling means, for transmitting said sweep signal to said trigger means and said scaling means;
- second connecting means, directly connected to the other said input of the trigger means and said scaling means, for transmitting said reference range signal to said trigger means and said scaling means;
- controlling means, directly connected to said scaling means and said trigger means, for controlling the transmission of the output signal of the said scaling means; and
- third connecting means, directly connected to said controlling means, for transmitting said pulse signals to said controlling means.

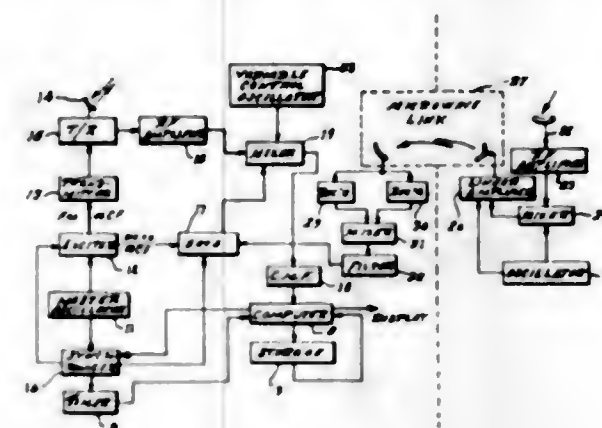
3,383,685

### RADAR SYSTEM

Donald M. Montana, Utica, Frank C. Lisle, Syracuse, and Frank Antonik, Marcy, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force  
Continuation-in-part of application Ser. No. 464,884, June 17, 1965. This application Dec. 30, 1966, Ser. No. 607,134  
4 Claims. (Cl. 343-14)

A radar system with two receiving sites. The transmitter can transmit either FM pulses, CF pulses, delayed FM or

CF pulses. The echo signal from the remote site is transferred to the transmitting site for heterodyning in a time

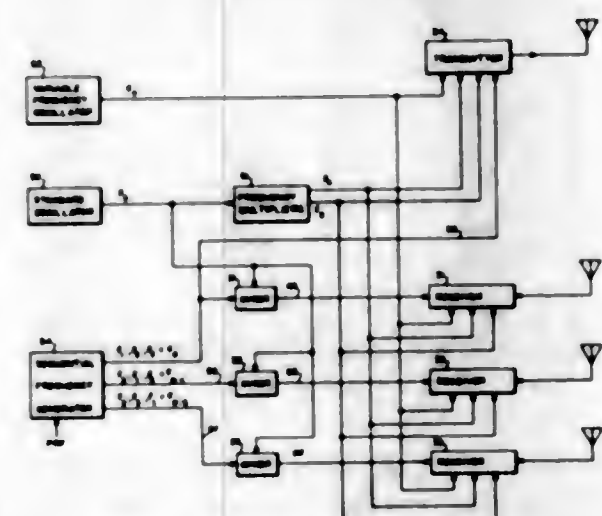


shared mixer and then followed by a system of spectrum analysis.

3,383,686

### DIVERSE FREQUENCY ECHO DETECTION SYSTEM WITH DOPPLER FREQUENCY COHERENCE

John R. Davis, Alexandria, Va., James M. Hendrick, Beltsville, and Irving H. Page, Oxon Hill, Md., assignors to the United States of America as represented by the Secretary of the Navy  
Filed Jan. 30, 1967, Ser. No. 613,074  
10 Claims. (Cl. 343-14)



A system for extending the unambiguous range of pulse echo detection systems without reducing the pulse repetition frequency by sequentially transmitting diverse double sideband frequencies spaced about a single carrier frequency. Echo Doppler coherence is preserved in that the echoes from the different pulses are referred to the same reference frequency (the carrier), and since both frequency and phase coherence are preserved the successively returned signals may be combined for further processing. The frequencies used may be selected randomly if desired.

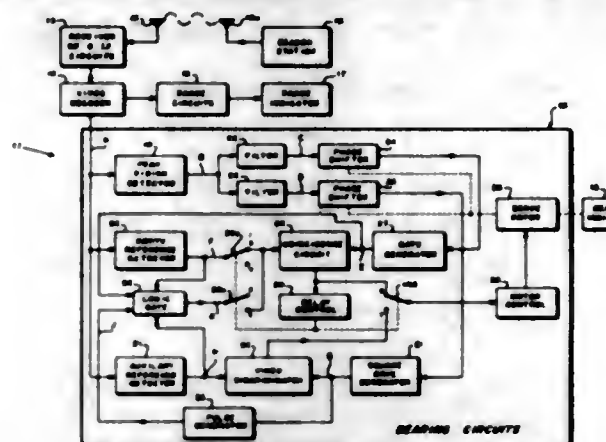
3,383,687

### GROSS BEARING ERROR DETECTOR

Oscar Shames, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Apr. 12, 1967, Ser. No. 630,472  
6 Claims. (Cl. 343-106)

A navigation apparatus for indicating the range and bearing of a remotely located receiving station from a beacon station. The beacon station transmits a fundamental and harmonically related signal to form a com-

plex wave shape containing a reference signal at the fundamental frequency and an auxiliary reference signal at the harmonic frequency. By making a phase comparison of the received fundamental signal with the reference signal, it is possible to obtain a coarse indication of bearing

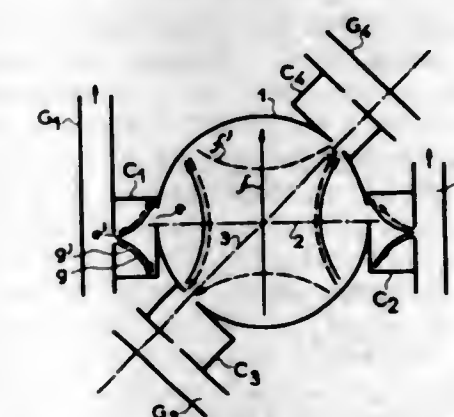


of the receiving station from the beacon station. A fine bearing indication is provided by a similar comparison with the harmonically related signals. Gross bearing error measurements are eliminated by utilizing the synchronous properties of the fundamental frequency reference signal while making the fine bearing measurement.

3,383,688

### SYSTEMS FOR CONTROLLING THE AUTOMATIC TRACKING IN HIGH FREQUENCY ANTENNAS

Jean Remondet, Antony, France, assignor to Compagnie Generale d'Electricite Service de la Propriete Industrielle, Paris, France  
Filed Oct. 22, 1965, Ser. No. 502,049  
Claims priority, application France, Nov. 20, 1964, 995,801  
6 Claims. (Cl. 343-113)



Control system for effecting automatic tracking of an object emitting a tracking signal by a high frequency receiving antenna wherein the modes  $TE_{11}$  and  $TE_{21}$  are extracted from a cylindrical waveguide connected to the antenna and form the "sum" and "difference" signals for determining tracking error. The modes are derived from pairs of cavities positioned on the circumference of the cylindrical waveguide at the extremities of angularly disposed diameters thereof.

3,383,689

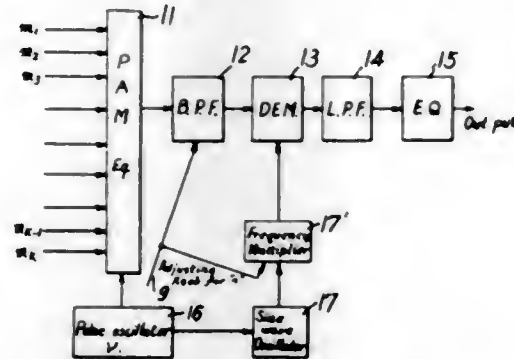
### DIRECTIONAL WAVE RECEIVING SYSTEM

Hikaru Date, Tokyo, Japan, assignor to Japan Broadcasting Corporation, Tokyo, Japan  
Filed Nov. 2, 1965, Ser. No. 506,067  
Claims priority, application Japan, Nov. 11, 1964, 39/63,429  
1 Claim. (Cl. 343-113)

A wave receiving system having a high directivity, especially suitable for sound receiving with a sharp directivity. The invention utilizes the Doppler effect in order to ob-



tain high directivity and expresses a very sharp lobe of receiving characteristics. One practical embodiment of the invention comprises a plurality of wave receiving elements arranged on a substantially linear line. Each of the plurality of the receiving elements is successively scanned so as to produce a frequency modulated wave of the received sound wave by the angular frequency of



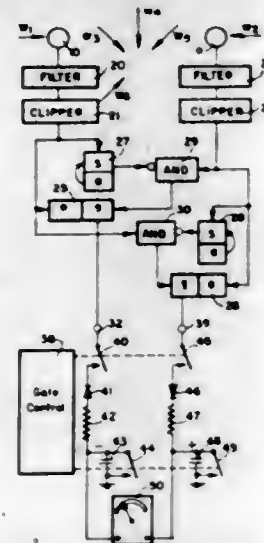
the scanning. By deriving desired harmonics of the frequency modulated wave, a desired directivity or a desired sharpness of the lobe of the directivity can be obtained. The system affords the great advantages of (1) response for a wide frequency band, (2) no side lobe characters, (3) easily adjustable directivity, and (4) high fidelity.

3,383,690

## BEARING MEASUREMENT SYSTEM

Ernest A. Keller, Wilmette, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois  
Continuation-in-part of application Ser. No. 436,735, Mar. 3, 1965. This application Feb. 21, 1967, Ser. No. 633,641

15 Claims. (Cl. 343-113)



A bearing measurement system using a statistical signal processing technique for the determination of the bearing of a signal source. The time intervals for passage of a signal wave between a pair of transducers is measured and integrated over a time period to determine the direction from which the signal wave is coming.

3,383,691

## CATENARY GEODESIC LENS ANTENNA

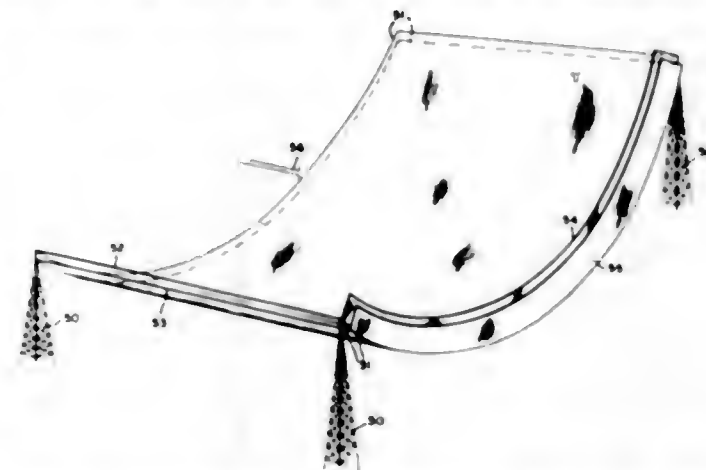
Jerry L. McFarland, Fullerton, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 1, 1965, Ser. No. 492,061

5 Claims. (Cl. 343-754)

1. A geodesic antenna comprising, in combination, two pairs of uniformly spaced conductive sheets, the mean surface of said pairs comprising a catenary cylinder intersected by a plane, one sheet of each of said pairs being

conductively joined along the line of intersection with one sheet of the other of said pairs, and means for coupling electromagnetic wave energy to and from said antenna.



plung electromagnetic wave energy to and from said antenna.

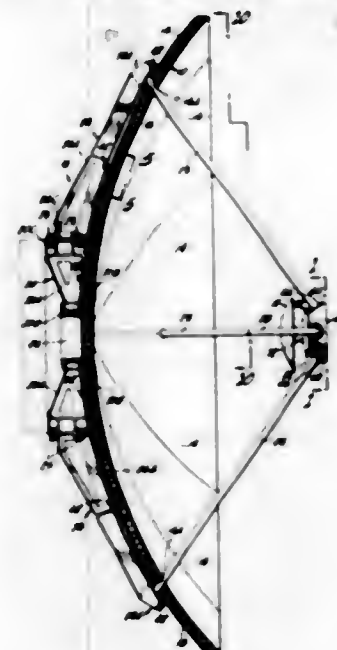
3,383,692

## MAIN DISH WITH ADJUSTABLE SUBREFLECTOR

Jerry Laibson, San Diego, and Robert M. Munro, El Cajon, Calif., assignors to Whittaker Corporation, Los Angeles, Calif., a corporation of California

Filed Jan. 7, 1965, Ser. No. 424,102

10 Claims. (Cl. 343-781)



A large parabolic antenna comprising a series of individual reflecting panels having each of such panels adjustably secured to flanges of a central hub member and flanges of a series of radially extending support members secured to the hub member. Such individual panel adjustment is effected using threaded studs each having a portion thereof embedded in the panel. A small subreflector is mounted on the large parabolic antenna such that it may be independently adjustably moved along any one of three mutually perpendicular axes without changing the adjustment along the other two of such axes.

3,383,693

## FOLDABLE PLANAR BASE ANTENNA STRUCTURES

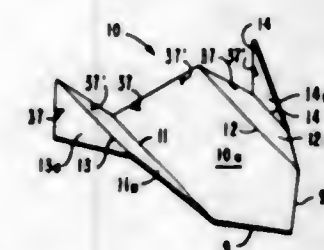
Ronald S. Kahn, Los Angeles, Calif. (3411 Wayne Ave., Apt. 9F, Bronx, N.Y. 10467), and Edward A. Enriquez, 219 Waterview St., Playa Del Ray, Calif. 90292

Filed Aug. 20, 1965, Ser. No. 481,245

7 Claims. (Cl. 343-792.5)

1. A collapsible and foldable colinear antenna structure comprising:  
a scored and foldable base means having slots therein,

said base means being arranged in a V with the slots upwardly disposed and opposite one another along the legs of the V on a line perpendicular with the altitude of the V; and



colinear antenna element cards having disposed on respective ones thereof colinear antenna element conductors forming respectively at least a director, a radiator and a reflector; said colinear antenna element cards being fitted into said slots across said V forming thereby a colinear directive antenna array. said element cards and said collapsible base means being disassemblable for storage and shipment.

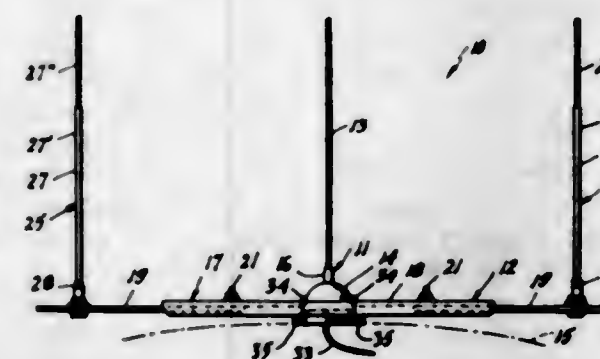
3,383,694

## ROTATABLE DIRECTIONAL ANTENNA ATTACHMENT FOR USE WITH A VERTICAL ANTENNA ROD

Carl F. Strohmeyer, Jr., R.F.D. 2, St. Paul, N.C. 28384

Filed Feb. 15, 1965, Ser. No. 432,510

3 Claims. (Cl. 343-833)



A directional antenna attachment for use with an installed vertical active antenna rod having an insulation mounting member at its lower end comprising a horizontally elongated metallic base provided intermediate its ends with an aperture for rotatable positioning of said base on the stated mounting member, a director antenna and a reflector antenna rod carried by opposite end portions of the base, and means adjustably mounting the director and reflector antenna rods on the base for movement thereof toward and away from the aperture. The base comprises a plurality of slidably connected and longitudinally extendible and retractable base portions. Both the director and reflector antenna rods include a plurality of slidably telescoped extendible and retractable rod sections.

3,383,695

## HELICAL ANTENNA WITH END DISTORTION TO IMPROVE POLARIZATION PURITY

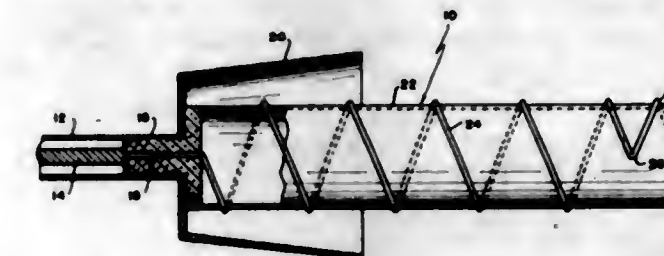
Joseph J. Jarek, Schenectady, N.Y., assignor, by means assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 22, 1965, Ser. No. 515,679

10 Claims. (Cl. 343-895)

1. A helical antenna having improved circular polarization characteristics comprising:  
first means for propagating a wave having a first polarization mode; and

second means for changing polarization components of said wave;



said second means causing reflections opposing reflections associated with said first wave.

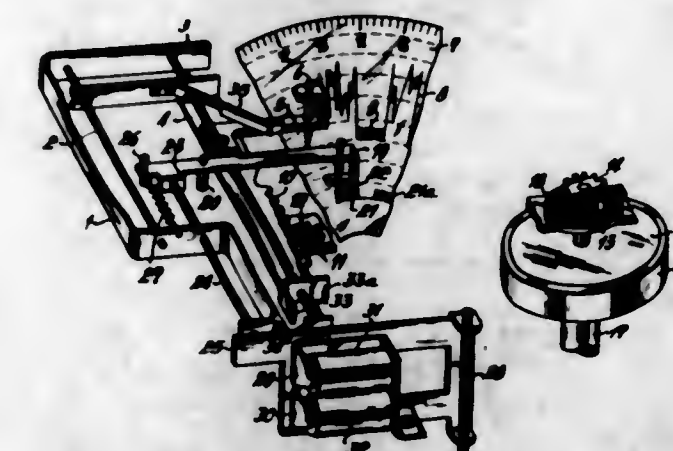
3,383,696

## VIBRATORY RECORDING APPARATUS

Manfred Fichter, Weiler, Germany, assignor to Klenzle Apparate GmbH, Villingen, Black Forest, Germany  
Filed July 13, 1966, Ser. No. 564,800

Claims priority, application Germany, July 15, 1965, K 56,630

15 Claims. (Cl. 346-7)



1. A recording instrument for a vehicle, comprising, in combination, vibratory drive means; first recording means connected to and oscillated by said drive means for making a first recording on a moving record carrier in the form of a zig-zag line; second recording means for making a second recording on the record carrier; speed responsive means controlling said second recording means to record speed variations, said second recording means moving between speed recording positions during movement of the vehicle, and being in a zero position when the vehicle is stopped, said second recording means in said zero position disconnecting said first recording means from said vibratory drive means; and coupling means for connecting said vibrating drive means with said second recording means only in said zero position so that said second recording is a zig-zag line only when said vibratory drive means is operated in said zero position while the vehicle is stopped, and said first recording is a zig-zag line only while said second recording means is in a speed recording position and the vehicle has been started, and none of said first and second recordings is a zig-zag line when said vibratory drive means is not operated in said zero position of said second recording means.

3,383,697

## NONIMPACT DRUM PRINTER WITH MULTIPLE INTERRELATED PRINTING STATIONS

Philip J. Rice, Atherton, and Hugh F. Frohbach, Sunnyvale, Calif., assignors to Stanford Research Institute, Palo Alto, Calif., a corporation of California

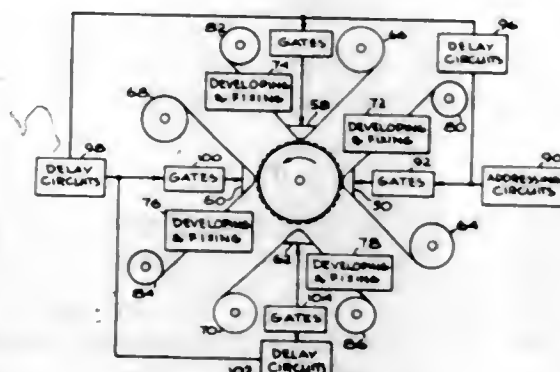
Filed Dec. 30, 1963, Ser. No. 334,365

2 Claims. (Cl. 346-74)

An electrostatic printing system is provided wherein conductive type characters are arranged about the periph-



ery of the drum in spaced rows. Positioned at a printing location is either a conductive bar or a plurality of conductive segments. The writing medium on which printing is to occur is passed between the drum and the bar or segments. By selectively applying a voltage between the segments and a row of type at the printing position or, in the case where the type on the drum surface has already been arranged in the form of desired copy. A potential

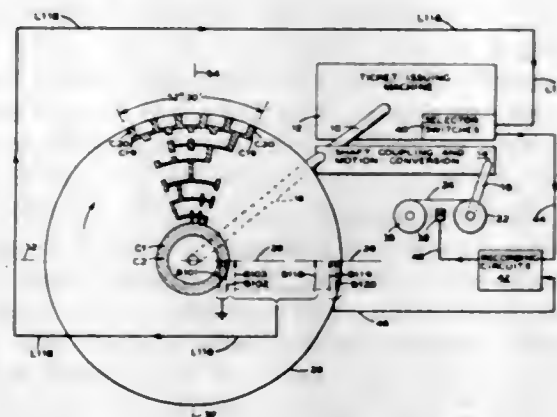


is applied between the type on the drum surface and the bar in the printing position each time a row of type arrives in the printing position. An electrostatic charge image is formed on paper positioned within the printing position. The electrostatic images or charge images on the surface of the writing medium are then passed through a developing station.

3,383,698

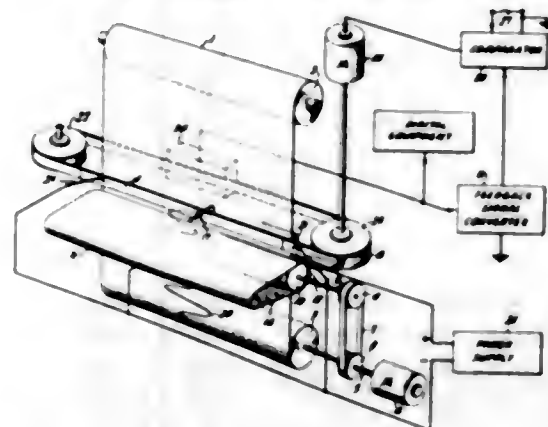
### ROTATING SHAFT DRIVEN CODE CONVERTER AND RECORDER

William D. Cohen, Syosset, and Miles Skrivaneck, Jr., Glenwood Landing, N.Y., assignors to Digitronics Corporation, Albertson, N.Y., a corporation of Delaware  
Filed Mar. 31, 1964, Ser. No. 358,138  
21 Claims. (Cl. 346-74)



A magnetic tape recording system which is suitable as an attachment to the ticket-issuing-machine drive shaft of a parimutuel betting totalizator, or to other intermittently operated rotary drives is described. Coupled to the machine drive shaft is a code disc which provides serial-by-bit data pulses in plural channels; the data correspond to the data imprinted on the issued ticket. The disc is driven in one-to-one relation. A motion conversion mechanism drives the take-up reel of the magnetic recorder and at reduced rotary speed and with non-linear motion, such that the data are recorded with optimum utilization of the tape. Included are means to assure irreversible motion of the take-up reel and of the code-disc to prevent recording of erroneous data or recording over desired data.

3,383,699  
**ELECTROSTATIC RECORDER WITH DRIVE SYSTEM INCLUDING FEEDBACK MEANS**  
Francis A. Lapinski, Ambler, Pa., assignor to Honeywell Inc., a corporation of Delaware  
Filed Nov. 25, 1964, Ser. No. 413,754  
6 Claims. (Cl. 346-74)

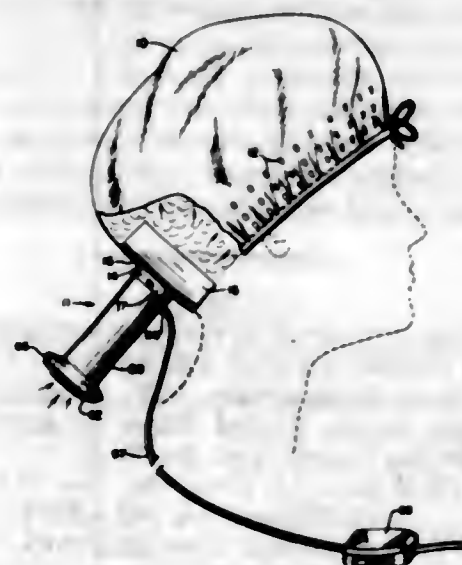


1. An electrostatic recorder comprising a container for an electrostatically chargeable recording material, said container having a longitudinal slit therein, a recording medium, a web member disposed between said slit and said recording medium and arranged to cover said slit, said web member having a hole therein aligned with said slit, electrostatic charging means connected to said container and said recording medium and operative to charge said container and said recording medium to opposite polarities for attracting said recording material to said recording medium through said hole, motor means arranged to provide a bidirectional movement of said web to effect a motion of said hole across said recording medium, a prerecorded succession of information signals on a portion of said web member, signal responsive means arranged to read said information signals to provide varying magnitude output signals representative of the position of said hole with respect to said recording medium, input signal means arranged to be connected to a source of an input signal to be recorded, signal comparator means connected to said input signal means and said output signals from said responsive means and operative to provide an error signal suitable for driving said motor means to effect a substantial equality between said output signal from said response means and an input signal from said input signal means.

3,383,700

### PORTABLE HAIR DRYER

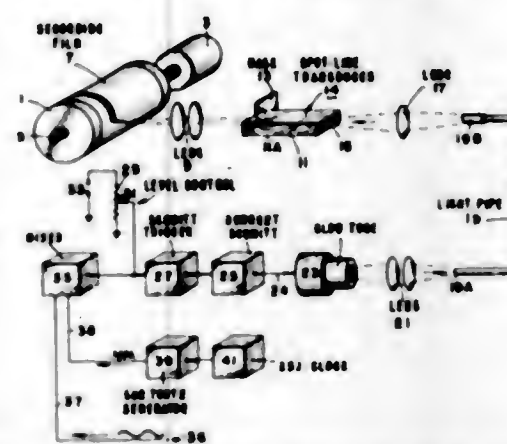
William D. Taylor, Wilmington, Del., assignor to Ronson Corporation, a corporation of New Jersey  
Filed Nov. 26, 1965, Ser. No. 509,846  
11 Claims. (Cl. 34-99)



A portable hair dryer having an inflatable hood which is collapsible when not in use and a fan and a heater con-

tained in a housing which is attachable directly to the hood and supported thereby.

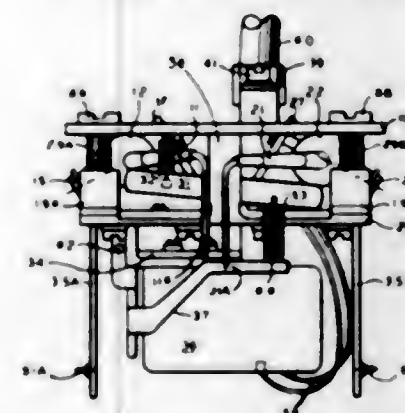
3,383,701  
**APPARATUS FOR RECORDING SEISMIC SIGNALS**  
George W. Smith and Harland H. Hefring, Calgary, Alberta, Canada, assignors to Esso Production Research Company, a corporation of Delaware  
Filed Feb. 15, 1967, Ser. No. 616,397  
5 Claims. (Cl. 346-108)



A seismic signal recorder wherein light from a pulsed light source is recorded on photosensitive means positioned on a recording drum. The light source is pulsed periodically in accordance with the amplitude of the seismic signal. The seismic signal is combined with a sawtooth electrical signal and applied to a trigger circuit so that the glow tube is pulsed by the trigger circuit when the sum signal is greater than a given value. Light from the glow tube is applied to the photosensitive means through a fiberoptic spot-to-line transducer. A mask across the line side of the transducer adjusts the width of the recorded trace.

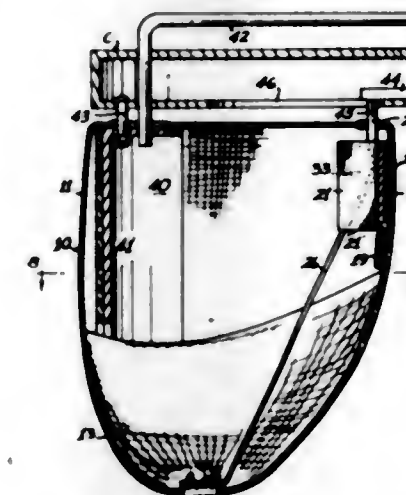
3,383,702

**ALTERNATE PEN ACTUATING MECHANISM**  
Simeon J. Donahue, Cheshire, Conn., assignor to American Chain & Cable Company, Bridgeport, Conn., a corporation of New York  
Filed Oct. 4, 1966, Ser. No. 584,219  
17 Claims. (Cl. 346-140)



A multiple pen mechanism for a strip chart recorder in which the pens are pivotally movable about separate intersecting axes into alternate marking registry with the chart at a common position thereon. The pens are controlled by a lever which is carried by the sliding carriage of the recorder and is actuated by a solenoid to change the marking on the chart from one pen to the other.

3,383,703  
**PANTS TOPPER BAG**  
George Schlemmer, Atlanta, Ga., assignor to Southern Mills, Inc., Atlanta, Ga., a corporation of Georgia  
Filed Apr. 25, 1966, Ser. No. 551,826  
4 Claims. (Cl. 223-73)

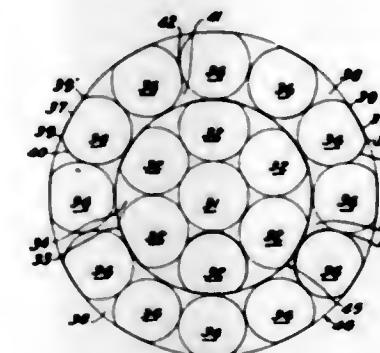


A garment finisher of the type including an inflatable bag having a shape generally resembling a pair of pants, said bag having a body portion and two leg portions, the leg portions being long enough to extend only partially through the legs of a pair of pants; and means for holding the leg portions of the bag in a substantially extended position when the bag is relaxed while allowing free movement of the bag to conform to a pair of pants during inflation of the bag.

3,383,704

### MULTISTRAND CABLE

Roger J. Schoerner and Bobby A. Rowland, Carrollton, Ga., assignors to Southwire Company, Carrollton, Ga., a corporation of Georgia  
Filed Jan. 10, 1967, Ser. No. 608,306  
6 Claims. (Cl. 57-145)



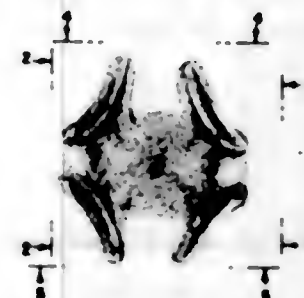
What is disclosed herein is a multistrand cable which avoids the spiralling and other undesirable characteristics of a conventional uncompacted cable and which avoids the lack of flexibility and other undesirable characteristics of a conventional compact cable. Specifically, the cable disclosed herein is a multistrand cable having a core strand which is of substantially circular cross-section and having a plurality of layer strands, each of which is of substantially circular cross-section and each of which has a relatively flattened region along its length that is limited in width to that width which can be achieved by deforming without causing the cable to have the undesirable characteristics of a conventional compact cable.



# DESIGNS

MAY 14, 1968

**210,991**  
**SNACK FOOD PRODUCT**  
Duane D. Oelke, Wayzata, and Le Roy E. Gronberg,  
Minneapolis, Minn., assignors to General Mills, Inc., a  
corporation of Delaware  
Filed June 22, 1967, Ser. No. 7,551  
Term of patent 14 years  
(Cl. D1-13)



**210,992**  
**TIE FASTENER**  
Gilbert Cohen, 2383 Montview Drive NW.,  
Atlanta, Ga. 30305  
Filed May 9, 1967, Ser. No. 7,033  
Term of patent 7 years  
(Cl. D2-424)



**210,993**  
**TIE FASTENER**  
Gilbert Cohen, 2383 Montview Drive NW.,  
Atlanta, Ga. 30305  
Filed May 9, 1967, Ser. No. 7,034  
Term of patent 7 years  
(Cl. D2-424)



**210,994**  
**TIE FASTENER**  
Gilbert Cohen, 2383 Montview Drive NW.,  
Atlanta, Ga. 30305  
Filed May 9, 1967, Ser. No. 7,035  
Term of patent 7 years  
(Cl. D2-424)



**210,995**  
**TIE FASTENER**  
Gilbert Cohen, 2383 Montview Drive NW.,  
Atlanta, Ga. 30305  
Filed May 9, 1967, Ser. No. 7,043  
Term of patent 7 years  
(Cl. D2-424)



**210,996**  
**TIE FASTENER**  
Gilbert Cohen, 2383 Montview Drive NW.,  
Atlanta, Ga. 30305  
Filed May 9, 1967, Ser. No. 7,044  
Term of patent 7 years  
(Cl. D2-424)





210,997

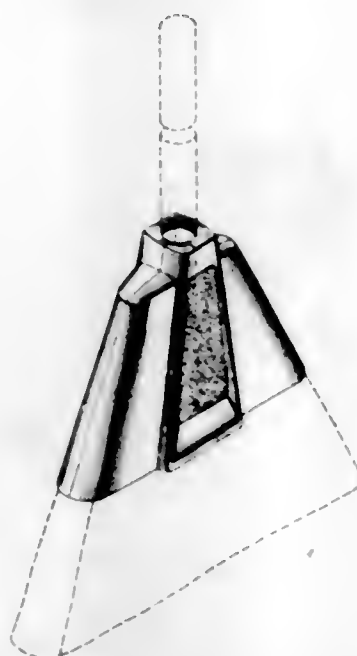
**BROOM COVER**

Brian J. Maloney, St. Charles, Ill., assignor to The Drackett Company, Cincinnati, Ohio, a corporation of Delaware

Filed July 28, 1967, Ser. No. 8,046

Term of patent 14 years

(Cl. D4-4)



210,999

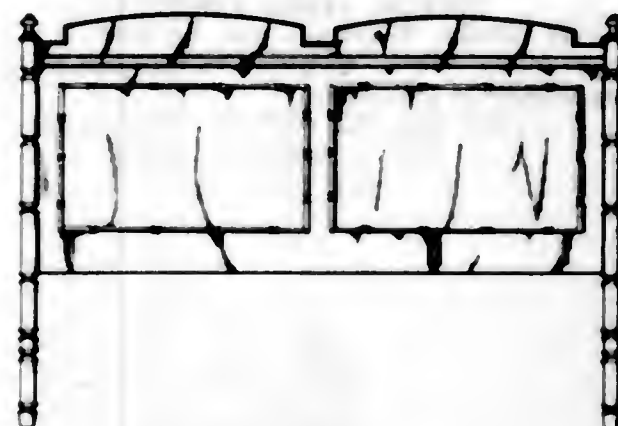
**BED HEADBOARD OR SIMILAR ARTICLE**

Richard George Barr, Watchung, N.J., assignor to Thomasville Furniture Industries, Inc., Thomasville, N.C., a corporation of North Carolina

Filed Oct. 11, 1966, Ser. No. 4,241

Term of patent 14 years

(Cl. D5-4)



211,000

**JUG OR SIMILAR ARTICLE**

Floyd E. Pettengill, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware

Filed June 1, 1966, Ser. No. 2,506

Term of patent 14 years

(Cl. D9-49)



210,998

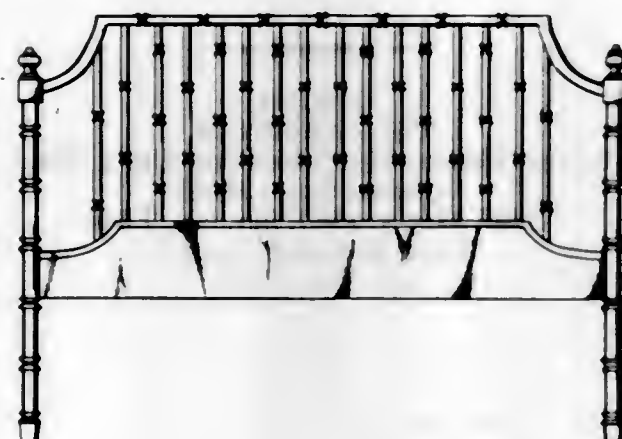
**BED HEADBOARD**

Richard G. Barr, Watchung, N.J., assignor to Thomasville Furniture Industries, Inc., Thomasville, N.C., a corporation of North Carolina

Filed Oct. 11, 1966, Ser. No. 4,239

Term of patent 14 years

(Cl. D5-4)



211,001

**JUG**

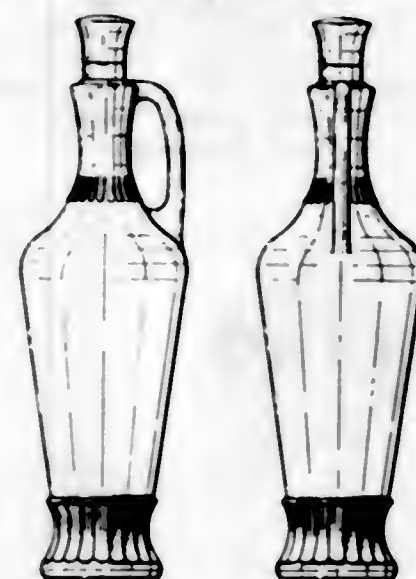
Franklin Douglas Northgrave, London, Ontario, Canada, assignor to London Winery Limited, London, Ontario, Canada

Filed Jan. 11, 1967, Ser. No. 5,379

Term of patent 14 years

Claims priority, application Canada Oct. 27, 1966

(Cl. D9-49)



211,002

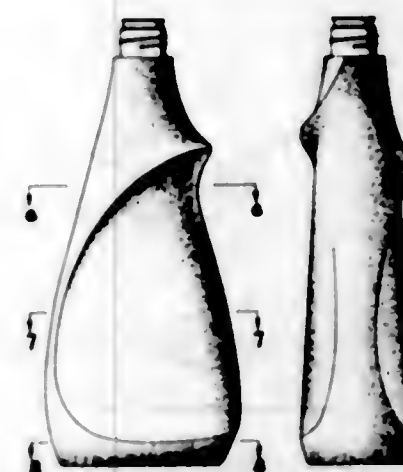
**BOTTLE**

Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed June 12, 1967, Ser. No. 7,432

Term of patent 14 years

(Cl. D9-60)



211,003

**BOTTLE**

Delmar F. Macaulay, Midland, Mich., and David D. Tompkins, Columbus, Ohio, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed June 9, 1967, Ser. No. 7,416

Term of patent 14 years

(Cl. D9-66)



211,004

**JAR**

John Brady Campbell, Paramus, N.J., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed July 31, 1967, Ser. No. 8,054

Term of patent 14 years

(Cl. D9-87)



211,005

**BOTTLE**

Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed June 12, 1967, Ser. No. 7,444

Term of patent 14 years

(Cl. D9-129)



211,006

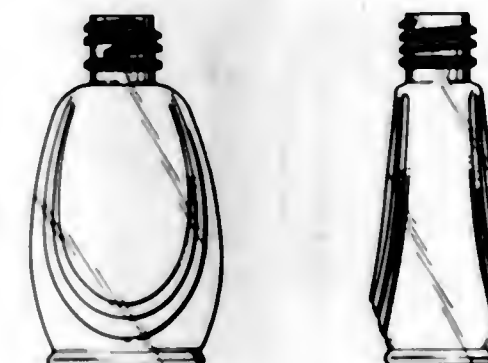
**BOTTLE**

Stephen J. Kneapler, Miami, Fla., assignor to Richford Corporation, Farmingdale, N.Y., a corporation of New York

Filed July 17, 1967, Ser. No. 7,838

Term of patent 14 years

(Cl. D9-143)



211,007

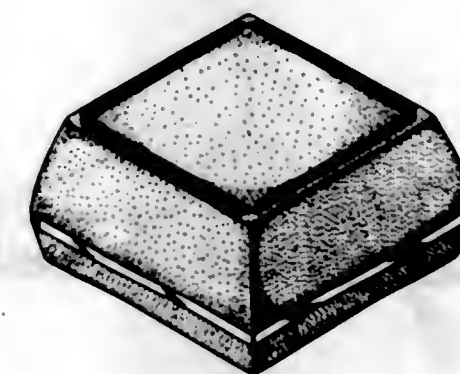
**DISPLAY BOX**

Samuel Brown, Rye, N.Y., assignor to B.C.N. Design Products, Inc., Amityville, N.Y., a corporation of New York

Filed Mar. 23, 1967, Ser. No. 6,358

Term of patent 14 years

(Cl. D9-235)

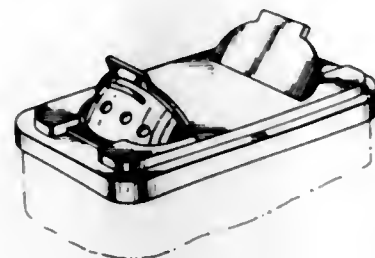




211,008

**SPICE CAN DISPENSING CLOSURE**

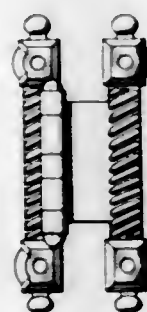
Thomas V. Bell, Cincinnati, and Fred Else, Urbana, Ohio, assignors to The Frank Tea and Spice Company, Cincinnati, Ohio, a corporation of Ohio  
 Filed Nov. 18, 1966, Ser. No. 4,729  
 Term of patent 14 years  
 (Cl. D9—275)



211,009

**CABINET HINGE**

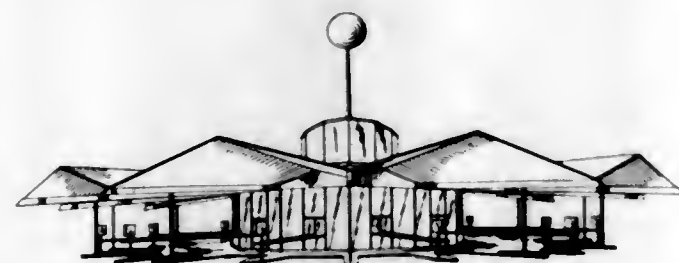
Anthony Joseph Carsello, Palos Verdes, Calif., assignor to Ajax Hardware Manufacturing Corp., Industry, Calif., a corporation of California  
 Original design application July 26, 1966, Ser. No. 3,211, now Patent No. 207,702, dated May 23, 1967. Divided and this application Mar. 23, 1967, Ser. No. 8,196  
 Term of patent 14 years  
 (Cl. D10—9)



211,010

**DRIVE-IN RESTAURANT**

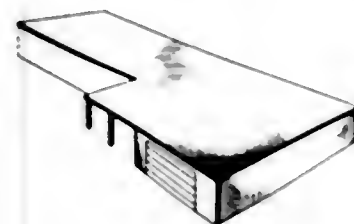
William B. Cunningham, Oklahoma City, Okla., assignor to Burger Train Systems, Inc., Oklahoma City, Okla.  
 Filed Dec. 12, 1966, Ser. No. 4,991  
 Term of patent 14 years  
 (Cl. D13—1)



211,011

**MOVABLE RESIDENCE**

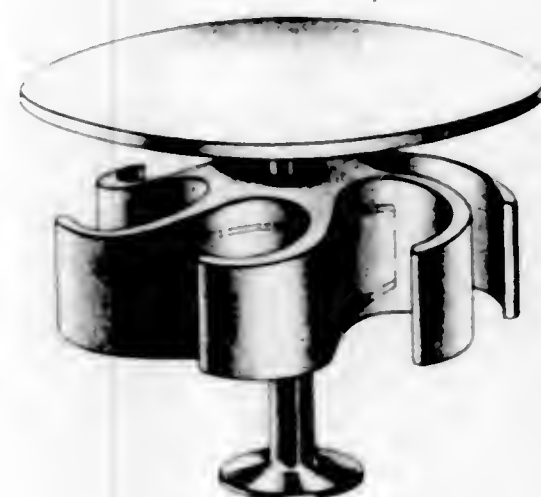
Paul H. Jones, 1345 Scottsville Road, Rochester, N.Y. 14624  
 Filed Apr. 27, 1967, Ser. No. 6,862  
 Term of patent 14 years  
 (Cl. D13—1)



211,012

**TELEPHONE BOOTH UNIT**

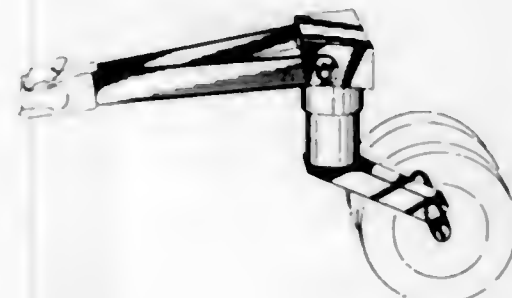
Henry Dreyfuss, South Pasadena, Calif., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York  
 Filed July 3, 1967, Ser. No. 7,678  
 Term of patent 14 years  
 (Cl. D13—1)



211,013

**TRAILER DOLLY**

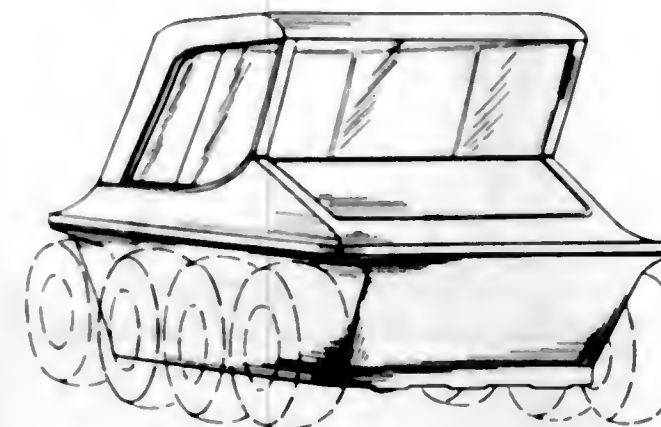
Don R. Watson, 176 S. Lexington-Spring Mill Road, Mansfield, Ohio 44906  
 Filed Apr. 12, 1967, Ser. No. 6,660  
 Term of patent 14 years  
 (Cl. D14—3)



211,014

**BODY FOR A UTILITY VEHICLE**

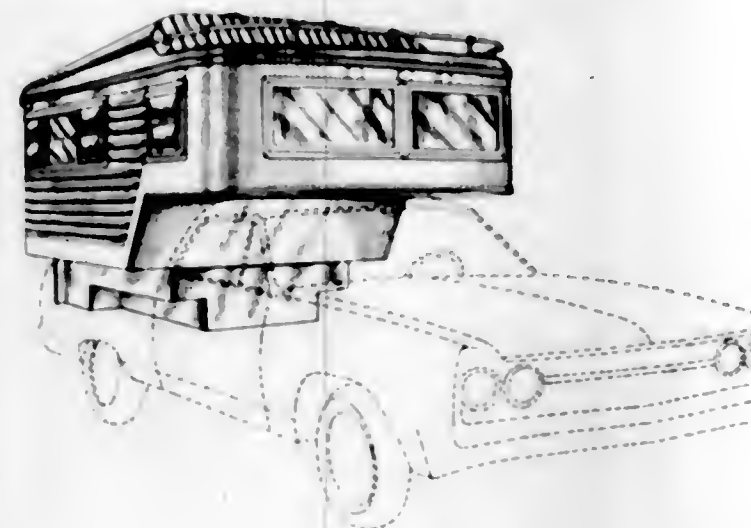
William T. Donofrio, Toledo, Ohio, assignor to Donofrio & Company, Toledo, Ohio, a corporation of Ohio  
 Filed Aug. 31, 1967, Ser. No. 8,451  
 Term of patent 14 years  
 (Cl. D14—3)



211,015

**CAMPER**

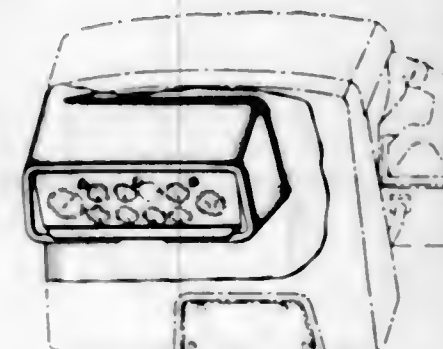
Leo M. Hopkins, 1305 W. 10th Ave., Milan, Ill. 61264  
 Filed Oct. 5, 1967, Ser. No. 8,873  
 Term of patent 14 years  
 (Cl. D14—3)



211,016

**VEHICLE INSTRUMENT CONSOLE**

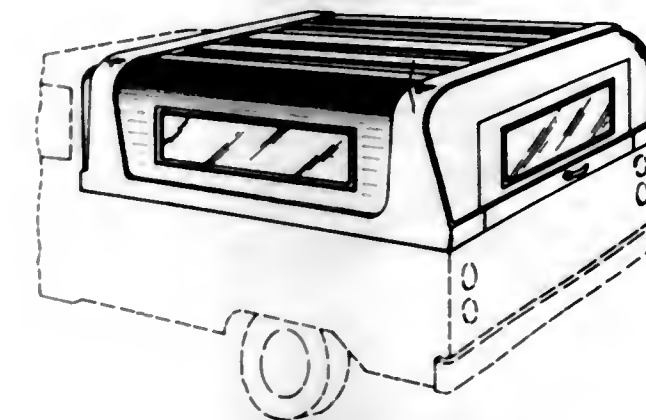
Jack M. Dell, Wheaton, Walter C. Jacobsen, Rolling Meadows, Ronald J. Fanslow, Palatine, and Hugo O. Mosquera, Wheaton, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware  
 Filed May 10, 1967, Ser. No. 7,047  
 Term of patent 14 years  
 (Cl. D14—6)



211,017

**CANOPY FOR PICKUP TRUCKS**

Alfred G. Willison, 2439 McDonald Ave., Missoula, Mont. 59801  
 Filed May 29, 1967, Ser. No. 7,290  
 Term of patent 14 years  
 (Cl. D14—27)



211,018

**CHAIR OR SIMILAR ARTICLE**

David D. Granger, Conover, N.C., assignor to Maxwell Royal Chair Co., Hickory, N.C., a corporation of North Carolina  
 Filed May 15, 1967, Ser. No. 7,120  
 Term of patent 14 years  
 (Cl. D15—1)



211,019

**FISH LURE**

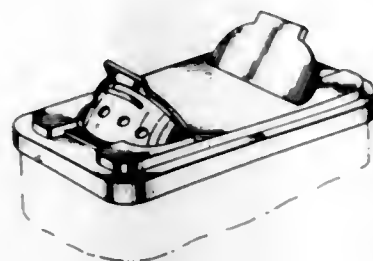
Fred Hammon, V.A. Center, Bonham, Tex. 75418  
 Filed June 28, 1967, Ser. No. 7,630  
 Term of patent 14 years  
 (Cl. D22—27)





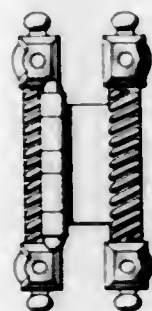
211,008

**SPICE CAN DISPENSING CLOSURE**  
 Thomas V. Bell, Cincinnati, and Fred Else, Urbana, Ohio,  
 assignors to The Frank Tea and Spice Company, Cin-  
 cinnati, Ohio, a corporation of Ohio  
 Filed Nov. 18, 1966, Ser. No. 4,729  
 Term of patent 14 years  
 (Cl. D9—275)



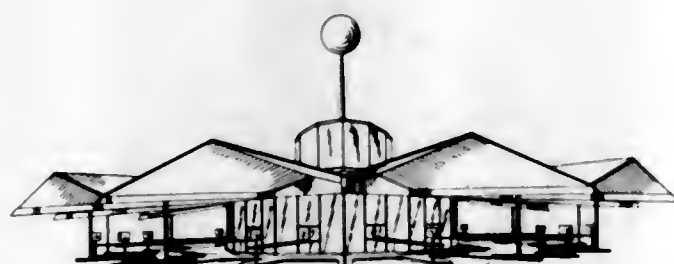
211,009

**CABINET HINGE**  
 Anthony Joseph Carsello, Palos Verdes, Calif., assignor to  
 Ajax Hardware Manufacturing Corp., Industry, Calif.,  
 a corporation of California  
 Original design application July 26, 1966, Ser. No. 3,211,  
 now Patent No. 207,702, dated May 23, 1967. Divided  
 and this application Mar. 23, 1967, Ser. No. 8,196  
 Term of patent 14 years  
 (Cl. D10—9)



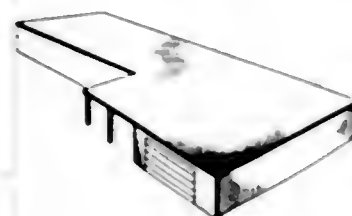
211,010

**DRIVE-IN RESTAURANT**  
 William B. Cunningham, Oklahoma City, Okla., assignor  
 to Burger Train Systems, Inc., Oklahoma City, Okla.  
 Filed Dec. 12, 1966, Ser. No. 4,991  
 Term of patent 14 years  
 (Cl. D13—1)



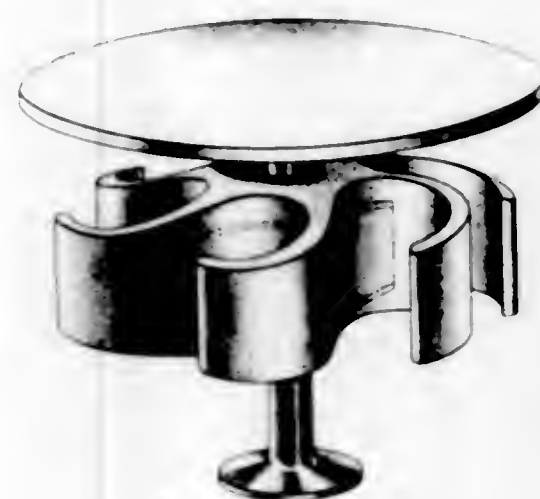
211,011

**MOVABLE RESIDENCE**  
 Paul H. Jones, 1345 Scottsville Road,  
 Rochester, N.Y. 14624  
 Filed Apr. 27, 1967, Ser. No. 6,862  
 Term of patent 14 years  
 (Cl. D13—1)



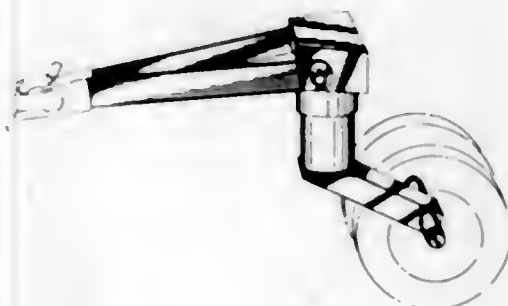
211,012

**TELEPHONE BOOTH UNIT**  
 Henry Dreyfuss, South Pasadena, Calif., assignor to Bell  
 Telephone Laboratories, Incorporated, Murray Hill,  
 N.J., a corporation of New York  
 Filed July 3, 1967, Ser. No. 7,678  
 Term of patent 14 years  
 (Cl. D13—1)



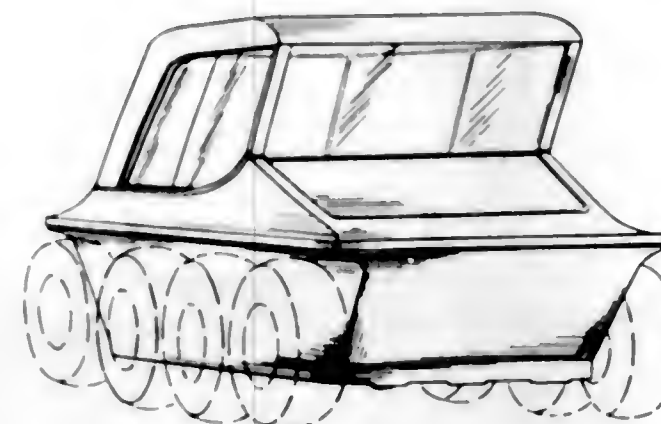
211,013

**TRAILER DOLLY**  
 Don R. Watson, 176 S. Lexington-Spring Mill Road,  
 Mansfield, Ohio 44906  
 Filed Apr. 12, 1967, Ser. No. 6,660  
 Term of patent 14 years  
 (Cl. D14—3)



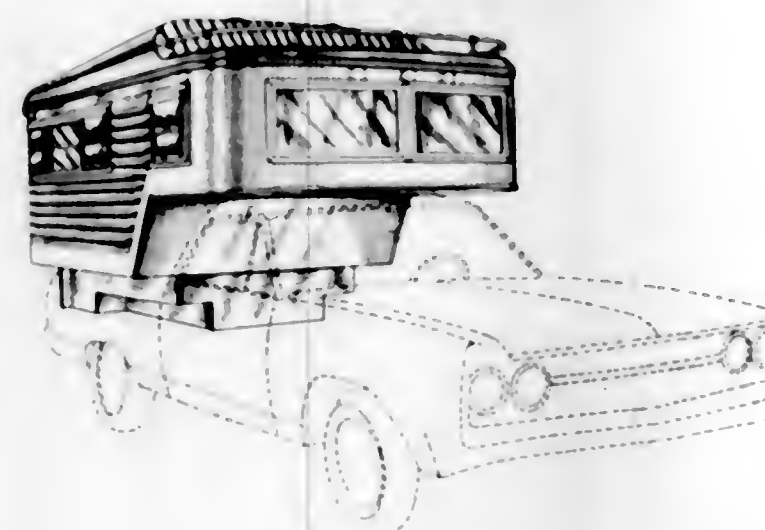
211,014

**BODY FOR A UTILITY VEHICLE**  
 William T. Donofrio, Toledo, Ohio, assignor to Donofrio  
 & Company, Toledo, Ohio, a corporation of Ohio  
 Filed Aug. 31, 1967, Ser. No. 8,451  
 Term of patent 14 years  
 (Cl. D14—3)



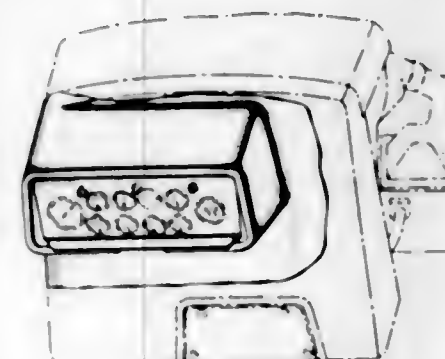
211,015

**CAMPER**  
 Leo M. Hopkins, 1305 W. 10th Ave.,  
 Milan, Ill. 61264  
 Filed Oct. 5, 1967, Ser. No. 8,873  
 Term of patent 14 years  
 (Cl. D14—3)



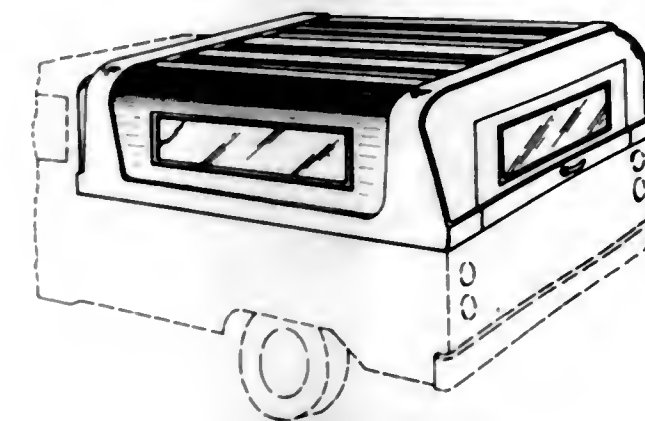
211,016

**VEHICLE INSTRUMENT CONSOLE**  
 Jack M. Dell, Wheaton, Walter C. Jacobsen, Rolling  
 Meadows, Ronald J. Fanslow, Palatine, and Hugo  
 O. Mosquera, Wheaton, Ill., assignors to Interna-  
 tional Harvester Company, Chicago, Ill., a corpo-  
 ration of Delaware  
 Filed May 10, 1967, Ser. No. 7,047  
 Term of patent 14 years  
 (Cl. D14—6)



211,017

**CANOPY FOR PICKUP TRUCKS**  
 Alfred G. Willison, 2439 McDonald Ave.,  
 Missoula, Mont. 59801  
 Filed May 29, 1967, Ser. No. 7,290  
 Term of patent 14 years  
 (Cl. D14—27)



211,018

**CHAIR OR SIMILAR ARTICLE**  
 David D. Granger, Conover, N.C., assignor to Maxwell  
 Royal Chair Co., Hickory, N.C., a corporation of  
 North Carolina  
 Filed May 15, 1967, Ser. No. 7,120  
 Term of patent 14 years  
 (Cl. D15—1)



211,019

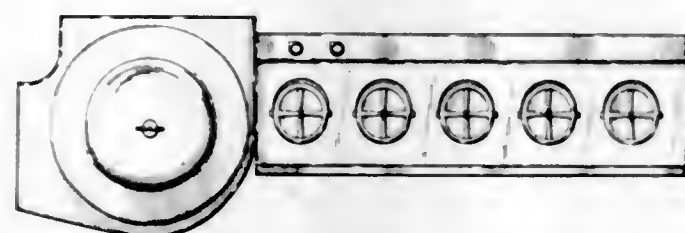
**FISH LURE**  
 Fred Hammon, V.A. Center, Bonham, Tex. 75418  
 Filed June 28, 1967, Ser. No. 7,630  
 Term of patent 14 years  
 (Cl. D22—27)





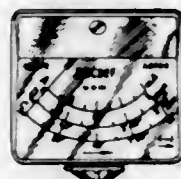
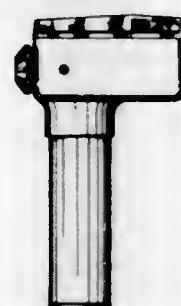
211,020

**AIR CONDITIONER FOR A VEHICLE CAB**  
Michael C. Jakus, Elm Grove, and Charles L. Harbeck, Pewaukee, Wis., assignors to Stolper Industries, Inc., Menomonee Falls, Wis., a corporation of Wisconsin  
Filed May 31, 1967, Ser. No. 7,312  
Term of patent 14 years  
(Cl. D23—142)



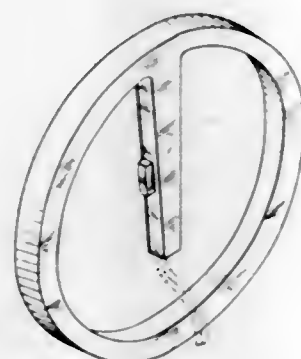
211,021

**UNIT FOR ELECTROLYTIC DENTAL DESENSITIZATION**  
Adriano Bertolini, Bissone (Ticino), Switzerland  
Filed Sept. 20, 1966, Ser. No. 3,938  
Term of patent 14 years  
(Cl. D24—1)



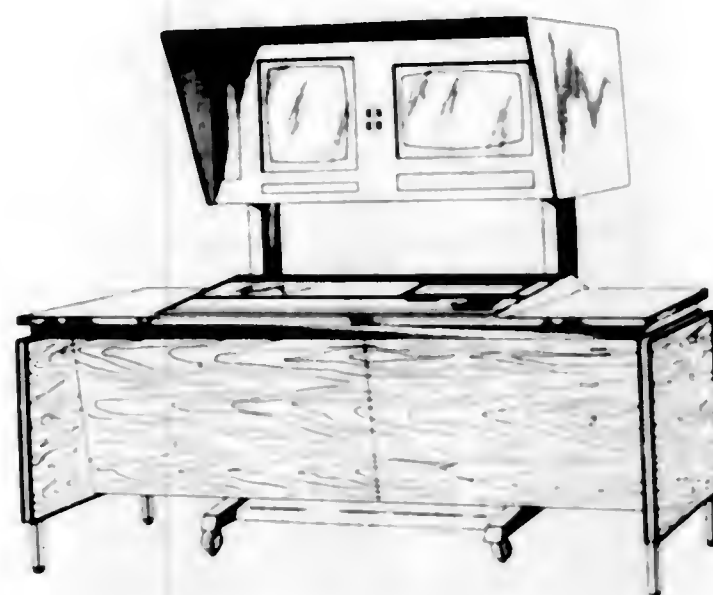
211,022

**TELEVISION DEMAGNETIZER**  
Robert D. Kahn, Rockville Centre, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y., a corporation of New York  
Filed Apr. 5, 1967, Ser. No. 6,528  
Term of patent 14 years  
(Cl. D26—1)



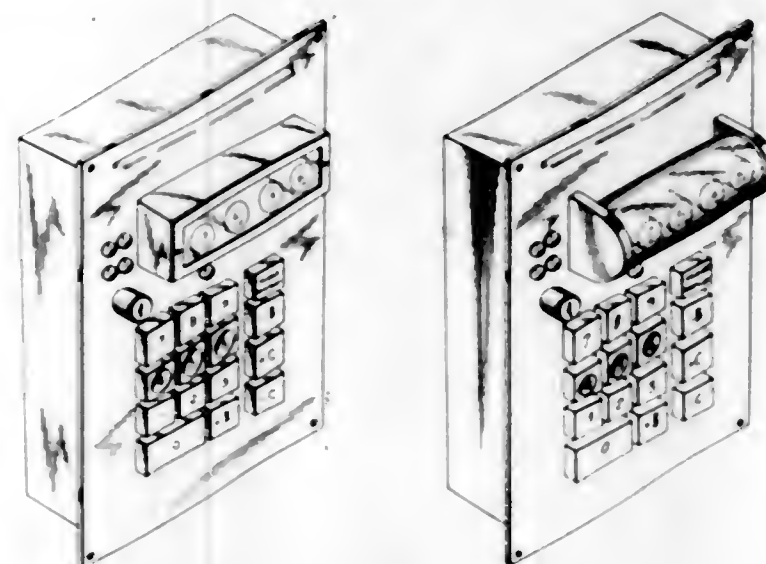
211,023

**TELEVISION FILING TAPE CONTROL UNIT**  
Charles F. Grossman, Sunnyvale, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California  
Filed Nov. 18, 1966, Ser. No. 4,733  
Term of patent 14 years  
(Cl. D26—5)



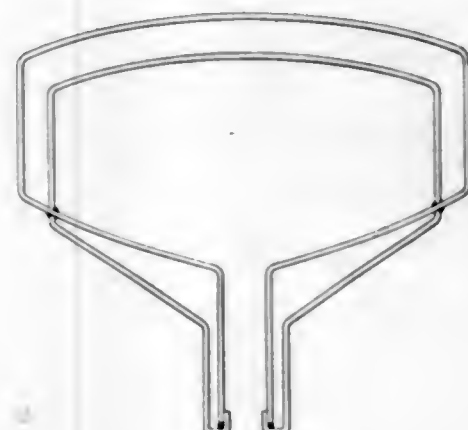
211,024

**KEYBOARD INPUT STATION**  
Robert Howard, 20 Redwood Drive, Roslyn, N.Y. 11576  
Filed May 31, 1967, Ser. No. 7,316  
Term of patent 14 years  
(Cl. D26—5)



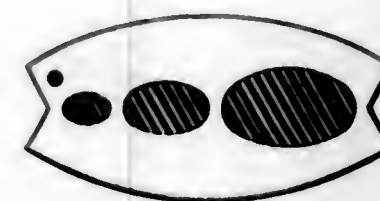
211,025

**INDOOR TELEVISION ANTENNA**  
John D. Callaghan, Cherry Hill, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Sept. 7, 1966, Ser. No. 3,759  
Term of patent 14 years  
(Cl. D26—14)



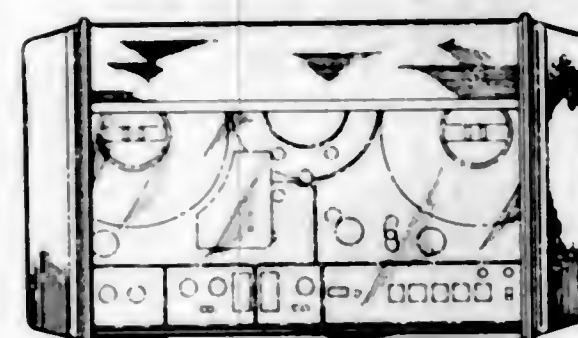
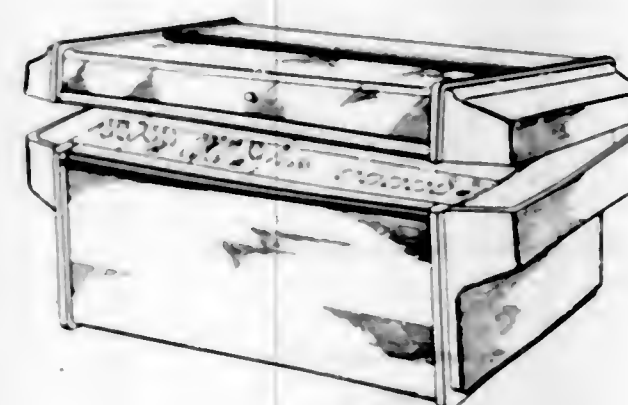
211,026

**MUSIC BOX AMPLIFIER OR SIMILAR ARTICLE**  
Ying-Tsai Juan, 460 1-chome, Nakayama-cho, Ichikawa, Japan  
Filed Apr. 14, 1967, Ser. No. 6,714  
Term of patent 3½ years  
Claims priority, application Japan Mar. 10, 1967  
(Cl. D26—14)



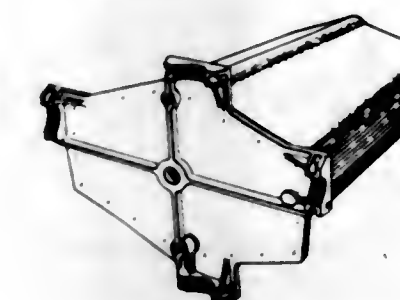
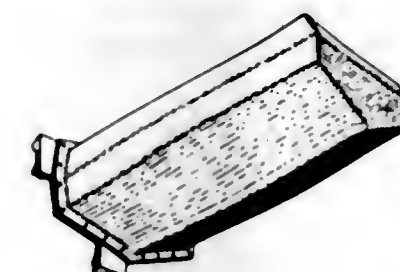
211,027

**CASE FOR A MAGNETIC TAPE RECORDER OR SIMILAR ARTICLE**  
Noland E. Vogt, Menlo Park, and Ronald D. Ropp, Redwood City, Calif., assignors to International Video Corporation, Mountain View, Calif., a corporation of California  
Filed Sept. 12, 1967, Ser. No. 8,573  
Term of patent 14 years  
(Cl. D26—14)



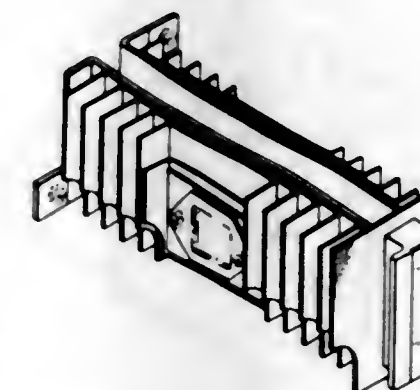
211,028

**ANTENNA HOUSING**  
Bruno Zaccari, 3101 Marina Drive, Alameda, Calif. 94501  
Filed Sept. 19, 1967, Ser. No. 8,648  
Term of patent 14 years  
(Cl. D26—14)



211,029

**MODULAR ELEMENT FOR USE IN A POWER SUPPLY OR THE LIKE**  
James P. Ettinger and Christian S. Otteson, Ridgefield, Conn., assignors to Electric Regulator Corporation, Norwalk, Conn., a corporation of New York  
Filed Apr. 25, 1967, Ser. No. 6,835  
Term of patent 14 years  
(Cl. D26—15)



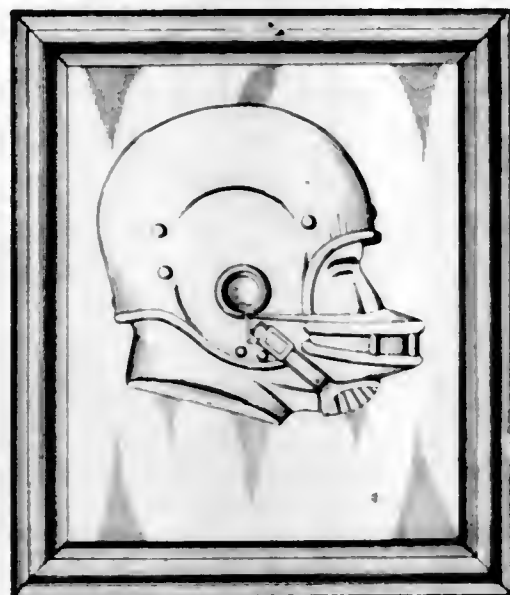
211,030

**STATUETTE OR SIMILAR ARTICLE**  
Abbot Lutz, New York, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey  
Filed Sept. 26, 1966, Ser. No. 4,037  
Term of patent 14 years  
(Cl. D29—23)

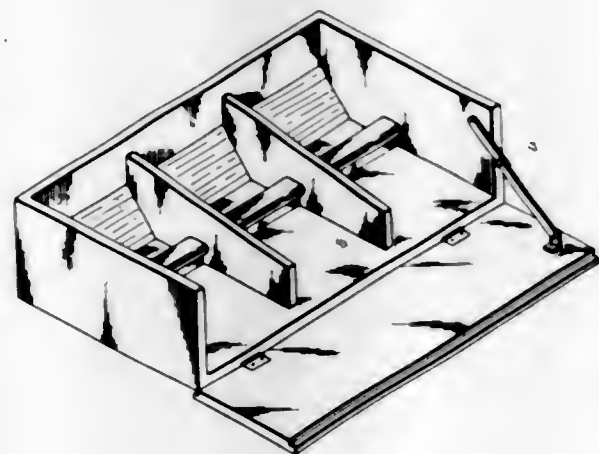




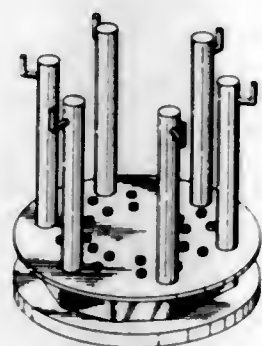
**211,031**  
**WALL PLAQUE**  
 Albert W. Eddy, R.F.D. 1, Winona, Minn. 55987  
 Filed Oct. 13, 1965, Ser. No. 87,458  
 Term of patent 7 years  
 (Cl. D29—23)



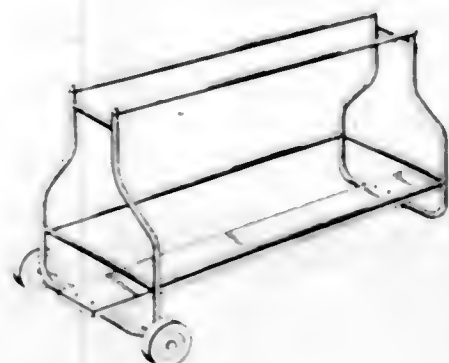
**211,032**  
**DRAWER FOR A SHOE CHEST**  
 Arthur G. Cashman, 8320 Oxon Hill Road,  
 Washington, D.C. 20022  
 Filed May 22, 1967, Ser. No. 7,226  
 Term of patent 14 years  
 (Cl. D33—1)



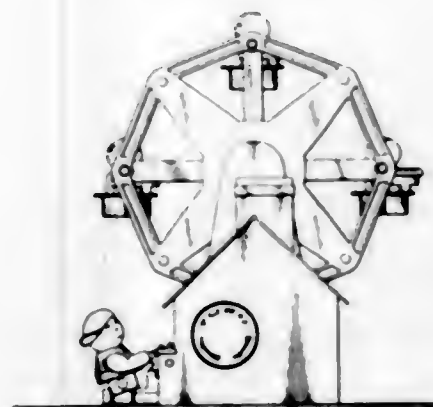
**211,033**  
**COMBINED EARPHONE SUPPORT RACK AND LISTENING UNIT FOR STUDENTS**  
 Melvin S. Majesty and Bettye G. Majesty, both of  
 3973 Navahoe Road, Cleveland, Ohio 44121  
 Filed Aug. 30, 1966, Ser. No. 3,656  
 Term of patent 14 years  
 (Cl. D33—3)



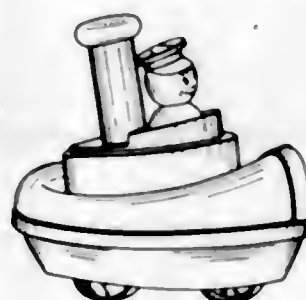
**211,034**  
**MUSIC STAND STORAGE CART**  
 Robert B. Mero, 15 Castle Drive, Potsdam, N.Y. 13676  
 Filed Feb. 6, 1967, Ser. No. 5,707  
 Term of patent 14 years  
 (Cl. D33—14)



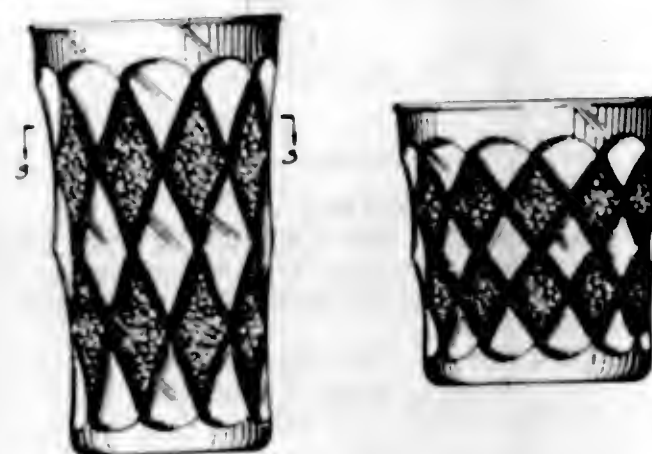
**211,035**  
**FERRIS WHEEL TOY**  
 Duane E. Spengler, West Falls, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York  
 Filed Feb. 28, 1967, Ser. No. 5,975  
 Term of patent 14 years  
 (Cl. D34—15)



**211,036**  
**TOY BOAT**  
 Ernest L. Thornell, East Aurora, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York  
 Filed Mar. 6, 1967, Ser. No. 6,064  
 Term of patent 14 years  
 (Cl. D34—15)



**211,037**  
**TUMBLER OR SIMILAR ARTICLE**  
 Frank J. Benes, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware  
 Filed May 26, 1967, Ser. No. 7,274  
 Term of patent 14 years  
 (Cl. D36—8)



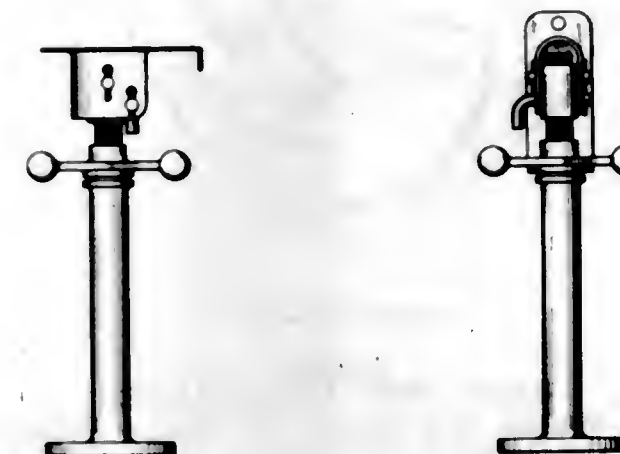
**211,038**  
**FOOTED TUMBLER**  
 James L. Wentzel, 6520 16th Lane,  
 St. Paul Park, Minn. 55071  
 Filed July 24, 1967, Ser. No. 7,947  
 Term of patent 14 years  
 (Cl. D36—8)



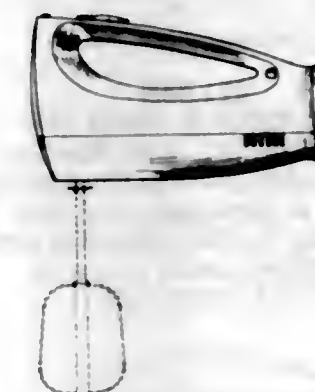
**211,039**  
**WRIST WATCH**  
 Jerome L. Pinsler, Evanston, Ill., assignor to Marvin Glass & Associates, Chicago, Ill., a partnership  
 Filed July 25, 1967, Ser. No. 7,978  
 Term of patent 14 years  
 (Cl. D42—8)



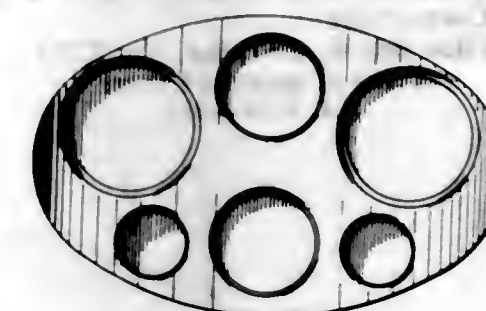
**211,040**  
**ADJUSTABLE JACK POST SUPPORT**  
 William E. Dobson, 1406 Sunset Ave.,  
 Bellingham, Wash. 98225  
 Filed Sept. 13, 1966, Ser. No. 3,839  
 Term of patent 14 years  
 (Cl. D41—1)



**211,041**  
**PORTABLE ELECTRIC FOOD MIXER**  
 Edward W. Peterson, Deerfield, Ill., assignor to Rival Manufacturing Company, a corporation of Missouri  
 Filed Aug. 4, 1967, Ser. No. 8,122  
 Term of patent 14 years  
 (Cl. D44—1)



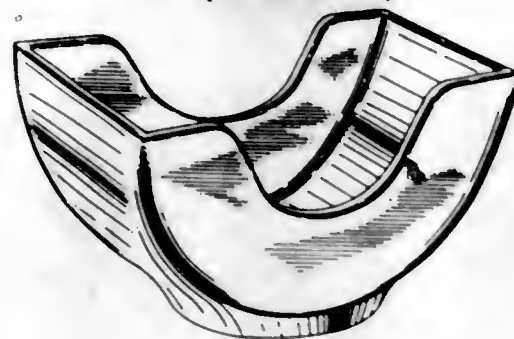
**211,042**  
**CONDIMENT DISH**  
 Willis A. Stageberg, 3141 Rhode Island Ave. S.,  
 Minneapolis, Minn. 55426  
 Filed July 27, 1967, Ser. No. 8,027  
 Term of patent 14 years  
 (Cl. D44—7)





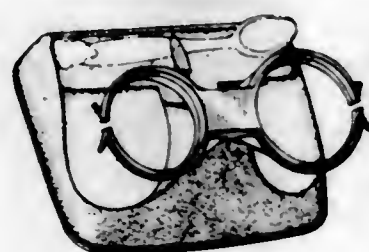
211,043

**HOLDER FOR HAMBURGERS OR THE LIKE**  
 Frank M. Kay, 604 W. Burleson, Marshall, Tex. 75670  
 Filed Apr. 24, 1967, Ser. No. 6,799  
 Term of patent 14 years  
 (Cl. D44-10)



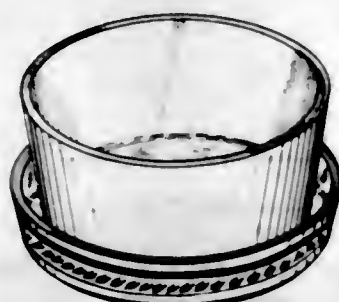
211,044

**BABY FOOD JAR HOLDER**  
 Lila M. Hanson and Bernard B. Hanson, Englewood, Colo., and George H. McCutcheon, Los Angeles, Calif., assignors to Westland Plastics, Inc., Newbury Park, Calif., a corporation of California  
 Filed July 31, 1967, Ser. No. 8,052  
 Term of patent 14 years  
 (Cl. D44-10)



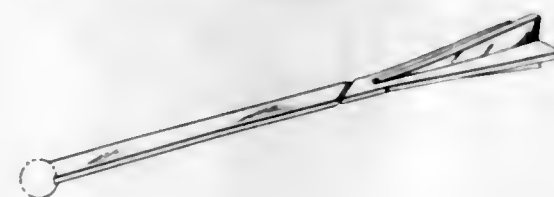
211,045

**COVERED CASSEROLE DISH OR THE LIKE**  
 Sara L. Balbach, Corning, and Ruediger W. Knodt, Rochester, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York  
 Filed May 2, 1967, Ser. No. 6,925  
 Term of patent 14 years  
 (Cl. D44-15)



211,046

**BEVERAGE STIRRER OR THE LIKE**  
 Mortimore H. Saffran, Hamden, Conn., assignor to Stelray Products, Inc., Shelton, Conn., a corporation of Connecticut  
 Filed July 6, 1967, Ser. No. 7,721  
 Term of patent 14 years  
 (Cl. D44-29)



211,047

**MEASURING CUP**  
 Roland E. Johnson, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
 Filed July 24, 1967, Ser. No. 7,954  
 Term of patent 14 years  
 (Cl. D44-29)



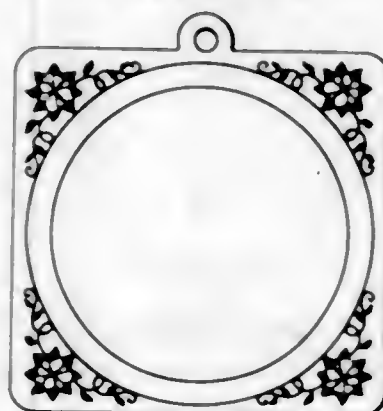
211,048

**LINK CHAIN FOR A BRACELET OR THE LIKE**  
 Morris D. Gandelman, Fort Lee, N.J., assignor to Jacoby-Bender, Inc., Woodside, N.Y., a corporation of New York  
 Filed July 26, 1967, Ser. No. 7,999  
 Term of patent 7 years  
 (Cl. D45-4)



211,049

**CHARM**  
 Randall L. Genung, Sheraton Delta Hotel, Apt. 803, 119 S. Claibourne Ave., New Orleans, La. 70112  
 Filed Aug. 10, 1967, Ser. No. 8,207  
 Term of patent 14 years  
 (Cl. D45-17)

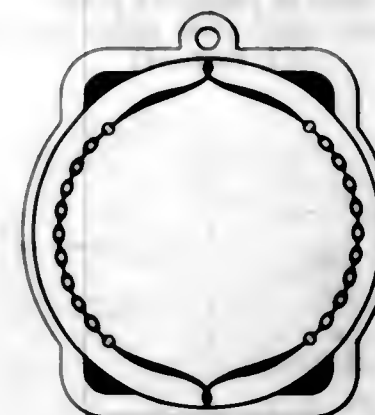


211,050

**CHARM**  
 Randall L. Genung, Sheraton Delta Hotel, Apt. 803, 119 S. Claibourne Ave., New Orleans, La. 70112  
 Filed Aug. 10, 1967, Ser. No. 8,208  
 Term of patent 14 years  
 (Cl. D45-17)

211,051  
CHARM

Randall L. Genung, Sheraton Delta Hotel, Apt. 803, 119 S. Claibourne Ave., New Orleans, La. 70112  
 Filed Aug. 10, 1967, Ser. No. 8,210  
 Term of patent 14 years  
 (Cl. D45-17)

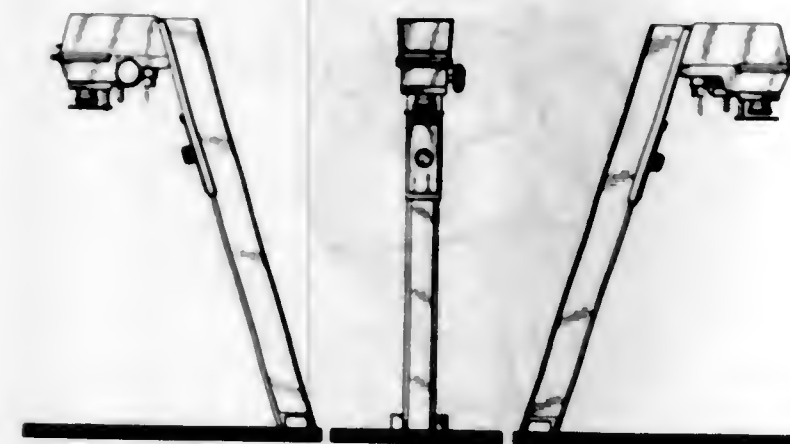
211,052  
CHARM

Randall L. Genung, Sheraton Delta Hotel, Apt. 803, 119 S. Claibourne Ave., New Orleans, La. 70112  
 Filed Aug. 10, 1967, Ser. No. 8,211  
 Term of patent 14 years  
 (Cl. D45-17)



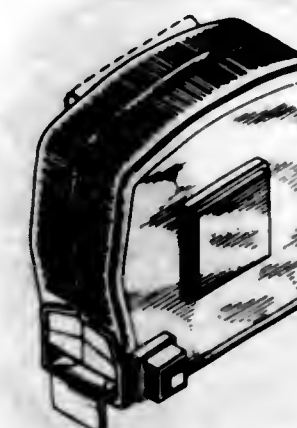
211,053

**PHOTOGRAPHIC ENLARGER**  
 James T. Aneshansley, Brooklyn, N.Y., assignor to Berkey Photo, Inc., New York, N.Y.  
 Filed Apr. 11, 1967, Ser. No. 6,626  
 Term of patent 14 years  
 (Cl. D61-1)



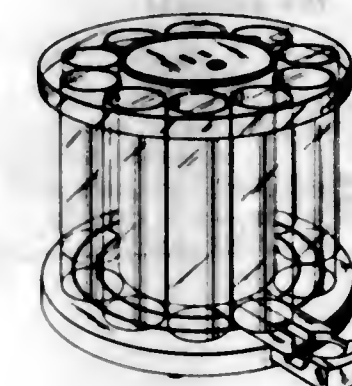
211,054

**TAPE MEASURE OR SIMILAR ARTICLE**  
 Robert W. Heuer, North Brunswick, N.J., assignor to Evans-Aristocrat Industries, Inc., Elizabeth, N.J., a corporation of New Jersey  
 Filed June 30, 1967, Ser. No. 7,661  
 Term of patent 14 years  
 (Cl. D52-1)



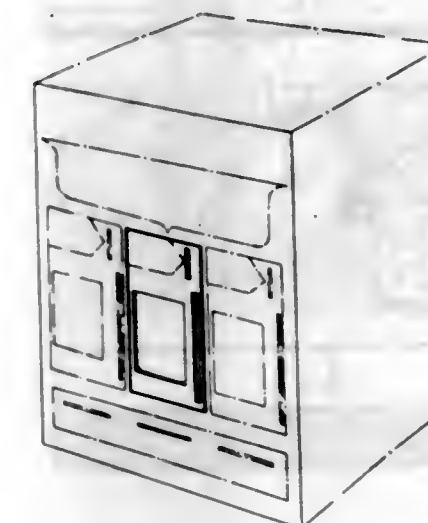
211,055

**VENDING MACHINE**  
 Robert W. Freet, P.O. Box 237, R.D. 1, Etna, Pa. 17319, and Thomas G. Freet, Etna, Pa. (R.D. 1, Box 590, New Cumberland, Pa. 17070)  
 Filed Apr. 7, 1967, Ser. No. 6,621  
 Term of patent 14 years  
 (Cl. D52-3)



211,056

**STAMP DISPENSING MACHINE**  
 Joseph Di Domenico, 575 Mount Pleasant Ave., Providence, R.I. 02908  
 Filed July 17, 1967, Ser. No. 7,825  
 (Cl. D52-3)

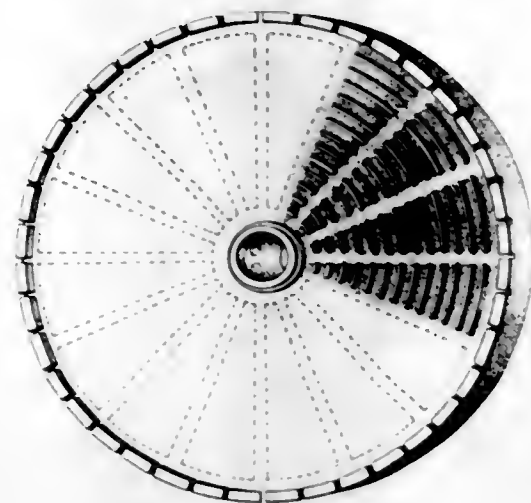




211,057

**PLASTIC INDUSTRIAL FILTER TRAY**  
Ernie G. Seggebruch, East Moline, Ill., assignor to  
Ametek, Inc., New York, N.Y., a corporation of  
Delaware

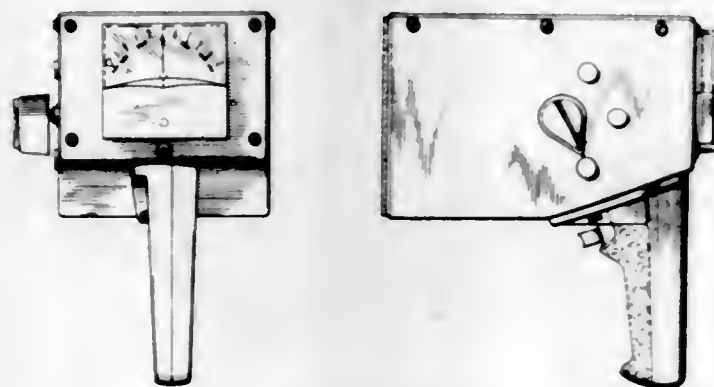
Filed Apr. 7, 1967, Ser. No. 6,582  
Term of patent 14 years  
(Cl. D55-1)



211,058

**PORTABLE TRI-STIMULUS COLORIMETER**  
David A. Neubrech, Potomac, Md., Matthew A. Cattaro,  
Oakton, Va., and Thomas J. Keane, Bethesda, Md.,  
assignors to Gardner Laboratory, Inc., Bethesda, Md., a  
corporation of Maryland

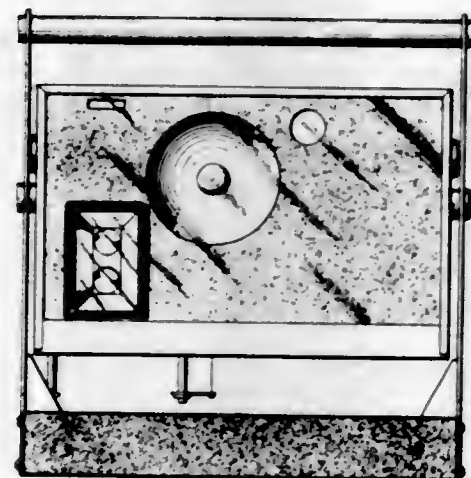
Filed Apr. 13, 1967, Ser. No. 6,670  
Term of patent 7 years  
(Cl. D57-1)



211,059

**PHOTOGRAPHIC CAMERA OR SIMILAR ARTICLE**  
Bernard A. Barke, Skokie, and Robert B. Morton, Chi-  
cago, Ill., assignors to Polaroid Corporation, Cambridge,  
Mass., a corporation of Delaware

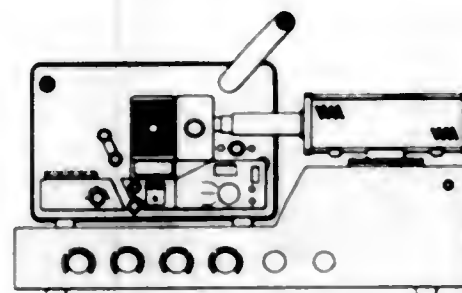
Filed Nov. 15, 1966, Ser. No. 4,671  
Term of patent 14 years  
(Cl. D61-1)



211,060

**COMBINED MOVING PICTURE CAMERA,  
PROJECTOR AND SUPPORTING BASE  
THEREFOR OR SIMILAR ARTICLE**  
Tetsuo Takata and Shigekazu Inamoto, Tokyo, Japan, as-  
signors, by mesne assignments, to Suzuei Sangyo Co.,  
Ltd., Tokyo, Japan, a corporation of Japan

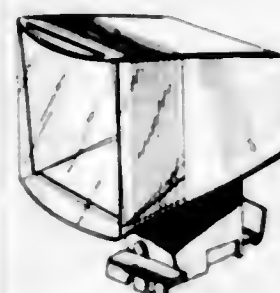
Filed Dec. 14, 1966, Ser. No. 5,042  
Term of patent 14 years  
Claims priority, application Japan Oct. 24, 1966  
(Cl. D61-1)



211,061

**FLASHGUN FOR A PHOTOGRAPHIC CAMERA**  
James M. Conner, Glendale, Calif., and Bruce K. Johnson,  
Andover, Mass., assignors to Polaroid Corporation,  
Cambridge, Mass., a corporation of Delaware

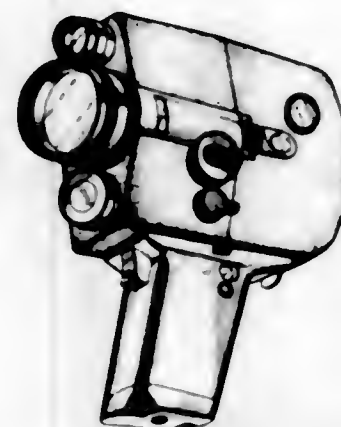
Filed Jan. 20, 1967, Ser. No. 5,503  
Term of patent 14 years  
(Cl. D61-1)



211,062

**MOVIE CAMERA**  
Albrecht Goertz, % Goertz Ltd., P.O. Box 711,  
Nassau, Bahamas

Filed Mar. 13, 1967, Ser. No. 6,178  
Term of patent 14 years  
Claims priority, application Japan Oct. 20, 1966  
(Cl. D61-1)



211,063

**TYPEWRITER**  
Reginald R. Gallant, Bristol, and Richard H. Russell,  
Farmington, Conn., assignors to Olivetti Under-  
wood Corporation, New York, N.Y., a corporation  
of Delaware

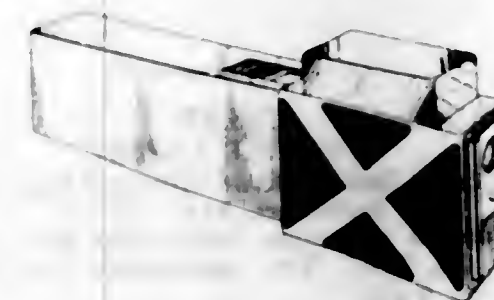
Filed Dec. 21, 1966, Ser. No. 5,138  
Term of patent 14 years  
(Cl. D64-11)



211,064

**CROSSWALK SIGNAL**  
Adam P. Gottfried, P.O. 528, Bedford Park,  
Toronto, Ontario, Canada

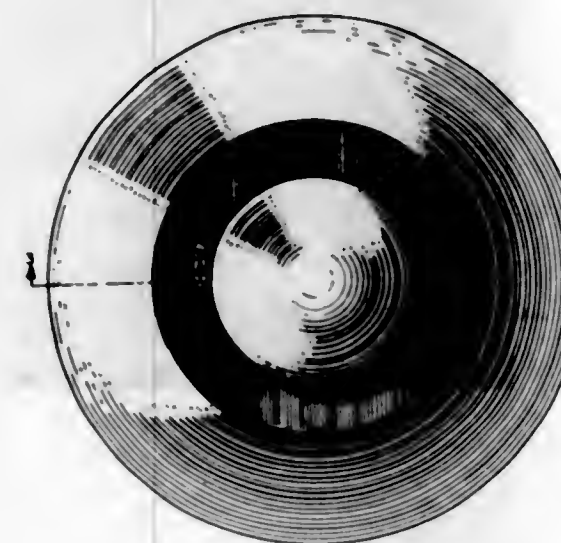
Filed June 12, 1967, Ser. No. 7,424  
Term of patent 14 years  
(Cl. D72-1)



211,065

**COMBUSTION PRODUCTS DETECTOR**  
Norbert Thomas Wolfe, Minneapolis, Minn., assignor to  
Honeywell Inc., Minneapolis, Minn., a corporation of  
Delaware

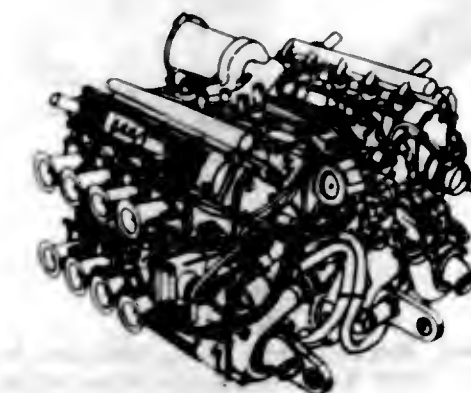
Filed July 17, 1967, Ser. No. 7,826  
Term of patent 14 years  
(Cl. D72-1)



211,066

**INTERNAL COMBUSTION ENGINE**  
Peter Robert Anelli, Darlaston, England, assignor to  
Rubery, Owen & Company Limited, Darlaston,  
England, a British company

Filed Sept. 15, 1966, Ser. No. 3,880  
Claims priority, application Great Britain Mar. 18, 1966  
Term of patent 3 1/2 years  
(Cl. D77-1)



211,067

**DISPLAY PANEL FOR SUNGLASSES  
OR THE LIKE**  
Conrad L. Leblanc and Jack Bloch, Leominster, Mass.,  
assignors to Foster Grant Co., Inc., Leominster, Mass.,  
a corporation of Delaware

Filed Mar. 14, 1967, Ser. No. 6,212  
Term of patent 14 years  
(Cl. D88-9)



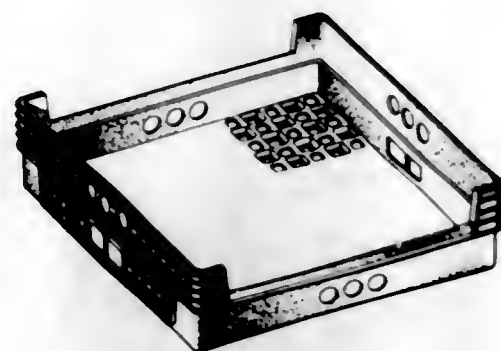


211,068

**BAKERY TRAY**

Robert F. Miles, Cincinnati, Ohio, assignor to MS Industries, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 12, 1967, Ser. No. 6,649  
Term of patent 14 years  
(Cl. D87-1)

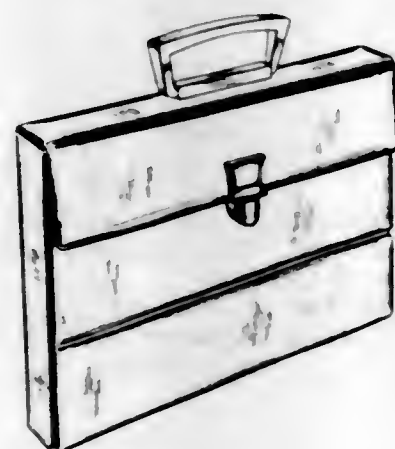


211,069

**ATTACHE CASE**

Daniel B. Copen, Searingtown, N.Y., assignor to Peerless Plastics, Inc., New York, N.Y., a corporation of New York

Filed Oct. 24, 1967, Ser. No. 9,139  
Term of patent 14 years  
(Cl. D87-5)



211,070

**TIRE**

Michael A. Kolowski, Tallmadge, and Lance R. McKisick, Cuyahoga Falls, Ohio, assignors to The Good-year Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Sept. 18, 1967, Ser. No. 8,643  
Term of patent 14 years  
(Cl. D90-20)

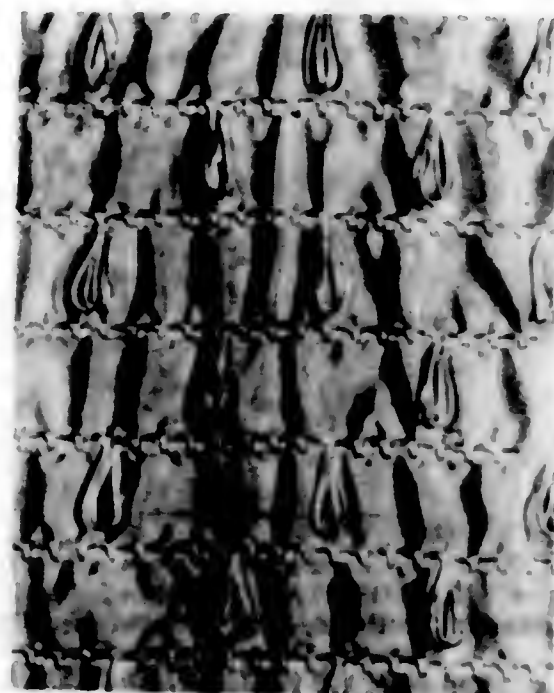


211,071

**CURTAIN FABRIC OR SIMILAR ARTICLE**

Barry Goodman, 108-50 62nd Drive, Forest Hills, N.Y. 11375

Filed Sept. 20, 1967, Ser. No. 8,668  
Term of patent 14 years  
(Cl. D92-1)



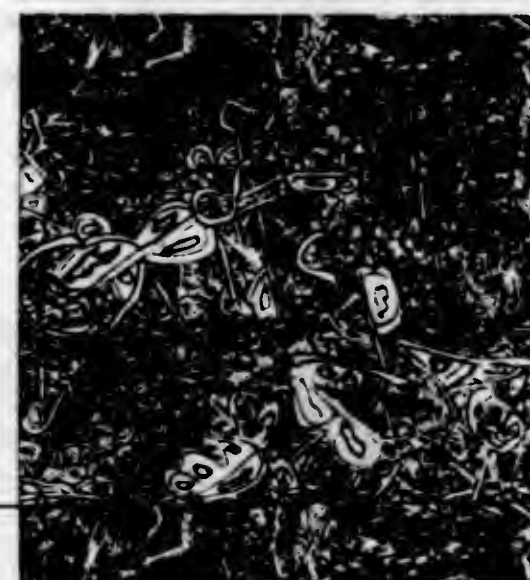
211,072

**TEXTILE FABRIC**

Leslie H. Dubick, 6984 Milbrook Park Drive, Baltimore, Md. 21215

Continuation of design application Ser. No. 6,366, Mar. 24, 1967. This application Nov. 21, 1967, Ser. No. 9,486

Term of patent 14 years  
(Cl. D92-11)

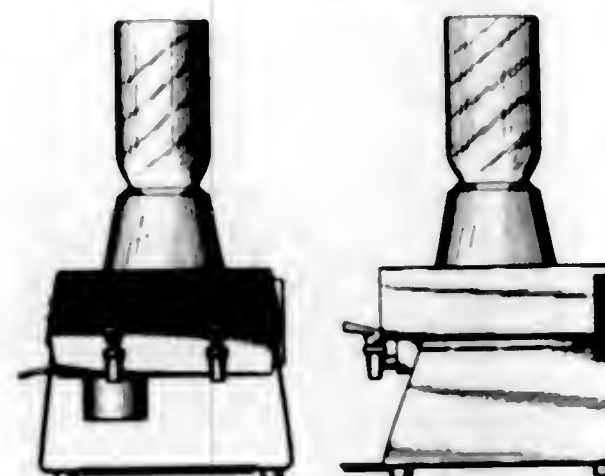


211,073

**COMBINATION HOT AND COLD WATER HEATER AND COOLER**

William C. Christine, Catasauqua, and Joseph E. Pierce, Allentown, Pa., assignors to Allen Electronics, Inc., Bethlehem, Pa., a corporation of Pennsylvania

Filed Apr. 4, 1967, Ser. No. 6,511  
Term of patent 14 years  
(Cl. D94-3)



211,074

**BOOKMARK**

Austin H. Margeson, 76 Brookwood Road, Rochester, N.Y. 14610

Filed Dec. 19, 1966, Ser. No. 5,098  
Term of patent 14 years  
(Cl. D97-2)





# LIST OF DESIGN PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF MAY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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Allen Electronics, Inc.: *See*—  
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Anchor Hocking Glass Corp.: *See*—  
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Barr, Richard G., to Thomasville Furniture Industries, Inc. Bed headboard. 210,998, 5-14-68, Cl. D5—4.  
Barr, Richard G., to Thomasville Furniture Industries, Inc. Bed headboard or similar article. 210,999, 5-14-68, Cl. D5—4.  
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Cohen, Gilbert. Tie fastener. 210,993, 5-14-68, Cl. D2—424.  
Cohen, Gilbert. Tie fastener. 210,994, 5-14-68, Cl. D2—424.  
Cohen, Gilbert. Tie fastener. 210,995, 5-14-68, Cl. D2—424.  
Cohen, Gilbert. Tie fastener. 210,996, 5-14-68, Cl. D2—424.  
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Genung, Randall L. Charm. 211,050, 5-14-68, Cl. D45—17.  
Genung, Randall L. Charm. 211,051, 5-14-68, Cl. D45—17.  
Genung, Randall L. Charm. 211,052, 5-14-68, Cl. D45—17.  
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Dell, Jack M., Jacobsen, and Fanslow. 211,016.  
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## LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF MAY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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 Adell, Robert. Ornamental and protective molding for motor vehicle doors. 3,382,615, 5-14-68, Cl. 49-462.  
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Brackett, Robert D., H. E. Erikson, and P. E. Young, to Polaroid Corp. X-ray film cassette having means for permitting slidable movement of the film with respect to the cassette. 3,383,507, 5-14-68, Cl. 250-68.  
Brady, Terence W.: See—  
Bolton, Norman A., Appleman, Brady, and Smith. 3,383,653.  
Braitanti, Giuseppe: See—  
Braitanti, Mario and G. 3,383,096.  
Braitanti, Mario and G. Device for automatically keeping constant the hardness of mix, particularly for alimentary pastes. 3,383,096, 5-14-68, Cl. 250-25.  
Brander, George T., to Owens-Illinois, Inc. Fiberboard carton. 3,383,028, 5-14-68, Cl. 229-16.  
Bream, John B., C. W. Picard, and T. G. White, to Dr. A. Wander, S.A. 6-(2,6-dihalophenyl) ethylamino guanidines and the salts thereof. 3,383,409, 5-14-68, Cl. 260-501.14.  
Breher, Rudolf, to Firma Elastomer AG. Machine for production of rings or discs from tube or strand-shaped workpieces. 3,382,747, 5-14-68, Cl. 82-59.  
Brennecke, Hermann, to Ciba Ltd. Method of producing electrical bushings. 3,383,446, 5-14-68, Cl. 264-122.  
Brenner, Bernard S.: See—  
Ferry, Martin, and Brenner. 3,383,025.  
Brevets Aero-Mecaniques S.A.: See—  
Maillard, Bernard. 3,382,556.  
Brewster, Sydney, to Anglo-Netherland Technical Exchange Ltd. Soldering tools and attachments for soldering irons. 3,383,023, 5-14-68, Cl. 228-20.



Bridge, Richard B., and T. E. Marshall III, to United States of America, Navy. Indicating instrument having vibrator for removing effects of static friction. 3,382,722, 5-14-68, Cl. 73-432.

Brindamour, Normand E., to Merck & Co., Inc. Continuous pharmaceutical film coating process. 3,383,236, 5-14-68, Cl. 117-100.

Brindamour, Normand E., to Merck & Co., Inc. Medicinal pellets coated with overlapping porous fatty acid leaflet layers. 3,383,283, 5-14-68, Cl. 167-83.

Brinlter, Werner H. Television lamp. 3,383,502, 5-14-68, Cl. 240-2.

Brinkama, Nikolaus H., and R. W. Shull; said Shull assor. to Owens-Illinois Inc. Unitary collapsible partition. 3,383,027, 5-14-68, Cl. 229-15.

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Brockhouse Engineering Ltd.: See—Gatiss, Albert L. 3,382,735.

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Broersma, Robert J., and P. F. Boomgaard, to B & B Engineering Co. Simplified pot dispenser. 3,383,014, 5-14-68, Cl. 221-210.

Bronfman, Benjamin, to Rent-Aid Systems, Inc. Button feeding mechanism for sewing machines. 3,382,824, 5-14-68, Cl. 112-113.

Brooks, William T. Safety cushion. 3,382,511, 5-14-68, Cl. 5-355.

Brossard, Pierre: See—Battail, Gerard, and Brossard. 3,383,597.

Brown, Boveri Corp.: See—Rehder, John E. 3,383,099.

Brown, David, J. W. Colton, and R. Muller, to Halcon International, Inc. Recovery of trialkyl aluminum catalysts by plural distillation with hydrocarbon vapor stripping. 3,383,291, 5-14-68, Cl. 203-49.

Brown, Edgar A., to International Business Machines Corp. Record card feeding control apparatus. 3,383,106, 5-14-68, Cl. 271-44.

Brown, Jesse R.: See—Hahl, Charles W., and Brown. 3,382,651.

Brown, Pierce B.: See—Hullhorst, William B., Brown, and Mosier. 3,382,643.

Brown, Richard L., to Amusement Engineering Co. Captive manipulable aerial amusement device with target means. 3,383,110, 5-14-68, Cl. 273-95.

Bruning, John V., to Addressograph-Multigraph Corp. Photo-electrostatic copying machine. 3,382,763, 5-14-68, Cl. 88-24.

Brunswick Corp.: See—Klekhaefer, Elmer C. 3,382,839.

Bryan, McNeil, and J. E. Moore, Jr., to Lindaay Controls, Inc. Solenoid operated contact pins for insertion into a telephone jack. 3,383,468, 5-14-68, Cl. 179-5.

Bryant, Kenneth O., to United States of America, Navy. Digital range unit. 3,383,681, 5-14-68, Cl. 343-73.

Bryant, Paul J., and C. M. Gosselin, to Midwest Research Institute. Method of improving the operational characteristics of cold cathode devices having crossed electric and magnetic fields. 3,383,149, 5-14-68, Cl. 316-3.

Bucourt, Robert, G. Costerousse, G. Nomine, A. Pierdet, and J. Tessier, to Roussel-Uclaf. Process for the preparation of steroid derivatives of the pregnane series. 3,383,385, 5-14-68, Cl. 260-239.57.

Bucyrus-Erie Co.: See—Kordik, Kenneth S. 3,383,576.

Buerman, Edward M., to Buerman Fish Products Co. Process for breaking down skin tissue of dogfish. 3,383,216, 5-14-68, Cl. 99-7.

Buerman Fish Products Co.: See—Buerman, Edward M. 3,383,216.

Bunzl: See—Witschl, Fritz, and Bunzl. 3,382,542.

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Burge, Russell W.: See—Thomas, Paul M., Wright, Burge, and Crille. 3,382,640.

Burgess Vibrocrafters Inc.: See—Oberto, Edwin L. 3,382,603.

Burkdoll, Francis B., and Huber. 3,382,801, 5-14-68, Cl. 102-24.

Burner, Andre H., deceased; by J. M. Burner, executrix, to The French Oil Mill Machinery Co. Screw press with slicing apparatus. 3,382,538, 5-14-68, Cl. 18-12.

Burner, Jean M.: See—Burner, Andre H. 3,382,538.

Burroughs Corp.: See—Dugan, Norman G., Jr. 3,383,589.

Burton, Alvin R.: See—Nava, Joseph A., Shearer, and Burton. 3,383,642.

Nava, Joseph A., Shearer, and Burton. 3,383,643.

Nava, Joseph A., Shearer, and Burton. 3,383,644.

Burton, Joe M., and R. G. Shaver, to The Susquehanna Corp. Boron containing polyvinyl chloride propellant compositions. 3,383,253, 5-14-68, Cl. 149-19.

Bush, William E.: See—Fannin, Ray B., and Bush. 3,382,864.

Butts, William R., to General Electric Co. Method for making cellular material. 3,383,207, 5-14-68, Cl. 75-212.

CIT-Compagnie Industrielle des Telecommunications: See—Lavergne, Jean. 3,383,656.

C & M Industrial Associates Inc.: See—Couchman, Charles E., III. 3,382,992.

C.O.R.E.C.I. Compagnie de Regulation et de Controle Industriel: See—Monin, Edmond. 3,383,572.

Cabot Corp.: See—Jordan, Merrill E., and Burbine. 3,383,175.

Jordan, Merrill E., Deery, Hagopian, and Williams. 3,383,232.

Cadillac Gage Co.: See—Howland, Donald C. 3,382,890.

Caffero, Vincent J., and W. I. Sohl, to Knoll Associates, Inc. Table or like article of furniture. 3,382,820, 5-14-68, Cl. 108-27.

Cahn, Arno, and H. Lemaire, to Lever Bros. Co. Preparation of surface active agents using a dissolved zirconium catalyst. 3,383,396, 5-14-68, Cl. 260-400.

Calfee, Richard W., to International Business Machines Corp. Binary radio receiving system. 3,383,600, 5-14-68, Cl. 325-320.

Califano, Frank L., and R. Ulrich, to The Flintkote Co. Stacking apparatus. 3,382,966, 5-14-68, Cl. 198-35.

Calkin, Edwin T.: See—Bishop, John D., Calkin, and Judd. 3,383,582.

Callery Chemical Co.: See—Voegtly, Richard O. 3,383,046.

Campbell, George W., Jr., to United States Borax & Chemical Corp. Process for producing non-caking borax. 3,383,165, 5-14-68, Cl. 23-59.

Campbell, J. Allan, and J. C. Babcock, to The Upjohn Co. 7 $\alpha$ -Methyl-3,5-androstadiene-3,17-diols and pharmaceutically active compositions thereof. 3,383,282, 5-14-68, Cl. 167-65.

Campbell, Richard H., Jr.: See—Park, Donald M., and Campbell. 3,383,452.

Campbell, Robert W., to Johns-Manville Corp. Pipe apparatus. 3,382,341, 5-14-68, Cl. 18-26.

Cape, Richard A. G., to Dominion Bridge Co., Ltd. Web bender. 3,382,695, 5-14-68, Cl. 72-190.

Carabatas, Philip M., to Sterling Drug Inc. 2-tertiary-aminomethyl-N-(lower-alkyl) anilines. 3,383,415, 5-14-68, Cl. 260-570.9.

Carbone, Anthony J., to The Dow Chemical Co. Process and apparatus for capping plastic containers. 3,383,256, 5-14-68, Cl. 156-60.

Cargile, James H., to Day & Zimmermann, Inc. Automatic powder scooper. 3,383,030, 5-14-68, Cl. 222-168.

Carlick, Daniel J. A. H. Gruben, S. McFarlane, Jr., and W. J. Kissel, to Sun Chemical Corp. Imide terminated polyamide resins useful in inks. 3,383,391, 5-14-68, Cl. 260-326.

Carlson, Emil H., to Monsanto Co. Aryl ferrocene antioxidants in polyphenyl oxo and this ether functional fluids. 3,383,314, 5-14-68, Cl. 252-40.4.

Carlson, John L.: See—Eckley, Doris E., Deutsch, Johnston, and Carlson. 3,383,115.

Carlston, Earl F., to Chevron Research Co. Copolymerization of unsaturated polyesters, epoxide resins, and polyamines. 3,383,434, 5-14-68, Cl. 260-835.

Carnine, Glen T., and L. R. Darbee, to FMC Corp. Stabilization of hydrogen peroxide. 3,383,174, 5-14-68, Cl. 23-207.5.

Carpenter, Robert D., to Union Carbide Corp. Vanadium carbide process. 3,383,196, 5-14-68, Cl. 75-5.

Carr, Robert D. Wire tensioning apparatus. 3,382,551, 5-14-68, Cl. 25-118.

Carroll, James L., to Wilco Corp. Auto trailer. 3,383,119, 5-14-68, Cl. 280-426.

Carrothers, Lea: See—Allardice, Edward R., and Carrothers. 3,383,675.

Carter, J. C., Co., The: See—Carter, James C. 3,383,116.

Carter, James C., to The J. C. Carter Co. Face seal. 3,383,116, 5-14-68, Cl. 277-96.

Cartwright, Willard E., B. D. Goda, and W. H. Hittenberger, to Kliklok Corp. Device for separating and feeding cups supplied as a nested stack. 3,382,989, 5-14-68, Cl. 214-8.5.

Cascade Corp.: See—Nutter, Ralph E. 3,382,771.

Cash, James, Machine: See—Cash, Marion A. 3,382,825.

Cash, Marion A., to James Cash Machine. Quilting apparatus holder interchanging means. 3,382,825, 5-14-68, Cl. 112-117.

Cassiers, Paul M., J. L. Van Engeland, and R. J. Noe, to Gevaert Photo-Producten N.V. Electrophotographic process including selective wetting by the developer liquid. 3,383,209, 5-14-68, Cl. 96-1.3.

Cassman, Harry, to Electric & Musical Industries Ltd. Photo-sensitive devices employing photo-conductive coatings. 3,383,244, 5-14-68, Cl. 117-210.

Castello, Anthony M.: See—Cooper, Robert R., and Castello. 3,382,860.

Castle & Cooke, Inc.: See—De Back, William. 3,382,900.

Casler, John M., to The Garrett Corp. Gas turbine with pulsating gas flow. 3,383,092, 5-14-68, Cl. 253-40.

Centre National de la Recherche Scientifique: See—Charot, Georges A., Issartier, Labouyrie, Ravest, and Valensi. 3,383,652.

Cerame, Ralph T.: See—Simeone, James C. 3,382,689.

Cerbin, William G., to Weatherhead Co. Quick disconnect coupling. 3,382,892, 5-14-68, Cl. 137-014.02.

Cercone, Daniel. Clipper guide device. 3,382,877, 5-14-68, Cl. 132-45.

Cerniak, Henry L. Dosage dispenser. 3,382,969, 5-14-68, Cl. 206-42.

Ceskoslovenska akademie ved: See—Spurny, Kvetoslav, and Wlesner. 3,382,652.

Chadwick, George F., to Air Reduction Co., Inc. Method of making an electrical resistor. 3,382,574, 5-14-68, Cl. 29-610.

Chaldekas, William, to American Motors Corp. Foam pour method. 3,383,440, 5-14-68, Cl. 204-45.

Chandler, Stephen S., to FMC Corp. Anaerobic sludge digestion. 3,383,309, 5-14-68, Cl. 210-11.

Charlson, William, to Minister of Aviation in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Arrestor gear for aircraft. 3,382,934, 5-14-68, Cl. 188-94.

Charot, Georges A., P. Issartier, R. G. Labouyrie, P. A. Ravest, and J. Valensi, to Centre National de la Recherche Scientifique. Installations for controlling the trajectory with respect to the ground of vehicles and in particular aircraft. 3,383,652, 5-14-68, Cl. 340-27.

Charron, William W., to Ford Motor Co. Float mechanism for a carburetor. 3,382,881, 5-14-68, Cl. 137-39.

Chastang, Pelham D., and R. W. Chidgey, to Monsanto Co. Small volume pump. 3,382,811, 5-14-68, Cl. 103-152.

Chatteff Controls Inc.: See—Shurtliff, Louis C. and O. O. 3,382,894.

Chaude, Bernard J. Oscillating vane internal combustion engine. 3,382,849, 5-14-68, Cl. 123-18.

Chemcell Ltd., Chemcell Limitee: See—Arksey, Graydon W. 3,383,525.

Chen, Albert F.: See—Turner, Norman C., Chen, and Czorny. 3,383,571.

Chen, Fang-Shang, and R. T. Denton, to Bell Telephone Laboratories, Inc. Electro-optical storage arrangement. 3,383,664, 5-14-68, Cl. 340-173.

Chen, Richard J., to Polaroid Corp. Photographic exposure and processing apparatus. 3,382,764, 5-14-68, Cl. 88-24.

Chen, Richard J., to Polaroid Corp. Photographic exposure and processing apparatus. 3,382,783, 5-14-68, Cl. 95-13.

Chevreaux, Gerard, to Societe Anonyme D.B.A. Inertia brake valve. 3,383,139, 5-14-68, Cl. 303-24.

Chevron Research Co.: See—Rollen, Walter M. 3,383,173.

Carlston, Earl F. 3,383,434.

Ferm, Richard L. 3,382,610.

Chichester-Miles, Ian, to Hawker Siddeley Aviation Ltd. Aircraft. 3,383,075, 5-14-68, Cl. 244-56.

Chidgey, Ronald W.: See—Chastang, Pelham D., and Chidgey. 3,382,811.

Chin, Richard G. L., and S. Redfern, to Standard Brands Inc. Egg compositions containing soluble phosphorus compounds effective to impart fresh egg color. 3,383,221, 5-14-68, Cl. 99-161.

Chini, Paolo, A. Baradel, C. Vacca, and M. De Malde, to Snam S.p.A. Preparation of sodium and potassium aluminum hydride. 3,383,186, 5-14-68, Cl. 23-365.

Chivers, Edward L., to British Aircraft Corp. (Operating) Ltd. Mountings for aircraft windcreens. 3,382,630, 5-14-68, Cl. 52-208.

Chopey, Albert D., to United States of America, Navy. Brightness control circuitry for direct view storage tubes. 3,383,546, 5-14-68, Cl. 315-12.

Chopin, Jean: See—Baudry, Jean, and Chopin. 3,382,850.

Christman, David A., Jr., to E. I. du Pont de Nemours and Co. Air impingement apparatus and process to control edge flow in coating procedures. 3,383,239, 5-14-68, Cl. 117-119.8.

Chutter, Philip G. Drilling rig instrument system. 3,382,713, 5-14-68, Cl. 73-151.

Ciba Ltd.: See—Brennecke, Hermann. 3,383,446.

Cielaszyk, Edward F., to General Time Corp. Shutoff arrangement for spring wound alarm clock. 3,382,664, 5-14-68, Cl. 58-21.15.

Ciemniak, Felix, and W. A. Johnson, to Bell & Howell Co. Diode control of voltage in an exposure control circuit. 3,383,566, 5-14-68, Cl. 317-123.

Ciranko, Dazo H., to General Motors Corp. Welding apparatus. 3,383,459, 5-14-68, Cl. 219-81.

Cisek, Eric P., to General Electric Co. Blend of a polyphenylene ether and a styrene resin. 3,383,435, 5-14-68, Cl. 260-874.

Claassen, Claus H., and L. D. Green, to International Business Machines Corp. Personnel security system having personally carried card with fingerprint identification. 3,383,657, 5-14-68, Cl. 340-149.

Clark Carl F.: See—Hornung, Stephen A., and Clark. 3,382,951.

Clark, Ivan D. Automatic livestock feeder. 3,382,847, 5-14-68, Cl. 119-11.

Clark, Sidney B.: See—Alaya, Clarence M., Clark, Risvold, and Wilmsen. 3,383,222.

Claridge, Chester H. Set point module system for annunciators. 3,383,672, 5-14-68, Cl. 840-248.

Clayton Mfg. Co.: See—Tinkham, Leland P., and Asmus. 3,382,721.

Cleaman, Jack F., W. C. Barnard, and I. G. Dutcher, to Whirlpool Corp. Liquid flow control for use in dishwashers and the like. 3,382,891, 5-14-68, Cl. 137-563.

Clevite Corp.: See—Zapponi, Paschal P. 3,383,144.

Clooner, John J., to The Preload Co., Inc. Plastic storage tank. 3,383,004, 5-14-68, Cl. 220-9.

Cloutier, Laurent L., to General Motors Corp. Vehicle body. 3,382,620, 5-14-68, Cl. 49-506.

Clover, Paul B. Tilting impellers for vertical take off-landing aircraft. 3,383,073, 5-14-68, Cl. 244-23.

Cobb, Robert V., E. E. Coulter, W. T. Hage, and J. K. Rice, to The Babcock & Wilcox Co. Dual beam null method and apparatus for determining the concentration of impurities in a sample. 3,383,515, 5-14-68, Cl. 250-218.

Cochran, William R., to Madison Research & Development Corp. Method of making a tufted fabric. 3,383,269, 5-14-68, Cl. 156-148.

Cohen, Aaron, and B. Heath-Brown, to Hoffman-La Roche Inc. N-amino-iminodibenzyl. 3,383,382, 5-14-68, Cl. 260-289.

Cohen, William D., and M. Skrivaneck, Jr., to Digitronics Corp. Rotating shaft driven code converter and recorder. 3,383,098, 5-14-68, Cl. 346-74.

Colclaser, Robert G., Jr., and R. E. Friedrich, to Westinghouse Electric Corp. Electric power distribution systems. 3,383,519, 5-14-68, Cl. 307-93.

Coldren, Daniel R., to AMP Inc. Electrical contact. 3,383,638, 5-14-68, Cl. 339-17.

Cole, John A., to The Water Research Association. Devices for transmitting signals. 3,382,705, 5-14-68, Cl. 78-40.5.

Coleman Co., Inc., The: See—Cooper, Robert R., and Castello. 3,382,860.

Collins, Alan E.: See—New, William E., and Collins. 3,383,467.

Collins, Dennis W., and C. P. Steeper. Artificial arm having a single pull cord for unlocking the elbow joint and effecting relative angular motion of the forearm. 3,382,606, 5-14-68, Cl. 2-12.8.

Collins, Keith D.: See—Parish, Norman A., and Collins. 3,383,553.

Colton, John W.: See—Brown, David, Colton, and Muller. 3,383,291.

Commercial Solvents Corp.: See—Jones, Lawrence R. 3,383,252.

Commissariat a l'Energie Atomique: See—Barroil, Aime, Michel, and Teytu. 3,382,563.

Compagnie de Saint-Fobain: See—Peters, Robert. 3,382,650.

Compagnie des Machines Bull (Societe Anonyme): See—David, Charles A. M. 3,383,663.

Compagnie Generale d'Electricite Service de la Propriete Industrielle: See—Renaudie, Jean. 3,383,688.

Compass Container Co., Inc.: See—Turpen, Russell L. 3,382,998.

Compton, Asa B., to Fantastic, Inc. Amusement device. 3,382,605, 5-14-68, Cl. 46-47.

Comstock & Wescott Inc.: See—Rice, Richard E. 3,382,917.

Rice, Richard E. 3,382,919.

Connor, John A.: See—Smereta, Bernard J., Connor, and Hurley. 3,382,973.

Conort, Jean, to Esso Standard Societe Anonyme Francaise. Acid emulsion pastes. 3,383,229, 5-14-68, Cl. 106-277.

Continental Can Co., Inc.: See—Babaktis, James. 3,382,703.

Javorik, Lanzo, and Higgins. 3,382,796.

Seeman, Herman A. 3,382,699.

Shaw, Fred B. 3,382,642.

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Continental-Wert Electronics Corp.: See—Vanansl, Joseph M., and Nagel. 3,383,635.

Converters Inc.: See—Welch, Archibald H. 3,383,264.

Cook, Rufus L.: See—Huffnagle, Norman P., and Cook. 3,383,611.

Cooper, Kenneth G., to Midland Silicones Ltd. Method for preparing organosiloxane polymers. 3,383,555, 5-14-68, Cl. 260-46.5.

Cooper, Robert R., and A. M. Castello, to The Coleman Co., Inc. Gaswell heater. 3,382,860, 5-14-68, Cl. 126-85.

Copeland, Harold D. Drill bit sharpener. 3,382,738, 5-14-68, Cl. 76-89.2.

Copland, James G., and E. J. Thor, to General Electric Co. Light shutter and support rod operating switches at limits of shutter movement. 3,383,518, 5-14-68, Cl. 250-231.

Coplin, John F., to Rolls-Royce Ltd. VTOL aircraft. 3,383,074, 5-14-68, Cl. 244-65.

Coppock, Walter J., to Sun Oil Co. Stable fluid, soap thickened oil lubricant compositions. 3,383,812, 5-14-68, Cl. 262-36.

Corning Glass Works: See—Walters, Richard B. 3,383,540.

Corral, Joseph S., to North American Rockwell Corp. Compacting method and means. 3,383,208, 5-14-68, Cl. 75-214.

Costantini, Anthony R., and A. Diangelus, to Victory Metal Mfg. Co., dba Victory Metal Mfg. Corp. Cabinet leg construction. 3,383,079, 5-14-68, Cl. 248-188.4.

Costerousse, Germain: See—Bucourt, Robert, Costerousse, Nomine, Pierdet, and Tessier. 3,383,385.

Cottrell Co., The: See—Luehrs, Hans J. 3,382,799.



- Couch, Larry D. Hydraulic demonstrator for oil filtering action. 3,382,593, 5-14-68, Cl. 35-49.
- Couchman, Charles E., III, to C & M Industrial Associates, Inc. Material transporting and discharging system. 3,382,992, 5-14-68, Cl. 214-64.
- Coulter, Albert W., Jr.: See—
- Voley, Carl D., and Coulter. 3,382,924.
- Coulter, Earl E.: See—
- Cobb, Robert V., Coulter, Hage, and Rice. 3,383,515.
- Couper, James M. and A. C. Currie, to United States of America, Navy. Fluoro-amino cellulose derivatives. 3,383,381, 5-14-68, Cl. 260-212.
- Cowan, John C.: See—
- Bell, Edward W., and Cowan. 3,383,284.
- Cox, Robert J., to Pennsalt Chemicals Corp. Process for replacing the diaphragm-cathode assembly in an electrochemical cell. 3,383,295, 5-14-68, Cl. 204-128.
- Craig, Don W., to U.S. Plywood-Champion Papers Inc. Flameproofing of construction material. 3,383,274, 5-14-68, Cl. 161-162.
- Cralle, Walter O., Jr., and G. T. Slaughter, to International Business Machines Corp. Printing apparatus with no-print feature. 3,382,963, 5-14-68, Cl. 197-916.
- Crawford, Carl T., and W. W. Everling. Method for manufacturing extended tab core memory frames. 3,382,572, 5-14-68, Cl. 29-604.
- Crile, Eugene E.: See—
- Thomas, Paul M., Wright, Burge, and Crile. 3,382,640.
- Crist, Buckley, and R. F. Wolf, said Wolf assor, to said Crist. Shower head. 3,383,050, 5-14-68, Cl. 239-436.
- Crompton & Knowles Corp.: See—
- Nugars, Anthony R. 3,383,054.
- Croop, Edward J., and C. H. Vondracek, to Westinghouse Electric Corp. Insulation utilizing boron phosphate. 3,383,275, 5-14-68, Cl. 161-171.
- Crouzet, Henri, to Moulinsage et Retorderie de Chavanoz. False-twist frames and method for texturing synthetic filaments. 3,382,656, 5-14-68, Cl. 57-34.
- Crozler, Allan. Bingo card marking device. 3,383,112, 5-14-68, Cl. 273-136.
- Cull, Neville L., J. K. Mertzweiller, and H. M. Tenney, to Esso Research and Engineering Co. Hydroformylation process for polymers. 3,383,426, 5-14-68, Cl. 260-635.
- Cunningham, Arthur W., to Lance, Inc. Coin-operated control mechanism for vending machines. 3,382,961, 5-14-68, Cl. 194-61.
- Cunningham, James A., to Texas Instruments Inc. Semiconductor device utilizing glass and oxides as an insulator for hermetically sealing the junctions. 3,383,568, 5-14-68, Cl. 317-235.
- Curcio, Edmund N., to Park-Ohio Industries, Inc. Method and apparatus for inductively heating a workpiece formed from a highly oxidizable metal. 3,383,233, 5-14-68, Cl. 117-17.
- Currie, Andrew C.: See—
- Couper, James M., and Currie. 3,383,381.
- Curry, Truman M., to The Boeing Co. Wind tunnel free flight test apparatus. 3,382,712, 5-14-68, Cl. 73-147.
- Curtis, John T., to McGraw-Edison Co. Clothes conditioning-drying machine. 3,382,587, 5-14-68, Cl. 34-139.
- Cutler, Leon H., to General Electric Co. Anti-siphon valve. 3,382,865, 5-14-68, Cl. 137-216.1.
- Cyclone Seeder Co., The: See—
- Speicher, Paul L. 3,383,055.
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- Rogers, Edward S., and S. M. Kovach, to Sinclair Research, Inc. Hydrodenitritication with vanadia-alumina catalyst support. 3,383,306, 5-14-68, Cl. 206-254.
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# CLASSIFICATION OF PATENTS

ISSUED MAY 14, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

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| 111     | : 3,382,944 | 54      | : 3,383,008 | 39        | : 3,383,313 | 521      | : 3,383,411 | 312-197 | : 3,383,147 | 75      | : 3,383,639 |
| 121     | : 3,382,945 | 97      | : 3,383,009 | 46.4      | : 3,383,314 | 537      | : 3,383,412 | 311     | : 3,383,148 | 95      | : 3,383,640 |
| 181-5   | : 3,382,946 | 111     | : 3,383,010 | 49.6      | : 3,383,315 |          | : 3,383,413 | 313-82  | : 3,383,536 | 96      | : 3,383,641 |
| 30      | : 3,382,947 | 221-2   | : 3,383,011 | 62.1      | : 3,383,316 | 556      | : 3,383,414 |         | : 3,383,537 | 205     | : 3,383,642 |
| 48      | : 3,382,948 | 46      | : 3,383,012 | 70        | : 3,383,317 | 570.9    | : 3,383,415 | 93      | : 3,383,538 |         | : 3,383,643 |
| 182-113 | : 3,382,949 | 202     | : 3,383,013 | 78        | : 3,383,318 | 575      | : 3,383,416 | 113     | : 3,383,539 |         | : 3,383,644 |
| 185-37  | : 3,382,950 | 210     | : 3,383,014 | 95        | : 3,383,319 | 584      | : 3,383,417 | 114     | : 3,383,540 | 217     | : 3,383,645 |
| 187-29  | : 3,382,951 | 222-1   | : 3,383,015 | 132       | : 3,383,320 | 594      | : 3,383,418 | 207     | : 3,383,541 | 226     | : 3,383,646 |
| 188-72  | : 3,382,952 | 33      | : 3,383,016 | 135       | : 3,383,321 | 606.5    | : 3,383,419 | 350     | : 3,383,542 | 256     | : 3,383,647 |
| 78      | : 3,382,953 | 93      | : 3,383,017 | 137       | : 3,383,322 | 607      | : 3,383,420 | 315-3.5 | : 3,383,543 | 258     | : 3,383,648 |
| 94      | : 3,382,954 | 108     | : 3,383,018 |           | : 3,383,323 |          | : 3,383,421 | 5.18    | : 3,383,544 | 340-3   | : 3,383,649 |
| 129     | : 3,382,955 | 151     | : 3,383,019 | 142       | : 3,383,324 | 611      | : 3,383,422 | 39      | : 3,383,545 |         | : 3,383,650 |
| 192-084 | : 3,382,956 | 168     | : 3,383,020 | 316       | : 3,383,325 |          | : 3,383,423 | 12      | : 3,383,546 | 6       | : 3,383,651 |
| 3       | : 3,382,957 | 223-73  | : 3,383,703 | 331       | : 3,383,326 | 617      | : 3,383,424 | 13      | : 3,383,547 | 27      | : 3,383,652 |
| 4       | : 3,382,958 | 227-77  | : 3,383,021 |           | : 3,383,327 | 619      | : 3,383,425 | 25      | : 3,383,548 | 37      | : 3,383,653 |
| 58      | : 3,382,959 | 114     | : 3,383,022 | 358       | : 3,383,327 | 635      | : 3,383,426 |         | : 3,383,549 | 58      | : 3,383,654 |
| 90      | : 3,382,960 | 228-20  | : 3,383,023 | 390       | : 3,383,328 | 642      | : 3,383,427 | 31      | : 3,383,550 | 146.1   | : 3,383,655 |
| 194-61  | : 3,382,961 | 53      | : 3,383,024 | 432       | : 3,383,329 | 666      | : 3,383,428 | 39.77   | : 3,383,551 | 147     | : 3,383,656 |
| 97      | : 3,382,962 | 229-4.5 | : 3,383,025 | 437       | : 3,383,330 | 669      | : 3,383,429 | 83      | : 3,383,552 | 149     | : 3,383,657 |
| 195-28  | : 3,383,289 | 14      | : 3,383,026 | 457       | : 3,383,331 | 674      | : 3,383,430 | 183     | : 3,383,553 | 163     | : 3,383,658 |
| 71      | : 3,383,290 | 15      | : 3,383,027 | 463.3     | : 3,383,332 | 683.3    | : 3,383,431 | 189     | : 3,383,554 | 172     | : 3,383,659 |
| 197-16  | : 3,382,963 | 16      | : 3,383,028 | 40        | : 3,383,092 | 830      | : 3,383,432 | 209     | : 3,383,555 | 5       | : 3,383,660 |
| 198-33  | : 3,382,964 | 17      | : 3,383,029 | 59        | : 3,383,093 | 831      | : 3,383,433 |         | : 3,383,556 |         | : 3,383,661 |
| 34      | : 3,382,965 | 62.5    | : 3,383,030 | 77        | : 3,383,094 | 835      | : 3,383,434 |         | : 3,383,557 | 173     | : 3,383,662 |
| 35      | : 3,382,966 | 230-17  | : 3,383,031 |           | : 3,383,095 | 874      | : 3,383,435 | 242     | : 3,383,558 |         | : 3,383,663 |
| 92      | : 3,382,967 | 69      | : 3,383,032 |           | : 3,383,096 | 928      | : 3,383,436 | 316-3   | : 3,383,149 |         | : 3,383,664 |
| 110     | : 3,382,968 | 132     | : 3,383,033 | 259-25    | : 3,383,332 | 957      | : 3,383,437 | 317-2   | : 3,383,559 | 174     | : 3,383,665 |
| 200-6   | : 3,383,477 | 2       |             |           |             |          |             |         |             |         |             |



# GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

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| 1 : 3,382,534 | 6 : 3,382,801 | 6 : 3,383,231 | 6 : 3,383,693 | 12 : 3,382,752 | 17 : 3,382,814 |
| 3,382,701     | 3,382,803     | 3,383,255     | 3,383,697     | 3,382,766      | 3,382,821      |
| 3,382,911     | 3,382,831     | 3,383,274     | 3,382,866     | 3,382,811      | 3,382,857      |
| 3,382,974     | 3,382,832     | 3,383,286     | 3,382,959     | 3,382,839      | 3,382,873      |
| 3,383,240     | 3,382,843     | 3,383,299     | 3,383,196     | 3,382,899      | 3,382,887      |
| 3,383,367     | 3,382,861     | 3,383,309     | 3,383,499     | 3,382,950      | 3,382,888      |
| 2 : 3,382,754 | 3,382,863     | 3,383,347     | 3,382,525     | 3,382,981      | 3,382,895      |
| 4 : 3,382,544 | 3,382,867     | 3,383,348     | 3,382,566     | 3,382,988      | 3,382,897      |
| 3,382,640     | 3,382,890     | 3,383,349     | 3,382,597     | 3,383,102      | 3,382,905      |
| 3,382,935     | 3,382,893     | 3,383,389     | 3,382,644     | 3,383,156      | 3,382,912      |
| 3,382,937     | 3,382,921     | 3,383,401     | 3,382,669     | 3,383,410      | 3,382,940      |
| 3,383,137     | 3,382,943     | 3,383,434     | 3,382,720     | 3,383,422      | 3,382,969      |
| 3,383,319     | 3,382,947     | 3,383,439     | 3,382,751     | 3,383,512      | 3,382,970      |
| 3,383,654     | 3,382,965     | 3,383,444     | 3,382,851     | 3,383,549      | 3,382,972      |
| 3,383,659     | 3,382,973     | 3,383,453     | 3,382,885     | 3,383,611      | 3,383,006      |
| 3,383,677     | 3,382,988     | 3,383,454     | 3,382,910     | 3,383,655      | 3,383,007      |
| 3,383,680     | 3,382,989     | 3,383,463     | 3,383,016     | 3,383,655      | 3,383,008      |
| 5 : 3,382,618 | 3,382,990     | 3,383,466     | 3,383,019     | 3,383,655      | 3,383,041      |
| 6 : 3,382,515 | 3,382,991     | 3,383,473     | 3,383,030     | 3,383,655      | 3,383,062      |
| 3,382,526     | 3,382,993     | 3,383,480     | 3,383,078     | 3,383,655      | 3,383,064      |
| 3,382,558     | 3,382,998     | 3,383,487     | 3,383,108     | 3,383,655      | 3,383,083      |
| 3,382,579     | 3,383,026     | 3,383,491     | 3,383,189     | 3,383,655      | 3,383,098      |
| 3,382,584     | 3,383,027     | 3,383,503     | 3,383,192     | 3,383,655      | 3,383,103      |
| 3,382,585     | 3,383,032     | 3,383,511     | 3,383,259     | 3,383,655      | 3,383,219      |
| 3,382,590     | 3,383,039     | 3,383,513     | 3,383,264     | 3,383,655      | 3,383,222      |
| 3,382,592     | 3,383,047     | 3,383,520     | 3,383,291     | 3,383,655      | 3,383,223      |
| 3,382,593     | 3,383,061     | 3,383,526     | 3,383,397     | 3,383,655      | 3,383,260      |
| 3,382,594     | 3,383,073     | 3,383,545     | 3,383,399     | 3,383,655      | 3,383,271      |
| 3,382,604     | 3,383,081     | 3,383,547     | 3,383,419     | 3,383,655      | 3,383,284      |
| 3,382,607     | 3,383,084     | 3,383,548     | 3,383,486     | 3,383,655      | 3,383,305      |
| 3,382,608     | 3,383,092     | 3,383,578     | 3,383,541     | 3,383,655      | 3,383,306      |
| 3,382,610     | 3,383,104     | 3,383,587     | 3,383,622     | 3,383,655      | 3,383,378      |
| 3,382,612     | 3,383,106     | 3,383,590     | 3,383,702     | 3,383,655      | 3,383,384      |
| 3,382,635     | 3,383,111     | 3,383,598     | 3,382,648     | 3,383,655      | 3,383,404      |
| 3,382,651     | 3,383,114     | 3,383,600     | 3,382,845     | 3,383,655      | 3,383,443      |
| 3,382,666     | 3,383,116     | 3,383,602     | 3,383,051     | 3,383,655      | 3,383,450      |
| 3,382,679     | 3,383,118     | 3,383,604     | 3,383,212     | 3,383,655      | 3,383,462      |
| 3,382,692     | 3,383,121     | 3,383,606     | 3,383,320     | 3,383,655      | 3,383,481      |
| 3,382,708     | 3,383,131     | 3,383,608     | 3,383,357     | 3,383,655      | 3,383,492      |
| 3,382,716     | 3,383,153     | 3,383,620     | 3,383,423     | 3,383,655      | 3,383,494      |
| 3,382,721     | 3,383,158     | 3,383,624     | 3,383,424     | 3,383,655      | 3,383,509      |
| 3,382,724     | 3,383,162     | 3,383,629     | 3,383,700     | 3,383,655      | 3,383,514      |
| 3,382,726     | 3,383,165     | 3,383,657     | 3,383,657     | 3,383,655      | 3,383,560      |
| 3,382,773     | 3,383,169     | 3,383,660     | 3,382,513     | 3,383,655      | 3,383,566      |
| 3,382,774     | 3,383,173     | 3,383,675     | 3,382,550     | 3,383,655      | 3,383,576      |
| 3,382,776     | 3,383,181     | 3,383,678     | 3,382,564     | 3,383,655      | 3,383,588      |
| 3,382,777     | 3,383,193     | 3,383,681     | 3,382,606     | 3,383,655      | 3,383,613      |
| 3,382,789     | 3,383,201     | 3,383,684     | 3,382,639     | 3,383,655      | 3,383,627      |
| 3,382,792     | 3,383,208     | 3,383,691     | 3,382,658     | 3,383,655      | 3,383,631      |
| 3,382,800     | 3,383,226     | 3,383,692     | 3,382,681     | 3,383,655      | 3,383,639      |

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| 17 | : 3,383,642 | 25 | : 3,383,094 | 29 | : 3,382,599 | 36 | : 3,382,595 | 39 | : 3,382,546 | 42 | : 3,383,334 |
|    | 3,383,643   |    | 3,383,095   |    | 3,382,675   |    | 3,382,631   |    | 3,382,560   |    | 3,383,358   |
|    | 3,383,644   |    | 3,383,157   |    | 3,382,778   |    | 3,382,645   |    | 3,382,587   |    | 3,383,386   |
|    | 3,383,676   |    | 3,383,163   |    | 3,382,844   |    | 3,382,688   |    | 3,382,600   |    | 3,383,411   |
|    | 3,383,690   |    | 3,383,175   |    | 3,382,845   |    | 3,382,689   |    | 3,382,601   |    | 3,383,428   |
| 18 | : 3,382,510 |    | 3,383,232   |    | 3,383,314   |    | 3,382,723   |    | 3,382,617   |    | 3,383,457   |
|    | 3,382,522   |    | 3,383,235   |    | 3,383,318   |    | 3,382,725   |    | 3,382,643   |    | 3,383,485   |
|    | 3,382,559   |    | 3,383,272   |    | 3,383,323   |    | 3,382,758   |    | 3,382,654   |    | 3,383,501   |
|    | 3,382,576   |    | 3,383,340   |    | 3,383,403   |    | 3,382,759   |    | 3,382,670   |    | 3,383,519   |
|    | 3,382,682   |    | 3,383,395   |    | 3,383,497   |    | 3,382,760   |    | 3,382,672   |    | 3,383,575   |
|    | 3,382,765   |    | 3,383,421   | 31 | : 3,383,110 |    | 3,382,769   |    | 3,382,687   |    | 3,383,577   |
|    | 3,382,808   |    | 3,383,498   | 32 | : 3,382,983 |    | 3,382,787   |    | 3,382,729   |    | 3,383,589   |
|    | 3,382,862   |    | 3,383,507   |    | 3,383,057   |    | 3,382,797   |    | 3,382,733   |    | 3,383,591   |
|    | 3,382,868   |    | 3,383,508   |    | 3,383,089   |    | 3,382,819   |    | 3,382,734   |    | 3,383,623   |
|    | 3,382,898   |    | 3,383,510   |    | 3,383,294   |    | 3,382,820   |    | 3,382,741   |    | 3,383,635   |
|    | 3,382,955   |    | 3,383,539   | 33 | : 3,383,564 |    | 3,382,824   |    | 3,382,753   |    | 3,383,638   |
|    | 3,382,957   |    | 3,383,543   | 34 | : 3,382,535 |    | 3,382,829   |    | 3,382,781   |    | 3,383,645   |
|    | 3,383,043   |    | 3,383,544   |    | 3,382,541   |    | 3,382,833   |    | 3,382,798   |    | 3,383,687   |
|    | 3,383,055   |    | 3,383,558   |    | 3,382,554   |    | 3,382,834   |    | 3,382,812   |    | 3,383,699   |
|    | 3,383,070   |    | 3,383,567   |    | 3,382,562   |    | 3,382,841   |    | 3,382,835   | 43 | : 3,383,475 |
|    | 3,383,134   |    | 3,383,596   |    | 3,382,588   |    | 3,382,876   |    | 3,382,870   | 44 | : 3,382,655 |
|    | 3,383,168   |    | 3,383,621   |    | 3,382,626   |    | 3,382,878   |    | 3,382,871   |    | 3,382,799   |
|    | 3,383,198   |    | 3,383,625   |    | 3,382,649   |    | 3,382,901   |    | 3,382,892   |    | 3,383,263   |
|    | 3,383,248   |    | 3,383,626   |    | 3,382,677   |    | 3,382,932   |    | 3,382,984   | 45 | : 3,382,552 |
|    | 3,383,252   | 26 | : 3,382,507 |    | 3,382,706   |    | 3,382,976   |    | 3,382,999   |    | 3,382,553   |
|    | 3,383,342   |    | 3,382,516   |    | 3,382,780   |    | 3,382,986   |    | 3,383,000   |    | 3,382,744   |
|    | 3,383,527   |    | 3,382,530   |    | 3,382,795   |    | 3,382,987   |    | 3,383,009   |    | 3,382,749   |
|    | 3,383,530   |    | 3,382,537   |    | 3,382,806   |    | 3,383,001   |    | 3,383,028   |    | 3,382,784   |
|    | 3,383,552   |    | 3,382,570   |    | 3,382,826   |    | 3,383,004   |    | 3,383,033   |    | 3,383,268   |
|    | 3,383,584   |    | 3,382,571   |    | 3,382,830   |    | 3,383,011   |    | 3,383,058   |    | 3,383,350   |
| 19 | : 3,382,996 |    | 3,382,596   |    | 3,382,869   |    | 3,383,013   |    | 3,383,088   | 46 | : 3,382,704 |
|    | 3,383,044   |    | 3,382,614   |    | 3,382,918   |    | 3,383,022   |    | 3,383,093   | 47 | : 3,382,517 |
|    | 3,383,289   |    | 3,382,615   |    | 3,382,966   |    | 3,383,038   |    | 3,383,100   |    | 3,382,555   |
|    | 3,383,484   |    | 3,382,616   |    | 3,383,018   |    | 3,383,062   |    | 3,383,132   |    | 3,382,694   |
| 20 | : 3,382,561 |    | 3,382,619   |    | 3,383,056   |    | 3,383,077   |    | 3,383,138   |    | 3,382,738   |
|    | 3,382,854   |    | 3,382,620   |    | 3,383,059   |    | 3,383,105   |    | 3,383,144   |    | 3,382,743   |
|    | 3,382,860   |    | 3,382,647   |    | 3,383,067   |    | 3,383,108   |    | 3,383,178   |    | 3,382,971   |
|    | 3,382,864   |    | 3,382,653   |    | 3,383,086   |    | 3,383,127   |    | 3,383,197   |    | 3,383,329   |
|    | 3,383,002   |    | 3,382,676   |    | 3,383,101   |    | 3,383,142   |    | 3,383,202   |    | 3,383,379   |
|    | 3,383,080   |    | 3,382,683   |    | 3,383,124   |    | 3,383,147   |    | 3,383,207   |    | 3,383,380   |
|    | 3,383,082   |    | 3,382,727   |    | 3,383,136   |    | 3,383,150   |    | 3,383,237   | 48 | : 3,382,551 |
|    | 3,383,149   |    | 3,382,732   |    | 3,383,152   |    | 3,383,155   |    | 3,383,250   |    | 3,382,627   |
| 21 | : 3,382,665 |    | 3,382,775   |    | 3,383,154   |    | 3,383,159   |    | 3,383,254   |    | 3,382,671   |
|    | 3,382,825   |    | 3,382,809   |    | 3,383,176   |    | 3,383,160   |    | 3,383,313   |    | 3,382,818   |
|    | 3,382,951   |    | 3,382,810   |    | 3,383,187   |    | 3,383,174   |    | 3,383,321   |    | 3,382,840   |
|    | 3,382,963   |    | 3,382,852   |    | 3,383,190   |    | 3,383,180   |    | 3,383,330   |    | 3,382,847   |
|    | 3,383,123   |    | 3,382,856   |    | 3,383,191   |    | 3,383,194   |    | 3,383,337   |    | 3,382,894   |
|    | 3,383,148   |    | 3,382,879   |    | 3,383,200   |    | 3,383,195   |    | 3,383,346   |    | 3,382,904   |
|    | 3,383,257   |    | 3,382,881   |    | 3,383,221   |    | 3,383,199   |    | 3,383,370   |    | 3,382,925   |
|    | 3,383,345   |    | 3,382,889   |    | 3,383,224   |    | 3,383,204   |    | 3,383,483   |    | 3,382,927   |
| 22 | : 3,383,119 |    | 3,382,915   |    | 3,383,230   |    | 3,383,205   |    | 3,383,515   |    | 3,382,929   |
|    | 3,383,213   |    | 3,382,941   |    | 3,383,233   |    | 3,383,262   |    | 3,383,554   |    | 3,382,930   |
|    | 3,383,300   |    | 3,382,944   |    | 3,383,234   |    | 3,383,265   |    | 3,383,565   |    | 3,382,933   |
|    | 3,383,304   |    | 3,382,948   |    | 3,383,239   |    | 3,383,280   | 40 | : 3,382,583 |    | 3,382,936   |
|    | 3,383,390   |    | 3,382,978   |    | 3,383,247   |    | 3,383,308   |    | 3,382,598   |    | 3,382,938   |
|    | 3,383,426   |    | 3,383,003   |    | 3,383,249   |    | 3,383,356   |    | 3,382,922   |    | 3,382,946   |
| 23 | : 3,382,624 |    | 3,383,012   |    | 3,383,251   |    | 3,383,362   |    | 3,382,923   |    | 3,382,967   |
|    | 3,383,120   |    | 3,383,014   |    | 3,383,270   |    | 3,383,366   |    | 3,382,924   |    | 3,382,975   |
| 24 | : 3,382,605 |    | 3,383,015   |    | 3,383,276   |    | 3,383,396   |    | 3,382,928   |    | 3,383,020   |
|    | 3,382,722   |    | 3,383,063   |    | 3,383,281   |    | 3,383,402   |    | 3,383,261   |    | 3,383,031   |
|    | 3,382,785   |    | 3,383,090   |    | 3,383,293   |    | 3,383,415   |    | 3,383,333   |    | 3,383,122   |
|    | 3,382,805   |    | 3,383,135   |    | 3,383,363   |    | 3,383,469   |    | 3,383,377   |    | 3,383,125   |
|    | 3,382,872   |    | 3,383,146   |    | 3,383,364   |    | 3,383,495   |    | 3,383,430   |    | 3,383,325   |
|    | 3,382,903   |    | 3,383,179   |    | 3,383,388   |    | 3,383,496   |    | 3,383,430   |    | 3,383,326   |
|    | 3,382,977   |    | 3,383,256   |    | 3,383,391   |    | 3,383,521   | 41 | : 3,382,545 |    | 3,383,326   |
|    | 3,382,992   |    | 3,383,282   |    | 3,383,394   |    | 3,383,529   |    | 3,382,771   |    | 3,383,372   |
|    | 3,383,035   |    | 3,383,295   |    | 3,383,408   |    | 3,383,534   |    | 3,382,828   |    | 3,383,373   |
|    | 3,383,076   |    | 3,383,296   |    | 3,383,412   |    | 3,383,536   |    | 3,383,040   |    | 3,383,417   |
|    | 3,383,128   |    | 3,383,302   |    | 3,383,414   |    | 3,383,540   |    | 3,383,045   |    | 3,383,418   |
|    | 3,383,228   |    | 3,383,303   |    | 3,383,416   |    | 3,383,542   | 42 | : 3,382,514 |    | 3,383,427   |
|    | 3,383,298   |    | 3,383,317   |    | 3,383,420   |    | 3,383,551   |    | 3,383,636   |    | 3,383,537   |
|    | 3,383,328   |    | 3,383,322   |    | 3,383,433   |    | 3,383,557   |    | 3,382,575   |    | 3,383,556   |
|    | 3,383,344   |    | 3,383,327   |    | 3,383,436   |    | 3,383,574   |    | 3,382,625   |    | 3,383,568   |
|    | 3,383,351   |    | 3,383,429   |    | 3,383,438   |    | 3,383,579   |    | 3,382,632   |    | 3,383,586   |
|    | 3,383,405   |    | 3,383,431   |    | 3,383,442   |    | 3,383,581   |    | 3,382,636   |    | 3,383,614   |
|    | 3,383,413   |    | 3,383,435   |    | 3,383,460   |    | 3,383,585   |    | 3,382,662   |    | 3,383,673   |
|    | 3,383,455   |    | 3,383,440   |    | 3,383,470   |    | 3,383,593   |    | 3,382,668   | 49 | : 3,382,995 |
|    | 3,383,458   |    | 3,383,477   |    | 3,383,476   |    | 3,383,594   |    | 3,382,707   |    | 3,383,682   |
|    | 3,383,524   |    | 3,383,489   |    | 3,383,478   |    | 3,383,605   |    | 3,382,822   | 50 | : 3,382,767 |
|    | 3,383,538   |    | 3,383,490   |    | 3,383,488   |    | 3,383,641   |    | 3,382,865   |    | 3,382,934   |
|    | 3,383,546   |    | 3,383,532   |    | 3,383,500   |    | 3,383,649   |    | 3,382,875   | 51 | : 3,383,113 |
|    | 3,383,603   |    | 3,383,535   |    | 3,383,522   |    | 3,383,651   |    | 3,382,877   |    | 3,382,511   |
|    | 3,383,615   |    | 3,383,592   |    | 3,383,571   |    | 3,383,653   |    | 3,382,902   |    | 3,382,634   |
|    | 3,383,632   |    | 3,383,637   |    | 3,383,573   |    | 3,383,672   |    | 3,382,907   |    | 3,382,678   |
|    | 3,383,633   |    | 3,383,646   |    | 3,383,582   |    | 3,383,685   |    | 3,382,913   |    | 3,382,711   |
|    | 3,383,683   |    | 3,383,670   |    | 3,383,601   |    | 3,383,695   |    | 3,382,920   |    | 3,382,714   |
| 25 | : 3,382,518 | 27 | : 3,382,524 |    | 3,383,607   |    | 3,383,698   |    | 3,382,928   |    | 3,382,859   |
|    | 3,382,523   |    | 3,382,572   |    | 3,383,609   |    | 3,382,505   |    | 3,382,980   |    | 3,382,860   |
|    | 3,382,533   |    | 3,382,684   |    | 3,383,610   | 37 | : 3,382,543 |    | 3,382,994   |    | 3,383,034   |
|    | 3,382,548   |    | 3,382,702   |    | 3,383,612   |    | 3,382,660   |    | 3,383,005   |    | 3,383,109   |
|    | 3,382,549   |    | 3,382,891   |    | 3,383,616   |    | 3,382,816   |    | 3,383,037   |    | 3,383,166   |
|    | 3,382,623   |    | 3,382,908   |    | 3,383,618   |    | 3,382,874   |    | 3,383,046   |    | 3,383,238   |
|    | 3,382,739   |    | 3,383,217   |    | 3,383,619   |    | 3,382,882   |    | 3,383,050   |    | 3,383,241   |
|    | 3,382,762   |    | 3,383,225   |    | 3,383,648   |    | 3,382,909   |    | 3,383,064   |    | 3,383,253   |
|    | 3,382,764   |    | 3,383,307   |    | 3,383,661   |    | 3,382,961   |    | 3,383,079   |    | 3,383,338   |
|    | 3,382,782   |    | 3,383,360   |    | 3,383,662   |    | 3,383,053   |    | 3,383,115   |    | 3,383,518   |
|    | 3,382,783   |    | 3,383,468   |    | 3,383,664   |    | 3,383,133   |    | 3,383,145   |    | 3,383,580   |
|    | 3,382,788   |    | 3,383,516   |    | 3,383,666   |    | 3,383,341   |    | 3,383,185   |    | 3,383,679   |
|    | 3,382,790   |    | 3,383,617   | 35 | : 3,383,482 |    | 3,383,365   |    | 3,383,206   | 53 | : 3,382,602 |
|    | 3,382,880   |    | 3,383,667   | 36 | : 3,382,563 |    | 3,383,368   |    | 3,383,236   |    | 3,383,686   |
|    | 3,382,917   |    | 3,383,674   |    | 3,382,565   |    | 3,383,369   |    | 3,383,266   |    | 3,382,712   |
|    | 3,382,919   | 28 | : 3,382,709 |    | 3,382,568   |    | 3,383,452   |    | 3,383,275   |    | 3,382,837   |
|    | 3,383,021   |    | 3,382,939   |    | 3,382,569   |    | 3,383,452   |    | 3,383,283   |    | 3,383,071   |
|    | 3,383,029   |    | 3,383,024   |    | 3,382,574   | 39 | : 3,382,521 |    | 3,383,292   |    | 3,383,216   |
|    | 3,383,060   | 29 | : 3,382,508 |    | 3,382,581   |    | 3,382,529   |    | 3,383,301   |    | 3,383,277   |
|    | 3,383,065   |    | 3,382,547   |    | 3,382,591   |    | 3,382,538   |    | 3,383,331   |    | 3,383,451   |
|    |             |    |             |    |             |    |             |    |             |    | 3,383,465   |



|                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|
| 54 : 3,383,374 | 55 : 3,382,582 | 55 : 3,382,883 | 55 : 3,382,979 | 55 : 3,383,278 | 55 : 3,383,555 |
| 55 : 3,383,398 | 55 : 3,382,641 | 55 : 3,382,914 | 55 : 3,382,985 | 55 : 3,383,506 | 55 : 3,383,561 |
| 55 : 3,382,503 | 55 : 3,382,646 |                |                |                |                |

## Design Patents

|              |              |              |              |              |              |
|--------------|--------------|--------------|--------------|--------------|--------------|
| 6 : 211,009  | 13 : 210,993 | 22 : 211,051 | 34 : 210,998 | 36 : 211,034 | 39 : 211,037 |
| 211,012      | 210,994      | 211,052      | 210,999      | 211,035      | 211,047      |
| 211,023      | 210,995      | 211,058      | 211,004      | 211,036      | 211,068      |
| 211,027      | 210,996      | 211,072      | 211,013      | 211,045      | 211,070      |
| 211,028      | 210,997      | 211,067      | 211,025      | 211,053      | 211,010      |
| 211,061      | 211,015      | 211,003      | 211,048      | 211,069      | 211,055      |
| 8 : 211,044  | 211,016      | 211,022      | 211,054      | 211,071      | 211,073      |
| 9 : 211,029  | 211,039      | 210,991      | 36 : 211,002 | 211,074      | 44 : 211,056 |
| 211,046      | 211,041      | 211,031      | 211,005      | 211,018      | 48 : 211,019 |
| 211,063      | 211,057      | 211,038      | 211,007      | 211,000      | 53 : 211,043 |
| 11 : 211,032 | 211,059      | 211,042      | 211,011      | 211,008      | 55 : 211,040 |
| 12 : 211,006 | 22 : 211,049 | 211,065      | 211,024      | 211,014      |              |
| 13 : 210,992 | 211,050      | 30 : 211,017 | 211,030      | 211,033      |              |

U.S. DEPARTMENT OF COMMERCE  
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE  
May 14, 1968 Volume 850 Number 2

TRADEMARKS  
NOTICES

## Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancellation will be proceeded with as in the case of default.

Topton Rug Manufacturing Co., New York, N.Y., Reg. No. 562,688, Canc. No. 9093.

Schloss Bros. & Co., Inc., Baltimore, Md., Reg. No. 344,021, Canc. No. 9104.

EDWIN L. REYNOLDS,  
First Assistant Commissioner of Patents.

## Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 137,701 (SIMONIZ), Simons Mfg. Co., Paste for cleaning and polishing automobile-bodies, furniture, and the like; Reg. No. 561,771, same, The Simons Company, Hard paste wax like material for providing a coating or film, particularly for protective and preservative purposes, and for use on automobiles, furniture, and the like; Reg. No. 563,837, same, Cleaning and polishing compounds, in both paste and liquid form, for any painted, lacquered, enameled, or porcelain surface, as on automobiles, furniture and the like; a

paste, wax-like, material for polishing floors and providing a preservative coating therefor; a paste and a liquid material for polishing any painted, lacquered, enameled, or porcelain surface and providing a preservative coating therefor; a "rub-down" compound in paste form for dressing newly applied lacquers, enamels, and the like, and providing a preliminary polish thereto; and paste, wax-like, materials having various coloring incorporated therein for polishing furniture and other woodwork, and for minimizing the effects of scratches and other marks thereon; Reg. No. 563,838, same, Chrome and metal cleaner in liquid form, and for a tar solvent in liquid form; filed Jan. 23, 1968, D.C., E.D.N.Y. (Brooklyn), Doc. 68C-84, *Simons Co. v. Gulfport Chemical Corporation*.

Reg. No. 344,956 (ROTO-ROOTER), Roto-Rooter Corporation, Municipal, industrial, and domestic sewer, drain, and pipe cleaning service; Reg. No. 597,721, same, Sewer and drain cleaning machines, filed Feb. 25, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65-C-176, *Roto-Rooter Corp. v. Harold Williams et al.*

Reg. No. 352,654 (TRAILWAYS), National Trailways System, Bi-monthly periodical; Reg. No. 517,542, same, National Trailways Bus System, Passenger motorbus transportation service; Reg. No. 519,783, same; Reg. No. 513,672, same, Transportation by motor bus of passengers, baggage, newspapers, and express to indicate services rendered by the members of applicant; Reg. No. 514,184 (NATIONAL TRAILWAYS BUS SYSTEM AND DESIGN), same, Association

## CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 17,367  
Date of oldest new application..... May 10, 1967  
Date of oldest amended application (filing date)..... Aug. 20, 1964

| C. M. WENDT, Director, Trademark Examining Operation  |  | Oldest Application |          |
|---|--|--------------------|----------|
| TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION  |  | New                | Amended  |
| (I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B..... |  | 5-10-67            | 10-20-66 |
| (II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....                                    |  | 6-21-67            | 8-20-64  |
| (III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36.....   |  | 6-1-67             | 9-27-66  |
| (IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....    |  | 5-15-67            | 1-5-66   |
| Renewals (All Classes).....   |  |                    |          |
| Sec. 12(c) Publications (All Classes).....  |  |                    |          |

Applications filed during the month of March 1968—2,462

Registrations Issued ..... 370—No. 848,829 to No. 849,198  
Renewals Issued ..... 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.



services—namely, services in promoting the welfare of member companies by such means as: providing for the use of joint bus depots; coordinating bus schedules for the convenience of the traveling public; conforming the color schemes, color patterns, trademarks, emblems and slogans to be used by member companies; establishing the sale of through interline tickets and the checking of baggage for through passengers of member companies; establishing and enforcing a safety program and safety practices; setting standards for the maintenance of physical equipment of member companies; advertising and coordinating the advertising of the services of member companies afforded the traveling public; setting up meetings and conferences of member companies and various committees; and compiling and disseminating to member companies information relating to improved practices, services and economies; **Reg. No. 814,185 (TRAILWAYS)**, same; **Reg. No. 814,198 (NATIONAL TRAILWAYS BUS SYSTEM AND DESIGN)**, same, Transportation by motor bus of passengers, baggage, newspapers, and express, to indicate services rendered by the members of applicant, filed Dec. 7, 1966, D.C. District of Columbia (Washington), Doc. CA3228-66, *National Trailways Bus System v. Trailways of Canada Limited*.

**Reg. No. 378,913 (BATMAN)**, Detective Comics, Inc., Cartoon published in a series; **Reg. No. 382,770 (BATMAN AND DESIGN)**, same, Magazine; **Reg. No. 804,709**, same, National Periodical Publications, Inc.; Comic magazines, filed Dec. 28, 1966, D.C. District of Columbia (Washington), Doc. CA3388-66, *National Periodical Publications, Inc. v. Eskimo Pie Corporation*.

poration. Stipulation dismissed with prejudice, Jan. 15, 1967.

**Reg. No. 382,770.** (See Reg. No. 378,913.)

**Reg. No. 506,398 (ALL)**, Detergents, Inc., Detergents for use as a laundry powder; **Reg. No. 625,619**, same, Monsanto Chemical Company, Detergents for use in automatic washing machines and for general washing and cleaning purposes, filed Jan. 31, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 68C-103, *Lever Bros. Co. v. Economy Food Service*.

**Reg. No. 561,771.** (See Reg. No. 137,701.)

**Reg. No. 563,837.** (See Reg. No. 137,701.)

**Reg. No. 563,838.** (See Reg. No. 137,701.)

**Reg. No. 597,721.** (See Reg. No. 344,958.)

**Reg. No. 625,619.** (See Reg. No. 506,398.)

**Reg. No. 698,734 (EXECUTIVE HOUSE)**, Executive House Motor Hotels Corporation, Operation and management of motels, hotels, and motor hotels—namely, providing lodging, food, and beverages, and providing facilities and equipment for swimming, sun bathing, sports and games, and providing reservation services among the various motels, hotels and motor hotels so operated and managed; **Reg. No. 718,701 (EXECUTIVE INN)**, same, Motel, hotel and restaurant services, filed Jan. 29, 1968, D.C., E.D. Wis. (Milwaukee), Doc. 68-C-19, *Executive House, Inc. and Executive Inn Motor Hotels Corp. v. Executive Inn Inc.*

**Reg. No. 718,701.** (See Reg. No. 698,734.)

**Reg. No. 804,709.** (See Reg. No. 378,913.)

## MARKS PUBLISHED FOR OPPOSITION

### SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 240,121. Streater Store Fixtures, Inc., Albert Lea, Minn. Filed Mar. 3, 1966.



The mark contains a fanciful showing of the letters "H."

#### Class 100—Miscellaneous

For Designing, Modernizing, and Planning Store Layouts, Store Fixtures, and Decor Items (Int. Cl. 42).

#### Class 103—Construction and Repair

For Installing Store Layouts, Store Fixtures, and Decor Items (Int. Cl. 37).

First use Sept. 13, 1965.

SN 241,402. The Warner & Swasey Company, Cleveland, Ohio. Filed Mar. 21, 1966.



Owner of Reg. Nos. 688,230, 699,385, and others.

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Drilling Machines, Boring Machines, Turret Lathes, Single and Multiple Spindle Automatic Lathes, Tapping Machines, Tools and Tool Holders for Machine Tools, Textile Machinery, Numerical Controls for Machines, and Diggers, Loaders, Digging, Grading, Surface Modifying and Material Moving and Material Loading Equipment and Apparatus (Int. Cl. 7).

#### Class 26—Measuring and Scientific Appliances

For Balancing Machines, Fatigue Testing Machines, and Spectrographic Apparatus for Analysing Radiation and Radiation Source Units (Int. Cl. 9).

First use Apr. 1, 1958.



The drawing is lined for the colors green and yellow or gold.

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Road Construction Machinery—Namely, Concrete Curing Machines, Spray Devices, Saws, Pin Pullers, Form Trucks, and Saw Blades (Int. Cl. 7).

#### Class 34—Heating, Lighting, and Ventilating Apparatus

For Road Construction Machinery—Namely, Portable Heating Kettles (Int. Cl. 11).

First use May 1955.

SN 245,965. Red Devil, Inc., Union, N.J. Filed May 18, 1966.



Owner of Reg. Nos. 515,716 and 549,770.

#### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Push Points and Triangle Points (Int. Cl. 6).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Putty Knife, Wall Scraper, Taping Knife, Tape Knife, Bent Putty Knife, Putty Chisel, Chisel Wall Scraper, Window Tool, Linoleum Knife, Vinyl Knife, Utility Knife, Utility Knife Blade, Scraper-Prybar, Putty Spreader, Bent Burn-Off Knife, Burn-Off Knife, Paper Hanger Knife, Casing Wheel Knife, Seam Roller, Wood Scraper, Wood Scraper Blade, Cutter Blade, Finishing Scraper, Finishing Cutter Blade, Crack Scraper, Crack Cutter, Wallpaper Stripper, Wallpaper Stripper Blade, Carbide Scraper, Carbide Scraper Blade, Sandpaper Holder, Painters' Scraper Set, Painters' Scraper, Window Zipper, Utility Patcher, Razor Blade Scraper, Razor Knife, Razor Blades, Methyl Methacrylate Scraper, Pail Lid Sealer, Can Lid Sealer, Glass Cutters, Glass Boards, Carbide Glass Cutters, Circle Glass Cutters, Gauge Glass Cutters, Steel Glass Cutter Wheels, Carbide Glass Cutter Wheels, Glassers' Hammer, Diamond Point Driver, Diamond Points, Glass Pliers, Glassers' Chisel, Vacuum Cup Glass Holders, and Carbide Glass Drill (Int. Cl. 8).

First use Mar. 18, 1966.



SN 247,853. Tescom Corporation, Minneapolis, Minn. Filed June 13, 1966.



### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Manually Operated and Motor Actuated Air, Oxygen, Acetylene, Hydrogen and Other Gas Pressure Regulators, Including Spring Loaded, Dome Loaded, Gas Loaded, Self-Relieving and Preset Pressure Regulators; Parts of Pressure Regulators; Range Adaptors for Use in Conjunction With Pressure Regulators; Hose and Cylinder Manifolds; Fittings for Cylinders, Pressure Regulators and Hose; Check and Relief Valves (Int. Cls. 6 and 7).  
First use prior to Aug. 19, 1965.

### Class 34—Heating, Lighting, and Ventilating Apparatus

For Hand Type and Machine Type Welding, Cutting, Heating, Soldering and Brazing Torches and Torch Assemblies Including Torch Tips and Parts Therefor; and Outfits and Kits for Welding, Cutting, Heating, Soldering and Brazing Including a Torch and Torch Tips, and Other Such Outfits and Kits Additionally Including One or More of the Following: a Pressure Regulator, Valves, Hose, Hose Connectors and Cylinders of Oxygen and Fuel Gas (Int. Cls. 7 and 9).  
First use prior to Jan. 1, 1964.

SN 249,386. Analytical Chemists, Inc., Palo Alto, Calif. Filed July 1, 1966.



The drawing is lined for the color blue, but no claim is made to color.

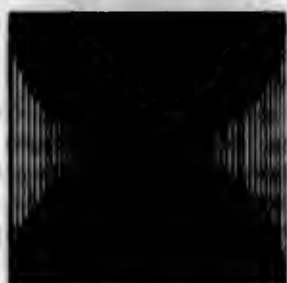
### Class 6—Chemicals and Chemical Compositions

For Laboratory Chemical Reagent Kit for Analytical Use—Namely, a Gel Contained in a Mold for Use in Electrophoresis and Chromatography Processes, Molds Containing a Gel for Use in Electrophoresis and Chromatography Processes, and Chemicals Adapted To Be Mixed at Time of Use for Application to Electrophoretically Separated Materials on a Support for the Quantitative Determination of the Electrophoretically Separated Materials Thereon (Int. Cl. 1).

### Class 26—Measuring and Scientific Appliances

For Molds for Preparing a Thin Gel Film for Use in Electrophoresis and Chromatography Processes (Int. Cl. 9).  
First use about Apr. 1, 1964.

SN 250,706. The Valspar Corporation, Rockford, Ill. Filed July 20, 1966.



The mark is lined for the color red, but no claim is made as to color.

### Class 5—Adhesives

For Dry Wall Stud and Joint Adhesive; Panel Adhesive; Cove Base Adhesive; and Tile Adhesive (Int. Cl. 1).

### Class 12—Construction Materials

For Plaster Bonding Agent; Spackling Paste, Glazing Compound; and Joint Compound (Int. Cls. 2 and 19).

First use about Mar. 25, 1965.

SN 252,378. Grehan Sociedad Anonima, Comercial, Industrial y Financiera, Buenos Aires, Argentina. Filed Aug. 15, 1966.

### KAREEN HORN

The name "Kareen Horn" is fictitious and not the name of any known living individual. Owner of Argentine Reg. No. 521,842, dated Nov. 26, 1963.

### Class 51—Cosmetics and Toilet Preparations

For Cold Cream, Creams, Lotions, and Oils for Face and Body Use, Face and Body Powder, Lipstick, Creme Rouge, Eye Shadow, Eyebrow Pencil, Lip Delineator Pencil and Applicator Brush, Mascara, Eye Delineator Liquid and Cream, Personal Deodorants, Sun Tan Lotion and Cream, Nail Enamels, Bath Salts, Bubble Bath, Perfumes, Cologne, and Toilet Water (Int. Cls. 3 and 5).

### Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

SN 255,957. Big Three Industrial Gas and Equipment Co., South Plainfield, N.J. Filed Oct. 7, 1966.



The drawing is lined for red, and color is claimed as a feature of the mark. The word "Company" is disclaimed apart from the mark as shown. Owner of Reg. No. 757,246.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Equipment for Positioning and Adjusting Work Pieces During Assembly, Welding, and Other Manufacturing Operations—Namely, Turning Rolls, Head and Tail Stocks, Turntables and positioners (Int. Cl. 7).  
First use Jan. 20, 1966.

### Class 34—Heating, Lighting, and Ventilating Apparatus

For Welding Machinery—Namely, Machines for Holding and Positioning Work During Welding, Welding Head Manipulators, and Welding Platforms (Int. Cl. 7).  
First use Sept. 13, 1966.

SN 256,407. Vacudyne Corporation, Chicago, Ill. Filed Oct. 14, 1966.



The drawing is lined for shading only. Owner of Reg. No. 739,528 and others.

### Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Controlled Panels and Systems and Impregnation Equipment Actuated by Electro-Pneumatic and Electronic Controlled Panels for Use in Impregnating Transformers, Condensers, Electrical Ballasts, and the Like (Int. Cl. 9).

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Blending Systems, Packaging Machinery, Sterilizers and Fumigators of the Vacuum Type, Bulk Moistening and Conditioning Systems and Industrial Crystallizers, All for Use in Tobacco, Food, Pharmaceutical, Electrical Industries, and the Like; and Packaged Vacuum Systems Comprised of Apparatus the Joint Use of Which Constitutes Systems for the Processing and Manufacturing of an End Product in Various Industries (Int. Cls. 7 and 11).

### Class 26—Measuring and Scientific Appliances

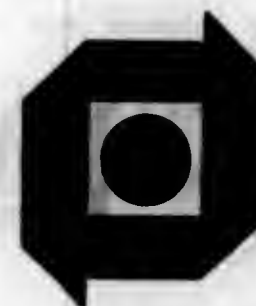
For Environmental Simulation Equipment for Use in Space Travel Research and Biological and Physiological Studies, and Conveyor Scales (Int. Cl. 9).

### Class 100—Miscellaneous

For Engineering Design and Construction Services Rendered to Industry, Institutions, and Government (Int. Cl. 42).

First use at least as early as October 1965; Mar. 30, 1967, as to "Vacudyne."

SN 257,123. American Precision Industries, Inc., Buffalo, N.Y. Filed Oct. 25, 1966.



### Class 21—Electrical Apparatus, Machines, and Supplies

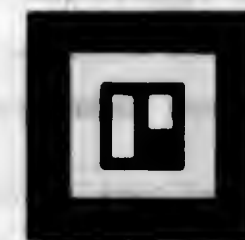
For Electronic Coils; Electro-Mechanical Brakes for Use in Computers, Data Processing, and Aerospace Control Systems (Int. Cl. 9).

### Class 34—Heating, Lighting, and Ventilating Apparatus

For Heat Exchangers of the Plate Fin, Tube, and Shell Types (Int. Cl. 11).

First use in or about March 1966.

SN 258,399. Patal Engraving & Engineering Co., Newark, N.J. Filed Nov. 10, 1966.



### Class 100—Miscellaneous

For Designing Name Plates and Metal Identification Tags for Others (Int. Cl. 42).

### Class 106—Material Treatment

For Engraving, Gold-Leafing, and Molding Plastic and Metal Parts to the Order and/or Specification of Others (Int. Cl. 40).

First use October 1966.

SN 259,876. B. Wise Mfg. Corp., Los Angeles, Calif. Filed Dec. 2, 1966.

### IMPRESS

### Class 4—Abrasives and Polishing Materials

For Aerosol Household Products—Namely, Furniture Polish (Int. Cl. 3).

### Class 6—Chemicals and Chemical Compositions

For Room Freshener, Spray Starch, and Fabric Spray (Int. Cls. 3 and 5).

### Class 51—Cosmetics and Toilet Preparations

For Personal Products—Namely, Shaving Cream, Personal Deodorant, and Hair Spray (Int. Cls. 3 and 5).

### Class 52—Detergents and Soaps

For Glass Cleaner (Int. Cl. 3).

First use Nov. 8, 1966.

SN 261,259. Cresca Company, Inc., New York, N.Y. Filed Dec. 22, 1966.

### CRESCA

Owner of Reg. Nos. 121,704, 799,961, and others.

### Class 37—Paper and Stationery

For Cocktail Party Accessories—Namely, Paper Napkins (Int. Cl. 16).

First use December 1959.

### Class 46—Foods and Ingredients of Foods

For Anchovy Paste; Artichoke Bottoms; Caviar; Capers; Bar Le Duc; Cakes; Petits Fours; Cocktail Crackers; Maroons; Candy; Shelled and Unshelled Nuts; Breakfast Cereals; Cheese Dips; Dates; Figs; Prunes; Canned and Bottled Fruits and Fruit Juices; Candied Fruit; Canned Meat and Prepared Meat Products; Maraschino Cherries; Fruit Jellies and Preserves; Fruit Syrups To Be Used for Food Purposes; Plum Pudding; Canned and Bottled Vegetables; Juices for Use as Cocktail Mixes; Meat and Seafood Sauces; Olives; Olive Oil; Vinegars; Pickled Onions; Pickles; Pickle, Corn and Fruit Relishes; Pimento; Ginger; Goose Liver; Peppars; Rice; Canned and Bottled Fish, and Shellfish; Lobster Paste; Meat and Fish Spreads; Bacon Rinds; Soups; Sugar; Truffles; Pate de Foie Gras; Wheat Pilaff; Processed Cheeses; Snails; Marsipan; Mustards; Antipasto; and Cookies and Bread (Int. Cls. 29, 30, and 32).  
First use Sept. 15, 1962.

### Class 47—Wines

For Cooking Wines (Int. Cl. 33).  
First use 1962.

### Class 50—Merchandise Not Otherwise Classified

For Drinking Straws and Serving Picks (Int. Cls. 20 and 21).  
First use December 1959.

SN 261,394. The New England Industries Incorporated, Medina, Ohio. Filed Dec. 23, 1966.

### PLASTI-KOTE

Owner of Reg. Nos. 169,950 and 565,437.

### Class 15—Oils and Greases

For Lubricants and Mold Releases (Int. Cl. 4).

### Class 16—Protective and Decorative Coatings

For Paints, Paint Primers, Enamels, Lacquers, Varnishes, Battery Terminal Coatings, and Vinyl Coatings (Int. Cl. 2).

### Class 52—Detergents and Soaps

For Paint Remover, Rust Solvent, Electrical Contact Cleaners, Degreaser and Motor Cleaners (Int. Cls. 1 and 3).  
First use Feb. 1, 1941.



SN 261,417. Kas Manufacturing Co., Inc., New York, N.Y. Filed Dec. 27, 1966.

SN 262,296. A. L. Hansen Mfg. Co., Gurnee, Ill. Filed Jan. 11, 1967.



#### Class 44—Dental, Medical, and Surgical Appliances

For Electrical Facial Appliance Which Provides Vapors for Facial Cleansing (Int. Cl. 11).

#### Class 51—Cosmetics and Toilet Preparations

For Facial Fresheners and Moisturisers (Int. Cl. 3).  
First use Nov. 1, 1966.

SN 261,560. Forney Engineering Company, Dallas, Tex., assignee of General Regulator Corporation, Livingston, N.J. Filed Dec. 28, 1966.



#### Class 21—Electrical Apparatus, Machines, and Supplies

For Pneumatic Relays Including Signal Selector Relays, Signal Limiting Relays, Characterizing Relays and Fixed Ratio Relays; Pneumatic Control Stations Including Adjustable Ratio Relays, Automatic Manual Transfer Stations, Manual Loading Stations, and Indicating Control Stations; Pneumatic Actuators Including On-Off Burner Vane Actuators, Positioned Burner Vane Actuators, General Purpose Actuators; Electric Burner Vane Actuators, Pneumatic Flow Transmitters; Circular Chart Recorders; Electric Combustion Control Systems; and Steam Temperature Control Systems (Int. Cl. 9).

#### Class 34—Heating, Lighting, and Ventilating Apparatus

For Pneumatic Rotary Soot Blowers, Manual Rotary Soot Blowers, Electric Rotary Soot Blowers, Rotary Soot Blower Elements and Mounting Equipment, Desuperheaters, Dampers, and Gas Fired Igniters (Int. Cl. 11).

First use July 16, 1934.

SN 262,081. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 9, 1967.

### CHEMICATOR

Owner of Reg. No. 746,608.

#### Class 6—Chemicals and Chemical Compositions

For Chemical Briquettes Used for Water Treatment (Int. Cl. 1).

#### Class 31—Filters and Refrigerators

For Automatic Chemical Feeding Units for Treatment of Water in Commercial Installations (Int. Cl. 11).

First use Nov. 21, 1966.



Applicant makes no claim to the representation of the stapling machine apart from the mark as shown. Owner of Reg. Nos. 334,754, 520,151, and 527,467.

#### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Machine Staples (Int. Cl. 6).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Stapling Machines (Int. Cl. 7).

First use in or about June 1966; at least as early as 1942 as to "Hansen."

SN 265,854. Tri-City Industrial Services, Inc., Louisville, Ky. Filed Mar. 2, 1967.

## TRI-PAK

#### Class 2—Receptacles

For Specialized Containers for Use With Compacting Units (Int. Cl. 20).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Stationary, Hydraulically Operated Compacting Units for Refuse Material, and Parts Thereof (Int. Cl. 7).

First use Oct. 1, 1965.

SN 266,043. Hunt & Mitton Limited, Birmingham, England. Filed Mar. 6, 1967.

### FLOWSTREAM

Owner of British Reg. No. 823,228, dated July 20, 1961.

#### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Valves, Valve Positioners, and Parts of Said Goods (Int. Cl. 6).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Power Operated and/or Remotely Controlled Valves Particularly for Industrial Processes; Valves for Control of High Pressure and/or of Branched Off Secondary Flows (Int. Cls. 6 and 7).

SN 266,302. Clairmont Trading Corporation, New York, N.Y. Filed Mar. 9, 1967.

CEBA-DE-LUXE

#### Class 27—Horological Instruments

For Watches and Watch Cases (Int. Cl. 14).

#### Class 28—Jewelry and Precious-Metal Ware

For Jewelry (Int. Cl. 14).

First use Feb. 1, 1957.

SN 270,182. Automata Corporation, Richland, Wash. Filed Apr. 28, 1967.

### AUTOMATA

#### Class 26—Measuring and Scientific Appliances

For Machines for Automatically Scoring Response Indications Such as Student Examinations (Int. Cl. 9).

#### Class 36—Prints and Publications

For Printed Forms for Recording Indications To Be Scored by Automatic Scoring Machines (Int. Cl. 16).

First use Mar. 9, 1966.

SN 272,443. Clairol Incorporated, New York, N.Y. Filed May 26, 1967.

### KERATINATOR

#### Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparation; Nail Color, Lip Color, Complexion Color, and Hair Conditioner (Int. Cl. 3).

#### Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Oct. 24, 1966.

SN 272,739. National Fashions Corporation, Baltimore, Md. Filed May 31, 1967.

Le Zule

#### Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags (Int. Cl. 18).

#### Class 39—Clothing

For Shoes and Headwear (Int. Cl. 25).

First use 1960.

SN 273,337. Yardley of London, Inc., Totowa, N.J. Filed June 8, 1967.

### LONDONDERRY HAIR

Applicant disclaims the word "Hair" apart from the mark as shown.

#### Class 51—Cosmetics and Toilet Preparations

For Hair Shiner, Hair Conditioner, Setting Foam, and Cream Rinse (Int. Cl. 3).

#### Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use June 2, 1967.

SN 273,820. Waverly Screw & Hardware, Inc., d.b.a. Lustre Line Products, Philadelphia, Pa. Filed June 13, 1967.



#### Class 2—Receptacles

For Wrought Iron Mail Boxes (Int. Cl. 6).

#### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Towel Rings (Int. Cl. 21).

#### Class 21—Electrical Apparatus, Machines, and Supplies

For Switch Plates (Int. Cl. 9).

First use on or about Feb. 17, 1967.

SN 281,414. Copystatics Manufacturing Corporation, Miami Lakes, Fla. Filed Sept. 29, 1967.



The mark consists of a fanciful letter "C" design.

#### Class 26—Measuring and Scientific Appliances

For Electrostatic Copying Machines (Int. Cl. 16).  
First use July 1967.

#### Class 37—Paper and Stationery

For Paper for Electrostatic Copy Machines (Int. Cl. 16).  
First use May 1967.

SN 285,087. Colton Razor Blade Company, South Boston, Mass. Filed Nov. 17, 1967.

### HOUSE OF COLTON

Owner of Reg. No. 671,807.

#### Class 51—Cosmetics and Toilet Preparations

For Shaving Cream, After Shave Lotion, and Deodorant for Personal Use (Int. Cls. 3 and 5).

#### Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use May 25, 1966.



## SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.103.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

### Class 1—Raw or Partly Prepared Materials

SN 255,120. The Pantasote Company of New York, Inc., New York, N.Y., assignee of The Pantasote Company, Passaic, N.J. Filed Sept. 26, 1966.

**THE PANTASOTE COMPANY**

Owner of Reg. No. 524,373. For Synthetic Resins and Packaged Synthetic Resin Base Mixtures and Compounds Suitable for Further Processing (Int. Cl. 1).

First use Oct. 11, 1965.

SN 261,238. Sweetwater Valley Farms, Philadelphia, Tenn. Filed Dec. 21, 1966.

**SVF**

For Polled Cattle (Int. Cl. 31). First use Nov. 15, 1960.

SN 264,737. Goldbrand Leather Co., Camden, N.J. Filed Feb. 15, 1967.

**GUCCI LEATHER BY GOLDBRAND**

The word "Leather" is disclaimed apart from the mark as shown.

For Leather (Int. Cl. 18).

First use on or about Sept. 19, 1966.

SN 268,388. Dreher Leather Manufacturing Corp., Newark, N.J. Filed Apr. 5, 1967.

**PIGALOPE**

For Leather (Int. Cl. 18). First use Nov. 4, 1966.

SN 270,674. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed May 4, 1967.

**ESSEDRA**

For Shoe Soling Material Composed of Rubber, Synthetic Rubber, or Plastic (Int. Cl. 17). First use Apr. 13, 1967.

SN 271,058. Mitsui Kagaku Kogyo Kabushiki Kaisha, d.b.a. Mitsui Chemical Industry Co., Ltd., Chuo-ku, Tokyo, Japan. Filed May 9, 1967.

**VINYCHLON**

For Plastic Resins, Especially Polyvinyl Chloride (Int. Cl. 1).

First use December 1949; in commerce March 1958.

SN 271,974. Stone Mountain Grit Co., Inc., Lithonia, Ga. Filed May 19, 1967.

**RAYFLEX**

For Granite Chips for Roofs, Cemeteries, Eave-Drips, Walkways, Rock Gardens, Aquariums, and the Like (Int. Cl. 19).

First use Dec. 31, 1953.

SN 272,642. Spraylat Corporation, New York, N.Y. Filed May 29, 1967.

**COVERLAC**

Owner of Reg. No. 431,988.

For Synthetic Resins, Solvated Synthetic or Natural Resins, or Other Plastic Compositions, for Use as a Temporary and Removable Protective Covering for Articles During Shipping, Handling and Storage (Int. Cl. 2).

First use Oct. 21, 1944.

SN 274,205. Harrisons & Crosfield Limited, London, England. Filed June 19, 1967.

**HARUB**

For Technically Specified Natural Rubber (Int. Cl. 17). First use December 1964; in commerce September 1965.

SN 279,195. Imperial Chemical Industries Limited, Millbank, London, England. Filed Aug. 28, 1967.

**ORTIX**

Owner of British Reg. No. 894,104, dated May 4, 1966. For Imitation Leather (Int. Cl. 18).

### Class 2—Receptacles

SN 198,472. Flexigrip, Inc., New York, N.Y. Filed July 24, 1964.



The mark consists of a horizontal stripe adjacent the bag top lined for the color red, however, applicant makes no claim to any specific color apart from the mark as shown.

For Plastic Bags (Int. Cl. 22).

First use Mar. 26, 1959.

MAY 14, 1968

U. S. PATENT OFFICE

TM 65

SN 237,321. Fabricated Metals, Inc., San Leandro, Calif. Filed Jan. 26, 1966.

**FLO-BIN**

For Relatively Large Metallic Closable Containers of the Type Used for Transporting, Storing, Handling, and Dispensing Industrial Bulk Materials (Int. Cl. 6).

First use November 1958.

SN 261,649. Elpo Industries Inc., Fair Lawn, N.J. Filed Dec. 29, 1966.

**ON THE WAGON**

For Combination Coaster and Snack Tray of Plastic Material With Foam Rubber Insert (Int. Cl. 21).

First use Sept. 30, 1966.

SN 272,486. Geo. Brothers, Great Barrington, Mass. Filed May 26, 1967.

**SEE-CLAMP**

For Display Holders (Int. Cl. 20).

First use Mar. 1, 1967.

SN 274,184. Certified Manufacturing Company, Inc., Woodside, N.Y. Filed June 19, 1967.

**TAI-WOOD**

For Woodenware—Namely, Bowls (Int. Cl. 21).

First use about Feb. 24, 1967.

SN 275,480. Tele-Quick Corporation, New Haven, Ind. Filed July 6, 1967.

**TELE-TOTE**

For Plastic Bags (Int. Cl. 22).

First use Feb. 22, 1967.

SN 277,579. John Wood Company, East Orange, N.J. Filed Aug. 4, 1967.



Owner of Reg. Nos. 534,412, 720,811, and others. For Metal Tank for Dispensing Under Pressure Premix Beverages and Dispensing Beverage Syrups and the Like (Int. Cl. 6).

First use July 12, 1967.

SN 278,403. Al Nyman & Son, Inc., New York, N.Y. Filed Aug. 16, 1967.



For Tote Bags (Int. Cl. 18). First use Nov. 18, 1966.

SN 281,535. Copolymer Corporation, Torrance, Calif. Filed Oct. 2, 1967.

**POLY-BILT**

For Fiber Glass Tanks (Int. Cl. 20). First use on or about June 10, 1953.

**bord-pak**

For Portable Cases, Racks and Guide Frames for the Packaging and Storage of Printed Circuit Boards and Cards (Int. Cl. 20).

First use Oct. 4, 1967.

SN 282,773. Cohoes Carrybag Company, Inc., Cohoes, N.Y. Filed Oct. 18, 1967.

**COHOESCOTE**

Owner of Reg. Nos. 513,232, 532,448, and 634,038. For Paper Parcel Bags and Envelopes for Merchandise (Int. Cl. 16).

First use June 1967.

### Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 268,890. North Bergen Leather Products Co., North Bergen, N.J. Filed Apr. 11, 1967.



The drawing is lined for the colors red and gold. The words "Raw Hyde" are disclaimed apart from the mark as shown.

Owner of Reg. No. 671,369.

For Ladies' Handbags and Travel Bags (Int. Cl. 18).

First use Jan. 15, 1967.

SN 271,523. Sally Gee, Inc., New York, N.Y. Filed May 15, 1967.

**PAPER DOLLS BY SALLY GEE**

Owner of Reg. Nos. 748,503, 803,142, and 803,143. For Beach Bags (Int. Cl. 18). First use Apr. 15, 1967.

### Class 4—Abrasives and Polishing Materials

SN 265,128. Turtle Wax, Inc., Chicago, Ill. Filed Feb. 20, 1967.

**CROWN JEWEL**

For Car Wax (Int. Cl. 3). First use Feb. 10, 1967.



SN 274,784. Teledyne, Inc., Hawthorne, Calif. Filed June 28, 1967. SN 279,222. Sillmeca Corporation of America, Chicago, Ill. Filed Aug. 28, 1967.

**METABRADE**

For Abrasive Wheels for Abrasion Testing Instruments (Int. Cl. 9).  
First use May 27, 1965.

SN 274,785. Teledyne, Inc., Hawthorne, Calif. Filed June 28, 1967.

**METABRADE**

For Abrasive Wheels for Abrasion Testing Instruments (Int. Cl. 9).  
First use May 27, 1965.

SN 281,497. Servicemaster Industries, Inc., Downers Grove, Ill. Filed Sept. 29, 1967.

**PAMPER**

For Furniture Polish (Int. Cl. 3).  
First use Aug. 31, 1967.

SN 283,382. Alberto-Culver Company, Melrose Park, Ill. Filed Oct. 26, 1967.

**AGLOW**

For Furniture Polish (Int. Cl. 3).  
First use July 31, 1967.

SN 283,383. Alberto-Culver Company, Melrose Park, Ill. Filed Oct. 26, 1967.

**BRILLIANT**

For Furniture Polish (Int. Cl. 3).  
First use July 31, 1967.

SN 283,678. Madison Chemical Corporation, Maywood, Ill. Filed Oct. 30, 1967.

**CLANG!**

For Metal Polish (Int. Cl. 3).  
First use Sept. 10, 1964.

### Class 5 — Adhesives

SN 272,280. Johnson & Johnson, d.b.a. Permacel, New Brunswick, N.J. Filed May 24, 1967.



**PERMACEL**

Owner of Reg. No. 770,990 and others.  
For Adhesives and Pressure-Sensitive Adhesive Tapes (Int. Cls. 1 and 17).  
First use Aug. 31, 1965.

### TERRABASE

For Vinyl Acrylic Adhesive Used in Conjunction With Decorative Chips for Surfacing Walls, Floors, and Other Surfaces (Int. Cl. 1).  
First use June 25, 1967.

### Class 6 — Chemicals and Chemical Compositions

SN 264,381. Aquarium Systems, Inc., Wickliffe, Ohio. Filed Feb. 10, 1967.

**INSTANT OCEAN**

Owner of Reg. Nos. 792,796, 814,656, and 843,468.  
For Synthetic Sea Salt Composition for Aquarium and Other Marine and Biological Use (Int. Cl. 1).  
First use Sept. 16, 1964.

SN 265,175. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

**SUPERSOL**

For Disinfectant, Deodorant, Germicide Preparation (Int. Cl. 5).  
First use December 1961.

SN 265,637. Johns-Manville Corporation, New York, N.Y. Filed Feb. 28, 1967.

**CALFLO**

For Particulate Synthetic Calcium Silicate Suitable for Various Uses: as an Absorbing Agent for Moisture Control in Dry Powders, Liquid, Semi-Solid, and Sticky Materials; as a Pigment Extender and as a Flattening Agent for Paints; as a Bulking Agent and/or Filler for Papers, Plastics, Resins, Rubbers, Cement, and Molding Compositions; and as a Carrier Powder for Liquid Ingredients in Pesticides, Animal Feeds, Pharmaceuticals, Soaps, Cleansers, Detergents, Perfumes, Deodorants, Bactericides, and Germicides (Int. Cl. 1).  
First use at least in or about 1957.

SN 268,109. Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan. Filed Mar. 31, 1967.

**TAKENATE**

For Organic Polyisocyanates and Their Compositions for General Use in the Industrial Arts (Int. Cl. 1).  
First use Oct. 1, 1963; in commerce Apr. 29, 1966.

SN 270,972. Tallow Floc, Inc., Norfolk, Va. Filed May 8, 1967.

**TALLOW-FLOC**

For Chemical Compositions To Be Used in the Purification of Animal Fats (Int. Cl. 1).  
First use Jan. 15, 1966.

SN 272,634. Ralston Purina Company, St. Louis, Mo. Filed May 29, 1967.

**PURINA**

For Proteins for General Use in the Industrial Arts (Int. Cl. 1).  
First use July 7, 1959.

SN 273,896. Kewanee Oil Company, d.b.a. The Harshaw Chemical Company, Cleveland, Ohio. Filed June 14, 1967. SN 277,775. Avon Products, Inc., New York, N.Y. Filed Aug. 8, 1967.

**WICK-STICK**

For Prism-Shaped Potassium Bromide for Use in Analytical Chemistry for the Concentration of Chemical Samples by Thin Layer Chromatographic Methods for Infrared Analysis (Int. Cl. 1).  
First use Apr. 26, 1967.

SN 276,718. Wellman Industries, Inc., Johnsonville, S.C. Filed July 24, 1967.



Owner of Reg. No. 827,451.  
For Lanolin (Int. Cl. 4).  
First use May 18, 1966.

SN 277,089. The Upjohn Company, Kalamazoo, Mich. Filed July 28, 1967.

**AGROBAN**

For Bactericide for Use on Trees (Int. Cl. 5).  
First use Mar. 22, 1967.

SN 277,409. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Aug. 3, 1967.



The drawing is lined for red. Owner of Reg. Nos. 679,127 and 680,972.

For Chemical Composition for Application to Fabrica To Provide a Protective Stain-Repellent Coating Thereon (Int. Cl. 1).  
First use Sept. 13, 1956.

SN 277,477. Sandos, Inc., Hanover, N.J. Filed Aug. 3, 1967.

**SANYLEN**

For Pigments for the Dyeing of Polyolefin Materials in the Masse (Int. Cl. 2).  
First use July 19, 1967.

SN 277,738. Universal Oil Products Company, Des Plaines, Ill. Filed Aug. 7, 1967.

**BAMCA**

For Aroma Chemical (Int. Cl. 1).  
First use Aug. 20, 1963.

**MOUNTAIN LAUREL**

For Room Freshener (Int. Cl. 5).  
First use July 24, 1967.

SN 277,830. General Fire Extinguisher Corp., Northbrook, Ill. Filed Aug. 8, 1967.

**KELOY**

For Fire Extinguisher Liquid for Use in Stainless Steel Fire Extinguisher Shells or Tanks (Int. Cl. 1).  
First use on or before Dec. 31, 1956.

SN 277,971. Armour and Company, d.b.a. Armour Industrial Chemical Company, Chicago, Ill. Filed Aug. 10, 1967.

**ARMOKLAY**

For Anti-Caking and Anti-Dusting Agents (Int. Cl. 1).  
First use on or prior to Apr. 1, 1967.

SN 278,142. The Upjohn Company, Kalamazoo, Mich. Filed Aug. 11, 1967.

**DEBI**

For Isocyanate (Int. Cl. 1).  
First use Apr. 10, 1967.

SN 290,934. Simoniz Company, Chicago, Ill. Filed Feb. 13, 1968.

**WISP**

Owner of Reg. Nos. 436,689 and 444,284.  
For Aerosol Air Freshener (Int. Cl. 5).  
First use Feb. 5, 1968.

SN 291,121. Lif-O-Gen, Inc., Lumberton, N.J. Filed Feb. 15, 1968.



For Spherical Packages Containing Analyzed Laboratory Gases for Research, Development, and Industrial Use (Int. Cl. 1).  
First use Jan. 12, 1965.

### Class 7 — Cordage

SN 280,084. MacWhyte Company, Kenosha, Wis. Filed Sept. 11, 1967.

**SPACE-LAY**

For Plastic Coated Wire Rope (Int. Cl. 6).  
First use Aug. 9, 1967.



## Class 8—Smokers' Articles, Not Including Class 10—Fertilizers Tobacco Products

SN 262,275. Glenn E. Matthews, Anna, Ill. Filed Jan. 10, 1967.

### SAFE-LITE

Owner of Reg. No. 761,100.  
For Electric Lighter Used for Lighting Cigarettes and Cigars (Int. Cl. 9).  
First use Nov. 15, 1961.

SN 278,002. Richard Hirschl, d.b.a. Hirschl and Bendheim, Washington, Mo. Filed Aug. 10, 1967.

### DREAM PUFFS

For Pipes (Int. Cl. 34).  
First use Aug. 1, 1967.

SN 287,962. Sethi Brothers, Inc., New York, N.Y. Filed Jan. 2, 1968.



For Cigarette Lighters of the Butane Gas Fuel Type, Butane Gas Fuel Containers Thereof, and Flints (Int. Cl. 34).  
First use Dec. 8, 1967.

## Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 267,178. Oy Sako AB, Riihimäki, Finland. Filed Mar. 20, 1967.



The word "Finland" is disclaimed apart from the mark as shown.

For Ammunition, Comprising Bullets, Cases, and Primers, Hunting Rifles, and Parts Thereof (Int. Cl. 13).  
First use 1939; in commerce 1949.

SN 277,643. The Ensign-Bickford Company, Simsbury, Conn. Filed Aug. 7, 1967.

### TIMELINE

For Igniter Fuses (Int. Cl. 13).  
First use at least as early as Dec. 30, 1966.

SN 275,764. Kellogg Supply Co., Inc., Wilmington, Calif. Filed July 11, 1967.

## BALANCE

For Soil Conditioner (Fertilizer) (Int. Cl. 1).  
First use July 1, 1967.

## Class 12—Construction Materials

SN 249,949. The City Lumber Company of Bridgeport, Inc., Bridgeport, Conn. Filed July 11, 1966.

### CANYON CREEK

For Lumber (Int. Cl. 19).  
First use Aug. 17, 1964.

SN 261,529. Spring Hill Fuel Co., d.b.a. Aluminum Detail Products, Seattle, Wash. Filed Dec. 27, 1966.

### ANOGREY

For Metal Building Materials—Namely, Metal Sheets and Extrusions, Formed and Fabricated for Application to Buildings, Doors, Windows, Screens for Doors and Windows, Downspouts and Gutters (Int. Cl. 6).  
First use Dec. 12, 1966.

SN 261,537. Universal Bleacher Company, Champaign, Ill. Filed Dec. 27, 1966.

### ACCUROLL

For Segmented Telescoping Chair Platforms Which May Be Folded Into Stored Position or Expanded Into Bleacher Position (Int. Cl. 19).  
First use on or before Nov. 1, 1966.

SN 261,538. Universal Bleacher Company, Champaign, Ill. Filed Dec. 27, 1966.

### CABLE-LIGN

For Telescoping Movable Chair Platforms and Bleachers With Mechanism for Controlling the Alignment of the Platforms and Bleachers (Int. Cl. 19).  
First use on or before Nov. 1, 1966.

SN 266,606. United Paint Mfg. Co., Spokane, Wash. Filed Mar. 13, 1967.

### MARATHON

For Seamless Flooring and Surface Coatings and Component Materials Including Decorative Resin Chips and a Liquid Resin Vehicle (Int. Cl. 19).  
First use on or about Nov. 15, 1966.

SN 266,749. Andrew J. Flocchini, d.b.a. General Dairy Manufacturing Co., Petaluma, Calif. Filed Mar. 15, 1967.

### GENERAL DAIRY

For Equipment for Handling Animals—Namely, Cattle Gates, Pens, and Parts Thereof (Int. Cl. 19).  
First use Mar. 5, 1967.

SN 269,476. Wocus Industries, Inc., Klamath Falls, Oreg. Filed Apr. 18, 1967.

### PUMA STONE

The word "Stone" is disclaimed apart from the mark as shown.

For Quarried Rock and Stone for Use as a Veneer and Facing Material for Buildings, and Also as a Decorative Material for Landscape Applications (Int. Cl. 19).  
First use Feb. 28, 1965.

SN 269,808. U.S. Grout Corporation, Old Greenwich, Conn. Filed Apr. 21, 1967.

### FIVE STAR

For Cementitious Products—Namely, Grout Concrete Patch and Aggregate (Int. Cl. 19).  
First use Jan. 23, 1967.

SN 270,146. Mortite Corporation, Passaic, N.J. Filed Apr. 27, 1967.



The trademark in substance represents a fanciful interpretation by applicant of the letter "m."

For Precast Interior and Exterior Wall Modules, Building Sections, and Panels, Either as a Total Wall System or Facia (Int. Cl. 19).  
First use on or about Mar. 1, 1966.

SN 270,543. Bitucote Products Company, St. Louis, Mo. Filed May 3, 1967.

### SANDFEX

For Abrasion-Resisting Surface Coating for Black Top Pavements, Mastic Flooring, Concrete, Metal and Wooden Surfaces (Int. Cl. 19).  
First use May 29, 1962.

SN 275,599. Allied Compositions Co., Inc., Maspeth, N.Y. Filed July 10, 1967.

### TILECRETE

For Mortar Binder for Setting Ceramic Tile (Int. Cl. 19).  
First use July 2, 1958.

SN 278,833. U.S. Aluminum Corp., Franklin Park, Ill. Filed Aug. 22, 1967.



For Vinyl Wall Sliding (Int. Cl. 19).  
First use on or about June 10, 1967.

SN 279,263. American Metal Climax, Inc., New York, N.Y. Filed Aug. 29, 1967.

### KAWNEER

Owner of Reg. Nos. 85,449, 698,386, and others.  
For Building Entrances, Windows, Curtain Walls, Building Panels, and Metal Moldings (Int. Cls. 6 and 19).  
First use June 19, 1905.

SN 279,501. Southeastern Tool and Die Co., Inc., Birmingham, Ala. Filed Aug. 31, 1967.

### PANALOK

For Structural Roof Panels—Namely, Panels for Carports, Patio Covers, and Marquees (Int. Cl. 19).  
First use Aug. 24, 1967.

SN 280,029. Edward T. Dicker, d.b.a. Dicker Stack-Sack International, Dallas, Tex. Filed Sept. 11, 1967.

### STACK-SACK

For Dry Pre-Mixed Concrete, in Bags, To Be Laid in Place as a Unit in Building Construction (Int. Cl. 19).  
First use July 1, 1967.

SN 287,031. Macomber, Incorporated, Canton, Ohio. Filed Dec. 15, 1967.

### PANLWEB

For Fabricated Structural Steel Joists, Beams, and Girders (Int. Cl. 6).  
First use Nov. 30, 1967.

SN 287,606. Viatron Corporation, Cleveland, Ohio. Filed Dec. 26, 1967.

### FLAMEOUT

For Flame Retardant, Fiber Reinforced Plastic Panels for Use in Glazing Applications (Int. Cl. 19).  
First use at least as early as July 1966.

SN 289,664. Burton S. Dow, Jr., Orlando, Fla. Filed Jan. 25, 1968.

### PANEX

For Prefinished Moulding (Int. Cl. 19).  
First use Feb. 20, 1966.

SN 290,246. Boise Cascade Corporation, Boise, Idaho. Filed Feb. 5, 1968.

### PLYSPAN

Owner of Reg. No. 833,184 and others.  
For Plywood Underlayment With Solid Lumber Core (Int. Cl. 19).  
First use Jan. 5, 1968.



SN 290,502. Lumaside, Inc., Milwaukee, Wis. Filed Feb. 7, 1968.  
 SN 278,621. Warren Fastener Corporation, Mount Clemens, Mich. Filed Aug. 18, 1967.



Owner of Reg. No. 693,030.  
 For Building Siding (Int. Cl. 19).  
 First use February 1959.

SN 290,809. AA Wire Products Company, Chicago, Ill. Filed Feb. 12, 1968.

### TRI-LOK

Owner of Reg. Nos. 660,274, 799,709, and others.  
 For Wire Reinforcing Bonds and Ties for Masonry Walls (Int. Cl. 6).  
 First use Sept. 13, 1966.

### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 270,801. Modern Faucet Mfg. Co., Los Angeles, Calif. Filed May 5, 1967.

### SHOWER-QUIK

For Hand Spray Shower Device (Int. Cl. 21).  
 First use Mar. 15, 1967.

SN 271,856. Swisco Manufacturing Company, South Gate, Calif. Filed May 18, 1967.

### CHIP-A-WAY

For Air Gun Nozzles (Int. Cl. 7).  
 First use Sept. 9, 1964.

SN 275,177. Spotnalls, Inc., Long Island City, N.Y. Filed June 30, 1967.

### SPOTRIVETS

Owner of Reg. No. 840,757.  
 For Blind Fasteners Including an Enlargeable Securing Portion and a Projecting Mandril Utilized To Enlarge the Securing Portion and To Be Broken Off After Making Such Enlargement (Int. Cl. 6).  
 First use Aug. 16, 1966.

SN 276,024. Midland Products Co., Kansas City, Mo. Filed July 14, 1967.

### FLAVORLUX

For Coffee Steeper (Int. Cl. 21).  
 First use June 19, 1967.

WF

For Cooperating Fastener Elements—Namely, a Weldable Stud Element and a Fastener Element Adapted To Be Cooperatingly Engaged With the Stud Element (Int. Cl. 6).  
 First use on or about Mar. 15, 1963.

SN 287,399. Eastern Products Corporation, Baltimore, Md. Filed Dec. 22, 1967.

### STARLYNE

For Drapery Hardware—Namely, Curtain Rods, Cafe Rods, Traverse Rods, Poles, Frames, Brackets, Tapes, Slides, Weights, Cords, Staples, Pulleys, Rings, and Hooks (Int. Cls. 6, 20, and 22).  
 First use Dec. 7, 1962.

SN 287,784. Eastern Products Corporation, Baltimore, Md. Filed Dec. 22, 1967.

### BANNER

For Drapery Hardware—Namely, Curtain Rods, Cafe Rods, Traverse Rods, Poles, Frames, Brackets, Tapes, Slides, Weights, Cords, Staples, Pulleys, Rings, and Hooks (Int. Cls. 6, 20, and 22).  
 First use May 10, 1962.

### Class 14—Metals and Metal Castings and Forgings

SN 280,445. Matthiessen & Hegeler Zinc Company, La Salle, Ill. Filed Sept. 15, 1967.

TITANALLOY

For Sheet Metal Comprising Titanium, Copper, and Zinc for Use in the Building Trade (Int. Cl. 6).  
 First use on or prior to Nov. 12, 1959.

### Class 15—Oils and Greases

SN 278,590. General Aniline & Film Corporation, New York, N.Y. Filed Aug. 18, 1967.

gaf

Owner of Reg. Nos. 509,124, 744,454, and others.  
 For Lubricants and Oils; Oil, Gas and Lubricant Additives; Quenching Oils, Cutting Oils, Grinding Oils, and Mold Release Agents (Int. Cls. 1 and 4).  
 First use Jan. 7, 1965.

SN 280,436. Madison Chemical Corporation, Maywood, Ill. Filed Sept. 15, 1967.  
 SN 285,510. The American Tobacco Company, New York, N.Y. Filed Nov. 24, 1967.

### SILIFAX

For Anti-Sticking Release Coating Material for Ovens and Molds (Int. Cl. 4).  
 First use Mar. 12, 1964.

### Class 16—Protective and Decorative Coatings

SN 263,713. Sidney Mandel, d.b.a. United Paint & Varnish Co., Linden, N.J. Filed Jan. 31, 1967.

STEEL-PREP

For Weather and Rust Resisting Paints (Int. Cl. 2).  
 First use May 9, 1963.

SN 268,771. The Sherwin-Williams Company, Cleveland, Ohio. Filed Apr. 10, 1967.

### ULTRA-VAR

For Natural Wood Finish (Int. Cl. 2).  
 First use Apr. 26, 1966.

SN 271,661. James E. Swett, d.b.a. California Coatings Co., San Francisco, Calif. Filed May 16, 1967.

KAL-GARD

For Vinyl Phenolic Film Coating for Rust Prevention (Int. Cl. 2).  
 First use Feb. 8, 1966.  
 Subj. to Intf. with SN 260,751.

SN 275,404. Marvellite, Inc., Baltimore, Md. Filed July 5, 1967.

Diamel

For Interior Flat Wall Paint and Enamel (Int. Cl. 2).  
 First use Dec. 15, 1966.

### Class 17—Tobacco Products

SN 279,973. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed Aug. 16, 1967.

Peter  
Stuyvesant



The drawing is lined for the colors red, green, and gold. "Peter Stuyvesant" was a famous seventeenth century administrator in New Amsterdam.  
 For Cigarettes (Int. Cl. 34).  
 First use June 8, 1954; in commerce June 11, 1954.

### AMERICAN EAGLE

For Cigarettes (Int. Cl. 34).  
 First use Nov. 6, 1967.

SN 288,004. Consolidated Cigar Corporation, New York, N.Y. Filed Jan. 3, 1968.

### PANORAMA

For Cigars (Int. Cl. 34).  
 First use Nov. 27, 1967.

SN 290,171. Samuel B. Jacobs, Hoboken, N.J. Filed Feb. 2, 1968.

### OCHO RIOS

For Cigars (Int. Cl. 34).  
 First use on or about Jan. 22, 1964.

SN 290,697. Philip Morris Incorporated, New York, N.Y. Filed Feb. 9, 1968.

### TOM JONES

The mark consists of the name of the leading character of the book of the same name by the eighteenth century novelist, Henry Fielding.  
 For Cigarettes (Int. Cl. 34).  
 First use Jan. 29, 1968.

SN 290,806. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Feb. 12, 1968.

### BREVIT

For Cigarettes (Int. Cl. 34).  
 First use Nov. 10, 1967.

### Class 18—Medicines and Pharmaceutical Preparations

SN 260,592. Scientific Laboratories, Incorporated, Oklahoma City, Okla. Filed Dec. 12, 1966.



For Pharmaceutical Preparation for Treatment of Itching and Irritation of the Ears (Int. Cl. 5).  
 First use Nov. 9, 1966.

SN 264,487. Abbott Laboratories, North Chicago, Ill. Filed Feb. 13, 1967.

### ANCYTE

Owner of Reg. No. 839,463.  
 For Pharmaceutical Preparation for Treatment of Neoplasms (Int. Cl. 5).  
 First use Apr. 26, 1965.



SN 265,163. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

## PIPER-LYTE

For Wormer Preparation for Livestock (Int. Cl. 5).  
First use January 1962.

SN 265,268. Samuel Cabot, Inc., Boston, Mass. Filed Feb. 23, 1967.

## SYLPHO-NATHOL

For Antiseptic Disinfectant for Personal Use for Scratches, Minor Injuries, Cuts, and Burns (Int. Cl. 5).  
First use as early as Apr. 14, 1914.

SN 266,075. Palmedico, Inc., Columbia, S.C. Filed Mar. 6, 1967.

## PALOCARP

For Cholinergic Preparation To Alleviate Generalized Itching as a Portal Cirrhosis and To Induce Salivation (Int. Cl. 5).  
First use Oct. 7, 1966.

SN 266,080. Palmedico, Inc., Columbia, S.C. Filed Mar. 6, 1967.

## AFLUHIST

For Medicinal Preparation for Respiratory Disorders (Int. Cl. 5).  
First use December 1963.

SN 266,081. Palmedico, Inc., Columbia, S.C. Filed Mar. 6, 1967.

## PALOHIST

For Medicinal Preparation for Use as an Antihistaminic Decongestant (Int. Cl. 5).  
First use Oct. 14, 1960.

SN 270,139. Johnson & Johnson, New Brunswick, N.J. Filed Apr. 27, 1967.

## ON THE GO

For Medicinal Preparation for the Relief of Pain (Int. Cl. 5).  
First use Dec. 7, 1966.

SN 270,780. The Governors of the University of Toronto, d.b.a. Connaught Medical Research Laboratories, Toronto, Ontario, Canada. Filed May 5, 1967.

## ERA

Owner of Canadian Reg. No. 147,033, dated Sept. 9, 1966.  
For Rabies Vaccine for Veterinary Use (Int. Cl. 5).

SN 273,113. Rexall Drug and Chemical Company, d.b.a. Rexall Drug Company, Los Angeles, Calif. Filed June 5, 1967.

## ANAPAX

Owner of Reg. No. 690,436.  
For Medicated Preparation for Symptomatic Relief From Coughing, Colds, Hay Fever, and Sinus Congestion (Int. Cl. 5).  
First use Feb. 1, 1967.

SN 273,616. Eastern Shore Laboratories, Inc., Laurel, Del. Filed June 12, 1967.

## PIPZIDE

For Piperazine Base and Dihydrochloride Used in Drinking Water or Feed for Control of Round Worms and Modular Worms in Swine and Cattle, Round Worms in Sheep, and Large Round Worms in Chickens and Turkeys (Int. Cl. 5).  
First use Jan. 3, 1967.

SN 273,618. Eastern Shore Laboratories, Inc., Laurel, Del. Filed June 12, 1967.

## PIPZENE

For Concentrated Piperazine Monohydrochloride Solution Used for the Removal of Round Worms in Poultry, Swine, Horses and Domestic Animals, Modular Worms in Sheep, and Large Round Worms in Chickens and Turkeys (Int. Cl. 5).  
First use May 28, 1964.

SN 273,624. Eastern Shore Laboratories, Inc., Laurel, Del. Filed June 12, 1967.

## THIOZOL

For Sulfathiazole Sodium, N.F., for Treatment of Infectious Coryza in Poultry, Scours, Septicemia and Pneumonia in Swine; Pneumonia, Scours, Diphtheria, Foot Rot and Shipping Fever in Cattle and Calves (Int. Cl. 5).  
First use Jan. 11, 1967.

SN 273,667. Norden Laboratories, Inc., Lincoln, Nebr. Filed June 12, 1967.

## felocine

For Feline Distemper Vaccine, Used in Veterinary Medicine (Int. Cl. 5).  
First use May 25, 1967.

SN 273,682. Rexall Drug and Chemical Company, d.b.a. Rexall Drug Company, Los Angeles, Calif. Filed June 12, 1967.

## REXATRACIN

For Antibiotic Ointment (Int. Cl. 5).  
First use May 19, 1967.

SN 291,680. Parke, Davis & Company, Detroit, Mich. Filed Feb. 23, 1968.

## CENTRAC

For Pharmaceutical Formulations of Profadol Hydrochloride (Int. Cl. 5).  
First use on or before Feb. 9, 1968.

## Class 19—Vehicles

SN 259,940. Koneta Rubber Company, Inc., Wapakoneta, Ohio. Filed Dec. 2, 1966.



For Splash Guards for Vehicle Wheels (Int. Cl. 12).  
First use Oct. 7, 1966.

SN 260,882. Raleigh Industries Limited, Nottingham, England. Filed Dec. 15, 1966.

## SPORTSHIFT

Owner of British Reg. No. 898,556, dated Aug. 19, 1966.  
For Bicycles, Tricycles, Motor-Bicycles, and Mopeds, and Parts and Fittings Therefor, for Adults Only (Int. Cl. 12).

SN 264,271. Lester A. Worham, Cedartown, Ga. Filed Feb. 8, 1967.

## SHUR-GUIDE

For Steering Gear Stabilizer for Knee-Action Mounted Vehicle Wheels (Int. Cl. 12).  
First use June 24, 1966.

SN 265,186. Flex-Track Equipment Ltd., Calgary, Alberta, Canada. Filed Feb. 21, 1967.

## FLEX-TRACK

Priority claimed under Sec. 44(d) on Canadian application filed Oct. 4, 1966; Reg. No. 151,440, dated June 16, 1967.  
For Track-Laying Powered or Non-Powered Off-Highway Vehicles and Parts Therefor, Including Track Belting Used in the Track Assemblies Manufactured for Off-Highway Track Vehicles (Int. Cl. 12).  
First use May 1, 1964; in commerce on or about Nov. 1, 1964.

SN 267,414. Flex-N-Gate Sales Co., Inc., Urbana, Ill. Filed Mar. 23, 1967.



For Pick-Up Truck Rear and Front Bumpers, Pick-Up Truck Grain and Livestock Racks, Pick-Up Truck Commercial Aluminum Van Covers, Pick-Up Truck Extendable Camper Bumpers, and Utility Truck Bumpers (Int. Cl. 12).  
First use Oct. 13, 1965.

SN 274,372. Union Tank Car Company, Chicago, Ill. Filed June 20, 1967.

## FUNNEL FLOW

For Railroad Tank Cars (Int. Cl. 12).  
First use April 1967.

SN 274,956. The Crest Manufacturing Co., Southfield, Mich. Filed June 28, 1967.

## KAB

For Litter Containers for Automobile Use (Int. Cl. 20).  
First use on or about May 31, 1967.

SN 274,992. Schwinn Bicycle Company, Chicago, Ill. Filed June 28, 1967.

## RUN-A-BOUT

For Bicycles (Int. Cl. 12).  
First use June 12, 1967.

SN 275,145. Interstate Products, Inc., Grinnell, Iowa. Filed June 30, 1967.

## INTERSTATER

For Portable Houses—Namely, Truck or Pick-up Campers or Camping Trailers (Int. Cl. 12).  
First use on or about June 24, 1966.

SN 291,123. Sea Scooter Industries, Inc., Chicago, Ill. Filed Feb. 15, 1968.



For Boats (Int. Cl. 12).  
First use Nov. 1, 1967.

## Class 21—Electrical Apparatus, Machines, and Supplies

SN 196,141. General Battery and Ceramic Corp., Reading, Pa. Filed June 22, 1964.

## CUSTOM POWER

For Storage Batteries (Int. Cl. 9).  
First use July 22, 1963.

SN 257,811. The Alliance Manufacturing Company, Inc., Alliance, Ohio. Filed Nov. 3, 1966.

## GENIE

Owner of Reg. No. 612,987.  
For Electric Motors for Consumer Products and Industrial Applications (Int. Cl. 7).  
First use June 1958.

SN 260,751. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Dec. 14, 1966.

## KALGARD

For Protective Plastic Coating on Aluminum Electrical Conduit (Int. Cl. 9).  
First use on or about Nov. 23, 1966.  
Subj. to Intf. with SN 271,661.

SN 261,977. Elasco, Incorporated, Boston, Mass. Filed Jan. 5, 1967.

## MICROSOURCE

Owner of Reg. No. 698,920.  
For Semi-Conductor Power Supplies (Int. Cl. 9).  
First use July 14, 1966.

SN 262,425. Stratford Retreat House, White Plains, N.Y. Filed Jan. 12, 1967.

## GHOST-KILLER

For TV/FM Antennas (Int. Cl. 9).  
First use May 1, 1966.



SN 262,751. Atkins & Merrill, Inc., Sudbury, Mass. Filed Jan. 18, 1967.

## CAPSUL

For Lighting Devices—Namely, Electroluminescent Lamps; Power Supplies for Electroluminescent Lamps; Devices for Controlling the Light Intensity of Electroluminescent Lamps, Namely, Variable Transformers, Rheostats, and Variable Oscillators; and Fixtures for Electroluminescent Lamps (Int. Cls. 9 and 11).

First use Dec. 29, 1966, on electroluminescent lamps.

SN 266,558. Vincent M. Majerus, d.b.a. Flying Saucer Company, Rochester, Minn. Filed Mar. 13, 1967.

## FLYING SAUCER

For Electric Sandwich Toaster (Int. Cl. 11).  
First use on or about Feb. 5, 1966.

SN 268,601. International Battery, Inc., Schiller Park, Ill. Filed Apr. 7, 1967.

## DYNEX

For Automotive Lead-Acid Storage Batteries (Int. Cl. 9).  
First use at least as early as October 1966.

SN 276,104. Connector Accessories Corp., Gardena, Calif. Filed July 17, 1967.



For Connector Accessories for Electrical Cables, Including Dust Caps, Connector Extenders, Cable Clamps, and Strain Release Devices (Int. Cl. 9).  
First use Feb. 1, 1962.

SN 277,226. Spartans Industries, Inc., New York, N.Y. Filed July 31, 1967.

## KORV-ATR

For Electrical Appliances—Namely, Electric Dishwashers (Int. Cl. 7).  
First use Nov. 1, 1965.

SN 277,720. Sunbeam Lighting Company, Los Angeles, Calif. Filed Aug. 7, 1967.

## FAMILY LINE

For Lighting Fixtures (Int. Cl. 11).  
First use on or about June 1, 1967.

SN 277,721. Sunbeam Lighting Company, Los Angeles, Calif. Filed Aug. 7, 1967.



For Lighting Fixtures (Int. Cl. 11).  
First use on or about June 1, 1967.

SN 283,221. The Carbone Corporation, Boonton, N.J. Filed Oct. 24, 1967.

## CORFAST

For Conductive Brush Springs for Electrical Motors (Int. Cl. 7).

First use May 16, 1967.

SN 283,605. Paramount Industries, d.b.a. Air Space Devices, Inc., Paramount, Calif. Filed Oct. 30, 1967.

## PERIM-ALERT

For Electrical Perimeter Alarm System (Int. Cl. 9).  
First use Oct. 18, 1967.

SN 283,646. Electric-Flex Company, Roselle, Ill. Filed Oct. 30, 1967.

## LIQUATITE

Owner of Reg. No. 615,238.  
For Flexible Electrical Conduit (Int. Cl. 9).  
First use at least as early as Aug. 3, 1954.

SN 289,947. Radio Corporation of America, New York, N.Y. Filed Jan. 31, 1968.

## RCA

Owner of Reg. Nos. 253,286, 623,978, and others.  
For Television Receivers, Radios, Capacitors, Resistors, Transformers, and Semiconductor Devices (Int. Cl. 9).  
First use Aug. 15, 1922, on radios and transformers.

SN 289,948. Radio Corporation of America, New York, N.Y. Filed Jan. 31, 1968.

## RCA

Owner of Reg. Nos. 253,286, 623,978, and others.  
For Television Receivers, Radios, Capacitors, Resistors, Transformers, and Semiconductor Devices (Int. Cl. 9).  
First use Jan. 22, 1968; Aug. 15, 1922, on radios and transformers.

SN 291,566. Vikoa, Incorporated, Hoboken, N.J. Filed Feb. 21, 1968.

## VIKAL

For Coaxial Cable (Int. Cl. 9).  
First use June 1966.

## Class 22—Games, Toys, and Sporting Goods

SN 261,110. Spare-Time Corporation, d.b.a. Spare-Time Products, Inc., Minneapolis, Minn. Filed Dec. 19, 1966.

## SPARE-TIME

Owner of Reg. No. 383,668.  
For Bowling Accessories and Supplies Comprising Bowler's Wristlet, Athletic Wristlet, Finger Grips for Bowlers, Kiddy Bank for Bowlers, Bowling Ball Fortune Teller, and Ankle and Arch Support for Bowlers (Int. Cl. 28).  
First use Aug. 14, 1961.

SN 263,895. P. Mauborgne & Cie, Société en Nom Collectif, Bernouville (Eure), France. Filed Jan. 26, 1967.

## CRACK

Owner of French Reg. No. 1,324, dated July 29, 1965.  
For Fishing Equipment and Particularly Reels (Int. Cl. 28).

SN 271,949. Loral Corporation, New York, N.Y. Filed May 19, 1967.

## FUNNY BEND

The word "Bend" is disclaimed apart from the mark as shown.

For Flexible Doll-Like Toy (Int. Cl. 28).  
First use Mar. 17, 1967.

SN 273,361. Atlantic Lures, Inc., Providence, R.I. Filed June 8, 1967.

## TWIGGY

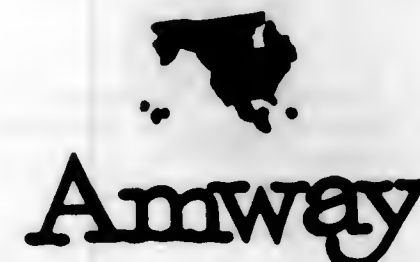
For Fishing Lures (Int. Cl. 28).  
First use Feb. 15, 1967.

SN 277,764. Amway Corporation, Ada, Mich. Filed Aug. 8, 1967.

## AMWAY

Owner of Reg. Nos. 707,656, 777,704, and others.  
For Dart Games (Int. Cl. 28).  
First use on or about June 27, 1967.

SN 277,765. Amway Corporation, Ada, Mich. Filed Aug. 8, 1967.



Owner of Reg. Nos. 707,656, 777,704, and others.  
For Dart Games (Int. Cl. 28).  
First use on or about June 27, 1967.

SN 283,825. Sturm & Scheinberg, Inc., New York, N.Y. Filed Oct. 31, 1967.

## HOT SHOT

For Golf Club and Golf Ball Washing Pads (Int. Cl. 28).  
First use June 20, 1967.

SN 285,923. Hampshire Imports, Inc., Chester, Conn. Filed Nov. 30, 1967.



For Ski Equipment—Namely, Skis, Ski Boots, Ski Poles, and Ski Bindings (Int. Cl. 28).  
First use December 1959.



For Ski Equipment—Namely, Skis, Ski Boots, Ski Poles, and Ski Bindings (Int. Cl. 28).  
First use December 1959.

SN 288,920. Star-Grip Glove Company, Inc., Timonium, Md. Filed Jan. 16, 1968.

## STAR GRIP

For Golf Gloves (Int. Cl. 28).  
First use June 13, 1967.

SN 291,004. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 14, 1968.

## BOATERIFIC

For Toy Boats (Int. Cl. 28).  
First use Dec. 29, 1966.

SN 291,006. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 14, 1968.

## KERPLUNK

For Equipment Sold as a Unit for Playing a Parlor Game (Int. Cl. 28).  
First use Jan. 4, 1968.

## Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 242,355. Fosco International Limited, Birmingham, England. Filed Mar. 31, 1966.

## KALMIN

Owner of British Reg. No. 717,806, dated May 13, 1953.  
For Heat Insulating Riser Sleeves for Use in Metal Casting (Int. Cl. 17).  
First use Sept. 24, 1965; in commerce Sept. 24, 1965.

SN 251,963. Shunk Manufacturing Company, Inc., Bucyrus, Ohio. Filed Aug. 8, 1966.

## HARDCAP

For Bulldozer Blades, Grader Blades, Scarifying Blades, Saw-Tooth Blades, Front End Loader Blades, Chopper Blades, Ice Blades, Drag Blades, Scarifying Teeth, Snow Plow Shoes, Snow Plow Nose Pieces, Push-Block-Blades, Toothed Blades, Back Hoe Blades, Aerating Blades, Reel Blades, Land Clearing Blades, Scarifying Shanks, Standard Overlay End Boots for Sled Blades, and Moldboards (Int. Cl. 7).  
First use on or about June 1, 1965.



SN 254,481. United Shoe Machinery Corporation, Boston, Mass. Filed Sept. 14, 1966.

## THERMOGRIP

Owner of Reg. Nos. 554,563 and 646,428.  
For Hot Melt Adhesive Applicators, Including Electric Glue Guns, for Applying Hot Melt Polymeric Adhesive Compositions, Comprising Adhesives, Glues, Fillers, Caulks, and the Like (Int. Cl. 9).  
First use Dec. 15, 1955.

SN 255,920. Production Products, Inc., Minneapolis, Minn. Filed Oct. 6, 1966.

## PLEXI-LITE

For Vacuum Forming Machine (Int. Cl. 7).  
First use July 10, 1966.

SN 259,127. Little Giant Products, Inc., Peoria, Ill. Filed Nov. 21, 1966.

## VERT-O-MATIC

For Drum Handling Attachments for Fork Lift Trucks, and Parts Therefor (Int. Cl. 12).

SN 260,643. Beloit Eastern Corporation, Downingtown, Pa. Filed Dec. 13, 1966.



The term "Tru-Wind" is disclaimed apart from the mark as shown.  
For Papermaking Machinery—Namely, Winders Used for Winding Rolls of Paper (Int. Cl. 7).  
First use Nov. 15, 1966.

SN 267,456. Walter Edmond Thornton-Trump, Brampton, Ontario, Canada. Filed Mar. 23, 1967.



For Hoist Aerial Work Platforms (Int. Cl. 7).  
First use 1947; in commerce 1947.

SN 268,211. The Monarch Marking System Company, Dayton, Ohio. Filed Apr. 3, 1967.

## DIALIFE

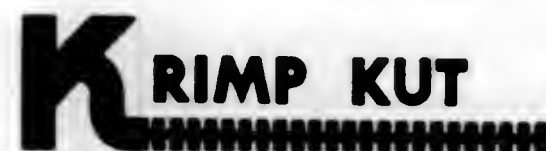
For Printing Bands Having Readable and Printing Characters Thereon for Price Marking Machines (Int. Cl. 7).  
First use Mar. 15, 1967.

SN 269,507. Trump Hydraulics Limited, Brampton, Ontario Canada. Filed Apr. 21, 1967.



For Hoist Aerial Work Platforms (Int. Cl. 7).  
First use August 1966; in commerce November 1966.

SN 270,040. Annunci Company, Bellwood, Ill. Filed Apr. 26, 1967.



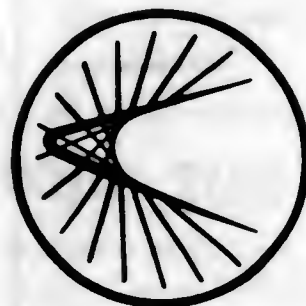
For Pastry and Bread Cutters (Int. Cl. 8).  
First use Apr. 10, 1967.

SN 274,549. UMC Industries, Inc., St. Louis, Mo. Filed June 22, 1967.



For Vending Machines and Apparatus, Installations of Groups of Such Machines, and Parts, Attachments and Accessories for Such Machines (Int. Cl. 9).  
First use about June 1959.

SN 275,482. Textron, Inc., Providence, R.I. Filed July 6, 1967.



For Chain Saws (Int. Cl. 7).  
First use May 17, 1967.

SN 277,059. Mechanical Handling Systems, Inc., Warren, Mich. Filed July 28, 1967.

## QUE-MATIC

For Power and Free Conveyor Systems and Components Thereof (Int. Cl. 7).  
First use June 7, 1967.

SN 277,459. Hesston Corporation, Inc., Hesston, Kans. Filed Aug. 3, 1967.

## HYDRO-TRIM

For Power Steering Control for Farm Implements (Int. Cl. 7).  
First use May 22, 1967.

SN 288,912. Eversharp, Inc., Milford, Conn. Filed Jan. 16, 1968.

## KROMION

For Safety Razors, Safety Razor Blades, and Dispensers Therefor (Int. Cl. 8).  
First use Nov. 30, 1967.

## Class 24 — Laundry Appliances and Machines

SN 277,225. Spartans Industries, Inc., New York, N.Y. Filed July 31, 1967.



For Laundry Appliances and Machines—Namely, Clothes Washers and Clothes Dryers (Int. Cl. 7).  
First use July 1, 1965.

## Class 26 — Measuring and Scientific Appliances

SN 253,307. General Time Corporation, Stamford, Conn. Filed Aug. 29, 1966.



For Weather Instruments—Namely, Thermometers, Hygrometers, and Barometers (Int. Cl. 9).  
First use July 5, 1966.

SN 253,814. Svenska Ackumulator Aktiebolaget Jungner, Oskarshamn, Sweden. Filed Sept. 6, 1966.

## SAL MATIC

Owner of Swedish Reg. No. 121,615, dated Nov. 24, 1967.  
For Marine Automation Remote Control Systems for Diesel Engines and Turbine Machinery, Auxiliary Engines and Generators, Propellers, Rudders, Alarm Systems and Data Logging Systems Including Data Processing Equipment Performing the Logic Necessary for the Automation (Int. Cl. 9).

SN 267,332. Institute for Emotional Education, Inc., New York, N.Y. Filed Mar. 22, 1967.

## EMOTIONAL EDUCATIONAL THEATRE

For Training Program for Homo Sapiens, Consisting of a Combination Display Kit and Stand Containing Display Pieces or Figures Stored in Compartments; in Use, Said Display Pieces or Figures Are Placed on the Display Board Portion of the Kit (Int. Cl. 16).  
First use Feb. 20, 1967.

SN 267,334. Institute for Emotional Education, Inc., New York, N.Y. Filed Mar. 22, 1967.

## IFEE

For Training Program for Homo Sapiens, Consisting of a Combination Display Kit and Stand Containing Display Pieces or Figures Stored in Compartments; in Use, Said Display Pieces or Figures Are Placed on the Display Board Portion of the Kit (Int. Cl. 16).  
First use Feb. 20, 1967.

SN 275,110. Ernst Leitz, G.m.b.H., Wetzlar/Lahn, Germany. Filed June 30, 1967.

## TELEVIT

For Adjustable Focusing Mount for Lenses (Int. Cl. 9).  
First use Apr. 18, 1967; in commerce Apr. 18, 1967.

SN 277,678. Magneto Dynamics, Inc., Bronx, N.Y. Filed Aug. 7, 1967.

## MACROMIX

For Laboratory Stirrer (Int. Cl. 9).  
First use Sept. 22, 1966.

SN 277,679. Magneto Dynamics, Inc., Bronx, N.Y. Filed Aug. 7, 1967.

## MICROMIX

For Laboratory Stirrer (Int. Cl. 9).  
First use Sept. 22, 1966.

SN 278,244. Ripley Company, Inc., Middletown, Conn. Filed Aug. 14, 1967.

## SYNCOPATOR

For Watt Hour Meters, Gas and Water Meters, Digital Recording and Data Processing Systems, and Mechanical Encoders (Int. Cl. 9).  
First use Apr. 27, 1964, on mechanical encoders and watt hour meters.

SN 283,178. Sun Electric Corporation, Chicago, Ill. Filed Oct. 23, 1967.

## ROAD-A-MATIC

For Automotive Vehicle Testing Apparatus (Int. Cl. 9).  
First use July 15, 1966.

SN 283,252. Ihagee Kamerawerk Aktiengesellschaft (Dresden), Dresden, Germany. Filed Oct. 24, 1967.

## EXAKTA

For Cameras (Int. Cl. 9).  
First use 1933; in commerce 1933.  
Subj. to Intf. with SN 96,951.

## Class 27 — Horological Instruments

SN 267,118. Kalman Berger, d.b.a. Kaltron Time Co., Brooklyn, N.Y. Filed Mar. 20, 1967.



For Watches (Int. Cl. 14).  
First use Feb. 21, 1967.



SN 282,881. Bulova Watch Company, Inc., Flushing, N.Y. Filed Oct. 19, 1967.

**CLAM**

For Watches and Parts Thereof (Int. Cl. 14).  
First use Oct. 3, 1967.

SN 287,961. Sethi Brothers, Inc., New York, N.Y. Filed Jan. 2, 1968.



For Watches and Clocks (Int. Cl. 14).  
First use Dec. 8, 1967.

**Class 28 — Jewelry and Precious-Metal Ware**

SN 265,298. Fred Seltzer Corporation, d.b.a. Tiara, Lincolnwood, Ill. Filed Feb. 23, 1967.

**TIARA**

Owner of Reg. No. 724,814.  
For Jewelry Made of Precious Metals and Costume Jewelry—Namely, Finger Rings, Pendants, Earrings, Bracelets, Necklaces, Tie Tacks, Cuff Links, and Brooch Pins (Int. Cl. 14).  
First use March 1961.

SN 267,356. The Richelleu Corp., Holbrook, N.Y. Filed Mar. 22, 1967.

**BOUJIQUE**

For Costume Jewelry (Int. Cl. 14).  
First use Mar. 13, 1967.

SN 275,127. Arthur Roland Elliott, d.b.a. ARE Creations, Plainfield, Vt. Filed June 30, 1967.

**ARE**

For Jewelry Made of Precious Metal (Int. Cl. 14).  
First use Jan. 15, 1967.

SN 277,570. Herman Z. Russ, d.b.a. Limoges Jewelers, New York, N.Y. Filed Aug. 4, 1967.

**ZVI**

For Rings, Pins, Earrings, Bracelets, and Cufflinks (Int. Cl. 14).  
First use June 1967.

SN 279,128. The Wilkens Company, Pittsburgh, Pa. Filed Aug. 25, 1967.

**PERFEX**

Owner of Reg. No. 742,361.  
For Rings and Bracelets (Int. Cl. 14).  
First use at least as early as Nov. 3, 1961, on rings.

SN 282,379. Minaco Corp., Santurce, Puerto Rico. Filed Oct. 12, 1967.



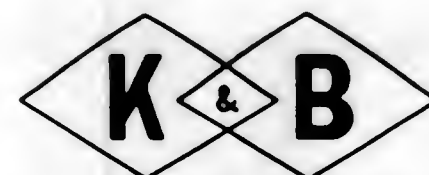
For Jewelry Consisting of Earrings, Pendants, Brooches, Neck Chains, Necklaces, Bracelets, Finger Rings, and Other Jewelry From Precious Metals (Int. Cl. 14).  
First use Aug. 1, 1967.

SN 282,560. Falcon Stone Ring Manufacturing Company, Inc., New York, N.Y. Filed Oct. 16, 1967.

**FALCON**

Owner of Reg. No. 602,710.  
For Finger Rings and Finger Ring Findings (Int. Cl. 14).  
First use in 1946.

SN 282,592. Karlan & Bleicher, Inc., New York, N.Y. Filed Oct. 16, 1967.



For Finger Rings and Ring Findings of Precious Metals (Int. Cl. 14).  
First use in 1926.

**Class 29 — Brooms, Brushes, and Dusters**

SN 274,914. Perfection Mop Company, Inc., South Gate, Calif. Filed June 28, 1967.



The term "Mar Proof" is disclaimed apart from the mark as shown. The drawing is lined for the color red, but no particular color is claimed. Owner of Reg. Nos. 432,919 and 520,930.  
For Dust Mops (Int. Cl. 21).  
First use Jan. 16, 1946.

SN 283,816. Pierre Pellissard, Casablanca, Morocco. Filed Oct. 31, 1967.

**T-LAK**

Owner of Moroccan Reg. No. 18,903, dated Oct. 1, 1965.  
For Tooth Brushes (Int. Cl. 21).

**Class 30 — Crockery, Earthenware, and Porcelain**

SN 264,609. Super-Crafts, Inc., New York, N.Y. Filed Feb. 13, 1967.

**ROYAL COURT**

For China Dinnerware (Int. Cl. 21).  
First use Mar. 19, 1964.

**Class 32 — Furniture and Upholstery**

SN 243,689. Corning Glass Works, Corning, N.Y. Filed May 16, 1966.

**PYROCERAM**

Owner of Reg. Nos. 665,879 and 686,284.  
For Finished and Polished Glass-Ceramic Material Sold Pre-Cut and Fabricated Into Laboratory Furniture—Namely, Benches, Table Tops, and Counter Tops (Int. Cl. 9).  
First use Feb. 1, 1966.

SN 259,606. Trend Line, Inc., Hickory, N.C. Filed Nov. 28, 1966.

**TREND LINE**

The word "Line" is disclaimed apart from the mark as shown.  
For Living Room and Den Upholstered Furniture—Namely, Sofas, Chairs, Swivel Rockers, Ottomans, Sectionals, and Love Seats (Int. Cl. 20).  
First use June 2, 1959.

SN 260,868. Mica Products Corporation of America, Yonkers, N.Y. Filed Dec. 15, 1966.

**TOPS IN TOPS**

For Table Tops (Int. Cl. 20).  
First use December 1961.

SN 265,727. The National Cash Register Company, Dayton, Ohio. Filed Mar. 1, 1967.

**FLEXI-TRAY**

For Office Furniture—Namely, Metal Binder-Type Record Holders (Int. Cl. 20).  
First use on or about July 30, 1958.

SN 273,994. Slumberland Products Co., Woburn, Mass. Filed June 15, 1967.

**HOTELER**

For Mattresses, Box Springs, Couches, Cots, and Beds (Int. Cl. 20).  
First use September 1962.

SN 273,995. Slumberland Products Co., Woburn, Mass. Filed June 15, 1967.

**MOTELER**

For Mattresses, Box Springs, Couches, Cots, and Beds (Int. Cl. 20).  
First use September 1962.

SN 279,570. The Seng Company, Chicago, Ill. Filed Sept. 1, 1967.

**Sofa *plus***

The word "Sofa" is disclaimed apart from the mark as shown. Owner of Reg. No. 804,672.  
For Folding Bed Frames for Convertible Furniture (Int. Cl. 20).  
First use Dec. 1, 1966.

SN 281,185. Fiber Industries, Inc., Charlotte, N.C. Filed Sept. 26, 1967.

**ANGELREST**

For Pillows (Int. Cl. 20).  
First use Aug. 17, 1967.

SN 282,893. Drexel Enterprises, Inc., Drexel, N.C. Filed Oct. 19, 1967.

**RAPPORT**

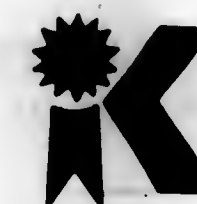
For Bedroom, Dining Room, and Occasional Furniture (Int. Cl. 20).  
First use June 1967.

SN 283,766. The C-Mor Company, Garfield, N.J. Filed Oct. 31, 1967.

**DUBBL-DARK**

For Window Shades (Int. Cl. 20).  
First use on or about May 1, 1967.

SN 285,667. Krueger Metal Products, Inc., Green Bay, Wis. Filed Nov. 27, 1967.



For Furniture for Use in Industry, Institutions, and the Home, Specifically, Chairs, Tables, and Hat and Coat Racks of Metal, Plastic and Wood (Int. Cl. 20).  
First use July 1967.

SN 286,144. Holland Wire Products, Inc., Holland, Mich. Filed Dec. 4, 1967.



For Spring Units for Mattresses and Box Springs (Int. Cl. 20).  
First use May 23, 1962.



**Class 33 — Glassware**

SN 267,501. Brockway Glass Company, Inc., Brockway, Pa.  
Filed Mar. 24, 1967.

**CLEAR-VU**

For Glass Containers—Namely, Glass Vials, Glass Jars,  
and Glass Bottles (Int. Cl. 21).  
First use May 23, 1943.

SN 279,793. American Saint Gobain Corporation, Kingsport,  
Tenn. Filed Sept. 7, 1967.



Owner of Reg. Nos. 691,677, 696,665, and 763,123.  
For Flat and Sheet Glass, Particularly, Window Glass  
(Int. Cl. 19).  
First use Apr. 28, 1967.

**Class 34 — Heating, Lighting, and Ventilating Apparatus**

SN 264,501. The Atlanta Stove Works, Inc., Atlanta, Ga.  
Filed Feb. 13, 1967.

**CUE-CART**

For Outdoor Bar-B-Que Grills (Int. Cl. 11).  
First use Oct. 1, 1966.

SN 264,504. The Atlanta Stove Works, Inc., Atlanta, Ga.  
Filed Feb. 13, 1967.

**CUE-WAGON**

For Portable Cooking Grill (Int. Cl. 11).  
First use Nov. 4, 1966.

SN 266,166. Loftus Engineering Corporation, Pittsburgh,  
Pa. Filed Mar. 7, 1967.

**"SANSAND"**

For Air Curtain Seals for Removable Covers and Roofs of  
Industrial Metal Treating Furnaces (Int. Cl. 11).  
First use Feb. 23, 1967.

SN 267,014. Chore-Time Equipment, Inc., Milford, Ind.  
Filed Mar. 17, 1967.

**CHORE-TIME**

For Ventilating Equipment—Namely, Fans (Int. Cl. 11).  
First use during July 1962.

SN 279,142. London Chemical Company, Inc., Melrose Park,  
Ill. Filed Aug. 28, 1967.

**KWIKFLO**

For Soldering Flux, Zinc-Chloride Type (Int. Cl. 1).  
First use in 1949.

**Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires**

SN 266,216. The Firestone Tire & Rubber Company, Akron,  
Ohio. Filed Mar. 8, 1967.

**SEIBERLING**

Owner of Reg. Nos. 172,503, 530,324, and others.  
For Pneumatic Tire Repair Materials—Namely, Tread  
Gum, Tube Gum, Stripping and Undertread Stock, Cushion  
Gum Cream, Repair Fabric and Patches, Filler Strip, and  
Sidewall Veneer Rubber (Int. Cl. 12).  
First use Feb. 1, 1965.

SN 279,043. Auto Friction Corporation, Lawrence, Mass.  
Filed Aug. 25, 1967.

**HIGHLANDER**

For Automotive Brake Lining Material (Int. Cl. 12).  
First use at least as early as October 1960.

SN 279,044. Auto Friction Corporation, Lawrence, Mass.  
Filed Aug. 25, 1967.

**BLACKWATCH**

For Automotive Brake Lining Material (Int. Cl. 12).  
First use at least as early as October 1960.

**Class 36 — Musical Instruments and Supplies**

SN 253,146. International Business Machines Corporation,  
Armonk, N.Y. Filed Aug. 25, 1966.

**MINI-REEL**

For Magnetic Tape (Int. Cl. 9).  
First use Mar. 10, 1966.

SN 255,935. Gordon M. Mackechnie, d.b.a. VIF Interna-  
tional, Mountain View, Calif. Filed Oct. 6, 1966.

**VIF INTERNATIONAL**

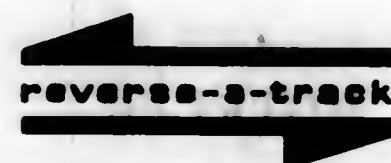
For Sound Recorders and Reproducers, and Parts Thereof  
(Int. Cl. 9).  
First use June 11, 1965.

SN 264,756. Clyde F. Lewin, d.b.a. Pentagon Recording,  
Milwaukee, Wis., assignee of Pentagon Recording, Milwau-  
kee, Wis. Filed Feb. 15, 1967.

**PENTAGON**

For Phonograph Records (Int. Cl. 9).  
First use Jan. 16, 1966.

SN 266,735. Concord Electronics Corporation, Los Angeles,  
Calif. Filed Mar. 15, 1967.



For Tape Recorders (Int. Cl. 9).  
First use on or about Nov. 30, 1965.

SN 270,132. The Harris-Fandel Co., Incorporated, Boston, Mass. Filed Apr. 27, 1967.

**BLACK JACK**

For Drums, Guitars, Electric Bases, Organs, Accessories  
Thereof, and Musical Instrument Amplifiers (Int. Cls. 9  
and 15).

First use at least as early as Dec. 12, 1966.

SN 289,940. Caravelle, Ltd., Towson, Md. Filed Jan. 31,  
1968.



Applicant disclaims the word "Sound" apart from the mark  
as shown.

For Phonograph Records (Int. Cl. 9).  
First use Aug. 7, 1967.

SN 291,954. Ranwood International, Inc., Los Angeles,  
Calif. Filed Feb. 27, 1968.



For Phonograph Records (Int. Cl. 9).  
First use Feb. 6, 1968.

**Class 37 — Paper and Stationery**

SN 258,579. Plee-Zing, Inc., d.b.a. Household Products Co.,  
Evanston, Ill. Filed Nov. 14, 1966.

**PLEE-ZING**

Owner of Reg. Nos. 366,027 and 399,581.  
For Memo Tablets, Pencils, and Calendar Books (Int.  
Cl. 16).  
First use February 1925.

SN 265,547. The National Cash Register Company, Dayton,  
Ohio. Filed Feb. 27, 1967.

**PEG-N-POST**

For Writing Board Systems, Including a Supporting Sur-  
face, a Sliding Rail, and Sheet Positioning Pegs Thereon, for  
Use in Facilitating the Making of Simultaneous Entries on  
Multiple Sheets in the Keeping of Accounting Records (Int.  
Cl. 16).  
First use on or about Oct. 10, 1958.

SN 268,421. Mohawk Paper Mills, Inc., Cohoes, N.Y. Filed  
Apr. 5, 1967.

**RAVENNA BOOK**

The word "Book" is disclaimed apart from the mark as  
shown.  
For Book Paper for Publishing (Int. Cl. 16).  
First use Nov. 1, 1966.

**FINCH COMPUTER BOND**

No claim is made to the words "Computer Bond," apart  
from the mark as shown, without waiving any common law  
rights therein. Owner of Reg. No. 718,566 and others.

For Bond Paper (Int. Cl. 16).  
First use Mar. 22, 1967.

SN 272,109. The Service Recorder Company, Cleveland,  
Ohio. Filed May 22, 1967.

**SENSI GRAPH**

The representation of the goods is disclaimed apart from  
the mark as shown.  
For Chart Paper (Int. Cl. 16).  
First use on or about May 9, 1967.

SN 274,244. O. L. Schilffarth & Company, Milwaukee, Wis.  
Filed June 19, 1967.



The drawing is lined for the color red, but no claim is made  
to color.  
For Partially Printed Business Forms (Int. Cl. 16).  
First use Oct. 5, 1966.

SN 275,961. O. L. Schilffarth & Company, Milwaukee, Wis.  
Filed July 13, 1967.



For Partially Printed Business Forms (Int. Cl. 16).  
First use Jan. 1, 1967.

SN 277,795. Rapidograph, Inc., Bloomsbury, N.J. Filed Aug.  
8, 1967.

**RAPIDOMAT**

Owner of Reg. Nos. 597,102, 813,625, and others.  
For Point Section Sets for Use With Technical Fountain  
Pens (Int. Cl. 16).  
First use July 26, 1967.

SN 277,915. L. & C. Hardtmuth, Inc., Bloomsbury, N.J.  
Filed Aug. 9, 1967.

**MEPHISTO**

Owner of Reg. Nos. 235,046 and 406,063.  
For Ball Point Pens, Blueprint Checking Pencils, Drawing  
Pencils, Colored Indelible Pencils, Copying Pencils, Water-  
coloring Pencils, and Writing Pencils (Int. Cl. 16).  
First use as early as 1890 on pencils.



SN 279,081. Lindy Pen Co., Inc., North Hollywood, Calif. Filed Sept. 5, 1967.

**LEGAL COPY**

Owner of Reg. No. 729,889.  
For Ballpoint Pens, Refills, and for the Ink Contained in Said Pens and Refills (Int. Cl. 16).  
First use December 1958.

**Class 38—Prints and Publications**

SN 236,954. Auge, Gillon, Hollier-Larousse, Moreau and Company, Paris, France. Filed Jan. 21, 1966.



The French term "Je Sème à Tout Vent" is literally translated as "I sow to all winds" and is figuratively translated as "I spread wisdom." Owner of French Reg. No. 537,461, dated July 27, 1965 (Seine); Natl. Inst. No. 265,765.  
For Newsletters, Books, Particularly Dictionaries and Encyclopedias, and Supplements Thereto (Int. Cl. 16).  
First use in or about January 1958; in commerce in or about January 1958.

SN 242,654. Popular Science Publishing Company, Inc., New York, N.Y. Filed S.R. Apr. 4, 1966; Am. P.R. Feb. 19, 1968.



Applicant disclaims the letters "AV" apart from the mark as shown.  
For Educational Film Strips (Int. Cl. 9).  
First use September 1965.

SN 266,376. United Business Service Company, Boston, Mass. Filed Mar. 9, 1967.



For Economic Service Publication—Namely, Business and Investment Report Issued Each Week (Int. Cl. 16).  
First use May 29, 1921.

SN 269,156. The American Bureau of News, Inc., Chattanooga, Tenn. Filed Apr. 14, 1967.

**MAN ABOUT TOWN**

For Magazine Periodical (Int. Cl. 16).  
First use Mar. 16, 1967.

SN 270,009. Simmons-Boardman Publishing Corporation, New York, N.Y., Filed Apr. 25, 1967.



Owner of Reg. Nos. 728,683 and 820,318.  
For Trade Magazine (Int. Cl. 16).  
First use Apr. 10, 1966; Oct. 7, 1960, as to the trademark "International Railway Journal."

SN 270,950. Geo. A. Pfau, Publisher, Inc., Dayton, Ohio. Filed May 8, 1967.

**THE CATECHIST**

For Magazine Published From Time to Time (Int. Cl. 16).  
First use May 1, 1967.

SN 270,997. Winko Packaging, Ltd., Paterson, N.J. Filed May 8, 1967.

**FRAMEX**

For Cardboard Display Signs (Int. Cl. 16).  
First use Apr. 10, 1967.

SN 271,486. Henry Kissel, Wilmington, Del. Filed May 15, 1967.

**CRYPTIC BYWORD**

For Cryptogram Puzzle Appearing in a Newspaper (Int. Cl. 16).  
First use June 30, 1964.

SN 271,924. Compassion, Inc., Chicago, Ill. Filed May 19, 1967.

**COMPASSION**

For Periodic Publication—Namely, a Newsletter (Int. Cl. 16).  
First use April 1959.

SN 272,341. Automotive Warehouse Distributors Association, Inc., Kansas City, Mo. Filed May 25, 1967.



For Association Newsletter (Int. Cl. 16).  
First use May 4, 1967.

SN 273,500. Haywood Publishing Company, d.b.a. Oakes Consumer Catalogs, New York, N.Y. Filed June 9, 1967.

**SANTA'S PACK OF TOYS**

Owner of Reg. Nos. 620,146 and 638,799.  
For Consumer Catalogs Published Annually (Int. Cl. 16).  
First use August 1958.

SN 273,993. The F. & M. Schaefer Brewing Co., Brooklyn, N.Y. Filed June 15, 1967.

**FOAM**

Owner of Reg. Nos. 411,288 and 698,624.  
For Periodical Magazine (Int. Cl. 16).  
First use Mar. 3, 1967; June 11, 1934, as to the word "Foam" in a different display.

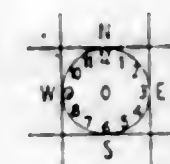
SN 284,067. Master Photo Dealers' & Finishers' Association, Jackson, Mich. Filed Nov. 3, 1967.

Photo  
Marketing

**NEWSLINE**

Owner of Reg. No. 785,240.  
For Trade Organization Newsletter (Int. Cl. 16).  
First use at least as early as June 30, 1967.

SN 286,238. Path Inc., Cincinnati, Ohio. Filed Dec. 5, 1967.

**PATH**

Applicant disclaims, without waiver of common law rights, any exclusive right to the notations "N, E, S, W" apart from their use in connection with the remainder of the mark.  
For Maps (Int. Cl. 16).  
First use Dec. 1, 1967.

SN 289,456. McGraw-Hill, Inc., New York, N.Y. Filed Jan. 24, 1968.

**MEDICAL WORLD NEWS**

For Weekly Medical Magazine (Int. Cl. 16).  
First use Apr. 22, 1960.

SN 291,234. Kahn Communications Corporation, New York, N.Y. Filed Feb. 16, 1968.



For Magazine Publication Featuring Posters (Int. Cl. 16).  
First use Jan. 30, 1968.

SN 291,812. Famous Names, Inc., Dallas, Tex. Filed Feb. 26, 1968.



For Greeting Cards (Int. Cl. 16).  
First use August 1967.

**Class 39—Clothing**

SN 256,093. Hayes Products, Inc., Nashville, Tenn. Filed Oct. 10, 1966.



The drawing is lined for red, but no claim is made to the color as an essential feature of the mark.  
For Jeans and Leisure Pants for Men (Int. Cl. 25).  
First use 1955; 1951 as to "Hayes."

SN 261,384. Markson Bros., Boston, Mass. Filed Dec. 28, 1966.



Owner of Reg. Nos. 603,452 and 627,553.  
For Sweaters, Jackets, Outer Shirts, Neckwear, Hosiery; and Underwear—Namely, Undershirts, Undershorts, and Union Suits (Int. Cl. 25).  
First use Apr. 28, 1952.

SN 265,618. The Enro Shirt Company, Inc., Louisville, Ky. Filed Feb. 28, 1967.

**THE ACTION SHIRT**

The words "The" and "Shirt" are disclaimed. Owner of Reg. Nos. 162,068, 214,199, and 711,542.  
For Ladies' Blouses and Sport Shirts (Int. Cl. 25).  
First use Jan. 1, 1959.

SN 271,582. Ann-Arbor, Inc., New York, N.Y. Filed May 16, 1967.



For Ladies' Sweaters, Knitted Dresses, Skirts, Slacks, Slack Suits, and Blouses (Int. Cl. 25).  
First use on or about Apr. 15, 1967.

SN 271,819. Linder Brothers, Inc., Scranton, Pa. Filed May 18, 1967.



For Coats (Int. Cl. 25).  
First use May 10, 1967.

SN 274,511. The Fibre-Metal Products Company, Chester, Pa. Filed June 22, 1967.

**ALPINI**

For Safety Hats and Caps (Int. Cl. 9).  
First use May 24, 1967.



SN 276,769. The Status Shoe Corporation, New York, N.Y. Filed July 25, 1967.



The word "Juniors" is disclaimed apart from the mark as shown.

For Shoes (Int. Cl. 25).  
First use Apr. 30, 1967.

SN 281,031. Capesio, Inc., New York, N.Y. Filed Sept. 25, 1967.

## CAPEZIO'S BEEN DANCING SINCE 1887

Owner of Reg. Nos. 662,280 and 776,231.  
For Shoes, Tights, and Leotards (Int. Cl. 25).  
First use Aug. 24, 1967.

SN 284,815. Guy Laroche, Societe a Responsabilite Limitee, Paris, France. Filed Nov. 14, 1967.

## GUY LAROCHE

"Guy Laroche" is the name of the managing director of applicant corporation.  
For Cloaks, Jackets, Dresses, Suits, Skirts, Hats, and Scarfs (Int. Cl. 25).

First use at least as early as 1957; in commerce at least as early as 1957.

SN 287,413. Arlan's Dept. Stores, Inc., New York, N.Y. Filed Dec. 22, 1967.

## JANIE JORDAN

The name "Janie Jordan" is fanciful and does not identify a particular living individual. Owner of Reg. Nos. 632,308, 764,744, and 799,562.

For Girls' and Infants' Sweaters and Sleepwear, including Gowns and Pajamas (Int. Cl. 25).  
First use July 1966.

SN 287,561. William B. Kessler, Inc., Hammonton, N.J. Filed Dec. 26, 1967.

## DECISION MAKERS

For Men's Suits, Jackets, Topcoats, Trousers, and Sportcoats (Int. Cl. 25).  
First use Nov. 15, 1967.

SN 287,699. Main St. Fashions, Inc., New York, N.Y. Filed Dec. 28, 1967.

## 5 YEAR DRY

For Fabrics Made Into Finished Coats for Outerwear (Int. Cl. 25).  
First use Nov. 2, 1967.

SN 287,825. The Middishade Co., Inc., Philadelphia, Pa. Filed Dec. 29, 1967.

## BROWNING KING AND CO.

For Men's Suits, Sportcoats, Slacks, and Raincoats (Int. Cl. 25).  
First use September 1967.

SN 290,685. Craddock-Terry Shoe Corporation, Lynchburg, Va. Filed Feb. 9, 1968.

## RENDITIONS

For Shoes (Int. Cl. 25).  
First use Feb. 6, 1968.

## Class 40—Fancy Goods, Furnishings, and Notions

SN 273,672. Paradiso, Inc., Norwalk, Conn. Filed June 12, 1967.



For Wigs, Wiglets, Falls, Pony Tails, and Eyelashes (Int. Cl. 26).  
First use Jan. 11, 1967.

SN 276,745. General Wig Manufacturers, Inc., Miami, Fla. Filed July 25, 1967.

## SYNTHIA

For Wigs, Wiglets, Falls, and Hair Pieces (Int. Cl. 26).  
First use May 5, 1967.

SN 280,770. David and David, Inc., Long Island City, N.Y. Filed Sept. 20, 1967.

## THE JET SETTER

For Hairpieces (Int. Cl. 26).  
First use Aug. 1, 1966.

SN 281,201. International Platex Corporation, Dover, Delaware. Filed Sept. 26, 1967.

## PLAYTEX

For Combs (Int. Cl. 26).  
First use Aug. 9, 1967.

SN 283,965. Ruth Regina, Miami Beach, Fla. Filed Nov. 2, 1967.

## CARASETTE

For Hair Pieces and Wigs (Int. Cl. 26).  
First use November 1964.

SN 291,813. Fashion Tress, Inc., Miami Beach, Fla. Filed Feb. 26, 1968.

## WIGGLE

For Ladies' Wigs and Hairpieces (Int. Cl. 26).  
First use on or about Feb. 1, 1968.

## Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 264,003. Albany Felt Company, Albany, N.Y. Filed Feb. 6, 1967.

## POLYTAIN

For Synthetic Fabric Used for Dust Collection or Fume Filtration (Int. Cl. 24).  
First use on or about Dec. 20, 1966.

SN 266,955. Wedgwood Fabrics, New York, N.Y. Filed Mar. 16, 1967.

## KALONIZED

For Knitted Synthetic Fabrics Having a Crepe-Like Finish or Texture (Int. Cl. 24).  
First use Nov. 1, 1966.

SN 275,312. Stamina Mills, Inc., New York, N.Y. Filed July 3, 1967.

## POLYWOOL

For Woven Fabrics, Wholly or in Substantial Part, Made of Wool for Use as an Interlining in Women's and Children's Coats (Int. Cl. 24).  
First use May 11, 1967.

SN 275,314. Stamina Mills, Inc., New York, N.Y. Filed July 3, 1967.

## POLYWUL

For Woven Fabrics, Wholly or in Substantial Part, Made of Wool for Use as an Interlining in Women's and Children's Coats (Int. Cl. 24).  
First use May 12, 1967.

SN 275,550. Pendleton Woolen Mills, d.b.a. Washougal Woolen Mills, Portland, Oreg. Filed July 7, 1967.

## BISHOP'S WEST COAST WOOLENS

Owner of Reg. Nos. 296,009, 574,073, and others.  
For Woolen Fabrics, Sold by the Yard and by the Bolt (Int. Cl. 24).  
First use Feb. 5, 1946.

SN 276,682. Mary Epps Perkins, d.b.a. Saltys Caps & Apparel, Fort Worth, Tex. Filed July 24, 1967.

## PERKYS

For Blankets (Int. Cl. 24).  
First use July 7, 1967.

SN 277,118. Tamesa Fabrics Limited, London, England. Filed July 31, 1967.

## TAMESA

Priority claimed under Sec. 44(d) on British Reg. No. 909,739, dated May 22, 1967.  
For Woven, Knitted or Felted Fabrics Suitable for Making Dresses, Suits, Furnishings, Covers, and the Like (Int. Cl. 24).

SN 277,885. Collins & Aikman Corporation, New York, N.Y. Filed Aug. 9, 1967.

## CABARET

For Furniture Upholstery Fabric (Int. Cl. 24).  
First use July 26, 1967.

SN 281,451. Charlet Corporation, New York, N.Y. Filed Sept. 29, 1967.

## JAN MCPHERSON

"Jan McPherson" is the name of a living individual whose consent is of record.  
For Sheets, Linens, Towels, Pillow Cases, and Place Mats (Int. Cl. 24).  
First use Sept. 20, 1967.

SN 287,400. Heldenberg Textile Fabrics Co., Inc., New York, N.Y., assignee of Heldenberg Textile Fabrics Co., Closter, N.J. Filed Dec. 22, 1967.

## CRYSTAL KNIT

Applicant disclaims the word "Knit" apart from the mark as shown.  
For Window Curtains and Draperies (Int. Cl. 24).  
First use July 1966.

SN 290,684. Cone Mills Corporation, Greensboro, N.C. Filed Feb. 9, 1968.

## SCADAN

Owner of Reg. No. 436,481.  
For Cotton Piece Goods (Int. Cl. 24).  
First use Feb. 8, 1968.

SN 291,689. Uniweave Corporation, New York, N.Y. Filed Feb. 23, 1968.

## UNIWEAVE

For Upholstery and Drapery Fabrics (Int. Cl. 24).  
First use Feb. 12, 1968.

## Class 43—Thread and Yarn

SN 273,329. Synthetic Thread Company, Inc., Bethlehem, Pa. Filed June 7, 1967.

## SYNLON

For Synthetic Sewing Thread (Int. Cl. 23).  
First use Apr. 18, 1967.

## Class 44—Dental, Medical, and Surgical Appliances

SN 239,804. Ritter Pfaudler Corporation, Rochester, N.Y. Filed Feb. 28, 1966.



Owner of Reg. Nos. 212,833, 544,533, and 697,724.  
For Dental, Medical and Surgical Equipment and Appliances—Namely, Foot and Motor-Pump Operated Chairs and Tables; Stools; Equipment Stands or Units; Dental and Bone Surgery Engines; Dental Handpieces; Cuspidors; Syringes; Cauterizers; Pulp Testers; Mouth Lamps and Mirrors; Examination, Treatment and Surgical Tables; Sterilizers; X-Ray Machines; Electro-Surgical Apparatus; Diathermy Units; Physicians' Office Lights for Dental and Medical Use; Ear, Nose and Throat Equipment; Air Compressors for Dental and Medical Use; and Lathes for Dental and Medical Use (Int. Cl. 10).  
First use prior to 1919.

SN 262,441. Relaxacisor, Inc., Los Angeles, Calif. Filed Jan. 12, 1967.



For Electrical Devices Used in Muscle Exercising by Means of Interrupted Electric Currents (Int. Cl. 10).  
First use Nov. 18, 1966.



SN 266,381. Peter Calvin Liman, Scarsdale, N.Y. Filed Mar. 10, 1967.

## DRYSPELL

For Protective Shower Bandages To Cover Surgical Casts, Surgical or Orthopedic Braces, or Surgical Stockings (Int. Cl. 5).  
First use Sept. 20, 1966.

SN 266,430. Les Fils d'Auguste Matllefer S.A., Ballaigues, Switzerland. Filed Mar. 10, 1967.

## LENTULO

For Dental Root Canal Instruments (Int. Cl. 10).  
First use 1929; in commerce Jan. 1, 1935.

SN 273,630. The Foregger Company, Inc., Roslyn Heights, N.Y. Filed June 12, 1967.

## PENTOMATIC

For Vaporizer To Provide and Meter Vaporized Liquid Anaesthesia Agent for Anaesthetizing a Patient (Int. Cl. 10).  
First use Nov. 1, 1966.

SN 273,631. The Foregger Company, Inc., Roslyn Heights, N.Y. Filed June 12, 1967.

## FLUOMATIC

For Vaporizer To Provide and Meter Vaporized Liquid Anaesthesia Agent for Anaesthetizing a Patient (Int. Cl. 10).  
First use Nov. 1, 1966.

SN 278,732. Betty N. Robins, Southfield, Mich. Filed Aug. 21, 1967.

## "SMILIFT"



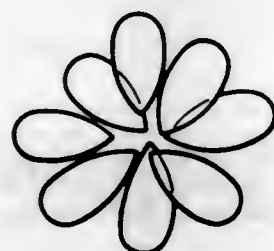
For Plastic Exerciser Used in Mouth To Lift Facial Contours (Int. Cl. 10).  
First use June 17, 1967.

SN 279,198. Jobst Institute, Inc., Toledo, Ohio. Filed Aug. 28, 1967.

## AUTO-QUET

For Automatic Rotating Tourniquet (Int. Cl. 10).  
First use July 3, 1967.

SN 285,792. Johnson & Johnson, d.b.a. Personal Products, New Brunswick, N.J. Filed Nov. 29, 1967.



For Tampons (Int. Cl. 5).  
First use May 20, 1963.

SN 290,990. American Home Products Corporation, New York, N.Y. Filed Feb. 14, 1968.

## SAFE 'N EASY

For Sanitary Napkins (Int. Cl. 5).  
First use Jan. 30, 1968.

SN 290,991. American Home Products Corporation, New York, N.Y. Filed Feb. 14, 1968.

## REGENCY

For Sanitary Napkins (Int. Cl. 5).  
First use Jan. 30, 1968.

SN 290,992. American Home Products Corporation, New York, N.Y. Filed Feb. 14, 1968.

## REGINA

For Sanitary Napkins (Int. Cl. 5).  
First use Jan. 30, 1968.

## Class 45—Soft Drinks and Carbonated Waters

SN 275,364. Crouch Supply Co., Inc., Fort Worth, Tex. Filed June 30, 1967.



Applicant disclaims the representation of the fruit separate and apart from its mark as shown.  
For Soft Drink Concentrates (Int. Cl. 32).  
First use at least as early as May 30, 1967; at least as early as Oct. 25, 1966, in a different form.

SN 291,309. American Beverage Corporation, d.b.a. Golden Age Beverage Company, Youngstown, Ohio. Filed Feb. 19, 1968.



For Artificially Sweetened Imitation Grapefruit-Flavored Carbonated Soft Drinks (Int. Cl. 32).  
First use Nov. 25, 1967.

SN 291,562. Sallent Flavoring Corp., New York, N.Y. Filed Feb. 21, 1968.

## JACK FROST

For Soft Drinks and Extracts and Flavorings for Making Same (Int. Cl. 32).  
First use Oct. 15, 1940.

## Class 46—Foods and Ingredients of Foods

SN 278,202. International Maritime Supplies Company Limited, Geneva, Switzerland. Filed Oct. 2, 1963.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 198,717, dated May 13, 1963.

For Meat, Fish, Poultry, and Game—Namely, Deer, Hares, Leverets, Pheasant, Grouse, Quail, Partridge, Plover, Snipe, Wild Duck, Wild Geese, Wood Pigeon and Woodcock, in Fresh, Frozen, Canned or Dried Condition, All for Consumption by Humans; Pre-Cooked Frozen or Canned Vegetables and Fruits; Fresh and Powdered Eggs; Fresh, Canned and Powdered Milk; Canned and Powdered Soups; Dairy Products—Namely, Fresh, Canned and Powdered Cream, Butter, Ice Cream and Cheeses; Fresh Fruits for Consumption by Humans; Fruit Preserves—Namely, Fruit Jellies, Marmalades and Jams; Honey; Molasses; Edible Oils and Fats of Animal or Vegetable Origin for Consumption by Humans; Fruits Juices, Powderized or Granulated Sago; Breakfast Cereals; Wheat, Oats, Barley, Corn, Rice and Rye All in the Form of Flour or Dry Cereal for Consumption by Humans; Sauces—Namely, Cranberry Sauce and Applesauce; Seasonings—Namely, Mustard, Salt, Pepper, Sugar, Vinegar, Herbs for Culinary Use Only and Spices; Yeast; Baking Powder; Taploca; Confections—Namely, Candy and Chocolate; Bakery Products—Namely, Bread, Crackers, Cookies, Cakes, Pies, and Doughnuts (Int. Cls. 29, 30, 31, and 32).

SN 233,677. Brook Hill Farms, Inc., Chicago, Ill. Filed Dec. 1, 1965.

boston  
blend

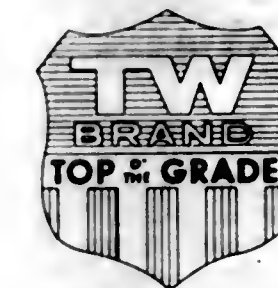
Without prejudice to common law or other statutory rights, no exclusive right is claimed in the word "Blend" apart from the mark as shown. Owner of Reg. No. 802,474.  
For Non-Dairy Cream Substitute (Int. Cl. 29).  
First use Nov. 17, 1964.

SN 233,943. Pennsylvania Dutch Co., Inc., d.b.a. Pennsylvania Dutch Company, Pennsylvania Dutch Foods, and Pennsylvania Dutch Candles, Mount Holly Springs, Pa. Filed Dec. 3, 1965.

## PENNSYLVANIA DUTCH

For Confectionery—Namely, Candy, Fudge, Coated Nuts and Chocolate Covered Pretzels; Soups; Peanut Butter; Honey; Salted Nuts; Molasses; Syrups for Food Purposes; Meatless Sauces; Salad Dressings; Food Dips of a Cheese Nature; Snack Mixes Containing Corn Puffs, Pretzel Sticks, Prepared Cereals, Peppitas and Nuts; Pretzels; Spices; Food Dressings of a Herb Nature; and Cracker Balls Which Are Hard Treton Crackers (Int. Cls. 29 and 30).  
First use Dec. 29, 1952.

SN 241,550. Thriftway Super Markets, Inc., Cincinnati, Ohio. Filed Mar. 21, 1966.



The drawing is lined for blue and red. No claim is made to the exclusive right to the use of the words "Brand" or "Top O' The Grade" apart from the mark as shown.  
For Fresh, Frozen, and Canned Meats (Int. Cl. 29).  
First use Mar. 2, 1966.

SN 247,547. Robert T. Mitton, Jr., d.b.a. Philly Hoagie & Steak Shops, Largo, Fla. Filed Mar. 23, 1966.



No claim is made to the exclusive use of the words "Philly Hoagie Submarine Sandwiches" and the representation of the sandwich apart from the mark as shown.  
For Submarine or Cuban-Type Sandwiches (Int. Cl. 29).  
First use June 15, 1950.

SN 248,449. Erik Emborg, Aalborg, Denmark. Filed June 20, 1966.



Owner of Norwegian Reg. No. 60,050, dated Aug. 23, 1962.  
For Beef, Pork, Veal, Beef Burgers, Sausages, Pork Livers, Pork Kidneys, Chopped Pork Cutlets, Portions of Pork Prepared for Grilling and for Frying, Chicken Breasts, and Steakburgers, All Being Prepared Frozen Foods (Int. Cl. 29).

SN 254,052. Clyde A. Harbin, Whitehaven, Tenn. Filed Sept. 8, 1966.

## WUFFLE-DUST

For Combination Stabilizer-Emulsifier for Ice Cream Mixes and Ice Milk Mixes (Int. Cl. 30).  
First use June 14, 1965.

SN 254,337. United Fruit Company, Boston, Mass. Filed Sept. 12, 1966.

## CHIQUITA

Owner of Reg. Nos. 670,320 and 711,622.  
For Cake, Muffin, and Frosting Mixes (Int. Cl. 30).  
First use Aug. 18, 1966.



SN 257,193. Plantation Foods Corporation, Miami, Fla. Filed Oct. 25, 1966.

**PLANTATION**

"Brand" is disclaimed apart from the mark as shown.

For Canned and Frozen Asparagus, Asparagus Spears, Beans, Broccoli, Brussel Sprouts, Carrots, Cauliflower, Corn, Mixed Vegetables, Green Peas, Collard Greens, Mustard Greens, Okra, Blackeye Peas, Squash, Turnip Greens, Baby Lima Beans, Fordhook Lima Beans, and Potatoes; Canned and Frozen Shrimp, Flounder, Seafood Dinner, Scallops, Oysters, Crab Roll, Crab Burger, Spinach, Shrimpburger, Cod Fillets, Haddock Fillets, Ocean Perch, Sole Fillets, Grouper Fillets, Cat Fish Okeechobee, Jumbo Cod, and Shrimp Egg Rolls (Int. Cl. 29).

First use on or about May 1, 1961.

SN 259,238. The Frank Tea and Spice Company, Cincinnati, Ohio. Filed Nov. 22, 1966.

**VIVA!**

For Food Seasoning of a Spice Nature (Int. Cl. 30).  
First use Oct. 26, 1966.

SN 260,426. Gloria Products Limited, London, England. Filed Dec. 9, 1966.

**BLUE DANUBE**

Owner of British Reg. Nos. 540,961, dated Apr. 24, 1933; and 770,767, 770,768, and 770,769, dated Nov. 1, 1957.

For Meat Extracts; Preserved, Dried and Cooked Fruits and Vegetables; Jellies, Jams; Milk in Powdered and Liquid Form; Pickles; Coffee; Tea; Cocoa; Sugar; Rice; Tapioca; Sago; Coffee Substitutes; Flour; Cooked Cereals; Bread; Biscuits; Cakes; Pastry; Confectionery Ices; Honey; Treacle; Yeast for Food Purposes; Baking Powder; Salt; Mustard; Pepper; Vinegar; Spices; Coffee Essences and Extracts; Iced Coffee, With or Without Milk, in Liquid or Powder Form; Iced Tea; Food Flavouring Concentrates; and Food Seasoning Essences (Non-Alcoholic) for Use as Food (Int. Cls. 29 and 30).

SN 260,441. Merck & Co., Inc., Rahway, N.J. Filed Dec. 9, 1966.

**MERTECT**

For Antifungal Agent for Foodstuffs (Int. Cl. 1).  
First use Sept. 29, 1966.

SN 261,541. Washington Meat Import Co., Inc., New York, N.Y. Filed Dec. 27, 1966.



No claim is made to the word "Brand" except as a part of the mark as an entirety.

For Pork Shoulder Picnic, Ham, Luncheon Meat, Canadian Style Bacon, and Sliced Breakfast Bacon, All Canned (Int. Cl. 29).

First use July 6, 1964.

SN 261,989. Horner Sales Corporation, Pittsburgh, Pa. Filed Jan. 5, 1967.

**EMCO**

For Combination Stabilizer Emulsifiers Adapted To Be Incorporated Into Ice Cream, Ice Milk, Soft Serve Mixtures, and the Like (Int. Cl. 30).  
First use Sept. 12, 1949.

SN 262,166. Gray Dunn & Company Limited, Glasgow, Scotland. Filed Jan. 9, 1967.

**HAMPDEN WAFERS**

Applicant makes no claim to the exclusive right to use the word "Wafers" apart from the mark as shown.  
For Wafer Biscuits (Int. Cl. 30).  
First use May 6, 1957; in commerce Aug. 1, 1966.

SN 262,887. Proteus Foods & Industries, Inc., New York, N.Y. Filed Jan. 19, 1967.

**OCEAN FARE**

Owner of Reg. No. 710,345.  
For Frozen Seafood Products—Namely, Frozen Clams, Oysters, Seafood Patties, Shrimp Patties, and Sea Clam Strips (Int. Cl. 29).  
First use Apr. 28, 1959.

SN 265,263. Boyle's Famous Corned Beef Company, Kansas City, Mo. Filed Feb. 23, 1967.



For Processed Meat Products, Particularly Corned Beef, Smoked Beef Brisket, Corned Beef Tongue, and Pastrami (Int. Cl. 29).

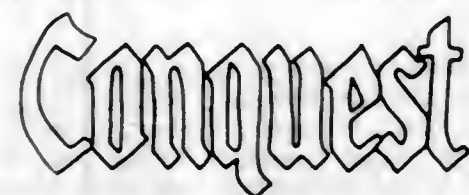
First use on or about Jan. 20, 1956.

SN 265,343. Joseph Shair, d.b.a. Mark T. Wendell, Boston, Mass. Filed Feb. 23, 1967.



For Tea (Int. Cl. 30).  
First use January 1969.

SN 266,288. Del Mar Packing Co., Oxnard, Calif. Filed Mar. 9, 1967.



For Fresh Lettuce (Int. Cl. 31).  
First use Dec. 5, 1958.

SN 266,328. L. R. Hamilton, Inc., Reedley, Calif. Filed Mar. 9, 1967.



For Fresh Deciduous Fruits and Grapes (Int. Cl. 31).  
First use at least as early as 1937.

SN 267,076. Triumph Meat Packers, Ltd., Nykobing, Falster, Denmark. Filed Mar. 17, 1967.

**ROYAL DANISH CHAMP**

Applicant disclaims the word "Danish" apart from the mark as shown except that applicant does not disclaim any common law rights it may have in connection with the use of the mark in its entirety. Owner of U.S. Reg. No. 644,516.  
For Canned Meats—Namely, Canned Pork, Ham, and Veal (Int. Cl. 29).  
First use about 1960; in commerce about 1960.

SN 267,077. Triumph Meat Packers, Ltd., Nykobing, Falster, Denmark. Filed Mar. 17, 1967.

**ROYAL CEDAR**

For Canned Meats—Namely, Canned Pork, Ham, and Veal (Int. Cl. 29).  
First use about 1956; in commerce about 1956.

SN 269,597. The Theobald Industries, Harrison, N.J. Filed Apr. 17, 1967.

**QUADBERGER**

For Dog Food (Int. Cl. 31).  
First use Feb. 4, 1946.

SN 270,301. Unique Pure Goods Corporation, North Bergen, N.J. Filed Apr. 28, 1967.

**FOODS AMERICANA**

Applicant disclaims the word "Foods" apart from the mark as shown.

For Frozen Prepared Appetizers, Desserts, Cakes, Pies, Pastries, and Hors d'Oeuvres—Namely, Beet Bisque Soup, Vegetable Soup, Potato Bisque Soup, Tomato Bisque Soup, Salmon Bisque Soup, Onion Soup, Fish Chowder, Chicken Flavored and Dumplings Soup, Fish Gumbo Bisque Soup, Sweet Potatoes, Spinach Puffs, Corn Puffs, Potato Puffs, Baked Mushrooms, Shrimp Cocktail, Swordfish Steak, Crabmeat, Shrimp Creole, Mixed Fish, Baked Clams, Halibut Steak, Shrimp, Clams and Rice Combination, Baked Shrimp, Fried Clams, Liver Flavored Spread, Salad Dressing, Seafood Dips, Clam Sauce, Creole Sauce, Chocolate Cake, Chocolate Cream Cheese Cake, Rum Cake, Pecan Pound Cake, Petit Fours, Fruit Ring, and Coffee Cake (Int. Cls. 29 and 30).  
First use Apr. 7, 1967.

SN 271,083. Gertrude Urban, d.b.a. Melbrosia, Vienna, Austria. Filed May 9, 1967.

**MELBROSIA**

Owner of Austrian Reg. No. 41,771, dated July 30, 1959.  
For Dietetic Food on the Basis of Flower Pollen and Royal Jelly in the Form of Tablets, Capsules, and Drinking Ampoules, and Liquid Honey Preparations (Int. Cl. 5).

TM 850 O.G.—4

**BRILLIANT**  
*Gourmet Kitchens*

For Cooked Shrimp in a Frozen State (Int. Cl. 29).  
First use May 1, 1966.

SN 273,313. Sahara Baking Company, Inc., Hingham, Mass. Filed June 7, 1967.

**SAHARA**

For Bakery Products—Namely, Bread (Int. Cl. 30).  
First use Apr. 3, 1967.

SN 273,895. J. D. Jewell, Inc., Gainesville, Ga. Filed June 14, 1967.

**OVENETTE**

For Frozen Breaded Chicken (Int. Cl. 29).  
First use Dec. 6, 1966.

SN 274,071. Lamb-Weeton, Inc., Portland, Oreg. Filed June 16, 1967.



The word "Frier" is disclaimed apart from the mark as shown.  
For Pre-Cut, Frozen, Frying Potatoes (Int. Cl. 29).  
First use Dec. 8, 1966.

SN 274,206. The Hubinger Company, Keokuk, Iowa. Filed June 19, 1967.

**MOIST BAKE**

Owner of Reg. No. 768,542.  
For Starch Used for Food Processing Purposes (Int. Cl. 1).  
First use June 6, 1962.

SN 274,946. Blue Ox, Inc., Seattle, Wash. Filed June 28, 1967.



For Blue Cheese Salad Dressing (Int. Cl. 29).  
First use Feb. 1, 1964.

SN 275,032. Carter-Wallace, Inc., New York, N.Y. Filed June 29, 1967.

**TOOTS SHOR**

"Toots Shor" is the name of a living individual whose consent is of record.  
For Salad Dressings and Sauces—Namely, French Dressing and Steak Baste (Int. Cls. 29 and 30).  
First use May 29, 1967.



SN 275,651. Fountain Industries, Inc., Albert Lea, Minn. Filed July 10, 1967.



For Foods and Food Concentrates—Namely, Coffee, Tea, Chocolate, Soup Broth, Cream, and Sugar, Sold in Special Dispenser Packages (Int. Cls. 29 and 30).  
First use May 31, 1966.

SN 275,672. S. S. Kresge Company, Detroit, Mich. Filed July 10, 1967.



Owner of Reg. Nos. 743,912, 808,543, and others.  
For Sugar and Snack Food Products—Namely, Corn Curls and Snack Chips of a Vegetable Nature, and Carmel Corn With Peanuts (Int. Cl. 30).  
First use on or before Apr. 19, 1967.

SN 276,195. VWR United Corporation, Portland, Oreg. Filed July 17, 1967.



For Pancake, Waffle, Muffin, and Biscuit Mixes (Int. Cl. 30).  
First use Feb. 28, 1967.

SN 276,464. Pan-Alaska Fisheries, Inc., Seattle, Wash. Filed July 20, 1967.

## CRAB IS KING

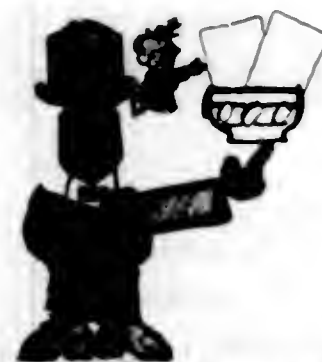
No claim is made to "Crab" and "King" apart from the mark as shown.  
For Frozen King Crab Meat (Int. Cl. 29).  
First use in or about September 1965.

SN 276,874. South Florida Growers Association, Inc., Goulds, Fla. Filed July 26, 1967.

## TROPIKIST

For Fresh Tropical and Sub-Tropical Fruits; Natural Strength and Concentrated Frozen and Fresh Tropical and Sub-Tropical Fruit Juices and Purees (Int. Cls. 31 and 32).  
First use on or about Jan. 2, 1965.

SN 277,211. Ralston Purina Company, St. Louis, Mo. Filed July 31, 1967.



The drawing is lined for red, brown, blue, purple, green, orange, and gold, but no claim is made as to the colors so named. No claim is made to the representation of the snack food product.

For Cereal Based Snack Food Products (Int. Cl. 30).  
First use Apr. 28, 1967.

SN 277,212. Ralston Purina Company, St. Louis, Mo. Filed July 31, 1967.



The drawing is lined for red, blue, purple, green, orange, and yellow, but no claim is made to the colors so named. No claim is made to the representation of the snack food product.

For Cereal Based Snack Food Products (Int. Cl. 30).  
First use Apr. 28, 1967.

SN 277,213. Ralston Purina Company, St. Louis, Mo. Filed July 31, 1967.



The drawing is lined for red, blue, purple, green, orange, brown, and yellow, but no claim is made to color. No claim is made to the representation of the snack food product.

For Cereal Based Snack Food Products (Int. Cl. 30).  
First use Apr. 28, 1967.

SN 277,319. United Grocers, Ltd., d.b.a. United Grocers, Richmond, Calif. Filed Aug. 1, 1967.



Owner of Reg. No. 706,728.  
For Canned Fruits, Vegetables, Meats, Fish, and Fruit and Vegetable Juices (Int. Cls. 29 and 32).  
First use about February 1966.

SN 278,133. Societe Francaise des Colloides Sofracol, Societe Anonyme, Paris, France. Filed Aug. 11, 1967.

## GUARANATE

Owner of French Reg. No. 491,411, dated Oct. 21, 1960 (Seine); Natl. Inst. No. 154,507.  
For Chemicals for Preserving and thickening foodstuffs (Int. Cl. 1).

SN 278,907. The Quaker Oats Company, Chicago, Ill. Filed Aug. 23, 1967.



100%

Without waiver of any common law rights in the mark as a whole or any feature thereof, applicant disclaims the word "Ration" apart from the mark as shown. Owner of Reg. Nos. 188,326, 746,309, and others.

For Dog Food (Int. Cl. 31).  
First use July 31, 1967; Jan. 22, 1923, as to "Ken-L-Ration."

SN 279,061. Friendship Dairies, Inc., Maspeth, N.Y. Filed Aug. 25, 1967.



Friendship

Owner of Reg. No. 560,840.  
For Cheese, Cream Cheese, Cottage Cheese, Farmer Cheese, Butter, Sour Cream, and Milk (Int. Cl. 29).  
First use January 1964.

SN 281,304. Beatrice Foods Co., Chicago, Ill., assignee of Mother's Cookie Company, Incorporated, d.b.a. Robert's Cookie Co., Louisville, Ky. Filed Sept. 27, 1967.

## ROBERT'S

Owner of Reg. No. 720,413.  
For Bakery Products—Namely, Cookie-Like Confections and Cookies (Int. Cl. 30).  
First use January 1939.

SN 281,307. National Biscuit Company, New York, N.Y. Filed Sept. 27, 1967.

## CHIPSTERS

For Deep Fried Potato and Corn Chip Products (Int. Cl. 30).  
First use Aug. 29, 1967.

SN 281,308. National Biscuit Company, New York, N.Y. Filed Sept. 27, 1967.

## FLAVOR-FURLS

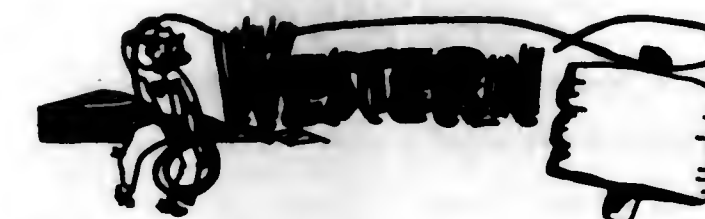
For Deep Fried Potato and Corn Chip Products. (Int. Cl. 30).  
First use Aug. 29, 1967.

SN 281,309. National Biscuit Company, New York, N.Y. Filed Sept. 27, 1967.

## KORKERS

For Deep Fried Potato and Corn Chip Products (Int. Cl. 30).  
First use Aug. 29, 1967.

SN 281,750. Market Confections, Inc., d.b.a. Western Candy Co., Los Angeles, Calif. Filed Oct. 4, 1967.



For Nuts (Int. Cl. 29).  
First use at least as early as 1955.

SN 282,812. National Biscuit Company, New York, N.Y. Filed Oct. 18, 1967.

## CANAPETTES

For Snack Crackers (Int. Cl. 30).  
First use Sept. 13, 1967.

## ZODIAC SNACKS

Applicant disclaims the word "Snacks" apart from the mark as shown.  
For Vegetable and Cereal Derived Snack Food Products (Int. Cl. 30).  
First use Nov. 29, 1967.

SN 286,465. Kellogg Company, Battle Creek, Mich. Filed Dec. 8, 1967.

## HOROSCOPE SNACKS

Applicant disclaims the word "Snacks" apart from the mark as shown.  
For Vegetable and Cereal Derived Snack Food Products (Int. Cl. 30).  
First use Nov. 29, 1967.

SN 286,470. Kellogg Company, Battle Creek, Mich. Filed Dec. 8, 1967.

## NUTNIKS

For Vegetable and Cereal Derived Snack Food Products (Int. Cl. 30).  
First use Nov. 29, 1967.

SN 286,473. Kellogg Company, Battle Creek, Mich. Filed Dec. 8, 1967.



Owner of Reg. No. 723,341.  
For Cereal Derived Food Product To Be Used as a Breakfast Food, Snack Food, and Confection (Int. Cl. 30).  
First use Oct. 2, 1967.



SN 290,993. American Tea & Coffee Co., Inc., Nashville, Tenn. Filed Feb. 14, 1968.

**AMBRU**

For Instant Coffee (Int. Cl. 30).  
First use Jan. 30, 1968.

SN 291,117. Cascadian Fruit Shippers, Inc., Wenatchee, Wash. Filed Feb. 15, 1968.



No claim is made to the representation of the map of the State of Washington.  
For Fresh Deciduous Fruits (Int. Cl. 31).  
First use Oct. 22, 1945.

SN 291,118. Cascadian Fruit Shippers, Inc., Wenatchee, Wash. Filed Feb. 15, 1968.



Owner of Reg. No. 504,864.  
For Fresh Deciduous Fruits (Int. Cl. 31).  
First use Aug. 25, 1945.

SN 291,325. N. A. Kalich, d.b.a. M. L. Kalich & Co., Watsonville, Calif. Filed Feb. 19, 1968.

**TWINS**

For Fresh Vegetables and Fresh Deciduous Fruits (Int. Cl. 31).  
First use at least as early as 1913.

**Class 47 — Wines**

SN 245,346. Anthony D. Scotto, Patchogue, N.Y. Filed May 10, 1966.



The drawing is lined for shading purposes and not for color. Owner of Reg. No. 747,015.  
For Wine (Int. Cl. 33).  
First use Aug. 7, 1963.

SN 262,417. Florio y Compania Industrial y Comercial Sociedad Anonima, Buenos Aires, Argentina. Filed Jan. 12, 1967.

**SANTA ELENA**

Owner of Argentine Reg. No. 517,223, dated Sept. 18, 1963.  
For Wines (Int. Cl. 33).

SN 281,087. J.L.P. Lebeque & Co. Limited, London, England. Filed Sept. 25, 1967.

**POCHETTE**

Owner of British Reg. No. B778,145, dated May 29, 1958.  
For Wines (Int. Cl. 33).

**Class 49 — Distilled Alcoholic Liquors**

SN 256,195. Mr. Boston Distiller Inc., Boston, Mass. Filed Oct. 11, 1966.

**BOSTON HOUSE**

Owner of Reg. Nos. 351,462, 359,818, and others.  
For Gin, Vodka, and Bourbon (Int. Cl. 33).  
First use Aug. 26, 1966.

SN 270,965. Southern Comfort Corporation, St. Louis, Mo. Filed May 8, 1967.

**THE GRAND OLD DRINK OF THE SOUTH**

Owner of Reg. No. 423,955.  
For Liqueur (Int. Cl. 33).  
First use Jan. 19, 1934.

SN 270,966. Southern Comfort Corporation, St. Louis, Mo. Filed May 8, 1967.



Owner of Reg. Nos. 423,955 and 513,317.  
For Liqueur (Int. Cl. 33).  
First use Jan. 19, 1934.

SN 281,493. Schenley Industries, Inc., New York, N.Y. Filed Sept. 29, 1967.

**CLUB ROYAL**

Owner of Reg. No. 312,761.  
For Whiskey (Int. Cl. 33).  
First use Aug. 11, 1967.

SN 289,864. Joseph E. Seagram & Sons, Inc., d.b.a. Victor Fischel Company, New York, N.Y. Filed Jan. 30, 1968.

**JACQUES CARDIN**

"Jacques Cardin" is not the name of a particular living individual.  
For French Brandy (Int. Cl. 33).  
First use Jan. 25, 1968.

**Class 50 — Merchandise Not Otherwise Classified**

SN 261,922. W. R. Grace & Co., Cambridge, Mass. Filed Jan. 4, 1967.

**SEE-THRU**

For Chemical Compositions for Forming Sealing Gaskets for Containers Such as Sanitary Cans, Metal and Glass Containers, and the Like (Int. Cl. 17).  
First use on or about Oct. 3, 1966.

SN 261,923. W. R. Grace & Co., Cambridge, Mass. Filed Jan. 4, 1967.

**SPUN-LINED**

For Chemical Compositions for Forming Sealing Gaskets for Containers Such as Sanitary Cans, Metal and Glass Containers, and the Like (Int. Cl. 17).  
First use on or about Oct. 3, 1966.

SN 264,576. Numetric Corporation, New York, N.Y. Filed Feb. 13, 1967.



For Flavored Drinking Straws (Int. Cl. 30).  
First use Dec. 16, 1966.

SN 277,322. Washington Millinery Supply Inc., Washington, D.C. Filed Aug. 1, 1967.



For Millinery and Art Supplies—Namely, Feathers and Beads for Bead Work (Int. Cl. 26).  
First use June 8, 1967.

SN 283,529. J.R. Sporting Company, Rochester, N.Y. Filed Oct. 27, 1967.

**PORT-A-CABANA**

For Portable and Collapsible Sun Shelters for Beach, Pool-Side, Patio, and Camping (Int. Cl. 19).  
First use Sept. 18, 1966.

**Class 51 — Cosmetics and Toilet Preparations**

SN 246,712. Burton H. Olin, Chicago, Ill. Filed May 26, 1966.

**ID**

For Colognes (Int. Cl. 3).  
First use May 17, 1966.

SN 261,212. Guardian Chemical Corporation, Long Island City, N.Y. Filed Dec. 21, 1966.

**COLOR-LOK**

For Cosmetics and Beauty Preparations—Namely, Hair Color Stabilizers, Hair Rinses, and Toothpaste (Int. Cl. 3).  
First use Dec. 14, 1966.

SN 262,082. Parfumerie Lubin, Paris, France. Filed Jan. 9, 1967.

**NUIT DE LUBIN**

The mark "Nuit de Lubin" may be translated as "night of Lubin."  
For Perfumes, Toilet Waters, Colognes, Facial Creams, and Hand and Body Lotions (Int. Cl. 3).  
First use Sept. 21, 1966; in commerce Sept. 21, 1966.

SN 264,769. Studio Girl-Hollywood, Inc. Chicago, Ill. Filed Feb. 15, 1967.

**B/M/O/C**

For After Shaving Lotion, Cologne, Hair Grooming Preparations, and Body Deodorant (Int. Cls. 3 and 5).  
First use on or about Aug. 12, 1964.

SN 266,403. Bonne Bell, Inc., Lakewood, Ohio. Filed Mar. 10, 1967.



The word "Après" may be translated from French as "in pursuit of" or "after."  
For Cologne (Int. Cl. 3).  
First use Feb. 24, 1967.

SN 269,370. Yardley of London, Inc., Totowa, N.J. Filed Apr. 17, 1967.

**MISTY FOG**

For Cologne (Int. Cl. 3).  
First use Mar. 8, 1967.

SN 270,890. Caron Corporation, New York, N.Y. Filed May 8, 1967.

**POUR UN HOMME LES PLUS BELLES LAVANDES**

Applicant disclaims the words "Les Plus Belles Lavandes" apart from the mark as shown, while retaining all common law rights therein. The English translation of the mark is "for a man the most beautiful lavender flowers." Owner of Reg. No. 320,644.  
For Cologne and After Shave Lotion (Int. Cl. 3).  
First use Apr. 20, 1934.

SN 272,471. Bristol-Myers Company, New York, N.Y. Filed May 26, 1967.

**THE ENFORCER**

For Men's Hair Groom (Int. Cl. 3).  
First use Mar. 22, 1967.



SN 272,472. Bristol-Myers Company, New York, N.Y. Filed May 26, 1967.

### PRIME TIME

For Aerosol Antiperspirant (Int. Cl. 5).  
First use Feb. 27, 1967.

SN 272,649. USV Pharmaceutical Corporation, New York, N.Y. Filed May 29, 1967.

### WHISPER

For Aerosol Breath Freshener (Int. Cl. 3).  
First use Apr. 26, 1967.

SN 273,020. Avon Products, Inc., New York, N.Y. Filed June 5, 1967.

### ON DUTY

For Toiletory Items—Namely, Men's Hair Spray, and Breath Freshener (Int. Cl. 3).  
First use May 17, 1967.

SN 273,116. Caryl Richards, Inc., New York, N.Y. Filed June 5, 1967.

### SUDDENLY

Owner of Reg. No. 894,007.  
For Permanent Hair Wave Preparations and Color Rinse (Int. Cl. 3).  
First use Apr. 6, 1966, on permanent wave preparations.

SN 273,256. Clairol Incorporated, New York, N.Y. Filed June 7, 1967.

### OUT OF SIGHT

For Toilet Water, Personal Deodorant, and Anti-Perspirant (Int. Cls. 3 and 5).  
First use Mar. 14, 1967.

SN 273,258. Clairol Incorporated, New York, N.Y. Filed June 7, 1967.

### UPTIGHT

For Cologne, Perfume, Toilet Water, Personal Deodorant, and Anti-Perspirant (Int. Cls. 3 and 5).  
First use Mar. 14, 1967.

SN 273,370. Charmaceuticals, Inc., Los Angeles, Calif. Filed June 8, 1967.

### Au Naturelle

A translation of the mark "Au Naturelle" is the adverb "naturally."  
For Moisturizing Lotion for the Arms and Legs (Int. Cl. 3).  
First use Mar. 1, 1967.

SN 273,757. G.E. Laboratories, Inc., Shamokin, Pa. Filed June 13, 1967.

### TROUTMANS

For Hand Cream and Suntan Cream (Int. Cl. 3).  
First use May 16, 1967.

SN 274,279. Yardley of London, Inc., Totowa, N.J. Filed June 19, 1967.

### THE SPORTING LIFE

For After Shower Powder, After Shaving Lotion, Deep Emollient Cleanser and Skin Freshener (Int. Cl. 3).  
First use June 12, 1967.

SN 274,393. Avon Products, Inc., New York, N.Y. Filed June 21, 1967.

### ANEW!

For Hair Conditioner (Int. Cl. 3).  
First use June 8, 1967.

SN 274,713. Cosmetics Manufacturing Company, d.b.a. Cosmetco, Long Beach, Calif. Filed June 26, 1967.

*Petite  
Savage*



The English translation of the mark is "little savage."  
For Eau de Cologne (Int. Cl. 3).  
First use June 13, 1967.

SN 274,851. John H. Breck, Inc., Wayne, N.J. Filed June 27, 1967.

### WATER BABY

For Bath Oil and Hand Cream (Int. Cl. 3).  
First use Apr. 6, 1967.

SN 274,853. John H. Breck, Inc., Wayne, N.J. Filed June 27, 1967.

### WAY AHEAD

For Hair Coloring Preparation (Int. Cl. 3).  
First use June 9, 1967.

SN 274,854. Bristol-Myers Company, New York, N.Y. Filed June 27, 1967.

### SOLDIER OF FORTUNE

For After Shave Lotion (Int. Cl. 3).  
First use May 5, 1967.

SN 274,932. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

### MERIDIAN

For Men's Toilettries—Namely, After Shave Lotion, After Shave Spray, Cologne, Talc, Personal Deodorant, and Cream Hair Dress (Int. Cls. 3 and 5).  
First use June 8, 1967.

SN 274,933. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

### STAND-BY

For Hair Conditioner, Hair Dressing, and Cream Hair Rinse (Int. Cl. 3).  
First use June 19, 1967.

SN 274,936. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

### PORTFOLIO

For Men's Toilettries—Namely, After Shave Lotion, After Shave Spray, Cologne, Talc, Personal Deodorant, and Cream Hair Dress (Int. Cls. 3 and 5).  
First use June 8, 1967.

SN 275,468. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed July 6, 1967.

### WINDWARD PASSAGE

For After Shave Cologne (Int. Cl. 3).  
First use May 22, 1967.

SN 275,477. Stur-Dee Health Products, Inc., Brooklyn, N.Y. Filed July 6, 1967.

### DOLODENT

For Dental Cream (Int. Cl. 3).  
First use November 1965.

SN 286,313. Aloe Creme Laboratories, Inc., d.b.a. Alo-Cosmetics, Fort Lauderdale, Fla. Filed Dec. 6, 1967.

*ALO-VEIL  
Cry of  
d'Amour*

The English translation of "Cry d'Amour" is "cry of love."  
Owner of Reg. No. 840,629.  
For Fragrance Body Lotion (Int. Cl. 3).  
First use July 28, 1967.

SN 288,454. Societe Anonyme Stendhal, Paris, France. Filed Jan. 9, 1968.

### RACINE DE VIE G-SEN

The trademark "Racine de Vie G-Sen" may be translated from French to mean "root of life G-Sen." Owner of U.S. Reg. No. 746,340.  
For Products of Perfumery, Beauty Preparations, Rouges, Hair Lotions, and Dentifrices (Int. Cl. 3).  
First use 1957; in commerce 1957.

SN 290,144. Helena Rubinstein, Inc., New York, N.Y. Filed Feb. 2, 1968.

### NAIL NUDE

Applicant disclaims the word "Nail" apart from the mark as shown. Owner of Reg. Nos. 551,523, 835,623, and others.  
For Nail Polish Remover (Int. Cl. 3).  
First use Nov. 4, 1959.

### Class 52—Detergents and Soaps

SN 246,923. Mountain Iron and Supply Company, Wichita, Kans. Filed May 31, 1966.

### MU-5

For Cold Water Synthetic Detergents for Industrial Use Only (Int. Cl. 1).  
First use on or about Apr. 1, 1965.

SN 252,434. Cecil A. Van Wyck, Pasadena, Calif. Filed Aug. 15, 1966.

### VIS

For Wash Concentrates for Removal of Stains From Fabrics (Int. Cl. 3).  
First use July 21, 1966.

SN 266,759. Hillyard Enterprises, Inc., St. Joseph, Mo. Filed Mar. 15, 1967.

### FLO-CLEAN

For Low Sudsing Detergent for Automatic Scrubbing Machines (Int. Cl. 3).  
First use June 7, 1965.

SN 274,929. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

### MERIDIAN

For Toilet Soap and Hair Shampoo (Int. Cl. 3).  
First use June 8, 1967.

SN 274,935. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

### PORTFOLIO

For Toilet Soap and Hair Shampoo (Int. Cl. 3).  
First use June 8, 1967.

SN 277,776. Avon Products, Inc., New York, N.Y. Filed Aug. 8, 1967.

### MOUNTAIN LAUREL

For Toilet Soap (Int. Cl. 3).  
First use July 24, 1967.

SN 279,765. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Sept. 6, 1967.

### AMPEER

For Cleaning Composition Especially Adapted for Electro-cleaning (Int. Cl. 1).  
First use July 6, 1967.

SN 279,766. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Sept. 6, 1967.

### ERACE

For Cleaning Composition Especially Adapted for Electro-cleaning (Int. Cl. 1).  
First use July 2, 1967.

SN 280,503. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Sept. 15, 1967.

### DISLODGE

For Cleaner Especially Adapted for Paper Mill Use (Int. Cl. 1).  
First use July 10, 1967.



SN 280,631. Photofabrication Chemical and Equipment Company, Pennsauken, N.J. Filed Sept. 18, 1967.

**1F/A**

For Cleaner and Deoxidiser for Preparing Copper Alloy for the Application of Photo Resist (Int. Cl. 1).  
First use Jan. 20, 1967.

SN 284,863. Curley Company, Inc., Camden, N.J. Filed Nov. 15, 1967.

**DERMALINE**

Owner of Reg. No. 250,755.  
For Skin Softening Agent Used as an Ingredient in Detergent Compositions Used for Washing Dishes and Fine Fabrics (Int. Cl. 3).  
First use Nov. 1, 1967.

**SERVICE MARKS****Class 100 — Miscellaneous**

SN 232,166. Thinking for Industry Inc., Oklahoma City, Okla. Filed Nov. 4, 1965.

**Thinking For Industry**

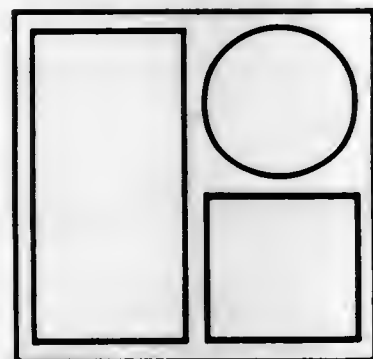
For Engineering Research and Consulting Services for Others in the Field of Product Development, Including Testing and Developing Necessary Product Line Techniques (Int. Cl. 42).  
First use January 1965.

SN 232,168. Thinking for Industry Inc., Oklahoma City, Okla. Filed Nov. 4, 1965.

**TFI**

For Engineering Research and Consulting Services for Others in the Field of Product Development, Including Testing and Developing Necessary Product Line Techniques (Int. Cl. 42).  
First use January 1965.

SN 236,903. Litton Industries, Inc., Beverly Hills, Calif. Filed Jan. 20, 1966.



The mark consists of the letters "LI" and design. Owner of Reg. No. 703,170.

For Arranging for the Acquisition and Lease of Goods and Buildings to the Order and/or Specifications of Others (Int. Cl. 42).

First use on or about Oct. 1, 1964.

SN 262,596. Mr. Shrimp, Inc., Chicago, Ill. Filed Jan. 16, 1967.



For the purposes of registration, no claim is made to the exclusive right to use the word "Shrimp," apart from the mark as shown, but the applicant waives none of its common law rights therein. The drawing is not lined for color and contains stippling only for shading purposes.

For Restaurant Services Including Preparing and Vending of Prepared Foods (Int. Cl. 42).  
First use during December 1947.

SN 264,847. George K. Nicolopoulos, d.b.a. G/M Steak House, Austin, Tex. Filed Feb. 16, 1967.

**G/M**

For Restaurant Services (Int. Cl. 42).  
First use Nov. 15, 1959.

SN 265,786. Bratwurst House, Inc., St. Cloud, Minn. Filed Mar. 2, 1967.



For Restaurant Services (Int. Cl. 42).  
First use January 1966.

SN 265,927. Sizzlers, Inc., Van Nuys, Calif. Filed Mar. 3, 1967.



For Restaurant Services (Int. Cl. 42).  
First use Aug. 10, 1966.

SN 270,560. Robert A. Field, Fort Lauderdale, Fla. Filed May 3, 1967.

**MERRYFIELD**

For Motel for Pets Services and Kennel Services for Pets (Int. Cl. 42).  
First use Feb. 1, 1947.

SN 270,907. The Downtowner Corporation, Memphis, Tenn. Filed May 8, 1967.

**Mr. Perky's**

The name "Mr. Perky" is fictitious.  
For Restaurant Services (Int. Cl. 42).  
First use December 1965.

SN 270,908. The Downtowner Corporation, Memphis, Tenn. Filed May 8, 1967.



The representation of pancakes and butter is disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use December 1965.

SN 273,734. Ansata Arabian Stud, Chickasha, Okla. Filed June 13, 1967.



For Horse Breeding Services (Int. Cl. 42).  
First use Feb. 24, 1960.

SN 280,216. Deb's Restaurants, Inc., Salem, Oreg. Filed Sept. 13, 1967.



For Restaurant Services (Int. Cl. 42).  
First use July 6, 1964.

SN 280,926. Bradford Milk Company, Incorporated, Bradford, Pa. Filed Sept. 22, 1967.

**JIM DANDY**

For Restaurant Services, Particularly Drive-In Type Restaurants Vending Ice Cream, Sandwiches, and Other Refreshments (Int. Cl. 42).  
First use Sept. 1, 1967.

SN 284,507. Roberts Filter Manufacturing Company, Inc., Darby, Pa. Filed Nov. 9, 1967.

**MANHATTAN**

For Engineering Services in Connection With the Design of Water Treatment Facilities (Int. Cl. 42).  
First use on or about May 20, 1965.

**Class 102 — Insurance and Financial**

SN 216,794. The Budget Plan, Inc., Huntingdon, Pa. Filed Apr. 19, 1965.

**THE MONEY MAN**

Owner of Reg. No. 713,299.  
For Personal Loan Services (Int. Cl. 36).  
First use on or about June 1, 1963.

SN 248,233. Professional Insurance Company of New York, New York, N.Y. Filed June 16, 1966.

**PYRAMED**

For Underwriting Health Insurance (Int. Cl. 36).  
First use Mar. 19, 1966.

SN 260,715. Bank of America National Trust and Savings Association, San Francisco, Calif. Filed Dec. 14, 1966.

**BANK OF AMERICA**

Owner of Reg. Nos. 523,612 and 583,738.  
For Commercial, Savings, Loan, Trust Department, and Credit Financing Banking Services (Int. Cl. 36).  
First use Apr. 30, 1928.

SN 272,217. Santa Monica Bank, Santa Monica, Calif. Filed May 23, 1967.



For Banking Services in the Nature of Loans, Savings and Checking Accounts, Escrow Transactions, and the Like (Int. Cl. 36).

First use on or before Jan. 1, 1960.



SN 280,697. Colter Corporation, Charlottesville, Va. Filed Sept. 19, 1967.



Applicant disclaims the pictorial representation of the caduceus and any exclusive rights in the word "Fund" apart from the mark as shown.

For Estate Planning, Insurance Programming, and Limited Professional Financing for Students and Members of the Medical Profession (Int. Cl. 36).

First use Oct. 25, 1965.

### Class 103 — Construction and Repair

SN 259,649. Margaret Embry, Louisville, Ky. Filed Nov. 29, 1966.

# HANDYMAN

For Furnishing Nonprofessional and Some Professional Maintenance Service to Buildings, Homes, and Gardens (Int. Cl. 37).

First use May 1, 1965.

SN 279,525. Berwick Forge and Fabricating Corp., Berwick, Pa. Filed Sept. 1, 1967.



For Manufacturing, Fabricating, and Jobbing of Industrial Equipment and Machinery, Particularly Alloy Forgings, Weldments, Armor Plate Products Including the Repair of Such Equipment as Railroad Cars (Int. Cl. 37).

First use October 1962.

### Class 107 — Education and Entertainment

SN 262,615. Pictorial Publishers, Inc., Indianapolis, Ind. Filed Jan. 16, 1967.



For Teaching Skills and Techniques of Insurance Selling to Agents, Executives, and Field Managers (Int. Cl. 41).

First use Apr. 15, 1966.

SN 290,211. American Scholarship Association, Inc., New York, N.Y. Filed Feb. 5, 1968.

# SERVE

For Orientation, Recruitment, Education, Volunteer Training and Placement of Candidates for Careers in the Health and Rehabilitation Professions (Int. Cl. 41).

First use Feb. 2, 1965.

SN 290,212. American Scholarship Association, Inc., New York, N.Y. Filed Feb. 5, 1968.

# JR. SERVE CORPS

For Orientation, Recruitment, Education, Volunteer Training and Placement of Candidates for Careers in the Health and Rehabilitation Professions (Int. Cl. 41).

First use Feb. 2, 1965.

## TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

### Class 1 — Raw or Partly Prepared Materials

- 848,829. MERSANIER. Rayonier Incorporated. SN 263,780. Pub. 2-27-68. Filed 2-1-67.  
848,830. S (DESIGN). The Firestone Tire & Rubber Company. SN 266,210. Pub. 2-27-68. Filed 3-8-67.  
848,831. THIXOMID. Lawter Chemicals, Inc. SN 266,241. Pub. 2-27-68. Filed 3-8-67.  
848,832. PODIASIN. Minnesota Mining and Manufacturing Company. SN 286,478. Pub. 2-27-68. Filed 12-8-67.  
848,833. PPG INDUSTRIES AND DESIGN. Pittsburgh Plate Glass Company. SN 286,482. Pub. 2-27-68. Filed 12-8-67.

### Class 2 — Receptacles

- 848,834. BP AND DESIGN. Boyertown Packaging Service Corp. SN 250,925. Pub. 9-26-67. Filed 7-25-66.  
848,835. STA-KRISP. Action Bag & Envelope Co., Inc. SN 251,986. Pub. 2-27-68. Filed 8-9-66.  
848,836. GXTA. Armstrong Cork Company. SN 252,459. Pub. 2-27-68. Filed 8-16-66.  
848,837. PL. Lily-Tulip Cup Corporation. SN 272,384. Pub. 2-27-68. Filed 5-25-67.  
848,838. CREW COOLER. Fusion Rubbermaid Corporation. SN 273,275. Pub. 2-27-68. Filed 6-7-67.  
848,839. XQL-6000. Advertising Metal Display Co. SN 286,234. Pub. 2-27-68. Filed 12-5-67.

### Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 848,840. SUPERCROTAL HAUPTNER ETC. AND DESIGN. H. Hauptner. MULTIPLE CLASS (Classes 3 and 23). SN 233,902. Pub. 2-27-68. Filed 12-3-65.  
848,841. COQUETTES. A. S. Beck Shoe Corporation. SN 247,879. Pub. 2-27-68. Filed 6-13-66.  
848,842. FISHER. Items, Incorporated. SN 265,718. Pub. 2-27-68. Filed 3-1-67.

### Class 5 — Adhesives

- 848,843. WIXSTIX. The Wickes Corporation. SN 249,098. Pub. 2-27-68. Filed 6-27-66.  
848,844. "R-V STIK." Arvey Corporation. SN 268,142. Pub. 2-27-68. Filed 4-3-67.  
848,845. ZENDEL. Union Carbide Corporation. SN 271,192. Pub. 2-27-68. Filed 5-10-67.

### Class 6 — Chemicals and Chemical Compositions

- 848,846. MOLINDICATOR. Chromatograph Supply, Inc., d.b.a. Coast Engineering Laboratory. SN 264,028. Pub. 2-27-68. Filed 2-6-67.  
848,847. CHEMITHON. The Chemithon Corporation. SN 267,487. Pub. 2-27-68. Filed 3-24-67.

- 848,848. KANEPAR. Chempar Chemical Co., Inc. SN 273,035. Pub. 2-27-68. Filed 6-5-67.  
848,849. FIRM-FLEX. Worthall, Limited. SN 274,377. Pub. 2-27-68. Filed 6-20-67.  
848,850. PARA-LUBE. The C. P. Hall Company. SN 285,612. Pub. 2-27-68. Filed 11-21-67.

### Class 8 — Smokers' Articles, Not Including Tobacco Products

- 848,851. DOWNTOWNER MOTOR INNS AND DESIGN. The Downtowner Corporation. SN 253,288. Pub. 2-27-68. Filed 8-29-66.

### Class 10 — Fertilizers

- 848,852. GRO-TEX. Tyler Fertilizer Company. SN 271,191. Pub. 2-27-68. Filed 5-10-67.  
848,853. INDUSGEL. Dresser Industries, Inc. SN 272,029. Pub. 2-27-68. Filed 5-22-67.  
848,854. GARDENURE. Organic Compost Corporation. SN 272,395. Pub. 2-27-68. Filed 5-25-67.  
848,855. NITRO KING. Mobil Oil Corporation. SN 274,036. Pub. 2-27-68. Filed 6-16-67.  
848,856. MR. PINE. Jesse C. Haley, Jr., d.b.a. Haley Excelsior Co. SN 265,373. Pub. 2-27-68. Filed 11-22-67.

### Class 12 — Construction Materials

- 848,857. WHEELER WL LIFETIME AND DESIGN. Wheeler Lumber Bridge and Supply Co. SN 254,751. Pub. 2-27-68. Filed 9-19-66.  
848,858. FLO-JOINT. Ranco Industrial Products Corporation. SN 269,452. Pub. 2-27-68. Filed 4-18-67.

### Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

- 848,859. BRONCO. Westfälische Union Aktiengesellschaft für Eisen- und Drahtindustrie. SN 251,675. Pub. 2-27-68. Filed 8-3-66.  
848,860. AERVALCO. Snap-Tite, Inc. SN 251,965. Pub. 2-27-68. Filed 8-8-66.  
848,861. INSTAMATIC. Bird Machine Company. SN 260,721. Pub. 10-3-67. Filed 12-14-66.  
848,862. DIAL-ESE. Crane Co. SN 265,612. Pub. 2-27-68. Filed 2-28-67.  
848,863. V VIC PIPING METHOD AND DESIGN. Victaulic Company of America. SN 268,804. Pub. 2-27-68. Filed 4-10-67.  
848,864. SALISBURY. Jamesbury Corp. SN 270,923. Pub. 2-27-68. Filed 5-8-67.  
848,865. WHALE. Bulmer Manufacturing Company. SN 272,158. Pub. 2-27-68. Filed 5-23-67.  
848,866. R.S. CO. E. W. Bliss Company. SN 272,911. Pub. 2-27-68. Filed 6-2-67.  
848,867. ALCO. British Alcosip Limited. SN 272,912. Pub. 2-27-68. Filed 6-2-67.



848,868. MELDIN. Dixon Corporation. MULTIPLE CLASS (Classes 13, 21, and 35). SN 273,919. Pub. 2-27-68. Filed 6-15-67.

### Class 14—Metals and Metal Castings and Forgings

848,869. P AND DIAMOND DESIGN. Talon, Inc. SN 239,458. Pub. 2-27-68. Filed 2-23-66.  
848,870. OLIN. Olin Mathieson Chemical Corporation. SN 269,150. Pub. 2-27-68. Filed 4-14-67.  
848,871. HARDFLEX. Sandvikens Jernverks Aktiebolag. SN 270,813. Pub. 2-27-68. Filed 5-5-67.  
848,872. PURE-MELT. Alter Company. SN 270,869. Pub. 2-27-68. Filed 5-8-67.  
848,873. ALTER AND DESIGN. Alter Company. SN 270,870. Pub. 2-27-68. Filed 5-8-67.  
848,874. BOARD. National Lead Company. SN 271,065. Pub. 2-27-68. Filed 5-9-67.  
848,875. FAIRWAY. Fairway Foods, Inc. SN 271,244. Pub. 2-27-68. Filed 5-11-67.  
848,876. MAR-M. Martin-Marietta Corporation. SN 272,839. Pub. 2-27-68. Filed 6-1-67.

### Class 15—Oils and Greases

848,877. SOMCO AND DESIGN. Special Oils Manufacturing Co. SN 257,100. Pub. 10-31-67. Filed 10-24-66.

### Class 16—Protective and Decorative Coatings

848,878. ROLLING RUBBER. Pergament Distributors, Inc. SN 243,018. Pub. 2-27-68. Filed 4-8-66.  
848,879. DRY-PROOF. Pergament Distributors, Inc. SN 243,020. Pub. 2-27-68. Filed 4-8-66.  
848,880. XP-700B RUST GRIP. United States Rust Control Corporation. SN 257,214. Pub. 2-27-68. Filed 10-25-66.  
848,881. PLYGUARD. W. R. Grace & Co. SN 257,853. Pub. 2-27-68. Filed 11-3-66.  
848,882. COLLOPAKES. Samuel Cabot, Incorporated. SN 258,781. Pub. 2-27-68. Filed 11-16-66.  
848,883. PATIO BLACK. Charming Products, Inc. SN 261,278. Pub. 2-27-68. Filed 12-22-66.  
848,884. PORADEK. Porafloor, Inc. SN 275,171. Pub. 2-27-68. Filed 6-30-67.  
848,885. SAFEWAY. Safeway Stores, Incorporated. SN 285,944. Pub. 2-27-68. Filed 11-30-67.

### Class 17—Tobacco Products

848,886. PADRON ETC. AND DESIGN. Jose. O. Padron, d.b.a. Cigar Maker. SN 219,722. Pub. 2-27-68. Filed 5-25-65.  
848,887. AGIO TIP. Agio Sigarenfabrieken N.V. SN 263,961. Pub. 2-27-68. Filed 3-6-67.  
848,888. EL EXIGENTE. Bayuk Cigars Incorporated. SN 270,749. Pub. 2-27-68. Filed 5-5-67.  
848,889. NO SMOK. Creative Concepts Inc., d.b.a. No Smok Co. SN 274,715. Pub. 2-27-68. Filed 6-26-67.  
848,890. BRIEF. R. J. Reynolds Tobacco Company. SN 280,377. Pub. 2-27-68. Filed 9-15-67.  
848,891. WHATCHAMACALLITS. P. Lorillard Company. SN 282,907. Pub. 2-27-68. Filed 10-19-67.  
848,892. TRYON LTD. States Tobacco Company. SN 283,824. Pub. 2-27-68. Filed 10-31-67.

848,893. CRESWELL. Bayuk Cigars Incorporated. SN 283,854. Pub. 2-27-68. Filed 11-1-67.  
848,894. BLACK HORSE. R. J. Reynolds Tobacco Company. SN 284,105. Pub. 2-27-68. Filed 11-9-67.

### Class 18—Medicines and Pharmaceutical Preparations

848,895. FASTABS. Alberto-Culver Company. SN 212,937. Pub. 3-1-68. Filed 3-1-65.  
848,896. GYNE-SEC. Marlyn Company, Inc. SN 218,564. Pub. 5-3-66. Filed 5-11-65.  
848,897. HIDDEN PROMISE. Aqualana Corporation of America. MULTIPLE CLASS (Classes 18, 31, and 52). SN 220,987. Pub. 1-4-66. Filed 6-14-65.  
848,898. GRAVOL. Frank W. Horner Limited. SN 272,057. Pub. 2-27-68. Filed 5-22-67.  
848,899. DIOVOL. Frank W. Horner Limited. SN 272,058. Pub. 2-27-68. Filed 5-22-67.

### Class 19—Vehicles

848,900. HANDI KART. Alex F. Walker & Associates, Inc. SN 249,369. Pub. 2-27-68. Filed 6-30-66.  
848,901. SUN AND DESIGN. Sun Corporation. MULTIPLE CLASS (Classes 19 and 22). SN 251,088. Pub. 2-27-68. Filed 7-27-66.  
848,902. CORONADO AND DESIGN. Coronado Manufacturing Company. SN 254,917. Pub. 2-27-68. Filed 9-22-66.  
848,903. SPORTBOARD. David R. Kibby, d.b.a. Berkshire Crafts. SN 261,377. Pub. 2-27-68. Filed 12-23-66.  
848,904. DIABLO ROUGE. FMC Corporation. SN 261,476. Pub. 2-27-68. Filed 12-27-66.  
848,905. WINPOWER. Winpower Mfg. Company. MULTIPLE CLASS (Classes 19, 21, and 23). SN 262,535. Pub. 2-27-68. Filed 1-16-67.  
848,906. DYER DHOW. The Anchorage, Inc. SN 282,311. Pub. 2-27-68. Filed 10-12-67.

### Class 21—Electrical Apparatus, Machines, and Supplies

848,868. (See Class 13 for this trademark.)  
848,905. (See Class 19 for this trademark.)  
848,907. CINEJUKEBOX. Societa Internazionale Fonovisione, S.p.A. SN 226,798. Pub. 2-27-68. Filed 8-30-65.  
848,908. ANGSTROHM. Angstrom Precision Incorporated. SN 228,601. Pub. 2-27-68. Filed 9-27-65.  
848,909. A AND DESIGN. Walter E. Peterson and Elvin C. Welch, assignees of Barton Instrument Corporation. MULTIPLE CLASS (Classes 21 and 26). SN 238,915. Pub. 2-27-68. Filed 2-16-66.  
848,910. CATHY. Nissho Electronics Corporation. SN 244,844. Pub. 2-27-68. Filed 5-3-66.  
848,911. DELTAC. Rotron Manufacturing Company, Inc. SN 246,611. Pub. 2-27-68. Filed 5-25-66.  
848,912. WORLDTRONIC. Worldtronic, Inc. SN 246,979. Pub. 2-27-68. Filed 5-31-66.  
848,913. HOME TV STUDIO. Sony Corporation of America. SN 247,532. Pub. 2-27-68. Filed 6-7-66.  
848,914. SUPERGENIC. Avco Corporation. SN 248,010. Pub. 2-27-68. Filed 6-14-66.  
848,915. MULTI-SWITCH. Switchcraft, Inc. SN 248,263. Pub. 2-27-68. Filed 6-16-66.  
848,916. FRIMATIC. Frimatic, Camps & Cie. MULTIPLE CLASS (Classes 21 and 24). SN 250,146. Pub. 2-27-68. Filed 7-13-66.

848,917. RION. Rion Company, Limited. MULTIPLE CLASS (Classes 21 and 44). SN 251,336. Pub. 2-27-68. Filed 7-29-66.  
848,918. LOCOTROL. Radiation Incorporated. SN 251,651. Pub. 2-27-68. Filed 8-3-66.  
848,919. HELASHRINK. Hellermann Electric Limited. SN 252,380. Pub. 2-27-68. Filed 8-15-66.  
848,920. SUBSERF. McGraw-Edison Company. SN 253,153. Pub. 2-27-68. Filed 8-25-66.  
848,921. SUPER RED-HEAD. Winegard Company. SN 253,390. Pub. 2-27-68. Filed 8-29-66.  
848,922. RED-HEAD. Winegard Company. SN 253,807. Pub. 2-27-68. Filed 9-2-66.  
848,923. CORONADO AND DESIGN. Coronado Manufacturing Company. SN 254,918. Pub. 2-27-68. Filed 9-22-66.  
848,924. AMP-PAK. Dohrmann Instruments Company. SN 255,879. Pub. 2-27-68. Filed 10-6-66.  
848,925. TONE-DIAL. Stromberg-Carlson Corporation. SN 256,608. Pub. 2-27-68. Filed 10-17-66.  
848,926. POLLY PRIDE LOVES HER ELECTRICAL APPLIANCES AND DESIGN. Belk Stores Services, Inc. SN 259,401. Pub. 2-27-68. Filed 11-25-66.  
848,927. BEARINGS AND DRIVES INC. AND DESIGN. Bearings and Drives Inc. MULTIPLE CLASS (Classes 21, 23, and 35). SN 260,383. Pub. 2-27-68. Filed 12-9-66.  
848,928. VERSATRON. Thomas Industries Inc. SN 261,764. Pub. 2-27-68. Filed 12-30-66.  
848,929. CLASS-MASTER. Dictaphone Corporation. SN 264,656. Pub. 2-27-68. Filed 2-14-67.  
848,930. BULLARD. E. D. Bullard Company. MULTIPLE CLASS (Classes 21 and 23). SN 264,907. Pub. 2-27-68. Filed 2-17-67.  
848,931. FAIRY-LIGHT-TALES. Otto Kadmon, Inc. SN 266,234. Pub. 2-27-68. Filed 3-8-67.  
848,932. THE INTERNATIONAL SIGN SERVICE. Cummings & Co. Inc. SN 268,163. Pub. 2-27-68. Filed 4-3-67.  
848,933. TALKING CLOCKS. Bulova Watch Company, Inc. SN 271,223. Pub. 2-27-68. Filed 5-11-67.  
848,934. TRANSMASTER. Joslyn Mfg. and Supply Co. SN 271,944. Pub. 2-27-68. Filed 5-19-67.  
848,935. COLORTRAN. Colortran Industries, Inc. SN 272,810. Pub. 2-27-68. Filed 6-1-67.  
848,936. TEL-POWER. Repco Products Corporation. SN 272,855. Pub. 2-27-68. Filed 6-1-67.  
848,937. SLEEPKING. Ely & Walker, Inc. SN 276,656. Pub. 2-27-68. Filed 7-24-67.  
848,938. SUPERTONE AND DESIGN. Morse Electro Products Corp. SN 285,375. Pub. 2-27-68. Filed 11-22-67.

### Class 22—Games, Toys, and Sporting Goods

848,901. (See Class 19 for this trademark.)  
848,939. HOLIDAY. Anderson & Thompson Ski Co., Inc. SN 230,488. Pub. 8-2-66. Filed 10-19-65.  
848,940. MATCH-AND-CHECK. Scott, Foresman and Company. SN 253,787. Pub. 2-27-68. Filed 9-2-66.  
848,941. POVERTY PUP. Poynter Products, Inc. SN 255,718. Pub. 2-27-68. Filed 10-4-66.  
848,942. ZOT CONVERSION AND DESIGN. Ronald A. Lenhart, d.b.a. Zot Manufacturing Co. SN 259,254. Pub. 2-27-68. Filed 11-22-66.  
848,943. TRICK & TREAT. Magic Productions, Inc. SN 260,942. Pub. 2-27-68. Filed 12-16-66.  
848,944. MAGIC HANDS. Magic Productions, Inc. SN 260,943. Pub. 2-27-68. Filed 12-16-66.  
848,945. LIMA. Lima S.p.A. SN 261,931. Pub. 2-27-68. Filed 1-4-67.  
848,946. MOLA BALL. Allen J. Minshull and Marilyn A. Minshull (joint owners). SN 263,678. Pub. 2-27-68. Filed 1-31-67.  
848,947. SCRABBLE BRAND RSVP THREE DIMENSIONAL CROSSWORD GAME AND DESIGN. Production & Marketing Company. SN 263,942. Pub. 2-27-68. Filed 2-3-67.

848,948. MINI-KIT. World Toy House, Inc. SN 263,976. Pub. 2-27-68. Filed 2-3-67.  
848,949. ERBACHER. Heinrich Hammer, Sportgeräte- und Holzwarenfabrik. SN 265,521. Pub. 2-27-68. Filed 2-27-67.  
848,950. MEM-O. Market Studies, Inc., d.b.a. Advance Research. SN 265,836. Pub. 2-27-68. Filed 3-2-67.  
848,951. THE LOV-A-BLES AND DESIGN. Diener Industries, Inc. SN 266,514. Pub. 2-27-68. Filed 3-13-67.  
848,952. IT'S FUN STUFF. Kenner Products Company. SN 266,550. Pub. 2-27-68. Filed 3-13-67.  
848,953. SWEETHEART. Kohner Bros., Inc. SN 269,324. Pub. 2-27-68. Filed 4-17-67.  
848,954. HI-JINX. Kohner Bros., Inc. SN 269,325. Pub. 2-27-68. Filed 4-17-67.  
848,955. TIE 'N TANGLE. Hassenfeld Bros. Inc. SN 269,889. Pub. 2-27-68. Filed 4-24-67.  
848,956. FIREBIRD. Shakespeare Company. SN 271,184. Pub. 2-27-68. Filed 5-10-67.  
848,957. PURIST. Shakespeare Company. SN 271,185. Pub. 2-27-68. Filed 5-10-67.  
848,958. STAHL HOLZ AND DESIGN. Josef Fischer Sportartikelherzeugung. SN 272,730. Pub. 2-27-68. Filed 5-31-67.  
848,959. ONE MORE TIME. Milton Bradley Company. SN 273,167. Pub. 2-27-68. Filed 6-6-67.  
848,960. FANG BANG. Milton Bradley Company. SN 273,173. Pub. 2-27-68. Filed 6-6-67.  
848,961. BODY ENGLISH. Milton Bradley Company. SN 273,176. Pub. 2-27-68. Filed 6-6-67.  
848,962. DOUBLE OVAL CONFIGURATION. Woodstream Corporation. SN 274,376. Pub. 2-27-68. Filed 6-20-67.  
848,963. WOOLY BULLY. William Thomas Mann, d.b.a. Mann's Balt Company. SN 274,435. Pub. 2-27-68. Filed 6-21-67.  
848,964. LITTLE GEORGE. William Thomas Mann, d.b.a. Mann's Balt Company. SN 274,436. Pub. 2-27-68. Filed 6-21-67.  
848,965. MANDATE. Exquisite Form Industries, Inc. SN 274,606. Pub. 2-27-68. Filed 6-23-67.  
848,966. DUPONT AND DESIGN. E. I. du Pont de Nemours and Company. SN 274,722. Pub. 2-27-68. Filed 6-26-67.  
848,967. TOM CAT AND DESIGN. Albert J. Zilligen. SN 274,803. Pub. 2-27-68. Filed 6-26-67.  
848,968. CAMARO. Brunswick Corporation. SN 278,946. Pub. 2-27-68. Filed 8-24-67.  
848,969. PERMA TENT. The Hettrick Manufacturing Company. SN 279,073. Pub. 2-27-68. Filed 8-25-67.  
848,970. FLEX-BAR. The Coleman Company, Inc. SN 279,272. Pub. 2-27-68. Filed 8-29-67.  
848,971. MISCELLANEOUS DESIGN. Daiwa Corporation. SN 280,027. Pub. 2-27-68. Filed 9-11-67.  
848,972. COLLECTORS CLASSICS. The Ohio Art Company. SN 280,453. Pub. 2-27-68. Filed 9-15-67.  
848,973. REMCO AND DESIGN. Remco Industries, Inc. SN 280,727. Pub. 2-27-68. Filed 9-19-67.  
848,974. THREE WORLDS. Three Worlds, Inc. SN 285,097. Pub. 2-27-68. Filed 11-17-67.  
848,975. BE-A-SPORT. Union Wadding Company. SN 285,100. Pub. 2-27-68. Filed 11-17-67.  
848,976. BLUE RIBBON CHAMPIONS. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 286,395. Pub. 2-27-68. Filed 12-5-67.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

848,840. (See Class 3 for this trademark.)  
848,905. (See Class 19 for this trademark.)  
848,927. (See Class 21 for this trademark.)  
848,930. (See Class 21 for this trademark.)



- 848,977. HYDRA FOLD. Donald W. Niewold and Gerald P. Johnson (joint owners), d.b.a. Johnson Equipment Company. SN 237,731. Pub. 2-27-68. Filed 2-1-66.
- 848,978. ACCUFLO AND DESIGN. Taylor & Gaskin, Inc. SN 244,765. Pub. 2-27-68. Filed 5-2-66.
- 848,979. SWITCHBLADES. Imperial Knife Associated Companies, Inc. SN 246,471. Pub. 2-27-68. Filed 5-24-66.
- 848,980. GDC AND DESIGN. General Drill Corporation. SN 248,796. Pub. 2-27-68. Filed 6-23-66.
- 848,981. BYPLEX. Borg-Warner Corporation (Delaware corporation), assignee of Borg-Warner Corporation (Illinois corporation). SN 248,963. Pub. 2-27-68. Filed 6-27-66.
- 848,982. LIQUI-FILL. Sweetheart Plastics, Inc. SN 249,259. Pub. 2-27-68. Filed 6-29-66.
- 848,983. JAMES ETC. AND DESIGN. Allan P. James Company, Inc. SN 249,333. Pub. 2-27-68. Filed 6-30-66.
- 848,984. DOFFOMAT. Schubert & Salzer Maschinenfabrik Aktiengesellschaft. SN 249,682. Pub. 2-27-68. Filed 7-6-66.
- 848,985. RAPID-SHAVE. Colgate-Palmolive Company. SN 249,952. Pub. 2-27-68. Filed 7-11-66.
- 848,986. SELECTO. The Warner & Swasey Company. SN 250,064. Pub. 2-27-68. Filed 7-11-66.
- 848,987. PROFITEER. Universal Harvester Co., Inc. SN 250,608. Pub. 2-27-68. Filed 7-19-66.
- 848,988. SMOOTHIE. Rockwell Manufacturing Company. SN 251,152. Pub. 2-27-68. Filed 7-27-66.
- 848,989. NEWCASTLE COMPANY SEAL WITH DESIGN. Frank P. Alduk, d.b.a. Newcastle Company. MULTIPLE CLASS (Classes 23 and 44). SN 251,452. Pub. 2-27-68. Filed 8-1-66.
- 848,990. SUNBEAM. Sunbeam Corporation. SN 254,950. Pub. 2-27-68. Filed 9-22-66.
- 848,991. "SPARKY" AND DESIGN. Washmobile Corp. of New Jersey. SN 255,157. Pub. 2-27-68. Filed 9-22-66.
- 848,992. MINI COUPLING AND DESIGN. FMC Corporation. SN 257,262. Pub. 2-27-68. Filed 10-26-66.
- 848,993. CROSS LOCK AND DESIGN. Container Graphics Corporation. SN 259,718. Pub. 2-27-68. Filed 11-30-66.
- 848,994. HELIWIPE. Borg-Warner Corporation (Delaware corporation), assignee of Borg-Warner Corporation (Illinois corporation). SN 265,395. Pub. 2-20-68. Filed 2-24-67.
- 848,995. SAVSOL. Savsol, Inc. SN 265,849. Pub. 2-27-68. Filed 3-2-67.
- 848,996. ACTI-ROTOR. Degremont S.A. SN 268,035. Pub. 2-27-68. Filed 3-31-67.
- 848,997. EASTOFLOW. Eastman Kodak Company. SN 268,169. Pub. 2-27-68. Filed 4-3-67.
- 848,998. NUMERILATHE. Giddings & Lewis, Inc., by change of name from Giddings & Lewis Machine Tool Company. SN 268,401. Pub. 2-27-68. Filed 4-5-67.
- 848,999. VEY-ALL AND DESIGN. The Red Cross Manufacturing Corporation. SN 269,563. Pub. 2-27-68. Filed 4-19-67.
- 849,000. FLEX-I-CAST AND DESIGN. Urethane Products Canada Limited. SN 269,585. Pub. 2-27-68. Filed 4-19-67.
- 849,001. CERTIPAK. Certipak Corporation. SN 269,629. Pub. 2-27-68. Filed 4-20-67.
- 849,002. ALHAMBRA. The International Silver Company. SN 270,061. Pub. 2-27-68. Filed 4-26-67.
- 849,003. TRUCK-MAN. The Knickerbocker Company. SN 270,687. Pub. 2-27-68. Filed 5-4-67.
- 849,004. AD-MINDER. Dana Sales, Inc. SN 270,760. Pub. 2-27-68. Filed 5-5-67.
- 849,005. WILTAPER. Wilton Corporation. SN 270,994. Pub. 2-27-68. Filed 5-8-67.
- 849,006. B AND DESIGN. Badger Manufacturing Company. SN 271,025. Pub. 2-27-68. Filed 5-9-67.
- 849,007. KENWOOD. Onelda Ltd. SN 272,086. Pub. 2-27-68. Filed 5-22-67.
- 849,008. SNIP-SNAP. School House Products, Inc. SN 272,104. Pub. 2-27-68. Filed 5-22-67.
- 849,009. TYRONE JOB-MASTER. Tyrone Hydraulics, Inc. SN 272,524. Pub. 2-27-68. Filed 5-26-67.

- 849,010. SOF-TEE. The Reddy Company, Inc. SN 272,946. Pub. 2-27-68. Filed 6-2-67.
- 849,011. MARINER. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 272,948. Pub. 2-27-68. Filed 6-2-67.
- 849,012. AGENA. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 272,949. Pub. 2-27-68. Filed 6-2-67.
- 849,013. ATLAS. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 272,950. Pub. 2-27-68. Filed 6-2-67.
- 849,014. JUPITER. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 272,952. Pub. 2-27-68. Filed 6-2-67.
- 849,015. SATURN. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 272,954. Pub. 2-27-68. Filed 6-2-67.
- 849,016. K AND DESIGN. CAM Industries, Inc. SN 273,033. Pub. 2-27-68. Filed 6-5-67.
- 849,017. MISCELLANEOUS DESIGN. Eaton Yale & Towne Inc. SN 273,383. Pub. 2-27-68. Filed 6-8-67.
- 849,018. SUPER 30. Houdaille Industries, Inc. SN 273,502. Pub. 2-27-68. Filed 6-9-67.
- 849,019. MOBILECRAFT. Clary Corporation. SN 273,605. Pub. 2-27-68. Filed 6-12-67.
- 849,020. GEM. Philip Morris Incorporated. SN 284,877. Pub. 2-27-68. Filed 11-15-67.

## Class 24 — Laundry Appliances and Machines

- 848,916. (See Class 21 for this trademark.)

## Class 25 — Locks and Safes

- 849,021. JIMMY-PLATE. Jack V. Howard, d.b.a. Howard Manufacturing Company. SN 250,377. Pub. 2-27-68. Filed 7-15-66.

## Class 26 — Measuring and Scientific Appliances

- 848,909. (See Class 21 for this trademark.)
- 849,022. LABELON. Labelon Corporation. MULTIPLE CLASS (Classes 26 and 50). SN 182,882. Pub. 2-27-68. Filed 12-12-63.
- 849,023. VACUUMATIC. Hoffman Camera Corporation. SN 230,540. Pub. 2-27-68. Filed 10-19-65.
- 849,024. SKATE-O-METER. Dual Gebruder Steidinger, by change of name from Gebruder Steidinger. SN 233,177. Pub. 2-27-68. Filed 11-23-65.
- 849,025. ARCTEL. The Susquehanna Corporation, by merger from Atlantic Research Corporation. SN 251,505. Pub. 2-27-68. Filed 8-2-66.
- 849,026. SPECTRAY. Leeds & Northrup Company. SN 251,637. Pub. 2-27-68. Filed 8-3-66.
- 849,027. VDO AND DESIGN. VDO Tachometer Werke Adolf Schindling GmbH. SN 252,775. Pub. 2-27-68. Filed 8-19-66.
- 849,028. ASTRO. Astro Fi-Larm, Inc. SN 253,270. Pub. 2-27-68. Filed 8-29-66.
- 849,029. SKAN-A-GRAF. Reedco Inc. SN 254,401. Pub. 2-27-68. Filed 9-13-66.
- 849,030. BIVIATOR. Biviator S.A. SN 255,290. Pub. 2-27-68. Filed 9-28-66.
- 849,031. ROTUNDA. Ford Motor Company. SN 258,223. Pub. 2-27-68. Filed 11-8-66.
- 849,032. PHASE STAR AND DESIGN. American Optical Company. SN 260,711. Pub. 2-27-68. Filed 12-14-66.

- 849,033. MOLYTECH. Mallinckrodt Chemical Works. SN 262,048. Pub. 2-27-68. Filed 1-6-67.
- 849,034. PLAS/SPEC. Plastic Spectacle Lens Company, Inc. MULTIPLE CLASS (Classes 26 and 52). SN 264,681. Pub. 2-27-68. Filed 2-14-67.
- 849,035. NOCTILUX. Ernst Letts, G.m.b.H. SN 267,738. Pub. 2-27-68. Filed 3-28-67.
- 849,036. NYLOWARE. Zylow Ware Corporation. SN 274,015. Pub. 2-27-68. Filed 6-15-67.
- 849,037. TELE-MAGIC. The General Gilbert Corporation. SN 274,016. Pub. 2-27-68. Filed 6-2-67.
- 849,038. GNO. Franklin Gno Corporation. SN 274,315. Pub. 2-27-68. Filed 6-20-67.
- 849,039. MARQUETTE. Marquette Corporation. SN 274,815. Pub. 2-27-68. Filed 6-26-67.
- 849,040. LITE A LINE. American Vitrified Products Company. SN 278,846. Pub. 2-27-68. Filed 8-23-67.
- 849,041. TELE-TECTOR. Norman Industries, Inc. SN 285,049. Pub. 2-27-68. Filed 11-16-67.

## Class 27 — Horological Instruments

- 849,042. CHATHAM. Robertshaw Controls Company. SN 276,351. Pub. 2-27-68. Filed 7-19-67.

## Class 28 — Jewelry and Precious-Metal Ware

- 849,043. LODESTAR. Onelda Ltd. SN 275,955. Pub. 2-27-68. Filed 7-13-67.
- 849,044. ART-CRAFT. Brodkey Brothers, Inc., d.b.a. Brodkey Jewelry Company. SN 281,003. Pub. 2-27-68. Filed 9-25-67.

## Class 29 — Brooms, Brushes, and Dusters

- 849,045. SCUFFY. Reit-Price Manufacturing Company. SN 270,008. Pub. 2-27-68. Filed 4-25-67.
- 849,046. EXECUTIVE 300. The Setwell Company. SN 270,290. Pub. 2-27-68. Filed 4-28-67.
- 849,047. ROTO-STROKE. Ronson Corporation. SN 271,388. Pub. 2-27-68. Filed 5-12-67.

## Class 30 — Crockery, Earthenware, and Porcelain

- 849,048. ISLAND WORCESTER. Royal Worcester Limited. SN 252,968. Pub. 2-27-68. Filed 8-23-66.

## Class 31 — Filters and Refrigerators

- 849,049. ULTRA-CLEER. Culligan, Inc. SN 250,453. Pub. 2-27-68. Filed 7-18-66.
- 849,050. MEADOWBROOK ETC. AND DESIGN. The Meadowbrook Company. SN 259,949. Pub. 2-27-68. Filed 12-2-66.
- 849,051. NEVER STOP. The Roscoe Filter Company. SN 262,350. Pub. 2-27-68. Filed 1-11-67.
- 849,052. FILTRASORB. Calgon Corporation. SN 265,793. Pub. 2-27-68. Filed 3-2-67.
- 849,053. WATCHDOG. Walker Manufacturing Company. SN 266,122. Pub. 2-27-68. Filed 3-6-67.
- 849,054. RAPID-FLO. Johnson & Johnson. SN 270,138. Pub. 2-27-68. Filed 4-27-67.

## Class 32 — Furniture and Upholstery

- 849,055. CAMEO. Corry Jamestown Corporation. SN 278,954. Pub. 2-27-68. Filed 8-24-67.

## Class 33 — Glassware

- 849,056. JAGUAR. Riekes Crisa Corporation. SN 255,744. Pub. 2-27-68. Filed 9-28-66.
- 849,057. PREVAL. Precision Valve Corporation. SN 275,871. Pub. 2-27-68. Filed 7-12-67.
- 849,058. QUEEN MARY AND DESIGN. Ross Products, Inc. SN 276,251. Pub. 2-27-68. Filed 7-18-67.

## Class 34 — Heating, Lighting, and Ventilating Apparatus

- 849,059. CARBO-MAAG. Maag Gear-Wheel Company Limited (Maag-Zahnrad Aktiengesellschaft). SN 245,935. Pub. 2-27-68. Filed 5-18-66.
- 849,060. TRAC-WELDER. Air Reduction Company, Incorporated. SN 253,105. Pub. 2-27-68. Filed 8-25-66.

## Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 848,868. (See Class 13 for this trademark.)
- 848,927. (See Class 21 for this trademark.)
- 849,061. STRAT-A-SEAL. The General Tire & Rubber Company. SN 234,122. Pub. 2-27-68. Filed 12-7-65.
- 849,062. VICTORIAN AND DESIGN. Delta Tire Corporation. SN 253,501. Pub. 2-27-68. Filed 8-31-66.
- 849,063. SPEEDWAY WIDE TREAD AND DESIGN. The Goodyear Tire & Rubber Company. SN 258,376. Pub. 9-26-67. Filed 11-10-66.
- 849,064. DUAL STAR. The Kelly-Springfield Tire Company. SN 267,434. Pub. 2-27-68. Filed 3-23-67.

## Class 36 — Musical Instruments and Supplies

- 849,065. MUSICOLOR. Nightwriter Corporation, Inc., d.b.a. Nirico. SN 247,391. Pub. 2-27-68. Filed 6-6-66.
- 849,066. R AND DESIGN. Rheem Manufacturing Company. SN 254,643. Pub. 2-27-68. Filed 9-19-66.
- 849,067. MUSICAL AMERICAS' BEST FRIEND. Maurice Lipsky Music Co., Inc. SN 261,382. Pub. 2-27-68. Filed 12-23-66.
- 849,068. CASSETTE-CORDER. Superscope, Inc. SN 264,112. Pub. 2-27-68. Filed 2-6-67.

## Class 37 — Paper and Stationery

- 849,069. PENCIL MART. Eberhard Faber Inc. SN 251,712. Pub. 2-27-68. Filed 8-4-66.
- 849,070. CHOICE T. The Goodyear Tire & Rubber Company. SN 269,535. Pub. 2-27-68. Filed 4-19-67.
- 849,071. PRISMATIP. Eagle Pencil Company. SN 271,604. Pub. 2-27-68. Filed 5-16-67.
- 849,072. WEDGIE. Paper Mate Manufacturing Company. SN 272,088. Pub. 2-27-68. Filed 5-22-67.



- 849,073. MOVIE-ZOOZEES. School House Products, Inc. SN 272,107. Pub. 2-27-68. Filed 5-22-67.  
849,074. TALLY-PLAST. Richards Metals Corporation. SN 272,635. Pub. 2-27-68. Filed 5-29-67.

### Class 38 — Prints and Publications

- 849,075. NURSE NELLIE'S. Lawrence Katsman. SN 256,563. Pub. 2-27-68. Filed 10-17-66.  
849,076. SELECT-O-LAY. Jostens, Inc. SN 265,309. Pub. 2-27-68. Filed 2-23-67.  
849,077. SACRED DESIGN. Concordia Publishing House, assignee of Sacred Design Associates, Inc. SN 265,439. Pub. 12-19-67. Filed 2-24-67.  
849,078. "MATCH MAKER." Gateway Promotions, Inc. SN 268,952. Pub. 2-27-68. Filed 4-12-67.  
849,079. THE ALLIANCE REVIEW. American Friends of the Alliance Israelite Universelle, Inc. SN 286,060. Pub. 2-27-68. Filed 12-4-67.  
849,080. REVISTA DE LA ALLIANCE. American Friends of the Alliance Israelite Universelle, Inc. SN 286,061. Pub. 2-27-68. Filed 12-4-67.

### Class 39 — Clothing

- 849,081. CURVELLE. Metric Products, Inc. SN 240,937. Pub. 6-20-67. Filed 3-14-66.  
849,082. BARNYARDERS. Spartans Industries, Inc. SN 255,472. Pub. 9-26-67. Filed 9-29-66.

### Class 44 — Dental, Medical, and Surgical Appliances

- 848,917. (See Class 21 for this trademark.)  
848,989. (See Class 23 for this trademark.)  
849,083. POWERCHAIR. The Weber Dental Manufacturing Company. SN 230,012. Pub. 5-10-66. Filed 10-12-65.  
849,084. MADISON. Rexall Drug and Chemical Company, d.b.a. Madison Company. SN 252,753. Pub. 2-27-68. Filed 8-19-66.  
849,085. PIGGYBACK NEEDLE. M. Michael Eisenberg, M.D. SN 265,291. Pub. 2-27-68. Filed 2-23-67.  
849,086. STAT ALERT. A. Joseph Andenno and Joyce A. Andenno (joint owners). SN 266,990. Pub. 2-27-68. Filed 3-17-67.

### Class 46 — Foods and Ingredients of Foods

- 849,087. CASE PAK. Popcorn Products, Inc. SN 232,343. Pub. 2-27-68. Filed 11-8-65.  
849,088. VERYFINE. New England Apple Products Co., Inc. SN 243,259. Pub. 2-27-68. Filed 4-12-66.  
849,089. SUNBEAM. Quality Bakers of America Cooperative, Inc. SN 245,757. COLLECTIVE MARK. Pub. 2-27-68. Filed 5-16-66.  
849,090. FILTER PERKS. General Foods Corporation. SN 247,347. Pub. 2-27-68. Filed 6-6-66.  
849,091. NSS AND DESIGN. Nissin Shokubun Kaisha Ltd. SN 250,295. Pub. 2-27-68. Filed 7-14-66.  
849,092. WHITE BARN. Home Town Foods, Inc. SN 251,134. Pub. 2-27-68. Filed 7-27-66.  
849,093. HAGESUD INTERSPICE AND DESIGN. Hagesud Aktiengesellschaft. SN 251,629. Pub. 2-27-68. Filed 8-3-66.

- 849,094. CAL-RICH. The Griffith Laboratories, Inc. SN 253,030. Pub. 2-27-68. Filed 8-24-66.  
849,095. MUNCHUMS. The Pillsbury Company. SN 254,941. Pub. 2-27-68. Filed 9-22-66.  
849,096. MISCELLANEOUS DESIGN. TNT Food Products, Inc. SN 257,106. Pub. 2-20-68. Filed 10-24-66.  
849,097. MOR-REX. Corn Products Company. SN 260,021. Pub. 2-27-68. Filed 12-5-66.  
849,098. C AND DESIGN. Cudahy Company. SN 260,530. Pub. 2-27-68. Filed 12-12-66.  
849,099. MANCHE POK AND DESIGN. Queserias Franco Espanolas. SN 261,516. Pub. 2-27-68. Filed 12-27-66.  
849,100. JAPANESE LETTERS. Kabushiki Kaisha Nakano Su Miso, d.b.a. Nakano Vinegar Co., Ltd. SN 263,075. Pub. 2-27-68. Filed 1-23-67.  
849,101. FUN FRANKS. Peter Eckrich and Sons, Inc. SN 263,257. Pub. 2-27-68. Filed 1-25-67.  
849,102. PICK A DILLY JELLIES AND DESIGN. Murray-Allen Imports, Inc. SN 264,333. Pub. 2-27-68. Filed 2-9-67.  
849,103. A.B. AND DESIGN. Baumer Foods, Inc. SN 265,393. Pub. 2-27-68. Filed 2-24-67.  
849,104. LICORICE NIP. Pearson Candy Company, Inc. SN 269,208. Pub. 2-27-68. Filed 4-14-67.  
849,105. CARMEL NIP. Pearson Candy Company, Inc. SN 269,209. Pub. 2-27-68. Filed 4-14-67.  
849,106. ROYAL PANTRY. Astro Foods, Inc. SN 269,618. Pub. 2-27-68. Filed 4-20-67.  
849,107. LACO AND DESIGN. Laco Corp., assignee of Laco Products Inc. SN 269,676. Pub. 2-27-68. Filed 4-20-67.  
849,108. ENCHANTED ISLE. Safeway Stores, Incorporated. SN 269,722. Pub. 2-27-68. Filed 4-21-67.  
849,109. CARTE BLANCHE. Carte Blanche Corporation. SN 270,354. Pub. 2-27-68. Filed 5-1-67.  
849,110. HOTWICH. Oscar Mayer & Co., Inc. SN 270,399. Pub. 2-27-68. Filed 5-1-67.  
849,111. GRILLWICH. Oscar Mayer & Co., Inc. SN 270,400. Pub. 2-27-68. Filed 5-1-67.  
849,112. DIXIE AND DESIGN. A. Bertolla & Sons. SN 272,007. Pub. 2-27-68. Filed 5-22-67.  
849,113. TEA-MATE. Carnation Company. SN 272,584. Pub. 2-27-68. Filed 5-29-67.  
849,114. TEDDIE. John W. Leavitt Company, d.b.a. The Leavitt Corporation. SN 273,508. Pub. 2-27-68. Filed 6-9-67.  
849,115. AMEROSE. American Sugar Company. SN 275,216. Pub. 2-27-68. Filed 7-3-67.  
849,116. TARGETS. American Home Products Corporation. SN 275,426. Pub. 2-27-68. Filed 7-6-67.  
849,117. TOPPS CHECK. Topps Chewing Gum, Incorporated. SN 278,323. Pub. 2-27-68. Filed 8-15-67.  
849,118. BIG MOUTH. Topps Chewing Gum, Incorporated. SN 278,324. Pub. 2-27-68. Filed 8-15-67.  
849,119. THERE'S A LITTLE BIT OF STANGE IN THE BEST OF EVERYTHING. Stange Co. SN 283,309. Pub. 2-27-68. Filed 10-25-67.  
849,120. WOLF. Wolf Brand Products. SN 285,081. Pub. 2-27-68. Filed 11-16-67.  
849,121. RESERVE. The Procter & Gamble Company. SN 285,799. Pub. 2-27-68. Filed 11-29-67.  
849,122. AWARD. The Procter & Gamble Company. SN 285,800. Pub. 2-27-68. Filed 11-29-67.  
849,123. SAFEWAY. Safeway Stores, Incorporated. SN 285,803. Pub. 2-27-68. Filed 11-29-67.  
849,124. PARKWAY. Del Mar Food Products Corporation. SN 285,976. Pub. 2-27-68. Filed 12-1-67.  
849,125. GRILLWICHES. Oscar Mayer & Co., Inc. SN 286,356. Pub. 2-27-68. Filed 12-6-67.  
849,126. "CAN DO." General Mills, Inc. SN 286,399. Pub. 2-27-68. Filed 12-7-67.  
849,127. PEACHES JUBILEE. Tri-Valley Growers. SN 286,400. Pub. 2-27-68. Filed 12-7-67.  
849,128. HOOTS. Kellogg Company. SN 286,468. Pub. 2-27-68. Filed 12-8-67.

- 849,129. COMPLETE. Kellogg Company. SN 286,471. Pub. 2-27-68. Filed 12-8-67.  
849,130. HOWLS. Kellogg Company. SN 286,472. Pub. 2-27-68. Filed 12-8-67.  
849,131. STARLITE AND DESIGN. Rod's Food Products, Inc. SN 286,483. Pub. 2-27-68. Filed 12-8-67.  
849,132. THREE STAR. Louis Rich Foods, Inc. SN 286,609. Pub. 2-27-68. Filed 12-11-67.

### Class 47 — Wines

- 849,133. HOCH'S PARADIESMILCH. Carl Jos. Hoch. SN 257,054. Pub. 2-27-68. Filed 10-24-66.

### Class 50 — Merchandise Not Otherwise Classified

- 849,022. (See Class 26 for this trademark.)  
849,134. SG AND DESIGN. Borg-Warner Corporation (Delaware corporation), assignee of Borg-Warner Corporation (Illinois corporation). SN 258,891. Pub. 2-6-68. Filed 11-17-66.  
849,135. LIVING STREAM. Frigid Units, Inc. SN 270,483. Pub. 2-27-68. Filed 5-2-67.

### Class 51 — Cosmetics and Toilet Preparations

- 848,897. (See Class 18 for this trademark.)  
849,136. FLEURS DE TABAC AND DESIGN. Parfums Branel, Inc., d.b.a. Branel. SN 230,556. Pub. 6-20-67. Filed 10-19-65.  
849,137. LEATHER 'N LYME. Diplomat Products, Inc., d.b.a. Davlyn Laboratories Ltd. SN 250,463. Pub. 12-6-66. Filed 7-18-66.  
849,138. DYNASTY. Mandarin Textiles Limited. SN 258,125. Pub. 2-27-68. Filed 11-7-66.  
849,139. COOL 'N BLONDE. John H. Breck, Inc. SN 258,979. Pub. 2-27-68. Filed 11-18-66.  
849,140. HAPPY FROSTING. Clairol Incorporated. SN 271,770. Pub. 2-27-68. Filed 5-18-67.

### Class 52 — Detergents and Soaps

- 848,897. (See Class 18 for this trademark.)  
849,034. (See Class 26 for this trademark.)  
849,141. TADOO. West Chemical Products, Inc. SN 265,757. Pub. 2-27-68. Filed 3-1-67.  
849,142. JW JENNISON-WRIGHT AND DESIGN. The Jennison-Wright Corporation. SN 278,388. Pub. 2-27-68. Filed 8-16-67.  
849,143. SANI-CLOR. L.C.F., Inc., d.b.a. L.C.F. Company Inc. SN 286,068. Pub. 2-27-68. Filed 12-4-67.

### Service Marks

### Class 100 — Miscellaneous

- 849,144. QUEEN OF HEARTS. The Hambric Corporation. SN 242,007. Pub. 2-27-68. Filed 3-28-66.  
849,145. B AND DESIGN. The Jolly Buccaneer Root Beer Company Ltd. SN 252,666. Pub. 2-27-68. Filed 8-18-66.

- 849,146. SHIELD (DESIGN). Williams Brothers Company. MULTIPLE CLASS (Classes 100 and 103). SN 253,887. Pub. 2-27-68. Filed 8-29-66.  
849,147. ON THE CROSS ROADS OF THE U.S.A. B.T.S. Franchising Systems, Inc. SN 264,223. Pub. 2-27-68. Filed 9-12-66.  
849,148. COMMUNITY RADIO WATCH AND DESIGN. Motorola, Inc. SN 265,429. Pub. 2-27-68. Filed 2-24-67.  
849,149. HERCO AND DESIGN. Houston Engineering Research Corporation. SN 267,152. Pub. 2-27-68. Filed 3-20-67.  
849,150. TEXACO EXPERIMENT INCORPORATED AND DESIGN. Texaco Inc., assignee of Texaco Experiment Incorporated. SN 274,262. Pub. 2-27-68. Filed 6-19-67.  
849,151. GNO. Franklin Gno Corporation. SN 274,316. Pub. 2-27-68. Filed 6-20-67.  
849,152. THE STORE. Jack Frost Sales, Inc. SN 274,965. Pub. 2-27-68. Filed 6-28-67.  
849,153. VIKOA. Vikoa, Inc. MULTIPLE CLASS (Classes 100, 101, 103, and 104). SN 283,404. Pub. 2-27-68. Filed 10-26-67.

### Class 101 — Advertising and Business

- 849,153. (See Class 100 for this trademark.)  
849,154. PRIZE PICTURES AND DESIGN. Glendinning Companies, Inc., by merger and change of name from The Chase Company, Inc. SN 251,706. Pub. 2-27-68. Filed 8-4-66.  
849,155. THE BEST WESTERN MOTELS ETC. AND DESIGN. Western Motels, Inc. SN 255,488. Pub. 2-27-68. Filed 9-29-66.  
849,156. STYLIZED A (DESIGN). Action Listings, Inc. SN 260,507. Pub. 2-27-68. Filed 12-12-66.  
849,157. FOUR FOR THE MONEY. James R. Shaughnessy. SN 260,593. Pub. 2-27-68. Filed 12-12-66.  
849,158. CHEFARE. Chefare, Inc. SN 262,922. Pub. 2-27-68. Filed 1-20-67.  
849,159. PARADE OF PRIZES AND DESIGN. Glendinning Companies, Inc. SN 263,176. Pub. 2-27-68. Filed 1-24-67.  
849,160. PIANO PETE. George A. "Pete" Rice, d.b.a. "Piano Pete." MULTIPLE CLASS (Classes 101 and 103). SN 264,339. Pub. 2-27-68. Filed 2-9-67.

### Class 102 — Insurance and Financial

- 849,161. TIC-A-TRIP. Ozark Air Lines, Inc. SN 245,337. Pub. 8-8-67. Filed 5-10-66.  
849,162. ACI ETC. American Credit Indemnity Company of New York. SN 261,186. Pub. 2-27-68. Filed 12-21-66.  
849,163. UNAC AND DESIGN. Underwriters National Assurance Company. SN 266,182. Pub. 2-27-68. Filed 3-7-67.  
849,164. TREE DESIGN. Bank of the Southwest. SN 269,966. Pub. 2-27-68. Filed 4-25-67.  
849,165. AAA AND DESIGN. The American Automobile Association (Incorporated). SN 279,778. Pub. 2-27-68. Filed 9-7-67.

### Class 103 — Construction and Repair

- 849,146. (See Class 100 for this trademark.)  
849,153. (See Class 100 for this trademark.)  
849,160. (See Class 101 for this trademark.)  
849,166. TOTEM AND DESIGN. Totem Equipment Company, Inc. SN 238,583. Pub. 2-27-68. Filed 2-10-66.



- 849,167. CARDOC. Cardoc Incorporated. SN 248,967. Pub. 2-27-68. Filed 6-27-66.  
 849,168. PENNZOIL AND DESIGN. Pennzoil Company. SN 265,648. Pub. 2-27-68. Filed 2-28-67.  
 849,169. SPARKLE. Sparkle Cleansers, Inc. SN 270,295. Pub. 2-27-68. Filed 4-28-67.  
 849,170. STRATO VALET SERVICE. Strato-Valet Service, Inc. SN 270,619. Pub. 2-27-68. Filed 5-3-67.  
 849,171. MISCELLANEOUS DESIGN. Kayo Oil Company. SN 274,215. Pub. 2-27-68. Filed 6-19-67.  
 849,172. AUTO RESCUE SERVICE ETC. AND DESIGN. Auto Rescue Service Sales, Ltd. SN 276,286. Pub. 2-27-68. Filed 7-19-67.

**Class 104 — Communication**

849,153. (See Class 100 for this trademark.)

**Class 107 — Education and Entertainment**

- 849,173. CELEBRATION, INC. Tennessee Walking Horse National Celebration Association. SN 236,024. Pub. 2-27-68. Filed 1-7-66.  
 849,174. EVANGELISM-IN-DEPTH. Latin American Mission. SN 246,183. Pub. 2-27-68. Filed 5-20-66.  
 849,175. CRI COMPUTER RESEARCH INSTITUTE AND DESIGN. Computer Institute, Inc. SN 247,778. Pub. 2-27-68. Filed 6-10-66.  
 849,176. THE SOOTHSAIERS. Acropolis Record Company, Inc. SN 254,364. Pub. 2-27-68. Filed 9-13-66.  
 849,177. TWO LADIES (DESIGN). Leo and Sir Robert's, Inc., d.b.a. Pivot Point International. SN 260,055. Pub. 2-27-68. Filed 12-5-66.

**SUPPLEMENTAL REGISTER**

These registrations are not subject to opposition.

**SECTION 1**

(Combined Certificates)

- 849,189. Gilson Medical Electronics, Inc., Middleton, Wis. SN 266,968. Filed P.R. 3-17-67; Am. S.R. 2-21-68.

**GILSON****Class 26—Measuring and Scientific Appliances**

For Apparatus for Recording Rapid Changes of Oxygen Concentration in Solution; High Voltage Apparatus for the Separation and Isolation of Amino Acids, Peptides, Proteins, Nucleotides, Nucleosides, Purines, Pyrimidines, Phosphoric Acid Esters, Fatty Acids, Sugar Complexes, Steroid Derivatives, Dinitrophenol Amino Acids, and Inorganic Ions and

- 849,178. SAPIENS·DOMINABITUR·ASTRIS·MCC AND DESIGN. Management Center of Cambridge, Inc. SN 262,708. Pub. 2-27-68. Filed 1-17-67.  
 849,179. FA AND DESIGN. Famous Artists Schools, Inc. SN 269,175. Pub. 2-27-68. Filed 4-14-67.  
 849,180. FW AND DESIGN. Famous Artists Schools, Inc. SN 269,176. Pub. 2-27-68. Filed 4-14-67.  
 849,181. PHILADELPHIA 76ERS. Riko Enterprises, Inc. SN 282,420. Pub. 2-27-68. Filed 10-13-67.  
 849,182. INSTANT REQUEST. The Voice of Orange Empire, Inc., Ltd. SN 285,805. Pub. 2-27-68. Filed 11-29-67.

**Collective Membership Marks****Class 200**

- 849,183. COMPASS (DESIGN). The Ninety-Nines, Inc. SN 260,676. Pub. 2-27-68. Filed 12-13-66.  
 849,184. NSL AND DESIGN. Non Smokers League. SN 268,522. Pub. 2-27-68. Filed 4-6-67.  
 849,185. IUOE AND DESIGN. Ladies' Auxiliary Chapter No. 1, Local 542, International Union of Operating Engineers. SN 277,004. Pub. 2-27-68. Filed 7-28-67.

**Certification Mark****Class B — Services**

- 849,186. CD ETC. AND DESIGN. Service d'Information (CD) Code Diplomatique & Consulaire Corp. SN 248,852. Pub. 2-27-68. Filed 6-23-66.

Other Substances by Means of Electrophoresis; Dye Tracers; Fraction Collectors and Accessories; Ultraviolet Absorption Meters; Differential Respirometers; Thermostatically Controlled Bath for Laboratory Use and Accessories Therefor; and Laboratory Apparatus for Transferring Liquid Samples (Int. Cl. 9).

**Class 44—Dental, Medical, and Surgical Appliances**

For Apparatus for Measuring, Indicating and Recording Electrical Currents in the Brain and Length and Duration of Heartbeat and Other Phenomena (Int. Cl. 10).

First use Oct. 28, 1963.

**SECTION 2****Class 5 — Adhesives**

- 849,187. Styro-Floral Products, Inc., Memphis, Tenn. SN 266,370. Filed P.R. 3-9-67; Am. S.R. 3-19-68.

*Sticky*

For Plastic Floral Tape in the Nature of an Adhesive Tape (Int. Cl. 17).  
 First use May 22, 1961.

**Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof**

- 849,188. Applied Power Industries, Inc., Milwaukee, Wis. SN 248,204. Filed P.R. 6-16-66; Am. S.R. 3-1-68.

**MILWAUKEE**

For Hand Operated Pipe, Tube, and Rod Benders (Int. Cl. 8).  
 First use on or about Aug. 15, 1964.

**Class 26 — Measuring and Scientific Appliances**

849,189. See Section 1 (Combined Certificate).

**Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires**

- 849,190. U.S. Gasket & Shim, Inc., Cuyahoga Falls, Ohio. SN 235,972. Filed P.R. 1-7-66; Am. S.R. 2-29-68.

*E-Z-PEEL*

For Sheets of Laminated Material Used as Shims (Int. Cl. 6).  
 First use Dec. 6, 1965.

**Class 38 — Prints and Publications**

- 849,191. The Sidney Printing & Publishing Co., Sidney, Ohio. SN 256,090. Filed P.R. 10-10-66; Am. S.R. 2-23-68.

*Gun Week*

For Weekly Newspaper (Int. Cl. 16).  
 First use Oct. 1, 1966.

- 849,192. Buffalo Evening News, Inc., Buffalo, N.Y. SN 260,524. Filed P.R. 12-12-66; Am. S.R. 1-30-68.

**THE YOUNG SET**

For Section of a Daily Newspaper—Namely, a Section Concerning Activities of Young People (Int. Cl. 16).  
 First use Oct. 7, 1966.

- 849,193. Monterey Jazz Festival, Inc., Monterey, Calif. SN 260,561. Filed P.R. 12-12-66; Am. S.R. 2-23-68.

**JAZZ/MONTEREY**

For Periodic Magazine Dealing Principally With Jazz Music and With Artists and Other Personalities Connected With It (Int. Cl. 16).  
 First use Sept. 17, 1965.

- 849,194. Robert Affleck, Chicago, Ill. SN 262,553. Filed P.R. 1-16-67; Am. S.R. 3-13-68.

**TUG AND DREDGEMEN'S NEWS**

For News Bulletin Published at Irregular Intervals, for Distribution to Tugmen, Dredgemen, and Other Workers on Tugs, Dredges, and Related Waterborne Equipment (Int. Cl. 16).  
 First use Dec. 17, 1966.

- 849,195. Woodall Publishing Company, Highland Park, Ill. SN 283,607. Filed P.R. 10-30-67; Am. S.R. 3-7-68.

**TRAILERING PARKS AND CAMPGROUNDS**

For Periodically Published Guide and Directory Relating to Parks and Campgrounds Used by Travel Trailers, Camping Trailers, Pickup Coaches, Motor Homes, and Tents (Int. Cl. 16).  
 First use February 1967.

- 849,196. Fred Bertram, d.b.a. Journal of Israel Numismatics, Cliffside Park, N.J. SN 285,388. Filed P.R. 11-22-67; Am. S.R. 3-5-68.

**JOURNAL OF ISRAEL NUMISMATICS**

For Bi-Monthly Magazine (Int. Cl. 16).  
 First use during March 1966.

**Class 44 — Dental, Medical, and Surgical Appliances**

849,189. See Section 1 (Combined Certificate).



# Class 50—Merchandise Not Otherwise Classified

849,197. G. Helleman Brewing Company, Inc., La Crosse, Wis. SN 264,404. Filed 2-23-68.

# Twist Lift

## TRADEMARK REGISTRATIONS RENEWED

- |   |  |
|---|--|
| 66,927. BUNNELL. Cl. 21 (Int. Cl. 9). 1-7-08.                                       | 434,259. PACIFIC FRUIT PRODUCE CO. AND DESIGN. Cl. 46 (Int. Cl. 31). 11-18-47. |
| 66,990. "IVORY SOAP" ETC. AND DESIGN. Cl. 52 (Int. Cl. 3). 1-7-08.                  | 435,850. BABY'S BOTTOM. Cl. 17 (Int. Cl. 34). 1-13-48.                         |
| 67,377. "INDUSTRIAL BOND" AND DESIGN. Cl. 37 (Int. Cl. 16). 1-28-08.                | 436,852. RITZ CARLTON. Cl. 32 (Int. Cl. 20). 3-2-48.                           |
| 67,476. "LOTUS." Cl. 46 (Int. Cl. 29). 2-4-08.                                      | 437,400. WHIZ. Cl. 37 (Int. Cl. 16). 3-16-48.                                  |
| 67,493. "PEONY." Cl. 46 (Int. Cl. 29). 2-4-08.                                      | 437,868. C. D. PEACOCK. Cl. 27 (Int. Cl. 14). 3-30-48.                         |
| 67,512. "CORONET" AND DESIGN. Cl. 22 (Int. Cl. 28). 2-4-08.                         | 437,890. "F" IN A SHIELD. Cl. 33 (Int. Cl. 21). 4-6-48.                        |
| 68,386. CHAMPION. Cl. 9 (Int. Cl. 13). 4-7-08.                                      | 437,922. CLAROSTAT AND DESIGN. Cl. 21 (Int. Cl. 9). 4-6-48.                    |
| 68,389. OWL'S HEAD REPRESENTATION. Cl. 9 (Int. Cl. 13). 4-7-08.                     | 437,930. WEBWAY. Cl. 37 (Int. Cl. 16). 4-6-48.                                 |
| 70,539. CROSSED FISH (DESIGN). Cl. 46 (Int. Cl. 29). 9-8-08.                        | 438,347. ROCKY FORD. Cl. 17 (Int. Cl. 34). 4-13-48.                            |
| 148,342. DR. WEST'S. Cl. 29 (Int. Cl. 21). 11-8-21.                                 | 438,591. PETROHOL. Cl. 15 (Int. Cl. 4). 5-4-48.                                |
| 237,142. BOOTHCO. Cl. 23 (Int. Cl. 7). 1-3-28.                                      | 439,810. DUCON AND DESIGN. Cl. 34 (Int. Cl. 11). 7-27-48.                      |
| 237,548. PILOT. Cl. 1 (Int. Cl. 31). 1-10-28.                                       | 440,150. NYRALON. Cl. 42 (Int. Cl. 24). 8-11-48.                               |
| 238,460. ELK. Cl. 15 (Int. Cl. 4). 2-7-28.  | 440,213. TROCINATE. Cl. 18 (Int. Cl. 25). 8-17-48.                             |
| 238,485. HECLA. Cl. 15 (Int. Cl. 4). 2-7-28.  | 440,323. DIA-CONE. Cl. 21 (Int. Cl. 9). 8-24-48.                               |
| 239,740. LATITE. Cl. 12 (Int. Cl. 19). 3-13-28.                                     | 440,382. ACI-JEL. Cl. 18 (Int. Cl. 5). 8-31-48.                                |
| 239,833. TANDEM. Cl. 51 (Int. Cl. 3). 3-13-28.                                      | 500,010. VAPORINCENSE. Cl. 6 (Int. Cl. 3). 3-16-48.                            |
| 239,870. "PURE GOLD" ETC. AND DESIGN. Cl. 46 (Int. Cl. 31). 3-13-28.                | 500,072. MIL-U-CAL. Cl. 18 (Int. Cl. 5). 4-13-48.                              |
| 240,071. POIS DE SENTEUR DE CHEZ MOI. Cl. 51 (Int. Cl. 3). 3-20-28.                 | 500,120. WOODFIELD. Cl. 51 (Int. Cl. 3). 4-20-48.                              |
| 240,267. "SPLENDOR" AND FANCIFUL DESIGN. Cl. 46 (Int. Cl. 29). 3-20-28.             | 500,188. TRYDECYL. Cl. 18 (Int. Cl. 5). 5-11-48.                               |
| 240,934. NU ICY. Cl. 45 (Int. Cl. 32). 4-10-28.                                     | 500,217. HORMESTRIN. Cl. 18 (Int. Cl. 5). 5-11-48.                             |
| 241,026. BELLODGLIA. Cl. 51 (Int. Cl. 3). 4-17-28.                                  | 500,422. GOLD SEAL. Cl. 11 (Int. Cl. 16). 5-18-48.                             |
| 241,430. SCHICK. Cl. 23 (Int. Cl. 8). 4-24-28.                                      | 500,519. GY-TET. Cl. 6 (Int. Cl. 5). 6-1-48.                                   |
| 241,566. COAT OF ARMS. Cl. 37 (Int. Cl. 16). 5-1-28.                                | 500,727. PRIMAFRESH. Cl. 16 (Int. Cl. 4). 6-29-48.                             |
| 241,567. EN (GREEK LETTERS). Cl. 37 (Int. Cl. 16). 5-1-28.                          | 501,098. ELASTI-CAL. Cl. 38 (Int. Cl. 16). 7-20-48.                            |
| 241,568. SIGMA NU. Cl. 37 (Int. Cl. 16). 5-1-28.                                    | 501,134. MARCAL. Cl. 2 (Int. Cl. 16). 7-27-48.                                 |
| 242,080. NATIONAL GEOGRAPHIC. Cl. 38 (Int. Cl. 16). 5-15-28.                        | 501,154. SACRO-EASE. Cl. 32 (Int. Cl. 20). 7-27-48.                            |
| 242,294. "N" ENCLOSED BY CIRCULAR DESIGN. Cl. 23 (Int. Cl. 7). 5-22-28.             | 501,230. GLYCO-THYMOLINE. Cl. 18 (Int. Cl. 5). 7-27-48.                        |
| 242,767. MERMAID. Cl. 13 (Int. Cl. 6). 6-5-28.                                      | 501,261. CELOTOL. Cl. 18 (Int. Cl. 5). 7-27-48.                                |
| 243,312. "GATOR" ETC. AND REPRESENTATION OF ALLIGATOR. Cl. 6 (Int. Cl. 5). 6-19-28. | 501,271. EVERSOF. Cl. 51 (Int. Cl. 3). 7-27-48.                                |
| 243,500. "SACRED MESSENGER CALENDAR" AND DESIGN. Cl. 38 (Int. Cl. 16). 6-26-28.     | 501,438. GOMCO. Cl. 44 (Int. Cl. 10). 8-10-48.                                 |
| 243,695. DRY WASH. Cl. 52 (Int. Cl. 21). 6-26-28.                                   | 501,460. PAVCO. Cl. 37 (Int. Cl. 16). 8-10-48.                                 |
| 243,912. IBANA. Cl. 51 (Int. Cl. 3). 7-3-28.  | 501,462. DECISION. Cl. 37 (Int. Cl. 16). 8-10-48.                              |
| 244,141. TANDEM. Cl. 51 (Int. Cl. 3). 7-10-28.                                      | 501,464. GORDIAN. Cl. 37 (Int. Cl. 16). 8-10-48.                               |
| 245,263. FEATURE. Cl. 46 (Int. Cl. 31). 8-7-28.                                     | 501,466. BARRIER. Cl. 37 (Int. Cl. 16). 8-10-48.                               |
| 246,025. THREE SPIRES (DESIGN). Cl. 38 (Int. Cl. 16). 8-28-28.                      | 501,467. ACADEMY. Cl. 37 (Int. Cl. 16). 8-10-48.                               |
| 434,120. ELBY. Cl. 49 (Int. Cl. 33). 11-11-47.                                      | 501,519. GOTHIC OAK. Cl. 12 (Int. Cl. 19). 8-10-48.                            |
|   | 501,520. PICTURE OF LION. Cl. 12 (Int. Cl. 19). 8-10-48.                       |
|   | 501,543. KYANIZE CLINGCOTE. Cl. 16 (Int. Cl. 2). 8-10-48.                      |
|   | 501,558. BANCOTE FABRICS. Cl. 42 (Int. Cl. 24). 8-17-48.                       |
|   | 501,654. CASA MARINA AND DESIGN. Cl. 17 (Int. Cl. 34). 8-17-48.                |
|   | 501,779. MONOMELT. Cl. 23 (Int. Cl. 7). 8-24-48.                               |
|   | 501,811. GOSSARD. Cl. 39 (Int. Cl. 25). 8-24-48.                               |
|   | 501,844. GLENBROOK. Cl. 1 (Int. Cl. 4). 8-24-48.                               |
|   | 501,977. TRUMINERAL. Cl. 18 (Int. Cl. 5). 8-31-48.                             |

## TRADEMARK REGISTRATIONS CANCELED

### Section 8

- 699,575. DUR-O-PERM. Cl. 106. 6-14-60.  
706,596. GALLANT. Cl. 22. 11-1-60.  
710,726. SANTA SACKS. Cl. 2. 2-7-61.

- 711,061. NABAC 25 AND REPRESENTATION OF HORN OF PLENTY AND DESIGN. Cl. 6. 2-14-61.  
712,489. WISE-LOCK. Cl. 25. 3-14-61.  
712,837. WYCOFLEX. Cl. 27. 3-21-61.

- 713,206. LECTRO-CHROMA. Cl. 38. 3-28-61.  
713,707. SAF ETC. AND DESIGN. Cl. 1. 4-11-61.  
713,815. LAKEWOOD. Cl. 19. 4-11-61.  
714,422. "EL MOROCCO" NO-NEWS. Cl. 38. 4-25-61.  
717,492. QUAD-SEALED. Cl. 21. 6-27-61.  
719,548. TRI-LAX. Cl. 18. 8-8-61.  
719,806. AQUAMARINE. Cl. 51. 8-8-61.  
720,035. NEROROB. Cl. 39. 8-15-61.  
721,636. MODERN TEACHER. Cl. 38. 9-19-61.

The following registrations issued Mar. 27, 1962

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|--|---|
| 729,007. UNIROVING. Cl. 1.                             | 729,141. STORM KING AND DESIGN. Cl. 23.             |
| 729,008. COBONITE. Cl. 1.                              | 729,146. THERMOS. Cl. 23.                           |
| 729,012. ACTION LAWN. Cl. 1.                           | 729,147. EARTHKING. Cl. 23.                         |
| 729,013. PARTY LAWN. Cl. 1.                            | 729,157. SPECTRUM STRIPPER. Cl. 26.                 |
| 729,014. CENTURY 21. Cl. 1.                            | 729,159. TEMPTRON INC. AND DESIGN. Cl. 26.          |
| 729,018. OPTI-FILM. Cl. 1.                             | 729,163. PRINT-A-MATIC. Cl. 26.                     |
| 729,020. VERKA AND DESIGN. Cl. 1.                      | 729,164. STAR. Cl. 26.                              |
| 729,021. BOLST-A-PILLOW. Cl. 2.                        | 729,176. "ALLEGRO." Cl. 28.                         |
| 729,027. LEAF-DROP. Cl. 6.                             | 729,182. WWS AND DESIGN. Cl. 32.                    |
| 729,028. COOL-GARD. Cl. 6.                             | 729,183. BABY CADDY. Cl. 32.                        |
| 729,032. MRX ETC. AND DESIGN. Cl. 6.                   | 729,185. DINER/RECLINER. Cl. 32.                    |
| 729,040. TRIC-TEST. Cl. 6.                             | 729,187. BLAKOUT. Cl. 32.                           |
| 729,041. COP-R-THRO. Cl. 6.                            | 729,189. FUELMASER. Cl. 34.                         |
| 729,042. BAR-L-KOTE. Cl. 6.                            | 729,190. DICKINSON. Cl. 34.                         |
| 729,043. FLEX-KOTE. Cl. 6.                             | 729,191. BASMOR LITTLE. Cl. 34.                     |
| 729,046. KEM-KUT. Cl. 6.                               | 729,194. BISHON. Cl. 35.                            |
| 729,047. CT-28. Cl. 6.                                 | 729,195. KVP ETC. AND DESIGN. Cl. 37.               |
| 729,053. TASK AND DESIGN. Cl. 6.                       | 729,204. SCOTT PRINTS. Cl. 37.                      |
| 729,055. BUDGET POWER. Cl. 9.                          | 729,205. SOFT-WEVE PRINTS. Cl. 37.                  |
| 729,056. PRIL-CAL. Cl. 10.                             | 729,208. HELP! FOR TIRED MINDS. Cl. 38.             |
| 729,059. MYPO. Cl. 10.                                 | 729,209. THE INTERNATIONAL EXECUTIVE. Cl. 38.       |
| 729,060. FERTIL-REL. Cl. 10.                           | 729,212. THE ACCORDIONAIRES. Cl. 38.                |
| 729,062. MRX ETC. AND DESIGN. Cl. 11.                  | 729,215. MAGIC CUSHION AND DESIGN. Cl. 39.          |
| 729,063. SUPER KEMGO. Cl. 1.                           | 729,217. POUFF-KNIT. Cl. 39.                        |
| 729,066. VARI-SET. Cl. 11.                             | 729,221. DRY SWIM. Cl. 39.                          |
| 729,071. FORM-A-LINE. Cl. 13.                          | 729,224. GLITTER GLO' AND DESIGN. Cl. 39.           |
| 729,076. HARDY PRODUCTS ETC. AND DESIGN. Cl. 14.       | 729,225. POLO PAL AND DESIGN. Cl. 39.               |
| 729,078. BSI. Cl. 14.                                  | 729,229. THERMOPONT. Cl. 44.                        |
| 729,079. THERMODUR. Cl. 14.                            | 729,230. FROSTY INN. Cl. 46.                        |
| 729,080. SEASTAPLE. Cl. 14.                            | 729,232. HEREFORD HEAVEN BRANDS AND DESIGN. Cl. 46. |
| 729,085. MRX ETC. AND DESIGN. Cl. 16.                  | 729,233. HEREFORD HEAVEN BRANDS. Cl. 46.            |
| 729,086. ACRYLEZE. Cl. 16.                             | 729,235. VI-PRO-MIN. Cl. 46.                        |
| 729,088. ENRICO. Cl. 17.                               | 729,237. BRAND X. Cl. 46.                           |
| 729,089. CAREGIN. Cl. 18.                              | 729,238. ROCKLETS. Cl. 46.                          |
| 729,104. TIP-OFF. Cl. 18.                              | 729,240. TASTY-CAL. Cl. 46.                         |
| 729,114. STYPOLEX. Cl. 19.                             | 729,241. WAFLETS. Cl. 46.                           |
| 729,115. COMPRESS-O-SPRAY. Cl. 19.                     | 729,243. KING KULLEN AND DESIGN. Cl. 46.            |
| 729,116. LITHOCOM. Cl. 21.                             | 729,250. PORT BAY. Cl. 46.                          |
| 729,118. D AND DESIGN. Cl. 21.                         | 729,256. CHATEAU TOMA'S. Cl. 47.                    |
| 729,119. JAY AND REPRESENTATION OF A JAY BIRD. Cl. 21. | 729,258. DEL FALLA. Cl. 51.                         |
| 729,120. OUTERCOM AND DESIGN. Cl. 21.                  | 729,261. NUFELS. Cl. 51.                            |
| 729,122. BUSH AND DESIGN. Cl. 21.                      | 729,262. REPEL. Cl. 51.                             |
| 729,127. SUNNY FACE. Cl. 22.                           | 729,263. LORAN O'DEL. Cl. 51.                       |
| 729,128. SONWELL. Cl. 22.                              | 729,264. CEL-TONE. Cl. 51.                          |
| 729,129. FLICKERS. Cl. 22.                             | 729,267. MOR-EZE. Cl. 52.                           |
| 729,132. SPEED MERCHANT. Cl. 22.                       | 729,270. MACGREGOR. Cl. 52.                         |
| 729,133. BOLERO. Cl. 22.                               | 729,275. CARIBBEAN CAROUSEL. Cl. 105.               |
| 729,136. TRI-Q AND DESIGN. Cl. 23.                     | 729,283. FOAM ON FOAM. Cl. 32.                      |
| 729,138. MOPOWER. Cl. 23.                              | 729,288. HILTON'S. Cl. 47.                          |

### Errata

In the OFFICIAL GAZETTE of Mar. 26, 1968, at page TM 199, under Trademark Registrations Canceled, Section 7(d), "234,653. NOMA. Cl. 21. 11-1-27." should be deleted.

In the OFFICIAL GAZETTE of Apr. 16, 1968, at page TM 156, under Trademark Registrations Canceled, Section 8, "727,870. FERTILIZER FOR A GROWING AMERICA ETC. AND DESIGN. Cl. 10." should be deleted.



# INDEX OF REGISTRANTS

MAY 14, 1968

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- Acropolis Record Co., Inc., Lawrence, Kans. 849,176, pub. 2-27-68. Cl. 107.  
 Action Bag & Envelope Co., Inc., Brooklyn, N.Y. 848,835, pub. 2-27-68. Cl. 2.  
 Action Listings, Inc., Chicago Heights, Ill. 849,150, pub. 2-27-68. Cl. 101.  
 Advance Research: See—  
 Market Studies.  
 Advertising Metal Display Co., Chicago, Ill. 848,839, pub. 2-27-68. Cl. 2.  
 Affleck, Robert, Chicago, Ill. 849,194. Cl. 38.  
 Aglo Sigarenfabrieken N.V., Dulzel, Netherlands. 848,887, pub. 2-27-68. Cl. 17.  
 Air Reduction Co., Inc., New York, N.Y. 849,060, pub. 2-27-68. Cl. 34.  
 Alberto-Culver Co., Melrose Park, Ill. 848,895, pub. 2-27-68. Cl. 18.  
 Alduk, Frank P., d.b.a. Newcastle Co., New Castle, Pa. 848,989, pub. 2-27-68. Multiple Class (Classes 23 and 44).  
 Altec Lansing Corp., New York, N.Y. to LTV Ling Altec, Inc., Anaheim, Calif. 440,323, ren. 5-14-68. Cl. 21.  
 Alter Co., Davenport, Iowa. 848,872-3, pub. 2-27-68. Cl. 14.  
 American Automobile Association, (Inc.), The, Washington, D.C. 849,185, pub. 2-27-68. Cl. 102.  
 American Credit Indemnity Co. of New York, New York, N.Y. 849,162, pub. 2-27-68. Cl. 102.  
 American Friends of the Alliance Israelite Universelle, Inc., New York, N.Y. 849,079-80, pub. 2-27-68. Cl. 38.  
 American Home Products Corp., New York, N.Y. 849,116, pub. 2-27-68. Cl. 46.  
 American Optical Co., Southbridge, Mass. 849,032, pub. 2-27-68. Cl. 20.  
 American Sugar Co., New York, N.Y. 849,115, pub. 2-27-68. Cl. 40.  
 American Thermos Products Co., The, Norwich, Conn. 729,146, can. Cl. 23.  
 American Vittrified Products Co., Cleveland, Ohio. 849,040, pub. 2-27-68. Cl. 26.  
 Anchorage, Inc., The, Warren, R.I. 848,906, pub. 2-27-68. Cl. 19.  
 Andenno, A. Joseph, and Joyce A. Andenno, Belding, Mich. 849,086, pub. 2-27-68. Cl. 44.  
 Anderson & Thompson Ski Co., Inc., Seattle, Wash. 848,939, pub. 8-2-66. Cl. 22.  
 Angstrom Precision Inc., Van Nuys, Calif. 848,908, pub. 2-27-68. Cl. 21.  
 Applied Power Industries, Inc., Milwaukee, Wis. 849,188, Cl. 23.  
 Aqualana Corp. of America, Clifton, N.J. 848,897, pub. 2-27-68. Multiple Class (Classes 18, 51, and 52).  
 Armstrong Cork Co., Lancaster, Pa. 848,836, pub. 2-27-68. Cl. 2.  
 Arcco Playing Card Co., Chicago, Ill. 706,596, can. Cl. 22.  
 Artistic Foundations, Inc., to Flexees International, Inc., New York, N.Y. 440,150, ren. 5-14-68. Cl. 42.  
 Arvey Corp., Chicago, Ill. 848,844, pub. 2-27-68. Cl. 5.  
 Astro Fl-Larm, Inc., Roseville, Mich. 849,028, pub. 2-27-68. Cl. 26.  
 Astro Foods, Inc., San Francisco, Calif. 849,106, pub. 2-27-68. Cl. 46.  
 Atlantic Research Corp.: See—  
 Susquehanna Corp., The.  
 Auto Rescue Service Sales, Ltd., Denver, Colo. 849,172, pub. 2-27-68. Cl. 103.  
 Avco Corp., Everett, Mass. 848,914, pub. 2-27-68. Cl. 21.  
 B.T.S. Franchising Systems, Inc., New Haven, Conn. 849,147, pub. 2-27-68. Cl. 100.  
 Badger Mfg. Co., Marinette, Wis. 849,006, pub. 2-27-68. Cl. 23.  
 Bancroft, Joseph, & Sons Co., Wilmington, Del., to Joseph Bancroft & Sons Co., New York, N.Y. 501,558, ren. 5-14-68. Cl. 42.  
 Bank of the Southwest, Amarillo, Tex. 849,164, pub. 2-27-68. Cl. 102.  
 Barber & Bennett, Inc., Albany, N.Y. 501,977, ren. 5-14-68. Cl. 18.  
 Barton Instrument Corp.: See—  
 Peterson, Walter E., and Elvin C. Welch.  
 Bastian-Morley Co., Inc., La Porte, Ind. 729,191, can. Cl. 34.  
 Baumer Foods, Inc., New Orleans, La. 849,103, pub. 2-27-68. Cl. 46.  
 Bayuk Cigars Inc., Philadelphia, Pa. 848,888, pub. 2-27-68. Cl. 17.  
 Bayuk Cigars Inc., Philadelphia, Pa. 848,893, pub. 2-27-68. Cl. 17.  
 Bearings and Drives Inc., Mason, Ga. 848,927, pub. 2-27-68. Multiple Class (Classes 21, 23, and 35).  
 Beck, A. S., Shoe Corp., New York, N.Y. 848,841, pub. 2-27-68. Cl. 3.  
 Belk Stores Services, Inc., Charlotte, N.C. 848,926, pub. 2-27-68. Cl. 21.  
 Bergische Stahl-Industries, Remscheid, Germany. 729,078-9, can. Cl. 14.  
 Berkshire Crafts: See—  
 Kibby, David R.  
 Bertolla, A., & Sons, Loxley, Ala. 849,112, pub. 2-27-68. Cl. 40.  
 Bertram, Fred, d.b.a. Journal of Israel Numismatics, Cliffside Park, N.J. 849,196. Cl. 38.  
 Bird Machine Co., South Walpole, Mass. 848,861, pub. 10-3-67. Cl. 13.  
 Bivator S.A., Geneva, Switzerland. 849,030, pub. 2-27-68. Cl. 26.  
 Bliss, E. W., Co., Davenport, Iowa. 848,866, pub. 2-27-68. Cl. 13.  
 Booth Bros. Co., Rochester, N.Y., to United Shoe Machinery Corp., Boston, Mass. 237,142, ren. 5-14-68. Cl. 23.  
 Borden Co., The: See—  
 General Preserving Co.  
 Borg-Warner Corp., from Borg-Warner Corp., Chicago, Ill. 848,981, pub. 2-27-68. Cl. 23.  
 Borg-Warner Corp., from Borg-Warner Corp., Chicago, Ill. 848,994, pub. 2-20-68. Cl. 23.  
 Borg-Warner Corp., from Borg-Warner Corp., Chicago, Ill. 849,134, pub. 2-6-68. Cl. 50.  
 Borgfeldt, Geo., & Co., to Coronet Toy Mfg. Co., Inc., Seattle, Wash. 67,512, ren. 5-14-68. Cl. 22.  
 Boston Varnish Co., to Kyanize Paints, Inc., Everett, Mass. 501,543, ren. 5-14-68. Cl. 16.  
 Boyertown Packaging Service Corp., Boyertown, Pa. 848,834, pub. 9-26-67. Cl. 2.  
 Bosio, Josephine A., Redwood City, Calif. 729,221, can. Cl. 39.  
 Bradley, Milton, Co., Springfield, Mass. 848,959-61, pub. 2-27-68. Cl. 22.  
 Bradley, Orville L., Waco, Tex. 729,132, can. Cl. 22.  
 Branel: See—  
 Parfums Branel, Inc.  
 Breck, John H., Inc., Springfield, Mass. 849,139, pub. 2-27-68. Cl. 51.  
 Bristol-Myers Co.: See—  
 Coty, Inc.  
 McKesson & Robbins, Inc.  
 British Aloisip Ltd., London, England. 848,867, pub. 2-27-68. Cl. 13.  
 Brocar, Inc., Wichita, Kans. 729,141, can. Cl. 23.  
 Brodkey Brothers, Inc., d.b.a. Brodkey Jewelry Co., Omaha, Nebr. 849,044, pub. 2-27-68. Cl. 28.  
 Brodkey Jewelry Co.: See—  
 Brodkey Brothers, Inc.  
 Brooke, Jack, d.b.a. Photographic Equipment, Seattle, Wash. 729,163, can. Cl. 26.  
 Brunswick Corp., Chicago, Ill. 848,968, pub. 2-27-68. Cl. 22.  
 Buffalo Evening News, Inc., Buffalo, N.Y. 849,192. Cl. 38.  
 Bullard, E. D., Co., Sausalito, Calif. 848,930, pub. 2-27-68. Multiple Class (Classes 21 and 23).  
 Bulmer Mfg. Co., Bellingham, Wash. 848,865, pub. 2-27-68. Cl. 13.  
 Bulova Watch Co., Inc., Flushing, N.Y. 848,933, pub. 2-27-68. Cl. 21.  
 Bunnell, J. H., & Co., Brooklyn, N.Y. 66,927, ren. 5-14-68. Cl. 21.  
 Burlington Industries, Inc., from Kuitown Togs Corp., New York, N.Y. 729,217, can. Cl. 39.  
 Bush Radio Ltd., London, England. 729,122, can. Cl. 21.  
 Cabot, Samuel, Inc., Boston, Mass. 848,882, pub. 2-27-68. Cl. 16.  
 Calgon Corp., Pittsburgh, Pa. 849,052, pub. 2-27-68. Cl. 31.  
 Cam Industries, Inc., Hanover, Pa. 849,016, pub. 2-27-68. Cl. 23.  
 Cardoc Inc., La Mesa, Calif. 849,167, pub. 2-27-68. Cl. 103.  
 Carnation Co., Los Angeles, Calif. 849,113, pub. 2-27-68. Cl. 48.  
 Caron Corp.: See—  
 Daltroff, E., & Cie.  
 Carte Blanche Corp., Los Angeles, Calif. 849,109, pub. 2-27-68. Cl. 46.  
 Cash, J. & J., Inc., South Norwalk, Conn. 246,025, ren. 5-14-68. Cl. 38.  
 Central Stikstof Verkoopkantoor, N.V., The Hague, Netherlands. 729,056, can. Cl. 10.  
 Certipak Corp., New York, N.Y. 849,001, pub. 2-27-68. Cl. 23.  
 Charmglow Products, Inc., Antioch, Ill. 848,883, pub. 2-27-68. Cl. 16.  
 Chase Co., Inc., The: See—  
 Glendinning Companies, Inc.  
 Chefare, Inc., Bala-Cynwyd, Pa. 849,158, pub. 2-27-68. Cl. 101.  
 Chemithon Corp., The, Seattle, Wash. 848,847-8, pub. 2-27-68. Cl. 6.  
 Chem-Tech Corp., Bellevue, Wash. 729,046-7, can. Cl. 6.  
 Chemway Corp.: See—  
 Western Bottle Mfg. Co.  
 Chromatograph Supply, Inc., d.b.a. Coast Engineering Laboratory, Redondo Beach, Calif. 848,846, pub. 2-27-68. Cl. 6.  
 Cigar Maker: See—  
 Padron, Jose O.  
 Clairon Inc., New York, N.Y. 849,140, pub. 2-27-68. Cl. 51.  
 Clarostat Mfg. Co., Inc., Dover, N.H. 437,922, ren. 5-14-68. Cl. 21.



Clary Corp., San Gabriel, Calif. 849,019, pub. 2-27-68. Cl. 23.  
 Cobon Plastics Corp., Newark, N.J. 729,008, can. Cl. 1.  
 Coca-Cola Co., The, Atlanta, Ga., from Minute Maid Corp., Orlando, Fla. 729,235, can. Cl. 46.  
 Coleman Co., Inc., The, Wichita, Kans. 848,970, pub. 2-27-68. Cl. 22.  
 Colgate-Palmolive Co.: See—  
 Lehn & Fink Products Corp.  
 Colgate-Palmolive Co., New York, N.Y. 848,985, pub. 2-27-68. Cl. 23.  
 Colortran Industries, Inc., Burbank, Calif. 848,935, pub. 2-27-68. Cl. 21.  
 Computer Institute, Inc., Riverside, Calif. 849,175, pub. 2-27-68. Cl. 107.  
 Concordia Publishing House, St. Louis, Mo., from Sacred Design Associates, Inc., Minneapolis, Minn. 849,077, pub. 12-19-67. Cl. 38.  
 Conklin, E. W. & Son: See—  
 Conklin, Horace E.  
 Conklin, Horace E., d.b.a. E. W. Conklin & Son, Binghamton, to Stanford Seed Co., Buffalo, N.Y. 237,548, ren. 5-14-68. Cl. 1.  
 Container Graphics Corp., Toledo, Ohio. 848,993, pub. 2-27-68. Cl. 23.  
 Cooper, Ben, Inc., Brooklyn, N.Y. 729,224, can. Cl. 39.  
 Corn Products Co., New York, N.Y. 849,007, pub. 2-27-68. Cl. 46.  
 Coronado Mfg. Co., Long Beach, Calif. 848,902, pub. 2-27-68. Cl. 19.  
 Coronado Mfg. Co., Long Beach, Calif. 848,923, pub. 2-27-68. Cl. 21.  
 Coronet Toy Mfg. Co., Inc.: See—  
 Borgfeldt, Geo., & Co.  
 Corry Jamestown Corp., Corry, Pa. 849,055, pub. 2-27-68. Cl. 32.  
 Coty, Inc., Wilmington, Del., and New York, N.Y., to Bristol Myers Co., New York, N.Y. 239,833, ren. 5-14-68. Cl. 51.  
 Coty, Inc., Wilmington, Del., and New York, N.Y., to Bristol Myers Co., New York, N.Y. 244,141, ren. 5-14-68. Cl. 51.  
 Coyne Industries, Inc., Brooklyn, N.Y. 729,183, can. Cl. 32.  
 Crane Co., New York, N.Y. 848,862, pub. 2-27-68. Cl. 13.  
 Creative Concepts Inc., d.b.a. No Smok Co., San Francisco, Calif. 848,889, pub. 2-27-68. Cl. 17.  
 Creative Poly Products, New York, N.Y. 710,726, can. Cl. 2.  
 Cudahy Co., Phoenix, Ariz. 849,098, pub. 2-27-68. Cl. 46.  
 Culligan, Inc., Northbrook, Ill. 849,049, pub. 2-27-68. Cl. 31.  
 Cummings & Co., Inc., Nashville, Tenn. 848,932, pub. 2-27-68. Cl. 21.  
 DK Mfg. Co., Chicago, Ill. 729,071, can. Cl. 13.  
 Daitwa Corp., Gardena, Calif. 848,971, pub. 2-27-68. Cl. 22.  
 Daltroff, E., & Cie, d.b.a. Parfumerie Caron, Paris, France, to Caron Corp., New York, N.Y. 241,026, ren. 5-14-68. Cl. 51.  
 Daltroff, E., & Cie, d.b.a. Parfumerie Caron, Paris, France, to Caron Corp., New York, N.Y. 241,026, ren. 5-14-68. Cl. 51.  
 Dana Sales, Inc., Dana, N.C. 849,004, pub. 2-27-68. Cl. 23.  
 Davlyn Laboratories Ltd.: See—  
 Diplommat Products, Inc.  
 Degremont S.A. Suresnes (Seine), France. 848,996, pub. 2-27-68. Cl. 23.  
 Deliro, Pietro, Jr., d.b.a. Pietro Deliro Publications, New York, N.Y. 729,212, can. Cl. 38.  
 Deliro, Pietro, Publications: See—  
 Deliro, Pietro, Jr.  
 Del Falla (Cosmetics) Ltd., Manchester, England. 729,258, can. Cl. 51.  
 Del Mar Food Products Corp., Watsonville, Calif. 849,124, pub. 2-27-68. Cl. 46.  
 Delcon Corp., Palo Alto, Calif. 729,118, can. Cl. 21.  
 Delta Tire Corp., Detroit, Mich. 849,062, pub. 2-27-68. Cl. 35.  
 De Mancera, Amelia C., Mexico City, Mexico. 729,261, can. Cl. 51.  
 De Markoff, Alexandra, Sales Corp.: See—  
 Robbins, Anatole, Inc.  
 Denver Fire Clay Co., The, Denver, Colo., to Kaiser Aluminum & Chemical Corp., Oakland, Calif. 239,740, ren. 5-14-68. Cl. 12.  
 Denver Fire Clay Co., The, Denver, Colo. 729,190, can. Cl. 34.  
 De Soto Chemical Co., Inc., Arcadia, Fla. 243,312, ren. 5-14-68. Cl. 6.  
 Developmental Engineering Corp., Washington, D.C. 729,116, can. Cl. 21.  
 Dictaphone Corp., Bridgeport, Conn. 848,929, pub. 2-27-68. Cl. 21.  
 Diener Industries, Inc., Sepulveda, Calif. 848,951, pub. 2-27-68. Cl. 22.  
 Diplommat Products, Inc., d.b.a. Davlyn Laboratories Ltd., Los Angeles, Calif. 849,137, pub. 12-6-66. Cl. 51.  
 Dixon Corp., Bristol, R.I. 848,868, pub. 2-27-68. Multiple Class (Classes 13, 21, and 35).  
 Dohrman Instruments Co., Mountain View, Calif. 848,924, pub. 2-27-68. Cl. 21.  
 Downtowner Corp., The, Memphis, Tenn. 848,851, pub. 2-27-68. Cl. 8.  
 Dresser Industries, Inc., Dallas, Tex. 848,853, pub. 2-27-68. Cl. 10.  
 Dual Gebruder Steldinger, from Gebruder Steldinger, Black Forest, Germany. 849,024, pub. 2-27-68. Cl. 26.  
 Ducon Co., Brooklyn, to The Ducon Co., Inc., Mineola, N.Y. 439,810, ren. 5-14-68. Cl. 34.  
 Ducon Co., Inc., The: See—  
 Ducon Co.  
 Duncan, Donald F., Inc., Evanston, Ill. 729,133, can. Cl. 22.  
 Dunhill, Alfred, of London, Inc., New York, N.Y., to H. L. Savory & Co. Ltd., London, England. 435,850, ren. 5-14-68. Cl. 17.  
 Du Pont de Nemours, E. I., and Co., Wilmington, Del. 848,966, pub. 2-27-68. Cl. 22.  
 Duro Finishing Corp., Fall River, Mass. 699,575, can. Cl. 106.  
 Eagle Pencil Co., Danbury, Conn. 849,071, pub. 2-27-68. Cl. 37.  
 Eastman Kodak Co., Rochester, N.Y. 848,997, pub. 2-27-68. Cl. 23.  
 Eaton Yale & Towne Inc., Cleveland, Ohio. 849,017, pub. 2-27-68. Cl. 23.  
 Eberhard Faber Inc., Wilkes-Barre, Pa. 849,069, pub. 2-27-68. Cl. 37.  
 Eckrich, Peter, and Sons, Inc., Fort Wayne, Ind. 849,101, pub. 2-27-68. Cl. 46.  
 Eisenberg, M. Michael, M.D., Gainesville, Fla. 849,085, pub. 2-27-68. Cl. 44.  
 Elby Extract Co., to Glissen Chemical Co., Inc., Brooklyn, N.Y. 434,120, ren. 5-14-68. Cl. 49.  
 Elk Refining Co., to Elk Refining Co., Charleston, W. Va. 238,460, ren. 5-14-68. Cl. 15.  
 El Morocco Corp., New York, N.Y. 714,422, can. Cl. 38.  
 Ely & Walker, Inc., Memphis, Tenn. 848,937, pub. 2-27-68. Cl. 21.  
 Endo Laboratories, Inc.: See—  
 Endo Products Inc.  
 Endo Products Inc., Richmond Hill, to Endo Laboratories, Inc., Garden City, N.Y. 501,261, ren. 5-14-68. Cl. 18.  
 Enrico Cigar Co.: See—  
 Mellasari, Enrico.  
 Eversharp, Inc.: See—  
 Magaine Repeating Razor Co.  
 Exquisite Form Industries, Inc., New York, N.Y. 848,965, pub. 2-27-68. Cl. 22.  
 Extrudo-Film Corp., New York, N.Y. 729,018, can. Cl. 1.  
 FMC Corp., San Jose, Calif. 848,904, pub. 2-27-68. Cl. 19.  
 FMC Corp., San Jose, Calif. 848,992, pub. 2-27-68. Cl. 23.  
 Fairway Foods, Inc., St. Paul, Minn. 848,875, pub. 2-27-68. Cl. 14.  
 Famous Artists Schools, Inc., Westport, Conn. 849,179-80, pub. 2-27-68. Cl. 107.  
 Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 729,229, can. Cl. 44.  
 Federal Glass Co., The, to Federal Paper Board Co., Inc., Columbus, Ohio. 437,890, ren. 5-14-68. Cl. 33.  
 Federal Paper Board Co., Inc.: See—  
 Federal Glass Co., The.  
 Ferro Corp., Cleveland, Ohio. 729,007, can. Cl. 1.  
 Fine-Glo, Inc., New York, N.Y. 729,021, can. Cl. 2.  
 Flingerroot, Ben, Detroit, Mich. 729,115, can. Cl. 19.  
 Firestone Tire & Rubber Co., The, Akron, Ohio. 848,830, pub. 2-27-68. Cl. 1.  
 Fischer, Josef, Sportartikelherzeugung, Innsbruck, Austria. 848,958, pub. 2-27-68. Cl. 22.  
 Flexco International, Inc.: See—  
 Artistic Foundations, Inc.  
 Ford Motor Co., Dearborn, Mich. 849,031, pub. 2-27-68. Cl. 26.  
 Foundation for the Advancement of International Business Administration, Inc., The, New York, N.Y. 729,209, can. Cl. 38.  
 Franklin Gno Corp., West Palm Beach, Fla. 849,038, pub. 2-27-68. Cl. 26.  
 Franklin Gno Corp., West Palm Beach, Fla. 849,151, pub. 2-27-68. Cl. 100.  
 Franzia Brothers Winery: See—  
 Thomas, Jim.  
 Freeman, Bishop, Co., Evanston, Ill. 729,194, can. Cl. 35.  
 Friedland, Ralph, & Bros., Keyport, N.J. 729,187, can. Cl. 32.  
 Frigid Unit, Inc., Toledo, Ohio. 849,135, pub. 2-27-68. Cl. 50.  
 Frimatic, Camps & Cie., Paris, France. 848,916, pub. 2-27-68. Multiple Class (Classes 21 and 24).  
 Fuel Reduction Devices, Inc., Yonkers, N.Y. 729,189, can. Cl. 34.  
 Fuelco Rubbermaid Corp., Statesville, N.C. 848,838, pub. 2-27-68. Cl. 2.  
 Games By Sonwell, Inc., New York, N.Y. 729,128-9, can. Cl. 22.  
 Gateway Promotions, Inc., St. Louis, Mo. 849,078, pub. 2-27-68. Cl. 38.  
 Gebruder Steldinger: See—  
 Dual Gebruder Steldinger.  
 Geigy Chemical Corp.: See—  
 Geigy Co., Inc.  
 Geigy Co., Inc., New York, to Geigy Chemical Corp., Ardsley, N.Y. 500,519, ren. 5-14-68. Cl. 6.  
 General Aniline & Film Corp., New York, N.Y. 729,053, can. Cl. 6.  
 General Coal Co., Philadelphia, Pa. 501,844, ren. 5-14-68. Cl. 1.  
 General Drill Corp., Chicago, Ill. 848,980, pub. 2-27-68. Cl. 23.  
 General Foods Corp., White Plains, N.Y. 849,090, pub. 2-27-68. Cl. 46.  
 General Gilbert Corp., The, Winsted, Conn. 849,037, pub. 2-27-68. Cl. 26.  
 General Mills, Inc., Minneapolis, Minn. 849,126, pub. 2-27-68. Cl. 46.  
 General Motors Corp., Detroit, Mich. 713,815, can. Cl. 19.  
 General Promotions Co., Inc., Philadelphia, Pa. 729,208, can. Cl. 38.  
 General Tire & Rubber Co., The, Akron, Ohio. 849,061, pub. 2-27-68. Cl. 33.  
 Geneva Preserving Co., Geneva, to The Borden Co., New York, N.Y. 67,478, ren. 5-14-68. Cl. 46.  
 Geneva Preserving Co., Geneva, to The Borden Co., New York, N.Y. 67,493, ren. 5-14-68. Cl. 46.

Germain's, Inc., Los Angeles, Calif. 729,014, can. Cl. 1.  
 Ghose, Satish C., d.b.a. India Incense Co., Chicago, Ill. 500,010, ren. 5-14-68. Cl. 6.  
 Giddings & Lewis, Inc., from Giddings & Lewis Machine Tool Co., Fond Du Lac, Wis. 848,998, pub. 2-27-68. Cl. 23.  
 Giddings & Lewis Machine Tool Co.: See—  
 Giddings & Lewis, Inc.  
 Gilson Medical Electronics, Inc., Middleton, Wis. 849,189, Multiple Class (Classes 26 and 44).  
 Glendinning Companies, Inc., from The Chase Co., Inc., Westport, Conn. 849,154, pub. 2-27-68. Cl. 101.  
 Glendinning Companies, Inc., Westport, Conn. 849,159, pub. 2-27-68. Cl. 101.  
 Glissen Chemical Co., Inc.: See—  
 Elby Extract Co.  
 Golden Gate Stores, Inc., San Francisco, Calif. 729,288, can. Cl. 47.  
 Gomco Surgical Mfg. Corp., Buffalo, N.Y. 501,438, ren. 5-14-68. Cl. 44.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 849,063, pub. 9-26-67. Cl. 35.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 849,070, pub. 2-27-68. Cl. 37.  
 Gossard, H. W., Co., The, to The H. W. Gossard Co., Chicago, Ill. 501,811, ren. 5-14-68. Cl. 39.  
 Grace, W. R., & Co., Cambridge, Mass. 848,881, pub. 2-27-68. Cl. 16.  
 Graham Paper Co., St. Louis, Mo. 67,377, ren. 5-14-68. Cl. 37.  
 Great Dane Trailers, Inc., Savannah, Ga. 729,114, can. Cl. 19.  
 Griffith Laboratories, Inc., The, Chicago, Ill. 849,094, pub. 2-27-68. Cl. 46.  
 Gund Mfg. Co.: See—  
 Swedlin, S., Inc.  
 Hagesud Aktiengesellschaft, Stuttgart-Feuerbach, Germany. 849,093, pub. 2-27-68. Cl. 46.  
 Haley Excelsior Co.: See—  
 Haley, Jesse C.  
 Haley, Jesse C., Jr., d.b.a. Haley Excelsior Co., Hanover, Va. 848,850, pub. 2-27-68. Cl. 10.  
 Hall, C. P., Co., The, Akron, Ohio. 848,850, pub. 2-27-68. Cl. 6.  
 Hambric Corp., The, Birmingham, Ala. 849,144, pub. 2-27-68. Cl. 100.  
 Hammer, Heinrich, Sportgerate- und Holzwaren-Fabrik, Wurttemberg, Germany. 848,949, pub. 2-27-68. Cl. 22.  
 Happiness Journeys International: See—  
 Happiness Tours, Inc.  
 Happiness Tours, Inc., d.b.a. Happiness Journeys International, Chicago, Ill. 729,275, can. Cl. 105.  
 Hardy, Charles, Inc., New York, N.Y. 729,076, can. Cl. 14.  
 Hassenfeld Bros. Inc., Pawtucket, R.I. 848,953, pub. 2-27-68. Cl. 22.  
 Halphtner, H., Solingen, Germany. 848,840, pub. 2-27-68. Multiple Class (Classes 3 and 23).  
 Hayes-Sammons Chemical Co., Mission, Tex. 729,027, can. Cl. 6.  
 Heilemann, G., Brewing Co., Inc., La Crosse, Wis. 849,197. Cl. 50.  
 Heilemann Electric Ltd., Crawley, Sussex, England. 848,919, pub. 2-27-68. Cl. 21.  
 Hereford Heaven Brands: See—  
 Hereford Heaven Brands, Inc.  
 Hereford Heaven Brands, Inc., d.b.a. Hereford Heaven Brands, Oklahoma City, Okla. 729,232-3, can. Cl. 46.  
 Hettrick Mfg. Co., The, Statesville, N.C. 848,969, pub. 2-27-68. Cl. 22.  
 Heyden Newport Chemical Corp., New York, N.Y. 729,041-4, can. Cl. 6.  
 Hoch, Carl J., Weinstrasse, Germany. 849,133, pub. 2-27-68. Cl. 47.  
 Hoffman Camera Corp., Farmingdale, N.Y. 849,023, pub. 2-27-68. Cl. 26.  
 Holes-Webway Co., The, St. Cloud, Minn. 437,930, ren. 5-14-68. Cl. 37.  
 Home Town Foods, Inc., Jacksonville, Fla. 849,092, pub. 2-27-68. Cl. 46.  
 Horner, Frank W., Ltd., Mount Royal, Quebec, Canada. 848,893-9, pub. 2-27-68. Cl. 18.  
 Houdaille Industries, Inc., Buffalo, N.Y. 849,018, pub. 2-27-68. Cl. 23.  
 House of Windsor, Inc.: See—  
 Lorillard, P., Co.  
 Houston Engineering Research Corp., Houston, Tex. 849,149, pub. 2-27-68. Cl. 100.  
 Howard, Jack V., d.b.a. Howard Mfg. Co., Van Nuys, Calif. 849,021, pub. 2-27-68. Cl. 25.  
 Howard Mfg. Co.: See—  
 Howard, Jack V.  
 Hrb-Singer, Inc., State College, Pa. 729,164, can. Cl. 26.  
 Humble Oil & Refining Co.: See—  
 Standard Alcohol Co.  
 Hyland Laboratories, Los Angeles, Calif. 729,040, can. Cl. 6.  
 Imperial Knife Associated Companies, Inc., Providence, R.I. 848,979, pub. 2-27-68. Cl. 23.  
 India Incense Co.: See—  
 Ghose, Satish C.  
 International Rectifier Corp., El Segundo, Calif. 717,492, can. Cl. 21.  
 International Silver Co., The, Meriden, Conn. 849,002, pub. 2-27-68. Cl. 23.  
 Items, Inc., St. Louis, Mo. 848,842, pub. 2-27-68. Cl. 3.  
 Jack Frost Sales, Inc., Chicago, Ill. 849,152, pub. 2-27-68. Cl. 100.  
 James, Allan P., Co., Inc., Maywood, Calif. 848,983, pub. 2-27-68. Cl. 23.  
 Jamesbury Corp., Worcester, Mass. 848,864, pub. 2-27-68. Cl. 13.  
 Jay Lighting Mfg. Co. Inc., Brooklyn, N.Y. 729,119, can. Cl. 21.  
 Jennison-Wright Corp., The, Toledo, Ohio. 849,142, pub. 2-27-68. Cl. 52.  
 Johnson Equipment Co.: See—  
 Newbold, Donald W., and Gerald P. Johnson.  
 Johnson & Johnson, New Brunswick, N.J. 849,054, pub. 2-27-68. Cl. 31.  
 Johnson, Mary E., trustee, to Iver Johnson's Arms & Cycle Works, Inc., Fitchburg, Mass. 68,386, ren. 5-14-68. Cl. 9.  
 Johnson, Mary E., trustee, to Iver Johnson's Arms & Cycle Works, Inc., Fitchburg, Mass. 68,389, ren. 5-14-68. Cl. 9.  
 Johnson, S. C., & Son, Inc., Racine, Wis. 500,727, ren. 5-14-68. Cl. 10.  
 Johnson's, Iver, Arms & Cycle Works, Inc.: See—  
 Johnson, Mary E.  
 Jolly Buccaneer Root Beer Co. Ltd., The, Toronto, Ontario, Canada. 849,145, pub. 2-27-68. Cl. 100.  
 Joslyn Mfg. and Supply Co., Cleveland, Ohio. 848,934, pub. 2-27-68. Cl. 21.  
 Jostens, Inc., Owatonna, Minn. 849,076, pub. 2-27-68. Cl. 38.  
 Journal of Israel Numismatics: See—  
 Hertram, Fred.  
 KVP Sutherland Paper Co., from Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich. 729,195, can. Cl. 37.  
 Kashiiki Kaisha Nakano Su Miso, d.b.a. Nakano Vinegar Co., Ltd., Aichi-ken Japan. 849,100, pub. 2-27-68. Cl. 46.  
 Kadmon, Otto, Inc., New York, N.Y. 848,931, pub. 2-27-68. Cl. 21.  
 Kaiser Aluminum & Chemical Corp.: See—  
 Denver Fire Clay Co., The.  
 Kalamazoo Vegetable Parchment Co.: See—  
 KVP Sutherland Paper Co.  
 Katzman, Lawrence, New York, N.Y. 849,075, pub. 2-27-68. Cl. 38.  
 Kayo Oil Co., Chattanooga, Tenn. 849,171, pub. 2-27-68. Cl. 103.  
 Kellogg Co., Battle Creek, Mich. 849,128-30, pub. 2-27-68. Cl. 46.  
 Kelly-Springfield Tire Co., The, Cumberland, Md. 849,064, pub. 2-27-68. Cl. 35.  
 Kenner Products Co., Cincinnati, Ohio. 848,952, pub. 2-27-68. Cl. 22.  
 Kibby, David R., d.b.a. Berkshire Crafts, Media, Pa. 848,908, pub. 2-27-68. Cl. 19.  
 King, Kullen, Grocery Co. Inc., Jamaica, N.Y. 729,243, can. Cl. 46.  
 Knickerbocker Co., The, Jackson, Mich. 849,003, pub. 2-27-68. Cl. 23.  
 Knitown Toga Corp.: See—  
 Burlington Industries, Inc.  
 Kohner Bros., Inc., East Paterson, N.J. 848,953-4, pub. 2-27-68. Cl. 22.  
 Kozak: See—  
 Walker, Edward C.  
 Kozak Auto Drywash, Inc.: See—  
 Walker, Edward C.  
 Kress & Owen Co., New York, N.Y., to Kress & Owen Co., Middletown, N.J. 501,230, ren. 5-14-68. Cl. 18.  
 Kyanize Paints, Inc.: See—  
 Boston Varnish Co.  
 L.C.F. Co., Inc.: See—  
 L.C.F., Inc.  
 L.C.F., Inc., d.b.a. L.C.F. Co., Inc., Los Angeles, Calif. 849,143, pub. 2-27-68. Cl. 52.  
 LTV Ling Altec, Inc.: See—  
 Altec Lansing Corp.  
 Labelon Corp., Canandaigua, N.Y. 849,022, pub. 2-27-68. Multiple Class (Classes 26 and 50).  
 Laco Corp., from Laco Products, Inc., Baltimore, Md. 849,107, pub. 2-27-68. Cl. 46.  
 Laco Products, Inc.: See—  
 Laco Corp.  
 Ladies' Auxiliary Chapter No. 1, Local 542 International Union of Operating Engineers, Harrisburg, Pa. 849,185, pub. 2-27-68. Cl. 200.  
 Latin American Mission, Bogota, N.J. 849,174, pub. 2-27-68. Cl. 107.  
 Lawler Chemicals, Inc., Chicago, Ill. 848,831, pub. 2-27-68. Cl. 1.  
 Leavitt Corp., The: See—  
 Leavitt, John W., Co.  
 Leavitt, John W., Co., d.b.a. The Leavitt Corp., Everett, Mass. 849,114, pub. 2-27-68. Cl. 46.  
 Leeds & Northrup Co., Philadelphia, Pa. 849,026, pub. 2-27-68. Cl. 26.  
 Lehn & Fink Products Corp., Bloomfield, N.J., to Colgate-Palmolive Co., New York, N.Y. 501,271, ren. 5-14-68. Cl. 51.  
 Letts, Ernst, G.m.b.H., Wetzlar (Lahn), Germany. 849,035, pub. 2-27-68. Cl. 26.  
 Lenhart, Ronald A., d.b.a. Zot Mfg. Co., Lakewood, Colo. 848,942, pub. 2-27-68. Cl. 22.  
 Leo and Sir Robert's, Inc., d.b.a. Pivot Point International, Chicago, Ill. 849,177, pub. 2-27-68. Cl. 107.  
 Lily-Tulip Cup Corp., New York, N.Y. 848,837, pub. 2-27-68. Cl. 2.  
 Lima S.p.A., Vicenza, Italy. 848,945, pub. 2-27-68. Cl. 22.  
 Lipsky, Maurice, Musc Co., Inc., New York, N.Y. 849,067, pub. 2-27-68. Cl. 36.  
 Little, A. P., Inc., Rochester, N.Y. 500,422, ren. 5-14-68. Cl. 11.  
 Litton Business Systems, Inc., New York, N.Y., from Royal Typewriter Co., Inc., Hartford, Conn. 849,011-15, pub. 2-27-68. Cl. 23.  
 Loran O'Del Co.: See—  
 Stinson, John N.



Lorillard, P. Co., New York, N.Y., to House of Windsor, Inc., Windsor, Pa. 438,347, ren. 5-14-68, Cl. 17.  
 Lorillard, P. Co., New York, N.Y. 848,891, pub. 2-27-68, Cl. 17.  
 M-E Associates, Inc., Philadelphia, Pa. 729,267, cancl. Cl. 52.  
 Maag Gear Wheel Co. Ltd., (Maag-Zahnrad Aktiengesellschaft), Zurich, Switzerland. 849,059, pub. 2-27-68, Cl. 34.  
 MacGregor Men's Toilettries, Inc., New York, N.Y. 729,270, cancl. Cl. 52.  
 Madison Co.: See—  
 Rexall Drug & Chemical Co.  
 Magazine Repeating Razor Co., Sound Beach, to Eversharp, Inc., Milford, Conn. 241,430, ren. 5-14-68, Cl. 23.  
 Magic Productions, Inc., Seattle, Wash. 848,943-4, pub. 2-27-68, Cl. 22.  
 Mallinckrodt Chemical Works, St. Louis, Mo. 849,033, pub. 2-27-68, Cl. 26.  
 Management Center of Cambridge, Inc., Waltham, Mass. 849,178, pub. 2-27-68, Cl. 107.  
 Mandarin Textiles Ltd., Kowloon, Hong Kong. 849,138, pub. 2-27-68, Cl. 51.  
 Mann, William T., d.b.a. Mann's Bait Co., Eufaula, Ala. 848,963-4, pub. 2-27-68, Cl. 22.  
 Mann's Bait Co.: See—  
 Mann, William T.  
 Marcal Paper Mills, Inc.: See—  
 Marcalus Mfg. Co., Inc.  
 Marcalus Mfg. Co., Inc., to Marcal Paper Mills, Inc., East Paterson, N.J. 501,134, ren. 5-14-68, Cl. 2.  
 Markem Machine Co., Keene, N.H. 729,063, cancl. Cl. 11.  
 Market Studies, Inc., d.b.a. Advance Research, Atlanta, Ga. 848,950, pub. 2-27-68, Cl. 22.  
 Marlyn Co., Inc., Los Angeles, Calif. 848,896, pub. 2-27-68, Cl. 18.  
 Marquette Corp., Minneapolis, Minn. 849,039, pub. 2-27-68, Cl. 26.  
 Martin-Marletta Corp., New York, N.Y. 848,876, pub. 2-27-68, Cl. 14.  
 Mayer, Oscar, & Co., Inc., Chicago, Ill. 849,110-11, pub. 2-27-68, Cl. 46.  
 Mayer, Oscar, & Co., Inc., Chicago, Ill. 849,125, pub. 2-27-68, Cl. 46.  
 McCarty's, Oakland, Calif. 501,154, ren. 5-14-68, Cl. 32.  
 McGraw-Edison Co., Milwaukee, Wis. 848,920, pub. 2-27-68, Cl. 21.  
 McKesson & Robbins, Inc., Bridgeport, Conn., to Bristol-Myers Co., New York, N.Y. 243,912, ren. 5-14-68, Cl. 51.  
 Meadowbrook Co., The, Edina, Minn. 849,050, pub. 2-27-68, Cl. 51.  
 Mellisari, Enrico, d.b.a. Enrico Cigar Co., New York, N.Y. 729,088, cancl. Cl. 17.  
 Merchandise Outlet Corp., Saddle Brook, N.J. 729,182, cancl. Cl. 32.  
 Messenger Corp.: See—  
 Messenger Publishing Co.  
 Messenger Publishing Co., Chicago, Ill., to Messenger Corp., Auburn, Ind. 243,500, ren. 5-14-68, Cl. 38.  
 Metric Products, Inc., Culver City, Calif. 849,081, pub. 6-20-67, Cl. 39.  
 Meyer Co. Inc., Fort Collins, Colo. 729,059, cancl. Cl. 10.  
 Meyerco Co., The, Carol Stream (Wheaton), Ill. 501,098, ren. 5-14-68, Cl. 38.  
 Miller, E. S., Laboratories, Inc., Los Angeles, Calif., to Smith, Miller & Patch, Inc., New York, N.Y. 500,072, ren. 5-14-68, Cl. 18.  
 Miller, E. S., Laboratories, Inc., Los Angeles, Calif., to Smith, Miller & Patch, Inc., New York, N.Y. 500,217, ren. 5-14-68, Cl. 18.  
 Milson Mills, Inc., Lebanon, Pa. 729,225, cancl. Cl. 39.  
 Minnesota Mining and Mfg. Co., St. Paul, Minn. 848,832, pub. 2-27-68, Cl. 1.  
 Minneapolis-Moline Co.: See—  
 Motec Industries, Inc.  
 Minshull, Allen J., and Marilyn A. Minshull, Mercer, Pa. 848,948, pub. 2-27-68, Cl. 22.  
 Minute Maid Corp.: See—  
 Coca-Cola Co., The.  
 Mobil Oil Corp.: See—  
 Vacuum Oil Co.  
 Mobil Oil Corp., New York, N.Y. 848,855, pub. 2-27-68, Cl. 10.  
 Monomet Co., Inc., The, Minneapolis, Minn. 501,779, ren. 6-14-68, Cl. 23.  
 Monterey Jazz Festival, Inc., Monterey, Calif. 849,193, Cl. 38.  
 Morris, Philip, Inc., New York, N.Y. 849,020, pub. 2-27-68, Cl. 23.  
 Morse Electro Products Corp., Ozone Park, N.Y. 848,938, pub. 2-27-68, Cl. 21.  
 Moss & Lowenhaupt Cigar Co., St. Louis, Mo., to Universal Cigar Corp., New York, N.Y. 501,654, ren. 5-14-68, Cl. 17.  
 Mote Industries, Inc., from Minneapolis-Moline Co., Hopkins, Minn. 729,138, cancl. Cl. 23.  
 Motorola, Inc., Franklin Park, Ill. 849,148, pub. 2-27-68, Cl. 100.  
 Murray-Allen Imports, Inc., New Rochelle, N.Y. 849,102, pub. 2-27-68, Cl. 46.  
 Mutual Orange Distributors, to Pure Gold, Inc., Redlands, Calif. 239,870, ren. 5-14-68, Cl. 46.  
 Nakano Vinegar Co., Ltd.: See—  
 Kabushiki Kaisha Nakano Su Miso.  
 Nash Engineering Co., The, South Norwalk, Conn. 242,294, ren. 5-14-68, Cl. 23.  
 Natcon Chemical Co. Inc., Bethpage, N.Y. 729,262, cancl. Cl. 51.  
 National Geographic Society, Washington, D.C. 242,080, ren. 5-14-68, Cl. 38.  
 National Lead Co., New York, N.Y. 848,874, pub. 2-27-68, Cl. 14.  
 National NuGrape Co.: See—  
 NuGrape Co. of America.  
 Nationwide Chemical Co., Inc., Fort Myers, Fla. 711,061, cancl. Cl. 6.  
 Nerorob Co., Los Angeles, Calif. 720,035, cancl. Cl. 39.  
 New England Apple Products Co., Inc., Littleton, Mass. 849,088, pub. 2-27-68, Cl. 46.  
 Newcastle Co.: See—  
 Alduk, Frank P.  
 Newcomer Corp., The, Columbia, Mo. 729,012-13, cancl. Cl. 1.  
 Niewold, Donald W., and Gerald P. Johnson, d.b.a. Johnson Equipment Co., Paxton, Ill. 848,977, pub. 2-27-68, Cl. 23.  
 Nightwriter Corp., Inc., d.b.a. Nirico, Alexandria, Va. 849,065, pub. 2-27-68, Cl. 36.  
 Ninety-Nines, Inc., The, Oklahoma City, Okla. 849,183, pub. 2-27-68, Cl. 200.  
 Nirico: See—  
 Nightwriter Corp., Inc.  
 Nishio Electronics Corp., Osaka, Japan. 848,910, pub. 2-27-68, Cl. 21.  
 Nissin Shokubun Kaisha Ltd., Takatsuki, Japan. 849,091, pub. 2-27-68, Cl. 46.  
 No Smok Co.: See—  
 Creative Concepts Inc.  
 Non Smokers League, Honolulu, Hawaii. 849,184, pub. 2-27-68, Cl. 200.  
 Norman Industries, Inc., Chicago, Ill. 849,041, pub. 2-27-68, Cl. 26.  
 NuGrape Co. of America, to National NuGrape Co., Atlanta, Ga. 240,934, ren. 5-14-68, Cl. 45.  
 Ohio Art Co., The, Bryan, Ohio. 848,972, pub. 2-27-68, Cl. 22.  
 Olin Mathieson Chemical Corp., New York, N.Y. 848,870, pub. 2-27-68, Cl. 14.  
 Onelda Ltd., Onelda, N.Y. 849,007, pub. 2-27-68, Cl. 23.  
 Onelda Ltd., Onelda, N.Y. 849,043, pub. 2-27-68, Cl. 28.  
 Organic Compost Corp., Germantown, Wis. 848,854, pub. 2-27-68, Cl. 10.  
 Ortho Pharmaceutical Corp., Raritan, N.J. 440,382, ren. 5-14-68, Cl. 18.  
 Outercorn Electronics Co., Charlotte, N.C. 729,120, cancl. Cl. 21.  
 Ozark Air Lines, Inc., St. Louis, Mo. 849,161, pub. 8-8-67, Cl. 102.  
 Pacific Fruit & Produce Co.: See—  
 Pacific Gamble Robinson Co.  
 Pacific Gamble Robinson Co., d.b.a. Pacific Fruit & Produce Co., Seattle, Wash. 434,259, ren. 5-14-68, Cl. 46.  
 Padron, Jose O., d.b.a. Cigar Maker, Miami, Fla. 848,886, pub. 2-27-68, Cl. 17.  
 Paper Mate Mfg. Co., Santa Monica, Calif. 849,072, pub. 2-27-68, Cl. 37.  
 Paramount Chemical Laboratories, Inc., Chicago, Ill. 729,028, cancl. Cl. 6.  
 Parfumerie Caron: See—  
 Daltroff, E., & Cie.  
 Parfums Branel, Inc., d.b.a. Branel, New York, N.Y. 849,136, pub. 6-20-67, Cl. 51.  
 Pastene & Co., Inc.: See—  
 Pastene, P., & Co. Inc.  
 Pastene, P., & Co. Inc., d.b.a. Purity Products Co., Boston, Mass., to Pastene & Co., Inc., New York, N.Y. 240,267, ren. 5-14-68, Cl. 46.  
 Patch, E. L., Co., The, Stoneham, Mass., to Smith, Miller & Patch, Inc., New York, N.Y. 500,188, ren. 5-14-68, Cl. 18.  
 Peacock, C. D., Inc., Chicago, Ill. 437,868, ren. 5-14-68, Cl. 27.  
 Pearson Candy Co., Inc., Culver City, Calif. 849,104-5, pub. 2-27-68, Cl. 46.  
 Pen Dee, Inc., Portsmouth, Va. 729,185, cancl. Cl. 32.  
 Pennzell Co., Oil City, Pa. 849,168, pub. 2-27-68, Cl. 103.  
 Pergament Distributors, Inc., Westbury, N.Y. 848,878-9, pub. 2-27-68, Cl. 16.  
 Peterson, Walter E., and Elvin C. Welch, Palos Verdes, from Barton Instrument Corp., Monterey Park, Calif. 848,909, pub. 2-27-68, Multiple Class (Classes 21 and 26).  
 Photographic Equipment: See—  
 Brooke, Jack.  
 "Piano Pete": See—  
 Rice George A., "Pete."  
 Pillsbury Co., The, Minneapolis, Minn. 849,095, pub. 2-27-68, Cl. 46.  
 Pioneer Printing Ink Corp., Monroe, Mich. 729,066, cancl. Cl. 11.  
 Pittsburgh Plate Glass Co., Pittsburgh, Pa. 848,833, pub. 2-27-68, Cl. 1.  
 Pivot Point International: See—  
 Leo & Sir Robert's, Inc.  
 Plastic Spectacle Lens Co., Inc., Raleigh, N.C. 849,034, pub. 2-27-68, Multiple Class (Classes 26 and 52).  
 Pneumodynamics Corp., Cleveland, Ohio. 729,080, cancl. Cl. 14.  
 Popcorn Products, Inc., Chicago, Ill. 849,087, pub. 2-27-68, Cl. 46.  
 Porafior, Inc., Woodside, N.Y. 848,884, pub. 2-27-68, Cl. 16.  
 Poynter Products, Inc., Cincinnati, Ohio. 848,941, pub. 2-27-68, Cl. 22.  
 Poytress, Wm. P., & Co., Inc., Richmond, Va. 440,213, ren. 5-14-68, Cl. 18.  
 Precision Valve Corp., Yonkers, N.Y. 849,057, pub. 2-27-68, Cl. 33.  
 Printing Developments, Inc., New York, N.Y. 729,032, cancl. Cl. 6.  
 Printing Developments, Inc., New York, N.Y. 729,062, cancl. Cl. 11.

Procter & Gamble Co., The, Cincinnati, Ohio. 66,990, ren. 5-14-68, Cl. 52.  
 Procter & Gamble Co., The, Cincinnati, Ohio. 849,121-2, pub. 2-27-68, Cl. 46.  
 Production & Marketing Co., Ltd., Newtown, Conn. 848,947, pub. 2-27-68, Cl. 22.  
 Providence Lithograph Co., Providence, R.I. 713,206, cancl. Cl. 38.  
 Printing Developments, Inc., New York, N.Y. 729,085, cancl. Cl. 16.  
 Pure Gold, Inc.: See—  
 Mutual Orange Distributors.  
 Purity Products Co.: See—  
 Pastene, P., & Co. Inc.  
 Quality Bakers of America Cooperative, Inc., New York, N.Y. 849,089, 2-27-68, Cl. 46.  
 Quieserías Franco Espanolas, Madrid, Spain. 849,099, pub. 2-27-68, Cl. 46.  
 Radiation Counter Laboratories, Inc., Skokie, Ill. 729,157, cancl. Cl. 26.  
 Radiation Inc., Melbourne, Fla. 848,918, pub. 2-27-68, Cl. 21.  
 Ramco Industrial Products Corp., Cleveland, Ohio. 848,858, pub. 2-27-68, Cl. 12.  
 Rayonier Inc., New York, N.Y. 848,829, pub. 2-27-68, Cl. 1.  
 Red Cross Mfg. Corp., The, Bluffton, Ind. 848,999, pub. 2-27-68, Cl. 23.  
 Reddy Co., Inc., The, Montpelier, Vt. 849,010, pub. 2-27-68, Cl. 23.  
 Reedco Inc., Auburn, N.Y. 849,029, pub. 2-27-68, Cl. 26.  
 Reit-Price Mfg. Co., Union City, Ind. 849,045, pub. 2-27-68, Cl. 29.  
 Remco Industries, Inc., Harrison, N.J. 848,973, pub. 2-27-68, Cl. 22.  
 Remington Research, Inc., New York, N.Y. 729,240, cancl. Cl. 46.  
 Repco Products Corp., Philadelphia, Pa. 848,936, pub. 2-27-68, Cl. 21.  
 Revlon, Inc., New York, N.Y. 719,806, cancl. Cl. 51.  
 Rexall Drug & Chemical Co., d.b.a. Madison Co., Los Angeles, Calif. 849,084, pub. 2-27-68, Cl. 44.  
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 848,890, pub. 2-27-68, Cl. 17.  
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 848,894, pub. 2-27-68, Cl. 17.  
 Rheem Mfg. Co., New York, N.Y. 849,066, pub. 2-27-68, Cl. 34.  
 Rice, George A., "Pete," d.b.a. "Piano Pete," Osceola, Ind. 849,160, pub. 2-27-68, Multiple Class (Classes 101 and 103).  
 Rich, Louis, Foods, Inc., West Liberty, Iowa. 849,132, pub. 2-27-68, Cl. 46.  
 Richards Metals Corp., Hillside, N.J. 849,074, pub. 2-27-68, Cl. 37.  
 Riekes Crisa Corp., Laredo, Tex. 849,056, pub. 2-27-68, Cl. 33.  
 Riko Enterprises, Inc., Philadelphia, Pa. 849,181, pub. 2-27-68, Cl. 107.  
 Rion Co., Ltd., Kokubunji-Shi, Tokyo, Japan. 848,917, pub. 2-27-68, Multiple Class (Classes 21 and 44).  
 Robbins, Anatole, Inc., Los Angeles, Calif., to Alexandra De Markoff Sales Corp., New York, N.Y. 500,120, ren. 5-14-68, Cl. 51.  
 Robertshaw Controls Co., Richmond, Va. 849,042, pub. 2-27-68, Cl. 27.  
 Robinson, Samuel S., d.b.a. The Wise-Lock Co., Cleveland, Ohio. 712,489, cancl. Cl. 25.  
 Rockwell Mfg. Co., Pittsburgh, Pa. 848,968, pub. 2-27-68, Cl. 23.  
 Rockwood Chocolate Co., Inc., Brooklyn, N.Y. 729,238, cancl. Cl. 46.  
 Rockwood Chocolate Co., Inc., Brooklyn, N.Y. 729,241, cancl. Cl. 46.  
 Rod's Food Products, Inc., Los Angeles, Calif. 849,131, pub. 2-27-68, Cl. 46.  
 Rogers, Charles P., & Co., Inc., Yonkers, N.Y. 436,852, ren. 5-14-68, Cl. 32.  
 Ronson Corp., Woodbridge, N.J. 849,047, pub. 2-27-68, Cl. 29.  
 Rosen Flier Co., The, Hazel Park, Mich. 849,051, pub. 2-27-68, Cl. 31.  
 Ross Products, Inc., New York, N.Y. 849,058, pub. 2-27-68, Cl. 33.  
 Rotron Mfg. Co., Inc., Woodstock, N.Y. 848,911, pub. 2-27-68, Cl. 21.  
 Royal Typewriter Co., Inc.: See—  
 Litton Business Systems, Inc.  
 Royal Worcester Ltd., Worcester, England. 849,048, pub. 2-27-68, Cl. 80.  
 Sacred Design Associates, Inc.: See—  
 Concordia Publishing House.  
 Safeway Stores, Inc., Oakland, Calif. 848,885, pub. 2-27-68, Cl. 16.  
 Safeway Stores, Inc., Oakland, Calif. 849,108, pub. 2-27-68, Cl. 46.  
 Safeway Stores, Inc., Oakland, Calif. 849,123, pub. 2-27-68, Cl. 46.  
 Sakioka Farms, Santa Ana, Calif. 729,250, cancl. Cl. 46.  
 Sandvikens Jernverks Aktiebolag, Sandvikens, Sweden. 848,871, pub. 2-27-68, Cl. 14.  
 Savory, H. L., & Co. Ltd.: See—  
 Dinhill, Alfred, of London, Inc.  
 Savol, Inc., Indianapolis, Ind. 848,995, pub. 2-27-68, Cl. 23.  
 Schnadig Corp., Chicago, Ill. 729,283, cancl. Cl. 32.  
 School House Products, Inc., New York, N.Y. 849,008, pub. 2-27-68, Cl. 28.  
 School House Products, Inc., New York, N.Y. 849,073, pub. 2-27-68, Cl. 37.  
 Schubert & Salzer, Ingolstadt (Danube), Germany. 848,984, pub. 2-27-68, Cl. 28.  
 Scott, Foresman and Co., Glenview, Ill. 848,940, pub. 2-27-68, Cl. 22.  
 Scott Paper Co., Philadelphia, Pa. 729,204-5, cancl. Cl. 37.  
 Service D'Information (CD) Code Diplomatique & Consulaire Corp., Washington, D.C. 849,186, pub. 2-27-68, Cl. B.  
 Setwell Co., The, Traverse City, Mich. 849,046, pub. 2-27-68, Cl. 29.  
 Shakespeare Co., Kalamazoo, Mich. 848,956-7, pub. 2-27-68, Cl. 22.  
 Shaughnessy, James R., Clayton, Mo. 849,157, pub. 2-27-68, Cl. 101.  
 Sidney Printing & Publishing Co., The, Sidney, Ohio. 849,191, cancl. Cl. 38.  
 Sigma Nu Fraternity, Indianapolis, Ind. 241,560-8, ren. 5-14-68, Cl. 37.  
 Simplicity Pattern Co. Inc., New York, N.Y. 721,636, cancl. Cl. 38.  
 Smith, Jas. H., Industries, Inc., New Orleans, La. 729,000, cancl. Cl. 10.  
 Smith, Miller & Patch, Inc.: See—  
 Miller, E. S., Laboratories, Inc.  
 Patch, E. L., Co., The.  
 Snap-Tite, Inc., Union City, Pa. 848,860, pub. 2-27-68, Cl. 13.  
 Societa Internazionale Fonovisione, S.p.A., Milan, Italy. 848,907, pub. 2-27-68, Cl. 21.  
 Society of American Florists: See—  
 Society of American Florists & Ornamental Horticulturists.  
 Society of American Florists & Ornamental Horticulturists, d.b.a. Society of American Florists, Washington, D.C. 713-707, cancl. Cl. 1.  
 Sony Corp. of America, New York, N.Y. 848,913, pub. 2-27-68, Cl. 21.  
 Sparkle Cleaners, Inc., Brookline, Mass. 849,109, pub. 2-27-68, Cl. 103.  
 Spartans Industries, Inc., New York, N.Y. 849,082, pub. 2-27-68, Cl. 39.  
 Special Oils Mfg. Co., West New York, N.Y. 848,877, pub. 10-31-67, Cl. 15.  
 Spiegel, Inc., Chicago, Ill. 729,065, cancl. Cl. 9.  
 Standard Alcohol Co., New York, N.Y., to Humble Oil & Refining Co., Houston, Tex. 438,591, ren. 5-14-68, Cl. 15.  
 Standard Toth Chemicals, Inc.: See—  
 Standard Toth Industries, Inc.  
 Standard Toth Industries, Inc., d.b.a. Standard-Toth Chemicals, Inc., Staten Island, N.Y. 729,086, cancl. Cl. 16.  
 Standish-Weber, Inc., New York, N.Y. 729,170, cancl. Cl. 28.  
 Stanford Seed Co.: See—  
 Conklin, Horace E.  
 Stange Co., Chicago, Ill. 849,119, pub. 2-27-68, Cl. 46.  
 States Tobacco Co., Raleigh, N.C. 848,892, pub. 2-27-68, Cl. 17.  
 Stavanger Preserving Co., to Stavanger Preserving Co. Aktieselskab, Stavanger, Norway. 70,539, ren. 5-14-68, Cl. 46.  
 Stavanger Preserving Co. Aktieselskab: See—  
 Stavanger Preserving Co.  
 Stinson, John N., d.b.a. Loran O'Del Co., Oak Park, Ill. 729,203-4, cancl. Cl. 51.  
 Strato-Valet Service, Inc., Nashville, Tenn. 849,170, pub. 2-27-68, Cl. 103.  
 Stromberg-Carlson Corp., Rochester, N.Y. 848,925, pub. 2-27-68, Cl. 21.  
 Styro-Floral Products, Inc., Memphis, Tenn. 849,187, Cl. 5.  
 Sun Corp., Barberton, Ohio. 848,901, pub. 2-27-68, Multiple Class (Classes 19 and 22).  
 Sunbeam Corp., Chicago, Ill. 848,990, pub. 2-27-68, Cl. 23.  
 Sun-Glo Packers, Inc., Biloxi, Miss. 729,230, cancl. Cl. 46.  
 Sunland Packing House Co., Porterville, Calif. 245,263, ren. 5-14-68, Cl. 46.  
 Superscope, Inc., Sun Valley, Calif. 849,068, pub. 2-27-68, Cl. 30.  
 Susquehanna Corp., The, from Atlantic Research Corp., Alexandria, Va. 849,025, pub. 2-27-68, Cl. 26.  
 Suttle, Herman W., Jackson, Miss. 849,195, Cl. 50.  
 Swedlin, J., Inc., d.b.a. Gurd Mfg. Co., Brooklyn, N.Y. 848,976, pub. 2-27-68, Cl. 22.  
 Sweetheart Plastics, Inc., Wilmington, Mass. 848,982, pub. 2-27-68, Cl. 23.  
 Switchcraft, Inc., Chicago, Ill. 848,915, pub. 2-27-68, Cl. 21.  
 TNT Food Products, Inc., Lawrence, Kans. 849,096, pub. 2-20-68, Cl. 46.  
 Talon, Inc., Meadville, Pa. 848,869, pub. 2-27-68, Cl. 14.  
 Taylor & Gaskin, Inc., Detroit, Mich. 848,978, pub. 2-27-68, Cl. 23.  
 Temptron, Inc., Reseda, Calif. 729,159, cancl. Cl. 26.  
 Tennessee Walking Horse National Celebration Assn., Shelbyville, Tenn. 849,173, pub. 2-27-68, Cl. 107.  
 Texaco Experiment Inc.: See—  
 Texaco Inc.  
 Texaco Inc., New York, N.Y., from Texaco Experiment Inc., Richmond, Va. 849,150, pub. 2-27-68, Cl. 100.  
 Texas Harvest Hat Co., Laredo, Tex. 729,215, cancl. Cl. 89.  
 Thayer Laboratories, Inc., New York, N.Y. 719,548, cancl. Cl. 18.  
 Thomas Import Co.: See—  
 Thomas, Jim.  
 Thomas Industries, Inc., Louisville, Ky. 848,928, pub. 2-27-68, Cl. 21.  
 Thomas, Jim, d.b.a. Thomas Import Co., Van Nuys, from Franks Brothers Winery, Ripon, Calif. 729,256, cancl. Cl. 47.  
 Three Worlds, Inc., Chicago, Ill. 848,974, pub. 2-27-68, Cl. 22.



- Tip-Off Co.: See—  
 Tipton, Claude.  
 Tipton, Claude J., d.b.a. Tip-Off Co., Troy, Ohio. 729,104, *canc.* Cl. 18.  
 Topps Chewing Gum, Inc., Brooklyn, N.Y. 849,117-18, *pub.* 2-27-68, Cl. 46.  
 Totem Equipment Co., Inc., Seattle, Wash. 849,186, *pub.* 2-27-68, Cl. 103.  
 Travenol Laboratories, Inc., Morton Grove, Ill. 729,089, *canc.* Cl. 18.  
 Tri-Q, Inc., El Monte, Calif. 729,138, *canc.* Cl. 23.  
 Tri-Valley Growers, San Francisco, Calif. 849,127, *pub.* 2-27-68, Cl. 46.  
 Tyler Fertilizer Co., Tyler, Tex. 848,852, *pub.* 2-27-68, Cl. 10.  
 Tyrone Hydraulics, Inc., Corinth, Miss. 849,009, *pub.* 2-27-68, Cl. 23.  
 Underwriters National Assurance Co., Indianapolis, Ind. 849,163, *pub.* 2-27-68, Cl. 102.  
 Unedda Doll Co., Inc., Brooklyn, N.Y. 729,127, *canc.* Cl. 22.  
 Union Carbide Corp., New York, N.Y. 848,845, *pub.* 2-27-68, Cl. 5.  
 Union Wadding Co., Pawtucket, R.I. 848,975, *pub.* 2-27-68, Cl. 22.  
 United Shoe Machinery Corp.: See—  
 Booth Brothers Co.  
 U.S. Gasket & Shim, Inc., Cuyahoga Falls, Ohio. 849,190, Cl. 35.  
 United States Rust Control Corp., Miami, Fla. 848,880, *pub.* 2-27-68, Cl. 16.  
 Universal Cigar Corp.: See—  
 Moas & Lowenhaupt Cigar Co.  
 Universal Harvester Co., Inc., Stockton, Calif. 848,987, *pub.* 2-27-68, Cl. 23.  
 Urethane Products Canada Ltd., Cookville, Ontario, Canada. 849,000, *pub.* 2-27-68, Cl. 23.  
 VDO Tachometer Werke Adolf Schindling G.m.b.H., Frankfurt, Main, Germany. 849,027, *pub.* 2-27-68, Cl. 28.  
 Vacuum Oil Co., to Mobil Oil Corp., New York, N.Y. 238,485, *ren.* 5-14-68, Cl. 15.  
 Valley Paper Co., Holyoke, Mass. 501,460, *ren.* 5-14-68, Cl. 37.  
 Valley Paper Co., Holyoke, Mass. 501,462, *ren.* 5-14-68, Cl. 37.  
 Valley Paper Co., Holyoke, Mass. 501,464, *ren.* 5-14-68, Cl. 37.  
 Valley Paper Co., Holyoke, Mass. 501,466-7, *ren.* 5-14-68, Cl. 37.  
 Vermont Kaolin Corp., Shelburne, Vt. 729,020, *canc.* Cl. 1.  
 Vesta, Inc., New York, N.Y. 729,237, *canc.* Cl. 46.  
 Vietaulic Co. of America, Union, N.J. 848,863, *pub.* 2-27-68, Cl. 13.  
 Vikoa, Inc., Hoboken, N.J. 849,153, *pub.* 2-27-68, Multiple Class (Classes 100, 101, 103, and 104).  
 Voice of Orange Empire, Inc., Ltd., The, Santa Ana, Calif. 849,182, *pub.* 2-27-68, Cl. 107.  
 Wagner Iron Works, Milwaukee, Wis. 729,147, *canc.* Cl. 23.  
 Walker, Alex F., & Associates, Inc., Royal Oak, Mich. 848,900, *pub.* 2-27-68, Cl. 19.  
 Walker, Edward C., d.b.a. Kosak, to Kosak Auto Drywash, Inc., Batavia, N.Y. 243,605, *ren.* 5-14-68, Cl. 52.  
 Walker Mfg. Co., Racine, Wis. 849,053, *pub.* 2-27-68, Cl. 31.  
 Warner & Swasey Co., The, Cleveland, Ohio. 848,986, *pub.* 2-27-68, Cl. 23.  
 Washmobile Corp. of New Jersey, Union, N.J. 848,991, *pub.* 2-27-68, Cl. 23.  
 Weber Dental Mfg. Co., The, Canton, Ohio. 849,083, *pub.* 5-10-66, Cl. 44.  
 West Chemical Products, Inc., Long Island City, N.Y. 849,141, *pub.* 2-27-68, Cl. 52.  
 Westab Inc.: See—  
 Western Tablet & Stationery Corp.  
 Western Bottle Mfg. Co., Chicago, Ill., to Chemway Corp., Wayne, N.J. 148,342, *ren.* 5-14-68, Cl. 29.  
 Western Motels, Inc., Phoenix, Ariz. 849,155, *pub.* 2-27-68, Cl. 101.  
 Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 437,400, *ren.* 5-14-68, Cl. 37.  
 Westfälische Union Aktiengesellschaft für Eisen- und Draht-Industrie, Hamm, Westphalia, Germany. 848,859, *pub.* 2-27-68, Cl. 13.  
 Wheller Lumber Bridge and Supply Co., Des Moines, Iowa. 848,857, *pub.* 2-27-68, Cl. 12.  
 Wickes Corp., The, Saginaw, Mich. 848,843, *pub.* 2-27-68, Cl. 5.  
 Williams Brothers Co., Tulsa, Okla. 849,146, *pub.* 2-27-68, Multiple Class (Classes 100 and 103).  
 Wilton Corp., Schiller Park, Ill. 849,005, *pub.* 2-27-68, Cl. 23.  
 Winegard Co., Burlington, Iowa. 848,921-2, *pub.* 2-27-68, Cl. 21.  
 Winpower Mfg. Co., Newton, Iowa. 848,905, *pub.* 2-27-68, Multiple Class (Classes 19, 21, and 23).  
 Wise-Lock Co., The: See—  
 Robinson, Samuel S.  
 Wolf Brand Products, Corsicana, Tex. 849,120, *pub.* 2-27-68, Cl. 46.  
 Wolverine Brass Works, Grand Rapids, Mich. 242,767, *ren.* 5-14-68, Cl. 13.  
 Wood-Mosaic Corp.: See—  
 Wood-Mosaic Co.  
 Woodall Publishing Co., Highland Park, Ill. 849,195, Cl. 38.  
 Wood-Mosaic Co., to Wood-Mosaic Corp., Louisville, Ky. 501,519-20, *ren.* 5-14-68, Cl. 12.  
 Woodstream Corp., Lititz, Pa. 848,962, *pub.* 2-27-68, Cl. 22.  
 World Toy House, Inc., St. Paul, Minn. 848,948, *pub.* 2-27-68, Cl. 22.  
 Worldtronic, Inc., Clare, Mich. 848,912, *pub.* 2-27-68, Cl. 21.  
 Worthall, Ltd., New York, N.Y. 848,849, *pub.* 2-27-68, Cl. 6.  
 Wyler Watch Factory, Ltd., Bienne, Switzerland. 712,837, *canc.* Cl. 27.  
 Zilligen, Albert J., Philadelphia, Pa. 848,967, *pub.* 2-27-68, Cl. 22.  
 Zot Mfg. Co.: See—  
 Lenhart, Ronald A.  
 Zylow Ware Corp., Long Island City, N.Y. 849,036, *pub.* 2-27-68, Cl. 26.

U.S. GOVERNMENT PRINTING OFFICE: O-1986

# U.S. DEPARTMENT OF COMMERCE

## OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

May 21, 1968 Volume 850 Number 3

### PATENTS NOTICES

#### Board of Appeals Decisions Rendered in the Month of March 1968

|                                 |     |
|---------------------------------|-----|
| Examiner affirmed .....         | 162 |
| Examiner affirmed in part ..... | 32  |
| Examiner reversed .....         | 58  |
| Total .....                     | 252 |

#### Adjudicated Patents

- (Ct. Cl.) De la Cierva Patent No. 1,947,901 (244-8), for AIRCRAFT OF THE ROTATIVE WING TYPE. Claim 3 *Held* not infringed. *Autogiro Co. of America v. United States*, 384 F.2d 391; 155 USPQ 697.
- (Ct. Cl.) Larsen Patent No. 1,948,457 (170-160.55), for AIRCRAFT SUSTAINING ROTOR. Claims 9, 12, 13, 14 and 18 *Held* valid and infringed. *Id.*
- (Ct. Cl.) Larsen Patent No. 1,990,291 (170-160.55), for AIR-ROTOR FOR AIRCRAFT. Claims 4 to 6 *Held* valid and infringed. *Id.*
- (Ct. Cl.) De la Cierva Patent No. 1,994,465 (62-112), for AIRCRAFT WITH ROTATIVELY MOUNTED SUSTAINING WINGS. Claims 1, 5, 6, 7, 10 and 13 *Held* valid and infringed. *Id.*
- (Ct. Cl.) Larsen Patent No. 2,151,215 (170-160.55), for AIRCRAFT SUSTAINING ROTORS. Claims 1, 2, 3, 4, 5, 6, 8 and 9 *Held* valid and infringed. *Id.*
- (Ct. Cl.) De la Cierva Patent No. 2,216,162 (170-135.73), for AIRCRAFT HAVING FULLY ROTATIVE WINGS. Claims 7, 8 and 22 *Held* not infringed. *Id.*
- (Ct. Cl.) Stanley Patent No. 2,305,068 (170-135.4), for SUSTAINING ROTORS FOR AIRCRAFT, *Held* not infringed. *Id.*

(Ct. Cl.) Campbell Patent No. 2,321,572 (244-17.19), for ROTATIVE WINGED AIRCRAFT. Claims 8, 9, 28 and 29 *Held* valid and infringed. *Id.*

(Ct. Cl.) Campbell Patent No. 2,330,937 (170-125.2), for AIRCRAFT OF THE TYPE EQUIPPED WITH SUSTAINING ROTORS. Claim 1 *Held* valid and infringed. *Id.*

(Ct. Cl.) Campbell Patent No. 2,344,966 (244-17.19), for AIRCRAFT EQUIPPED WITH SUSTAINING ROTORS. Claim 1 *Held* valid and infringed. *Id.*

(Ct. Cl.) Bennett Patent No. 2,344,967 (244-17.23), for HELICOPTERS AND GYROPLANES. Claims 1 to 4, 13 and 18 *Held* valid and infringed. *Id.*

(Ct. Cl.) De la Cierva Patent No. 2,380,580 (244-6), for ROTOR EQUIPPED AIRCRAFT. Claims 1, 3, 4, 8, 10 to 15 and 36 *Held* not infringed. *Id.*

(Ct. Cl.) Prewitt Patent No. 2,380,581 (244-17.13), for AIRCRAFT. Claims 2, 29, 36 to 38 and 42 *Held* not infringed. *Id.*

(Ct. Cl.) De la Cierva Patent No. 2,380,582 (117-135.73), for AIRCRAFT HAVING ROTATIVE WINGS. Claims 1 to 9, 12, 13 and 16 to 21 *Held* valid and infringed. *Id.*

(Ct. Cl.) De la Cierva Patent No. 2,380,583 (170-135.23), for AIRCRAFT HAVING ROTATIVE WINGS. Claims 56, 59, 60, 62, 64 and 65 *Held* valid and infringed. *Id.*

(Ct. Cl.) De la Cierva Patent No. 2,421,374 (244-17.13), for SUSTAINING ROTOR EQUIPPED AIRCRAFT. Claims 33, 44 and 53 *Held* valid and infringed; claims 53, 54, 56 and 60 *Held* not infringed. *Id.*

#### Erratum

In the OFFICIAL GAZETTE of Apr. 23, 1968, vol. 849, p. 890, first column, under the heading "Adjudicated Patents," line 11 thereof, for "valid and not infringed" read *valid and infringed*.

#### New Applications Received During March 1968

|                     |      |
|---------------------|------|
| Patents .....       | 7926 |
| Designs .....       | 431  |
| Plant Patents ..... | 9    |
| Reissues .....      | 20   |
| Total .....         | 8386 |

#### Issue—May 21, 1968

|                |  |
|----------------|--|
| Patents .....  | 1198—No. 3,383,705 to No. 3,384,902, incl. |
| Designs .....  | 76—No. 211,075 to No. 211,150, incl.       |
| Reissues ..... | 6—No. 26,390 to No. 26,395, incl.          |
| Total .....    | 1280                                       |



# PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

## CONDITION OF PATENT APPLICATIONS AS OF MARCH 25, 1968

| PATENT EXAMINING OPERATIONS AND GROUPS  | Actual Filing Date of Oldest Case Awaiting Action |          |
|---|---|----------|
|   | New   | Amended  |
| * Denotes date of oldest application for each Operation.  |   |          |
| <b>CHEMICAL EXAMINING OPERATION—L. MARCUS, Director.</b>  |   |          |
| GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager.<br>Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.  | *2-18-65  | *8-22-62 |
| GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager.<br>Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.   | 6-21-65   | 12-28-62 |
| HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Manager.<br>Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.  | 6-24-65   | 3-22-63  |
| COATING AND LAMINATING, BLEACHING, DYING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager.<br>Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.   | 3-3-65  | 8-7-64   |
| SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager.<br>Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes. | 3-19-65   | 1-29-64  |
| <b>ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.</b>  |   |          |
| INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager.<br>Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.  | 8-3-65  | 12-31-63 |
| SECURITY, GROUP 220—S. BOYD, Manager.<br>Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.  | 10-25-65  | 8-30-64  |
| INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager.<br>Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.   | 11-3-64   | 6-18-62  |
| ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager.<br>Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.  | *10-29-64   | *4-10-62 |
| PHYSICS, GROUP 280—R. L. EVANS, Manager.<br>Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.   | 10-1-65   | 3-22-65  |
| DESIGNS, GROUP 290—S. BOYD, Manager.<br>Industrial Arts; Household, Personal and Fine Arts.   | 5-24-67   | 6-3-66   |
| <b>MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.</b>   |   |          |
| HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager.<br>Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Sorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.              | 10-31-66  | 2-4-65   |
| MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager.<br>Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Wood-working; Tools; Cutlery; Jacks.                           | 5-2-66  | 1-2-64   |
| AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager.<br>Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Trolley; Printing; Type-writers; Stationery; Information Dissemination.  | *11-9-65  | 5-14-64  |
| HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager.<br>Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.   | 10-28-66  | 8-5-65   |
| FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager.<br>Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.   | 9-20-66   | 10-22-64 |
| TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager.<br>Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.  | 4-6-66  | *5-20-63 |
| Total number of pending applications (excluding Designs).....   | 173,841   |          |
| Total number of Design applications pending.....  | 3,587   |          |

Expiration of patents: The patents within the range of numbers indicated below expire during May 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1968*.

Patents..... Numbers 2,450,000 to 2,455,290, inclusive  
Plant Patents..... Number 1,912

# DECISIONS IN PATENT AND TRADEMARK CASES

## U.S. Court of Customs and Patent Appeals

IN RE WILLIAM M. McLAMORE

No. 7829. Decided June 22, 1967

[54 CCPA—; 379 F.2d 985; 154 USPQ 114]

- PATENTABILITY—COMPOUND—OBVIOUSNESS—ALL PROPERTIES TO BE CONSIDERED.**  
"We consider the Board's reasoning to be in error in that it refused to consider, as neither relevant nor controlling, the evidence of the results obtained and the arguments based thereon for the apparent reason that the claim is directed to the compound per se and not limited to any particular use. This we deem clearly in conflict with our decisions in *Ruschig*, in *Papesch*, and in the numerous precedents referred to therein. According to the principles we there expounded, in deciding the patentability of a compound all of its properties are to be taken into account. The outstanding properties of the compound claimed here, admitted by the Board, are facts relevant to patentability of the compound and are not to be ignored merely on the ground the same facts have been taken into consideration in deciding to allow other claims ('use claims'). Facts are not consumed in use. The Patent Office is not on sound ground in saying to appellant: We are refusing you this claim because we have allowed you other claims and in doing so listened to and accepted your arguments, wherefore we will not listen to them again."
- SAME—SAME—SAME—IN RE DRUEY DISTINGUISHED.**  
"The Solicitor has cited *In re Druey*, 50 CCPA 1538, 319 F.2d 237, 138 USPQ 39, as support for the Board's argument that the same reason [particular use] should not be used to support claims in two different applications [one claiming the compound and the other having allowed 'use claims']. We find no support in the case for that proposition. In *Druey* an attempt was made to dispel the prima facie obviousness of a compound used as an intermediate to make a sulfa drug by showing superior properties of the drug. We found them unrelated to the intermediate and held the affidavit failed to establish any unobvious or unexpected property in the claimed intermediate. The most that can be gleaned is a mere comment by the Board, quoted by us, that 'to whatever extent the asserted superiority may be the basis for patentability, appellants' contribution has been recognized by the granting of Patent No. 2,858,309. The compound before us, however, must shine in its own light, not in the reflected glory of another compound.'"
- SAME—SAME—SAME—ALL PROPERTIES AND DEGREE TO WHICH THEY ARE PRESENT TO BE CONSIDERED—IN RE PAPESCH CONSTRUED—35 U.S.C. 103.**  
"As we said in *Papesch*, at the beginning of the section entitled 'Opinion,' 'The problem of "obviousness" under section 103 \* \* \* is a problem of patent law,' not a question of chemistry. In asserting that the claimed compound 'would be obvious to the chemist' from the *Ruschig* et al. reference, the Board is not dealing with the patent law problem before us, the solution to which, under 35 U.S.C. 103, depends on whether the invention as a whole—the compound and all its properties, including the degree to which they are present—is obvious."
- SAME—SAME—SAME—SAME.**  
"With respect to legal unobviousness, the Solicitor undertakes, briefly, to argue the merits of the evidentiary showing of the facts on which legal unobviousness is based and also attempts to distinguish *Papesch* by arguing that here the same desirable property is disclosed for the prior art compound. On the basis of our understanding of the Board opinion, we do not think either of these points is open for consideration because the Board accepted appellant's arguments and applied them to the allowance of Case II claims. The Board simply refused to consider the accepted factual showing with respect to the claim of Case I because, in its opinion, the invention should not be claimed as a compound. However, we note that we have previously considered the situation where an applicant shows unexpectedly and substantially improved results with respect to the same field of use known to the prior art and we have



accepted evidence thereof as overcoming a prima facie showing of obviousness. See *In re Wiechert*, 54 CCPA 957, 370 F.2d 927, 152 USPQ 247, and cases therein cited."

5. SAME—SAME—REQUIREMENT FOR RESTRICTION—35 U.S.C. 121.

"The only point we desire to mention in connection with appellant's point (3) [that the allowance of 'use claims' in another application does not render claim to the compound obvious over prior art because of reliance on the same property] is that the reason the claims the Board found allowable are 'in another application' instead of in an application with the claim at bar, wherefore 'another patent' would issue upon allowance of claim 1, is that the Patent Office required restriction. Appellant argues that the Board's ruling is 'tantamount to using the patent issued on McLamore's divisional application Serial No. 141,557 as a reference' which is prohibited by 35 U.S.C. 121. The Solicitor strenuously opposes this argument on various grounds but we find it unnecessary to discuss it since the sole reference is the Ruschig et al. patent. Clearly, section 121 has no applicability but we think the requirement for restriction may have a bearing if it is ever argued the claims cannot be issued in separate patents. However, we do not sense that the Board gave any weight to that possibility."

6. SAME—PARTICULAR SUBJECT MATTER—"ORAL ANTIDIABETIC AGENT."

The refusal of a claim to N-(p-chlorobenzenesulfonyl)-N'-propylurea, an "Oral Antidiabetic Agent," as unpatentable over the prior art, is reversed.

REVERSED.

*Connolly and Hutz* (Werner H. Hutz, Nicholas E. Oglesby, Jr., of counsel) for appellant.

*Joseph Schimmel* for the Commissioner of Patents.

Before WORLEY, Chief Judge, RICH, SMITH, and ALMOND, Associate Judges, and Judge WILLIAM H. KIRKPATRICK<sup>1</sup>

RICH, J., delivered the opinion of the court.

This appeal is from the decision of, and new rejection by, the Patent Office Board of Appeals, as finally formulated on reconsideration August 26, 1965, refusing the single claim, claim 1, of McLamore application, Serial No. 660,064, filed May 20, 1957, for "Oral Antidiabetic Agent."

Introduction

This case is related to *In re Ruschig*, 54 CCPA —, — F.2d —, — USPQ — (No. 8071) decided concurrently herewith, in that the claim here on appeal is for the same chemical compound as the single claim, claim 13, there on appeal. As explained in our opinion therein, the claim originated in this McLamore application, was suggested to Ruschig et al. for interference, Interference No. 89,010 was instituted, and subsequently dissolved by the Examiner on his own motion on the ground the claim was not patentable over prior art. We refer to our concurrent opinion in the *Ruschig* case and also to our earlier opinion of April 22, 1965, in the same case, 52 CCPA 1238, 343 F.2d 965, 145 USPQ 274 (No. 7254), for further information and background and for other purposes as will appear.

Briefly, the invention here involved is a specific chemical compound defined in the single claim on appeal as N-(p-chlorobenzenesulfonyl)-N'-propylurea. This compound is also known by the generic name chlorpropamide and is sold by the assignee of this application, Chas. Pfizer & Co., Inc., under the trademark "Diabinese" as an oral antidiabetic medication when compounded with a suitable carrier to make a tablet for oral administration.

This appeal and the second appeal in the *Ruschig* case (No. 8071) were both considered by the same panel of the Board of Appeals and,

<sup>1</sup> Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

as will be seen, have become somewhat interrelated. In the above-mentioned interference, McLamore moved to dissolve on the ground the count (claim 1 here, claim 13 of Ruschig et al.) was not supported by the Ruschig et al. disclosure and that motion was denied by the Examiner who held it *was* supported. The patentability over prior art of a number of Ruschig et al. claims, including claim 13, came to this court from a Board decision affirming rejection on prior art and we reversed in the above-cited decision (No. 7254). On return of the case to the Examiner, he reopened it and rejected claim 13 alone on the new ground that it was not supported by the Ruschig et al. disclosure and that question was appealed to us. In our concurrent opinion in No. 8071 we are affirming that rejection. We now have before us the ex parte question of the patentability of the same claim to McLamore over prior art which now includes a patent issued to Ruschig et al. on an application which was a division of the application we had before us in the *Ruschig* case.<sup>2</sup> There is no connection between the assignees of the McLamore and Ruschig et al. applications. They are competitors. In this country the real parties in interest appear to be Pfizer and The Upjohn Company.

The Rejection

The Examiner rejected claim 1 as unpatentable over the references listed below because their disclosures render the compound obvious to one of ordinary skill in the art.

Martin et al., 2,371,178, Mar. 13, 1945.

Swedish patent, 120,428, Dec. 16, 1947.

French patent, 919,464, Mar. 10, 1947.

As shown by our opinion in *In re Ruschig*, No. 7254, supra, the same references were relied on in that case to support the rejection of claims which included claim 13 for the same specific compound as claim 1 here. We there reversed that rejection on April 22, 1965.

March 4, 1965, before our *Ruschig* decision, the Board affirmed the Examiner's rejection. It did so in an opinion common to two appeals, this case, which is called Case I, and an appeal by McLamore in a division of Case I claiming the *process* of lowering blood sugar in diabetic humans and *tablets* for such use, which is called Case II.

Appellant filed a request for reconsideration and a few days after our *Ruschig* decision a supplemental request calling the Board's attention to it. Thereupon the Board granted the request, coupling it with a statement that it wished to reconsider both cases at the same time. Thereafter appellant filed considerable further material bearing on the usefulness of chlorpropamide.

August 26, 1965, the Board rendered a new decision in both McLamore Cases I and II, opening with the statement:

The following references are cited:

Ruschig et al., Application No. 601,107, filed July 31, 1956.

Ruschig et al., Patent No. 3,198,706, Aug. 3, 1965 (filed Apr. 9, 1962, division of 601,107).

The Board explained: "The patent is used as the reference, with the application being made of record for its dates."

The Ruschig et al. patent and its origin are described in our opinion in No. 8071. Like McLamore's Case II, it claims the *process* for lower-

<sup>2</sup> For the Board decision of Mar. 4, 1965, resulting in the allowance of the divisional application, Serial No. 185,865, see *Ex parte Ruschig*, 147 USPQ 46.



ing blood sugar and *tablets* for oral administration. The Board's rejection based on this newly cited reference appears in its context as follows (all emphasis ours):

The question remains as to whether the claims [of Cases I and II] are obvious under 35 U.S.C. 103 over Ruschig et al. The Ruschig et al. patent (as well as the application, the disclosures being substantially the same) discloses a large class of benzene sulfonyl urea compounds useful in the oral treatment of diabetes. Appellant discloses a single compound falling within the class and used for the same purpose. Furthermore, the difference between this compound and several disclosed by Ruschig et al. is such that the compound would be obvious to the chemist.

Appellant urges the *outstanding results* obtained in using his compound in the oral treatment of diabetes. It is pointed out that the court in *In re Ruschig et al.*, supra, emphasized the properties of appellant's compound; it even referred to the results of the work of appellant's assignee. *In view of the singular advantages*, the recommendation made in Case II [in the prior opinion of the Board, that the Examiner re-examine the case in the light of any Ruschig et al. patent that issued] is withdrawn and a new rejection will not be made.

However, the situation in Case I is considered different. The claim is for the compound itself, not restricted to any particular use, and appellant does not even pretend that the compound would be unobvious to the chemist. *Here the argument based on the discovery of the results obtained is not considered relevant or controlling.* Appellants has been allowed claims to the particular discovery expressly claimed and composition claims limited to the use have been indicated as allowable, in another application. This use in the oral treatment of diabetes is the reason for allowing the claims in Case II and the same reason should not be used as a basis for allowing another patent. This situation was not before the court in *In re Ruschig et al.* A new rejection of the claim in Case I as being obvious over Ruschig et al. is made.

This is the primary, if not the only, rejection before us for decision and we point out that it was made for the first time by the Board in its last decision and that appeal here followed directly within seventeen days. As to the earlier rejection on art, the Board continued (emphasis still ours):

As to the previous rejection of the claim in Case I, we feel that here also the particular use of the compound should not be considered, for the reasons given above. However, in view of the Ruschig et al. reference, this rejection becomes secondary and cumulative only, and need not be further considered unless Ruschig et al. is overcome as to its filing date or effective filing date.

In view of the fact that a new rejection has been made in Case I (Appeal No. 202-32), this decision is to be considered a new decision insofar as Case I is concerned.

#### Appellant's Points

Appellant's brief states and discusses the following points:

1. Ruschig et al. does not render the invention of the appealed claim obvious.
2. The other relied on prior art does not render the invention of the appealed claim obvious and this court has so held.
3. The situation is not different because McLamore has been allowed use claims in another application.

#### Opinion

We reverse the rejection.

Point (2) has been effectively eliminated from the case by the Solicitor. His brief states:

Since appellant made no effort to antedate the Ruschig patent, the other prior art "need not be considered," as stated by the Board. Hence, appellant's state-

ment (2) under the "Statement of Points To Be Discussed" (Br-8), and the argument relating to point (2) (Br-12, 13) will not be discussed in the Commissioner's brief. Manifestly they need not be considered by the court.

Although the Solicitor's conclusion does not seem to follow from his stated premise, considering our decision, all we would have to say on point (2) in any event would be that we have indeed "so held," in *In re Ruschig*, No. 7254. The Solicitor appears to accept that holding though the Board clearly did not and, manifestly, there is no reason for us to consider the question again since the Solicitor has elected not to argue it.

The sole question, therefore, is obviousness under 35 U.S.C. 103 of chlorpropamide, N - (p - chlorobenzenesulfonyl)-N'-propylurea, in view of the disclosure of Ruschig et al. Patent No. 3,198,706.

There is no issue of anticipation by the reference because, as the Board pointed out, it had already held in the *Ruschig* appeal, which we are concurrently affirming in No. 8071, that the reference does not disclose the compound. We have quoted the entire substance of the Board's opinion on the obviousness issue. The first important point to be observed in it is that the Board, which originated this rejection, accepted appellant's evidence of the superior properties and "outstanding results" obtained in using chlorpropamide, over anything disclosed by Ruschig et al. including the closest compound specifically disclosed, the corresponding N'-butylurea, with which the Board was thoroughly familiar. Notwithstanding this closeness of structure and the existence in the two compounds of the same property to some extent, the "singular advantages" found by the Board were deemed by it sufficient to render unobvious in law the process of reducing blood sugar and the tablet used for that purpose, claimed in Case II. It found the claims in that case patentable and their subject matter unobvious even though use for the same purpose is the sole use disclosed in the Ruschig et al. reference. The only conclusion that can be drawn from this holding is that in the opinion of the Board chlorpropamide possesses unobvious advantageous properties, notwithstanding the showing of closely related compounds with similar properties in the reference. The method and tablet claims of Case II were allowed on the basis of those properties which inhere in the compound, the recitation of the compound in those claims being what makes them patentable.

The next thing to note about the Board opinion is that it made a point of saying that in the *Ruschig* case (No. 7254, the first one) we did not have before us the "situation" it had before it, apparently meaning that the possession of the "singular advantages" had not been used as a reason for allowing claims in another case. We there faced virtually the same argument the Board is posing, however, and rejected it, namely, that under such a state of facts the invention should not be claimed as a compound but by some form of claim reciting the properties, such as the method of lowering blood sugar or a tablet for oral administration to diabetics. See the last four paragraphs of our opinion wherein we stated we had also faced the same question in *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43, and answered it by approving claims to the compounds.

The third thing we note about the Board's opinion is that although appellant strenuously argued the authority of *Papesch*, the Board ignored that decision to the point of not even mentioning it in any of its opinions.



[1] We consider the Board's reasoning to be in error in that it refused to consider, as neither relevant nor controlling, the evidence of the results obtained and the arguments based thereon for the apparent reason that the claim is directed to the compound per se and not limited to any particular use. This we deem clearly in conflict with our decisions in *Ruschig*, in *Papesch*, and in the numerous precedents referred to therein. According to the principles we there expounded, in deciding the patentability of a compound all of its properties are to be taken into account. The outstanding properties of the compound claimed here, admitted by the Board, are facts relevant to patentability of the compound and are not to be ignored merely on the ground the same facts have been taken into consideration in deciding to allow other claims. Facts are not consumed in use. The Patent Office is not on sound ground in saying to appellant: We are refusing you this claim *because* we have allowed you other claims and in doing so listened to and accepted your arguments, wherefore we will not listen to them again.

[2] The Solicitor has cited *In re Druey*, 50 CCPA 1538, 319 F.2d 237, 138 USPQ 39, as support for the Board's argument that the same reason should not be used to support claims in two different applications. We find no support in the case for that proposition. In *Druey* an attempt was made to dispel the prima facie obviousness of a compound used as an intermediate to make a sulfa drug by showing superior properties of the drug. We found them unrelated to the intermediate and held the affidavit failed to establish any unobvious or unexpected property in the claimed intermediate. The most that can be gleaned is a mere comment by the Board, quoted by us, that "to whatever extent the asserted superiority may be the basis for patentability, appellants' contribution has been recognized by the granting of Patent No. 2,858,309. The compound before us, however, must shine in its own light, not in the reflected glory of another compound."

The Solicitor has reargued in his brief the question of the obviousness of chlorpropamide to a chemist as a compound, that is, what we sometimes refer to as its "structural obviousness." This is not a matter in dispute. We think appellant would concede that all 1,237,464 compounds he claims to be within the *Ruschig et al.* disclosure or the 38,556 compounds he claims to be within the broadest patent claim, are structurally obvious.

[3] As we said in *Papesch*, at the beginning of the section entitled "Opinion," "The problem of 'obviousness' under section 103 \* \* \* is a problem of patent law," not a question of chemistry. In asserting that the claimed compound "would be obvious to the chemist" from the *Ruschig et al.* reference, the Board is not dealing with the patent law problem before us, the solution to which, under 35 U.S.C. 103, depends on whether the invention as a whole—the compound and all its properties, including the degree to which they are present—is obvious.

[4] With respect to legal unobviousness, the Solicitor undertakes, briefly, to argue the merits of the evidentiary showing of the facts on which legal unobviousness is based and also attempts to distinguish *Papesch* by arguing that here the same desirable property is disclosed for the prior art compound. On the basis of our understanding of the Board opinion, we do not think either of these points is open for con-

sideration because the Board accepted appellant's arguments and applied them to the allowance of Case II claims. The Board simply refused to consider the accepted factual showing with respect to the claim of Case I because, in its opinion, the invention should not be claimed as a compound. However, we note that we have previously considered the situation where an applicant shows unexpectedly and substantially improved results with respect to the same field of use known to the prior art and we have accepted evidence thereof as overcoming a prima facie showing of obviousness. See *In re Wiechert*, 54 CCPA 957, 370 F.2d 927, 152 USPQ 247, and cases therein cited.

[5] The only point we desire to mention in connection with appellant's point (3) is that the reason the claims the Board found allowable are "in another application" instead of in an application with the claim at bar, wherefore "another patent" would issue upon allowance of claim 1, is that the Patent Office required restriction. Appellant argues that the Board's ruling is "tantamount to using the patent issued on McLamore's divisional application Serial No. 141,557 as a reference" which is prohibited by 35 U.S.C. 121. The Solicitor strenuously opposes this argument on various grounds but we find it unnecessary to discuss it since the sole reference is the *Ruschig et al.* patent. Clearly, section 121 has no applicability but we think the requirement for restriction may have a bearing if it is ever argued the claims cannot be issued in separate patents. However, we do not sense that the Board gave any weight to that possibility.

[6] The decision of the Board is reversed.

REVERSED.

Worley, Chief Judge, concurs in the result.

### U.S. Court of Customs and Patent Appeals

SAMUEL P. McCUTCHEN, JR. AND JACK E. ESKILSON

v.

FRANCIS A. OLIVER

No. 7425. Decided October 27, 1966

[54 CCPA 756; 367 F.2d 609; 151 USPQ 387]

#### 1. INTERFERENCE—RIGHT TO MAKE—"GIST OF THE INVENTION."

"The test to be applied where it is alleged that a disclosure does not support a claim for interference purposes is \* \* \* 'does the disclosure teach the gist of the invention defined by the claim?'"

#### 2. SAME—PATENT AND APPLICATION—RIGHT TO MAKE—"GIST OF INVENTION"—35 U.S.C. 102(g) and 135.

"The 'gist of the invention' test referred to in the *Henderson* case is a sound principle of interference law and is the key to determining whether the counts here in issue are supported by the Oliver disclosure. \* \* \* 'The gist of the invention' states probably more clearly than other propositions of interference law, that the purpose of an interference is to determine 'priority of invention,' 35 U.S.C. 135, 35 U.S.C. 102(g). There is no right to an interference under the patent laws unless the counts are supported by the specification of the applicants who copies a claim from another's patent. This requires at a minimum that such specification disclose the mutually claimed invention. Unless it does, the inquiry as to priority should come to an end."

#### 3. SAME—SAME—CONSTRUCTION OF COUNT—RESORT TO SPECIFICATIONS—35 U.S.C. 112.

"The statutory requirement of section 112 is that the claims shall particularly point out and distinctly claim 'the subject matter which the applicant



regards as his invention.' Here the claims of the McCutchen patent which were copied by Oliver to become the counts of the present interference are so worded that reference to the specifications of the respective parties becomes necessary to ascertain the meaning of certain language therein. One cannot arrive at an understanding of the present counts as they relate to the subject matter of the interference without something more than the counts themselves."

4. SAME—SAME—RIGHT TO MAKE—35 U.S.C. 135.

"Admittedly verbal similarities exist between the counts and the respective disclosures of the parties [in a patent and an application]. However, to stop here is to violate the spirit of 35 U.S.C. 135 which authorizes interferences where two or more parties claim 'the same subject matter.'"

5. SAME—SAME—SAME—CONSTRUCTION OF COUNT—RESORT TO SPECIFICATIONS.

"\* \* \* the issue [right to make claims of patent for purpose of interference] cannot be decided here in the rarified atmosphere of claim semantics. Instead, it must be decided at the down to earth level of what the parties disclosed as 'the gist' of their respective inventions. Cf. *Hansgirk v. Kemmer*, 26 CCPA 937, 102 F.2d 212, 40 USPQ 665. While an 'unambiguous' count may be interpreted without resort to the specification, the counts here are not of this type. Considering the wording of the counts, particularly the term 'reference' surfaces, and the arguments of the parties, it is clear that different meanings are ascribed to that term by the parties when interpreting the count. When resort is had to the specifications, the latent ambiguity in the counts becomes apparent."

6. SAME—SAME—SAME—35 U.S.C. 135.

"For appellee to prevail here [in his contention that he has a right to make the claims copied from appellants' patent], it is necessary to find such similarities of the inventions as to support the conclusion that the parties are asserting inventorship of substantially the same invention. 35 U.S.C. 135."

7. SAME—SAME—SAME—GIST OF INVENTIONS DIFFERENT.

"Since we find the gist of the two inventions [in the patent and application] to be different, McCutchen's motion, filed September 29, 1961, to dissolve the interference should have been granted for the reason stated therein that 'The party Oliver has no right to make the claims forming the counts in issue, and his application contains no support for the claims.' In denying this motion, the requirement that the disclosure must teach the 'gist' of the invention seems to have been ignored. Instead, there appears to have been a slavish examination of each word of the count in minute detail without considering the over-all meaning of these words as used in the parties' respective specifications. This ignores the basic concept of the *Henderson* case, supra."

8. SAME—SAME—SAME.

"It is plain \* \* \* that the test of the *Henderson* case, supra, was ignored. To avoid an interference, it appears the Primary Examiner would require that McCutchen's [patent] claims recite that the broad reference surfaces contact the machine and that these surfaces align the head in the machine. We do not agree with this reasoning as the claim to the transducer head unit need not recite how the unit operates nor may the claim be interpreted to define only part of a unit as Oliver would have us do."

9. SAME—SAME—SAME—GIST OF INVENTIONS MUST BE THE SAME.

"The Board in affirming the Examiner also appears to have ignored the test referred to in the *Henderson* case, supra, that the 'gist' of the respective inventions must be the same. It accepted the reasoning of the Primary Examiner and added that the McCutchen [patent] claim did not expressly state that the reference surfaces were exposed, ignoring the long established rule of law that Oliver is entitled only to a reasonable interpretation of the copied claims."

10. SAME—SAME—SAME—CONSTRUCTION OF COUNT—SUCCESSFUL ARGUMENTS AVOIDING PRIOR ART CONSIDERED IN INTERPRETING CLAIMS.

"The Patent Office removed the rejection based on prior art references and the claims, in view of McCutchen's arguments, were allowed. Such arguments relied on by the applicant and accepted by the Patent Office to avoid prior art references should be considered in interpreting the claims. Considering the respective inventions and the McCutchen specification and file wrapper, we think the McCutchen co-planar 'reference surfaces' are exposed. Oliver does

not disclose such 'reference surfaces.' Since we find this to be a necessary feature of the invention as defined by the counts, the decision of the Board is reversed."

REVERSED.

*William E. Schuyler, Jr., Eber J. Hyde (Harry C. Page, of counsel)* for appellants.

*Louis A. Kline (John T. Matlago, Nathan Cass, William T. Estabrook, of counsel)* for appellee.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Associate Judges

SMITH, J., delivered the opinion of the court.

This is an appeal from a decision of the Board of Patent Interferences awarding priority of invention in Interference No. 91,815 to Oliver, the senior party.<sup>1</sup> The two counts in issue originated as claims in a patent<sup>2</sup> to McCutchen, Jr., and Eskilson, the junior party, hereafter McCutchen.

Both parties took testimony in attempting to establish priority. The Board, upon consideration of the evidence, held that Oliver had reduced to practice "as early as the end of May 1955" and McCutchen was "accorded July 28, 1955 for reduction to practice." The Board also held that "Oliver is entitled to make the claims corresponding to the counts." Appellant argues here that first, Oliver's disclosure does not support the counts and second, Oliver's evidence does not establish a reduction to practice at the end of May 1955. Our disposition of this appeal requires only a consideration of Oliver's disclosure. In this respect we agree with appellant's arguments and the decision of the Board therefore must be reversed.

[1] The test to be applied where it is alleged that a disclosure does not support a claim for interference purposes is that which was recently applied in *Henderson v. Grable*, 52 CCPA 920, 339 F.2d 465, 144 USPQ 91. There Judge Martin, speaking for a unanimous court, reaffirmed this court's position, stating as follows:

\* \* \* As Judge Rich stated for this court in *Hall v. Taylor*, 51 CCPA 1420, 1424, 332 F.2d 844, 141 USPQ 821, 824:

We find in the *Draeger [In re Draeger et al., 32 CCPA 1217, 150 F.2d 572, 66 USPQ 247]* opinion what we consider the key to determining whether a disclosure supports a claim for interference purposes \* \* \* viz, does the disclosure teach the gist of the invention defined by the claim?

See also *Swain et al. v. Crittendon*, 51 CCPA 1450, 332 F.2d 820, 141 USPQ 811.

[2] The "gist of the invention" test referred to in the *Henderson* case is a sound principle of interference law and is the key to determining whether the counts here in issue are supported by the Oliver disclosure. As this court stated in *Henderson*, supra, at 144 USPQ 96:

Appellee and the Board cite numerous cases in support of classic propositions of interference law, such as, clearly expressed limitations may not be disregarded, all recitations are material, equivalency of function may not be considered, and so on. We do not disagree, but a study of those cases shows that they are not apposite to the facts here. \* \* \*

"The gist of the invention," states probably more clearly than other propositions of interference law, that the purpose of an interference is to determine "priority of invention," 35 U.S.C. 135, 35 U.S.C. 102(g). There is no right to an interference under the patent laws

<sup>1</sup> Application Serial No. 530,014, filed August 23, 1955, assigned to National Cash Register Co.

<sup>2</sup> Patent No. 2,888,522, granted May 26, 1959, on an application filed September 6, 1955, assigned to Clevite Corporation.



unless the counts are supported by the specification of the applicant who copies a claim from another's patent. This requires at a minimum that such specification disclosed the mutually claimed invention. Unless it does, the inquiry as to priority should come to an end.

#### The Invention(s)

The counts in issue are as follows:

1. A magnetic transducer head unit comprising a magnetic head having opposite pole pieces presenting confronting lapped pole tips on opposite sides of a recording/reproducing gap, and a bracket supporting said head and presenting at either end of the head broad reference surfaces lapped co-planar with the pole tip of one of said pole pieces.
2. A multichannel magnetic transducer head unit comprising a series of individual magnetic heads, each of said individual heads comprising opposite pole pieces presenting confronting lapped pole tips on opposite sides of a recording/reproducing gap, and a bracket supporting said individual heads in side-by-side relation with their respective lapped pole tips co-planar and their recording/reproducing gaps aligned, said bracket presenting at either end of the series of heads broad reference surfaces lapped co-planar with the pole tips at one side of the aligned recording/reproducing gaps.

[3] The statutory requirement of section 112 is that the claims shall particularly point out and distinctly claim "the subject matter which the applicant regards as his invention." Here the claims of the McCutchen patent which were copied by Oliver to become the counts of the present interference are so worded that reference to the specifications of the respective parties becomes necessary to ascertain the meaning of certain language therein. One cannot arrive at an understanding of the present counts as they relate to the subject matter of the interference without something more than the counts themselves.

[4] Admittedly verbal similarities exist between the counts and the respective disclosures of the parties. However, to stop here is to violate the spirit of 35 U.S.C. 135 which authorizes interferences where two or more parties claim "the same subject matter."

[5] Thus the issue cannot be decided here in the rarified atmosphere of claim semantics. Instead, it must be decided at the down to earth level of what the parties disclosed as "the gist" of their respective inventions. Cf. *Hansgirk v. Kemmer*, 26 CCPA 937, 102 F.2d 212, 40 USPQ 665.<sup>3</sup> While an "unambiguous" count may be interpreted without resort to the specification, the counts here are not of this type. Considering the wording of the counts, particularly the term "reference" surfaces, and the arguments of the parties, it is clear that different meanings are ascribed to that term by the parties when interpreting the count. When resort is had to the specifications, the latent ambiguity in the counts becomes apparent.

[6] For appellee to prevail here, it is necessary to find such similarities of the inventions as to support the conclusion that the parties are asserting inventorship of substantially the same invention. 35 U.S.C. 135.

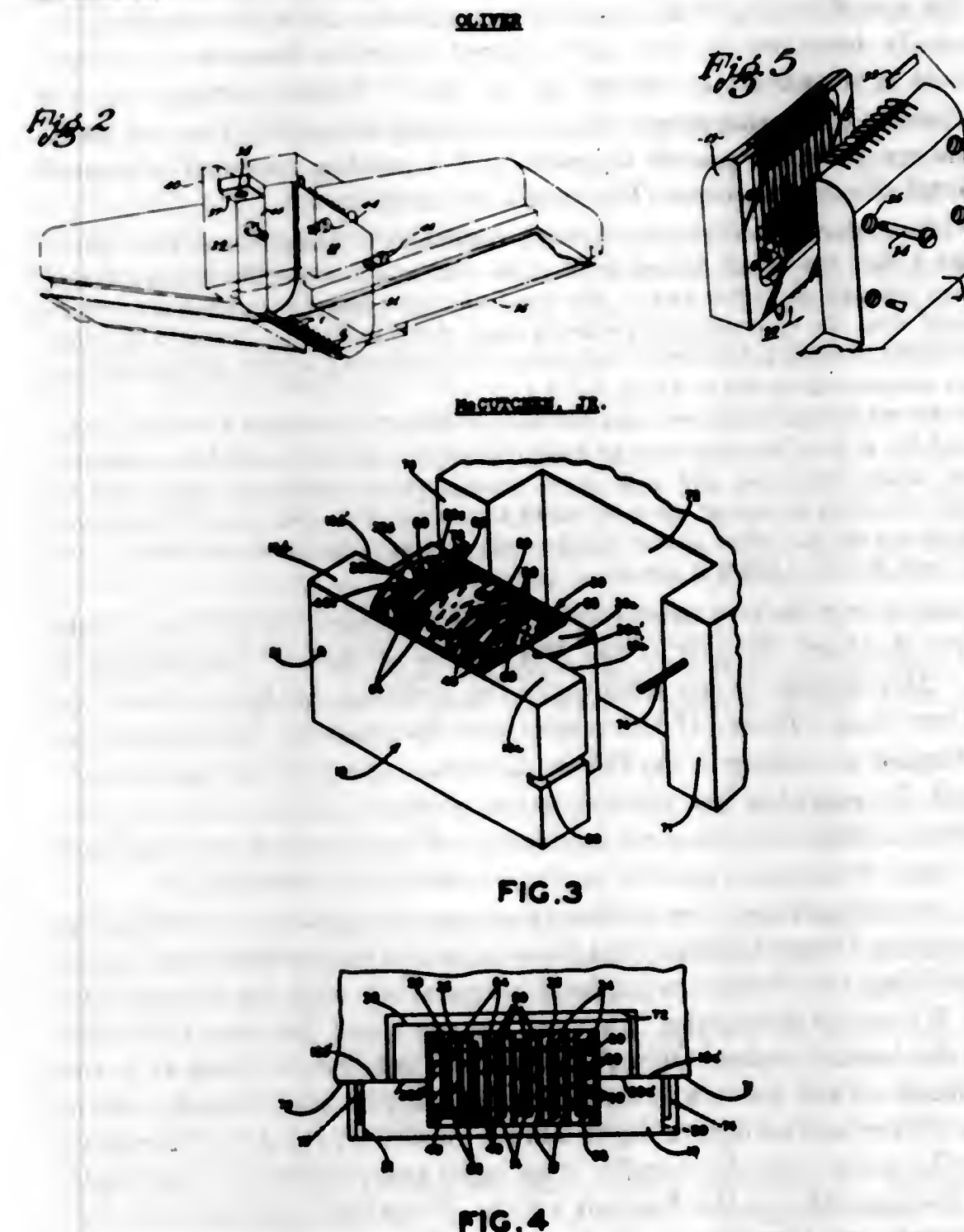
There is no dispute that both parties were concerned with the same problem: how to construct an interchangeable multiple transducer head mounting unit which would not cause distorted signals to be read from the tape when the heads were changed. Both parties disclose structures in which one mounting unit could be substituted in precisely

<sup>3</sup> Therein the court stated, 26 CCPA at 940, 40 USPQ at 667, applied recently in *In re Spencer*, 47 CCPA 751, 273 F.2d 181, 124 USPQ 175.

Where one copies a claim from an inadvertently issued patent it should clearly appear that his application disclosed the invention either expressly or inherently. (See *McKee v. Noonan*, 24 CCPA (Patents) 784, 86 F.(2d) 986; *Lindley v. Shepherd*, 58 App. D.C. 31, 24 F.(2d) 606).

the same position as another unit. As background it is clear that prior to the work of either party it was old in this art to construct a transducer head from two core sections wherein the core sections are separated by a recording/reproducing gap. Also, multiple transducer heads were old in the art.

The "gist" of the inventions disclosed by McCutchen and by Oliver is more readily understood by reference to the drawings from their specifications which show preferred embodiments of their respective inventions.



Oliver's disclosed invention by reference to FIG. 5 is seen to embody ten core sections which are placed in each of two housings 13. The two housings when joined together, as shown in FIG. 2, form a mounting unit 10. Oliver teaches one to place the core sections in each housing, and then pour an epoxy resin around the core sections to hold them in position. Thereafter, insofar as it is relevant here, two grinding operations are performed on the mounting unit: (1) grind "entire inner surface 28 \* \* \* true and flat"; and (2) grind "back surface 29 of housing 13 \* \* \* to a fixed dimension, parallel to polished inner surface 28." After assembly of two housings in one mounting unit, this unit may be placed into holder 40, FIG. 2, and positioning, as relevant



here, is achieved through the cooperation of "the precisely machined back surface 29" against "the likewise precisely machined inner" surface of holder 40 of the tape unit. The specification states:

\* \* \* this type of construction renders alignment of the head gap with respect to the channels on the magnetic tape a simple procedure inasmuch as the outer surfaces of the metallic housings can be precisely machined parallel with the gaps of the heads, and to the same dimensions.

Now, considering McCutchen's invention, we find in FIG. 3 that a bracket with two frame members, 10 and 30, is disclosed. According to the specification, "The second frame member 30 in the bracket is essentially identical to the above-described frame member 10, except that it is substantially shorter at each end." After inserting the core sections in the frame members, each assembly is lapped. The two frame members are then placed together and a potting material is poured around the core sections. The specification states:

With the parts secured together in this fashion, it will be apparent from FIGS. 3 and 4 that the broad lapped front faces 10a' and 10b' on the frame member 10 are exposed at either end of the head unit and serve as reference surfaces aligned with the recording/reproducing gaps of the individual heads in the unit. This novel structural feature of the present head unit may be used advantageously when mounted as shown in FIGS. 3 and 4. \* \* \*

In actual practice, rather than starting with different sized frame members 10 and 30, it may be preferable to have these frame members identical initially. Then, after the frame and pole piece sub-assemblies have been assembled together, the ends of one of these identical frame members are cut off to leave the front faces on the other frame member exposed at either end, resulting in the head unit shown in FIGS. 3 and 4.

Comparing the two inventions as thus disclosed, can it be said that Oliver *discloses the gist of the McCutchen invention*? Our answer is "no." McCutchen, in his solution to the problem, performs fewer operations than Oliver. If the operations disclosed by McCutchen are performed according to the Oliver disclosure the problem remains unsolved. To *complete* his solution to the problem, Oliver must perform additional steps, i.e., the back surface 29 of housing 13 must be ground to a fixed dimension, parallel to the polished inner surface 28.

An examination of the testimony presented supports the foregoing conclusion. Oliver testified that the solution to the problem was found in utilizing two reference surfaces cooperating with the lapped pole tips. Witness Ackley, who "physically made all of the parts that went into the heads" under "Oliver's direction," testified in detail as to the lap finish of the inner and outer surface (utilizing a monochromatic light source and an optical light flat for checking); and the tolerances as to thickness (one-thousandth of an inch) and parallelism (one-tenth of a thousandth) in the finished article. Accuracy in parallelism was preferred over accuracy in thickness and there was no exposed reference surface co-planar with the lapped pole tip surfaces. Testimony offered by McCutchen is in complete accord with the McCutchen disclosure. Thus the parties solved a common problem confronting the art by different approaches resulting in different inventions.

Oliver argues in his brief as follows:

\* \* \* In the McCutchen et al. patent \* \* \* the mounting approach chosen is to provide mounting surfaces \* \* \* on the head unit finished co-planar with reference to the coplanar reference surfaces. In the Oliver application \* \* \* the mounting approach chosen is to provide mounting surfaces on the head unit finished parallel with reference to the coplanar reference surfaces. Both McCutchen et al. and Oliver abut their thus provided mounting surfaces against a cooperating surface on the tape transport equipment to permit rapid and accurate mounting on the head unit on the tape transport equipment. \* \* \*

From the foregoing, it should be evident that both appellants and appellee use the same basic solution for solving the mounting problem. That is, both parties provided a coplanar reference surface as a convenient reference of the gap plane \* \* \*.

In view of the fact that appellee was confronted with the real problems of maintaining dimensional thickness in relation to parallelism, absent in McCutchen's device, we do not agree with the position of appellee that "appellants and appellee use the same basic solution for solving the mounting problem."

[7] Since we find the gist of the two inventions to be different, McCutchen's motion, filed September 29, 1961, to dissolve the interference should have been granted for the reason stated therein that "The party Oliver has no right to make the claims forming the counts in issue, and his application contains no support for the claims." In denying this motion, the requirement that the disclosure must teach the "gist" of the invention seems to have been ignored. Instead, there appears to have been a slavish examination of each word of the count in minute detail without considering the over-all meaning of these words as used in the parties' respective specifications. This ignores the basic concept of the *Henderson* case, supra.

McCutchen's motion to dissolve pointed out in pertinent part that:

Oliver forms his head in two halves as many persons previously have done. He puts two similar head halves together on either side of a shim 33, which leaves two flanges 37 protruding out the side of his head. He does not say that these flanges are used for locating precisely the gap of the transducer head(s). Quite the contrary—Oliver states at page 2 (lines 28 to 30) and page 3 (lines 1 to 3) that his "type of construction renders alignment of the head gaps with respect to the channels of the magnetic tape a simple procedure inasmuch as the outer surfaces of the metallic housings can be precisely machined parallel with the gaps of the heads, and to the same dimensions". This is exactly what the patentees' invention eliminates.

Thus, by Oliver's own words, it is the back 29 and side 31 of his head which are used to align his head. The front faces of the flanges 37 are not used in any way to mount the head in its holder.

The Primary Examiner, apparently without regard to the "gist" of the respective inventions, referred in his decision on this motion to the literal language of the counts. He stated:

Upon examination of Count 1 nowhere is there seen the limitation that requires the reference surfaces to be contacted by a corresponding reference surface forming part of the data handling equipment. Since said limitation is not clearly included in the count it will therefore not be read into the count of this interference \* \* \*.

It is further noted that nowhere in Count 1 does it state that the "reference surfaces," *themselves*, are used to align the head, or mount the head. These also are limitations not included in Count 1 and therefore will not be read into said count.

The wording "reference surfaces" means just that; the wording is not ambiguous and it will be given its broadest interpretation in relation to its import. It is noted that surface 28 (see FIG. 3) of the Oliver application is used as a reference surface for back surface 29 (see lines 6-9, page 6), which positions the head structure with reference to its holder (see lines 1-5, page 8). In view of the above, it would be natural and logical to identify the surfaces 28, of Oliver, as "reference surfaces."

[8] It is plain from the above that the test of the *Henderson* case, supra, was ignored. To avoid an interference, it appears the Primary Examiner would require that McCutchen's *claims recite* that the broad reference surfaces *contact* the machine and that these surfaces



align the head in the machine. We do not agree with this reasoning as the claim to the transducer head unit need not recite how the unit operates nor may the claim be interpreted to define only part of a unit as Oliver would have us do.

[9] The Board in affirming the Examiner also appears to have ignored the test referred to in the *Henderson* case, supra, that the "gist" of the respective inventions must be the same. It accepted the reasoning of the Primary Examiner and added that the McCutchen claim did not expressly state that the reference surfaces were exposed, ignoring the long established rule of law that Oliver is entitled only to a reasonable interpretation of the copied claims.

Oliver argues that the counts do not require that the reference surface co-planar with the lapped pole tips be exposed. McCutchen in his specification discloses no less than eleven times that his reference surfaces are exposed, that they serve as aligning means, and that they abut against the machine.

During prosecution, McCutchen, to overcome prior art references, argued:

Applicants' invention lies in the provision of a magnetic transducer head having an "air gap" and a support or bracket for the head which has an exposed surface at one side of the head which is aligned with the gap.

In order to facilitate the change of transducer heads in precision equipment of the aforesaid types, applicants have provided heads having precision aligned transducer gaps, and these gaps are precision aligned with one or more "outrigger" surfaces which lie in the plane of the transducer gap.

Rettinger does not show an exposed planar surface aligned with the head gaps, and mounting the head assembly of Rettinger in Saegar's bracket does not supply such an "outrigger" surface.

Such a feature which is essential to applicants' head and which is claimed in each and every claim is completely missing from Rettinger's head.

Applicants cannot find a single reference surface in the Rettinger head which is coplanar with the plane of the gaps of the head. If there is such a surface will the Examiner please refer to it by reference number if possible, or by some other description.

Applicants' claims call for the head support to have an exposed surface aligned co-planar with the transducing gap. The prior art does not show or describe this structural feature. Consequently the claims should be allowed.

[10] The Patent Office removed the rejection based on prior art references and the claims, in view of McCutchen's arguments, were allowed. Such arguments relied on by the applicant and accepted by the Patent Office to avoid prior art references should be considered in interpreting the claims. Considering the respective inventions and the McCutchen specification and file wrapper, we think the McCutchen co-planar "reference surfaces" are exposed. Oliver does not disclose such "reference surfaces." Since we find this to be a necessary feature of the invention as defined by the counts, the decision of the Board is reversed.

REVERSED.

RICH, J., concurring.

I am in agreement with the ultimate conclusion of Judge Smith's opinion, that the motion to dissolve should have been granted because Oliver cannot make the counts, but I arrive at that conclusion by somewhat different reasoning.

The main problem in this case, as I see it, is what the counts mean; and a secondary problem is how we go about determining what they mean. The key expression is "reference surfaces." The gist of my position is that I consider that expression to be ambiguous and therefore I follow the rule, too well settled to require citation of authority, that under that circumstance we look to the application in which the counts originated in order to determine the meaning of the ambiguous expression.

This question of ambiguity of interference counts has always been a troublesome one. Semantics is involved in its broadest sense: the science dealing with the meanings of words as symbols and with human behavior in reaction to those symbols, including unconscious attitudes and linguistic assumptions. What has happened and what has been said in this interference amply exemplifies these attitudes and assumptions.

The Examiner, when confronted with the motion to dissolve and the argument that Oliver does not disclose the invention which the counts define, reacted by saying:

The wording "reference surfaces" means just that; the wording is not ambiguous and it will be given its broadest interpretation in relation to its import.

I find that statement to be a reaction to symbols full of undisclosed linguistic assumptions. Means just what? What is its "import"? Apparently the Examiner had his own ideas on the matter but our difficulty is that he nowhere disclosed them other than in his conclusion that "it would be natural and logical to identify the surfaces 28, of Oliver, as 'reference surfaces.'" He did this despite the fact that Oliver did not so designate them, nor did Oliver use any other terms of similar import.

The Board, in agreeing with the Examiner's dismissal of the motion, pointed out numerous limitations which are not included in the counts, some of which appear in other McCutchen claims, but this is little help as we are not concerned with missing limitations or with scope in that sense but with the meaning of the limitation which is there, the limitation to "reference surfaces." In its initial opinion the Board says nothing about what its idea of the meaning of "reference surfaces" is. After a request for reconsideration extensively arguing the question of meaning, the Board made this somewhat baffling statement:

The counts do not require reference to the history of the prosecution of the McCutchen et al. patent application file to interpret them. Their meaning is ascertainable without ambiguity from reading the McCutchen et al. specification and claims.

Did the Board find it necessary to refer to McCutchen's specification (including the other claims) to find out what "reference surfaces" means or, like the Examiner, did it deem that limitation to have a clear meaning standing by itself? Did it follow the rule on count construction?

I have found nothing in the record or briefs to show that standing by itself "reference surfaces" has any definite meaning, or any accepted technical meaning in this art, or that any of the prior art of record uses the term.

I agree generally with Judge Smith's approach when he says:

... the counts of the present interference are so worded that reference to the specifications of the respective parties becomes necessary to ascertain the meaning of certain language therein. One cannot arrive at an understanding of



the present counts as they relate to the subject matter of the interference without something more than the counts themselves. [My emphasis.]

I read into that statement the thought, necessary to comply with the time-honored rule about interference count interpretation, that the counts are in fact and in law ambiguous, as he suggests in other passages referring to latent ambiguity. The reason I have said above that the problem of ambiguity is a difficult one is that the cases are as full of disagreement on the question of ambiguity as they are on the issue of meaning. It is my view that with a term such as "reference surfaces," which has no definite dictionary definition or accepted meaning in the relevant art, although it may at first glance appear to be a clear expression merely of great breadth, it is always proper to look to the usage of the term by the parties, as they read it on their respective disclosures, in order to determine first, *whether or not it is ambiguous*. If, on doing this, we find, as I find here, that one party has adopted the term to mean one thing and the other party is using it to mean something else, then, perforce, the term is ambiguous. Once that conclusion has been reached, then we must follow the rule and look to the specification in which it originated and take the meaning there ascribed to it. Following this procedure, what do we find?

From a reading of McCutchen's application, with or without the prosecution thereof, the conclusion is inescapable that he uses the term "reference surfaces"—and with the frequency Judge Smith reports—in the sense of *mounting* surfaces which form an accessible part of the head assembly and *abut* against other surfaces in the device where the head is employed with the effect that the reference surfaces per se align the head, without more. Thus by "reference surfaces" he means aligning surfaces in a functional sense, not merely surfaces *from* which the location of *other* surfaces may be measured or computed by "reference" thereto.

From a reading of Oliver's application we find that he would give an entirely different meaning to the term. He has a surface, as does McCutchen, lying in the plane of the head gaps and forming the face of half of his head *before it is assembled*; but when he gets his head assembled that surface vanishes for all practical or functional purposes, buried in the middle of the head and of no use whatever in mounting the head. It amounts to a mathematical abstraction. He, like the Examiner, takes the position it is logical to denote this surface as a "reference surface," presumably for the reason that a back surface 29 of the head, some distance removed from surface we are speaking of, is carefully located by measurement so as to be parallel to it, the back surface being the one that is used as a "reference surface" to locate the head in its mounting.

At this point I would comment on the supposed common "invention" the parties are said in the principal dissenting opinion to have made. Preliminarily, however, let us consider the supposedly unambiguous word "surface" by itself, which also presumably "means just that." What is its "import"?

It has been made clear that the transducer head is made of two halves, like a peanut butter sandwich. Suppose we spread two slices of bread with peanut butter and then put the slices together. The butter was spread on two surfaces. How many surfaces has the sandwich, 2, 3, or 4? Suppose another laminated structure, a 4-ply auto tire, the plies being vulcanized together. Mounted on the wheel, how many surfaces has it, 1, 2, 5, or 8? Or take a piece of plywood with

five laminated sheets of veneer. Has it 2, 6, or 10 surfaces? What did McCutchen mean by "surfaces" and what does Oliver mean, with reference to the finished transducer head defined by the language of the counts? It seems to me that when we are discussing the finished head, assembled from its two halves, we should not be contemplating surfaces which no longer exist, which existed only at one stage in the manufacture, were fugitive and have been obscured, made inaccessible and hence can no longer be used for anything, like the original surfaces of the individual plies in the tire or the plywood which cannot be *used* for any purpose.

Now the principal dissenting opinion takes the position, which is to me untenable, that

The "gist" of the invention *defined by the present counts*, as I see it, is simply the provision of surfaces at either end of the recording head which are accurately ground, or lapped, coplanar with the pole tips of one of the pole pieces of the head. That invention is common to both parties. The present counts define that invention clearly.

There are various things wrong with this view. In the first place, the counts refer to the finished head ready for use, not to some phase of its manufacture in which it was in a different condition, as when it was in two unassembled halves. The counts define the sandwich, not the ingredients. Therefore the "head" of the count, which has the "surfaces at either end," is the *whole* head, ready to be mounted, not merely the pole-piece portion thereof, as the dissent would have it in order to find the surfaces "at either end \* \* \*." The fact is Oliver's head has no "surfaces at either end of the recording head," "coplanar with the pole tips" when his head is finished. He *had* coplanar surfaces at either end of the row of pole pieces before assembly, but they do not appear in the finished head defined in the counts. In McCutchen's head it is otherwise. For the *invention* we must look to the counts, as the dissent emphasizes.

In the second place, we presume, in an interference, that the invention of the counts is a patentable invention, patentable to both parties, and patentability is not open to question. Patentability requires utility. It would therefore seem that the surface, the provision of which is said to be the gist of the invention, must be a surface serving some *useful* purpose in the finished head of the count. In McCutchen's head it does just that. It mates with a positioning surface in the recording/reproducing equipment and locates the gap or line of gaps where it is wanted. The reference surface the dissent finds in Oliver does nothing of the sort. It does nothing. It has become useless. If that be the gist of the invention, I find it difficult to reconcile the view that this now useless surface is a patentable invention with the dissenter's insistence in other notable cases that patentable inventions must have a practical, presently existing utility. See the dissenting opinions in *In re Nelson*, 47 CCPA 1031, 280 F.2d 172, 126 USPQ 242, and in *In re Manson*, 52 CCPA 739, 333 F.2d 234, 142 USPQ 35. One could go further and say that to assume a construction for a patent claim which causes it to read on a structure lacking utility is out of tune with the Supreme Court's decision in *Brenner v. Manson*, 383 U.S. 519, 148 USPQ 689 (1966).

Before leaving the principal dissent, I would point out one other flaw I find in its reasoning. The opinion says:

It seems to me that the term "reference surfaces" is not ambiguous and that it is plainly applicable to the Oliver structure for the reasons given by the Patent



Office. The term "reference surfaces" refers to the surfaces lapped coplanar with the pole tips, whether that term be applied to the McCutchen or Oliver construction. The question of how far that reference surface extends, i.e. whether it extends far enough to the *exposed*, is not placed in issue by the broad language of the counts.

Like the reasoning of the Examiner and the Board, it confounds the issue of the *meaning* of "reference surfaces" with the question of the absence of *other limitations* from the counts. The conclusion as to what "reference surfaces" refers to is no more than a judicial fiat. The conclusion that the term is not ambiguous is mere assumption not based on an investigation into the facts about its several possible inconsistent meanings.

Ambiguity or the lack of it is not something about which one can make a decision merely by looking at the words, unless we are dealing with terminology which permits only of one definite meaning. "Reference surfaces" is not such a term.

Judge Almond's dissent, like the Board's opinion on rehearing, has the fault of looking to McCutchen's application to determine the meaning of the counts while at the same time apparently asserting lack of ambiguity (by joining the principal dissenting opinion which so asserts), an impermissible procedure. I see no more justification, absent ambiguity, for comparing the counts with other McCutchen claims than for studying his specification. That amounts to interpreting the counts as though they were claims in an infringement suit. If that is done, it is clear to me that appellants are right in saying the claims which became the counts would never be held to be infringed by Oliver's structure by reason of the circumstances of their allowance as defining accessible surfaces. That being so, there is no reason for Oliver to be in interference with McCutchen on these claims for if what Oliver discloses is not an infringement of the counts, they do not define a common invention.

To summarize my reasons for voting to reverse: in compliance with the rules in interferences as to count construction I first determine whether the count is ambiguous by looking for its possible meanings and the meanings actually ascribed to it in this case and doing so I find ambiguity; I therefore construe the counts in accordance with the meaning they have in the application where they originated and discover that a "reference surface" is one which is available in the finished transducer head to facilitate its mounting orientation in use; I then determine from reading Oliver's disclosure that he does not have a reference surface, according to that meaning, which complies with the other limitations of the counts since the reference surface he has, which is his back surface 29 (as well as an end reference surface), is not coplanar with the pole tip(s). I conclude, therefore, the Patent Office was in error in its construction of the counts and in failing to grant the motion to dissolve. I do so only on the basis of the above reasoning.

My conclusions make it unnecessary to consider the issue of priority as I consider that there is no such issue.

Worley, Chief Judge, dissenting.

It seems to me that the majority, in construing the present counts, has committed the same error the court found the Board to have committed in *Henderson v. Grable*, 52 CCPA 920, 339 F.2d 465, 144 USPQ

91, where the court stated (bracketed material added to correspond to the present factual situation):

We think the Board, without determining that the terms . . . [reference surfaces] were ambiguous, erred in construing those terms only with reference to the specific . . . [McCutchen] embodiment rather than examining them to see whether a reasonable interpretation, but one not so broad as to do violence to the language or the concept of the invention, would include the . . . [Oliver] structure.

It is, of course, well settled that the counts of an interference should be given the broadest interpretation which they will reasonably support. Only when the count is ambiguous should resort be had to the patent or application where the counts originated for purposes of interpretation. Apparently, the majority does find the counts ambiguous, stating:

The statutory requirement of section 112 is that the claims shall particularly point out and distinctly claim "the subject matter which the applicant regards as his invention." Here the claims of the McCutchen patent which were copied by Oliver to become the counts of the present interference are so worded that reference to the specifications of the respective parties becomes necessary to ascertain the meaning of certain language therein. One cannot arrive at an understanding of the present counts as they relate to the subject matter of the interference without something more than the counts themselves.

While an "unambiguous" count may be interpreted without resort to the specification, the counts here are not of this type. Considering the wording of the counts, particularly the term "reference" surfaces, and the arguments of the parties, it is clear that different meanings are ascribed to that term by the parties when interpreting the count. When resort is had to the specifications, the latent ambiguity in the counts becomes apparent.

I find no further explanation of *why* it is thought any given expression in the counts, such as the term "reference surfaces," is ambiguous, or why it is necessary to advert to McCutchen's specification and file wrapper to interpret that expression and to justify the finding that "the McCutchen co-planar reference surfaces are exposed." Indeed, following the rationale proposed by the majority, any *broad* expression capable of covering two different structures becomes *ambiguous*, simply *because* it can be interpreted to read on two different structures.

Both the Examiner, in denying McCutchen's motion to dissolve, and the Board considered the inner ground surfaces 28 on the frame member of Oliver which has its back surface 29 ground to a fixed dimension parallel thereto to meet the requirements of the counts with respect to "reference surfaces." The Examiner stated:

The wording "reference surfaces" means just that; the wording is not ambiguous and it will be given its broadest interpretation in relation to its import. It is noted that surface 28 . . . [the inner ground surface of the frame member which has its back surface ground to a fixed dimension with respect thereto] of the Oliver application is used as a reference surface for back surface 29 . . . , which positions the head structure with reference to its holder . . . . In view of the above, it would be natural and logical to identify the surfaces 28, of Oliver, as "reference surfaces."

The Board agreed, stating:

We agree with the Primary Examiner that the counts are supported by the Oliver application disclosure. The counts are very broad. They do not include a mounting element and do not require that the "broad reference surfaces" of the bracket be exposed when the device claimed is assembled. It is noted that the latter requirement appears in McCutchen and Eskilson's patent claims 7 and 9, for example. The limitations that McCutchen et al. seek to have read into the counts for the purpose of avoiding Oliver are of the nature that have been, in certain language, included in other of his patent claims.



I find no error in that position. It seems to me that the term "reference surfaces" is not ambiguous and that it is plainly applicable to the Oliver structure for the reasons given by the Patent Office. The term "reference surfaces" refers to the surfaces lapped coplanar with the pole tips, whether that term be applied to the McCutchen or Oliver construction. The question of how far that reference surface extends, i.e. whether it extends far enough to be *exposed*, is not placed in issue by the broad language of the counts.

McCutchen argues that the gist of the invention of the patent lies in the reference surfaces being exposed, pointing out that the counts define the head as "presenting" the reference surfaces, and cites a definition of "presenting" regarded as demonstrating that the term requires that the surfaces be exposed. However, I am not convinced that there is any sound basis for limiting the counts to a construction where the surfaces coplanar with the pole tips, defined as "reference surfaces," are exposed when the device is assembled. In that connection, it must be noted that the counts also define the head as "presenting confronting lapped pole tips" on opposing sides of the gap and that those lapped pole tips are not exposed in the assembled head of McCutchen. Also, as Oliver has pointed out in oral argument, claim 6 of the McCutchen patent, which defines a complete head unit, refers to "each" of the frame members as "presenting" the lapped surfaces even though the entire surface (surface 30a' and 30b') on one of the members is obscured. The majority opinion offers no explanation as to why it, in effect, gives the word "presenting" two different interpretations—one requiring exposure of the presented surfaces and the other not so requiring—in the same claim.

McCutchen states that Oliver has tried to read the "reference surfaces" of the counts on his disclosure in two other ways in addition to the way that the Examiner and Board have held it to apply. They advance that contention as a basis for regarding the counts as ambiguous and going to their own disclosure for interpretation. It is true that alternative applications of the term to other elements of the Oliver application were discussed. However, I do not see that as necessarily indicating ambiguity in the term as applied to the surfaces which are coplanar with the pole tips in the frame member of Oliver which has a back surface parallel thereto. Rather, it seems merely to demonstrate that the language is so very broad as to have elicited a contention it applies to Oliver in more than one way.

The words of the court in *Wirkler v. Perkins*, 44 CCPA 1005, 245 F.2d 502, 114 USPQ 284, would seem particularly appropriate here:

We see nothing ambiguous in the term "reference signal computer" nor, it would appear from the record, did anyone in the Patent Office who has dealt with the involved applications. Indeed, it would seem that the only person who is confused is the party Wirkler. [4] The law is well settled that once an applicant has selected language which is somewhat broad in its scope, he runs the risk that others with specifically different structures may be able to meet the language selected, and he will not be allowed to urge later that the language which he has selected should only be read in the light of his disclosure merely because it originated with him. \* \* \* [Emphasis supplied.]

\* Webster's New International Dictionary, second edition, is as follows:  
5. To exhibit or offer to view or notice; as, to present a fine appearance; to bring to anyone's attention or cognizance; as to present a subject; to show; display; set forth; describe.

[5] It is of more than passing interest to observe that, insofar as the record shows, McCutchen did not contend below that the counts are ambiguous, the Examiner stating: It is first noted that there is no ambiguity claimed by either party as to the counts in issue, and it is the Examiner's conclusion that since the counts are clear and definite, they should and will be given the broadest interpretation which they reasonably will support.

The majority states that the issue "must be decided at the down to earth level of what the parties disclosed as 'the gist' of their respective inventions," apparently relying on *Henderson v. Grable* in support of that position. From that sentence, representative of others like it in the opinion, it seems clear that the majority is intent on conducting an interference on the basis of the disclosure of the parties, ignoring the words of the count. It may well be true that Oliver does not disclose the exact form of the invention disclosed in McCutchen's specification. It would be a rare occasion indeed in the mechanical arts that a device of one interference party corresponded to the last detail of the device of the other. In deciding the issue, however, the majority appears to ignore an important requisite of the "test" set forth in *Henderson* and quoted by the majority as the key to determining whether a disclosure supports a claim for interference purposes, viz, does the disclosure [of Oliver here] teach the gist of the invention defined by the claims in interference?

I take a different view from the majority as to what is the gist of the invention defined by the claims. The majority view apparently is that the invention defined by the claims requires that the reference surfaces mentioned therein must be *exposed*. The present counts do not contain such a limitation. It is well settled that limitations not included in interference counts cannot be subsequently read into them. *Jepson v. Egly*, 43 CCPA 853, 231 F.2d 947, 109 USPQ 354; *Rivise and Caesar*, Interference Law and Practice, §60. Thus it seems quite immaterial that, in the words of the majority:

\* \* \* McCutchen in his specification discloses no less than eleven times that his reference surfaces are exposed, that they serve as aligning means, and that they abut against the machine.

The "gist" of the invention defined by the present counts, as I see it, is simply the provision of surfaces at either end of the recording head which are accurately ground, or lapped, coplanar with the pole tips of one of the pole pieces of the head. That invention is common to both parties. The present counts define that invention clearly. 35 U.S.C. 112. In my opinion, the majority is not justified in turning to the McCutchen specification and file wrapper to find a different interpretation of what the invention is.

Even if the McCutchen specification and file wrapper are referred to, they do not support the majority's position. The majority relies heavily on certain arguments advanced by McCutchen during prosecution of his application. After quoting those arguments, the majority states:

The Patent Office removed the rejection based on prior art references and the claims, in view of McCutchen's arguments, were allowed. Such arguments relied on by the applicant and accepted by the Patent Office to avoid prior art references should be considered in interpreting the claims. \* \* \*

In the first place, it does not seem to me that this court is in any better position to say why certain claims were allowed to McCutchen than are the Examiner and Board who denied McCutchen's motion to dissolve and who presumably had the prior art of record in the patent file before them (see Rule 258) in construing the issue. Second, the very arguments quoted by the majority provide ample reason to say that narrower claims in the McCutchen patent, requiring exposed reference surfaces, were allowed because no prior art disclosed exposed reference surfaces; it is equally possible to say that the present claims,



making no reference to *exposed* reference surfaces, were allowed because no prior art disclosed reference surfaces<sup>6</sup> lapped coplanar with the pole tips.

In short, it seems to me that the present counts are broad enough to reasonably encompass the different approaches of McCutchen and Oliver to the common problem confronting the art.

I further find no error in the Board's determination that Oliver was first to conceive and reduce to practice. I would affirm the decision below in its entirety.

ALMOND, J., dissenting.

To the above dissenting opinion, with which I join, I wish to add the following comments. Even assuming arguendo that the counts are ambiguous so that it is necessary to look outside the counts in issue for an interpretation of their scope, important consideration should, in my view, be given to those claims of McCutchen other than those copied by Oliver.<sup>7</sup> The McCutchen patent contains ten claims, six claims of which, including the two making up the interference counts, are absolutely silent as to exposed reference surfaces. The four remaining claims all end with the following language:

\* \* \* the lapped surfaces on said first member projecting substantially beyond the respective ends of the second frame member and defining broad exposed reference faces thereat.

This glaring variation in the scope of the patent claims indicates one thing to me, that the patentees sought coverage on a structure which did not require *exposed* reference surfaces as well as on one that did. At the risk of deciding this case in the "rarefied atmosphere" of claim semantics rather than on a "down to earth" basis, it seems to me that where an applicant of his own volition seeks broad patent coverage during prosecution, he should not be permitted at a later date to shrink such coverage in order to avoid a contest of priority on an invention so broadly defined.

I cannot agree with the approach which is to deprecate claim language as mere semantics, and elevate the disclosure to gospel. Such an approach fails to consider the dynamics of patent prosecution. The specification, being written prior to any action by the Patent Office, often emphasizes matter which later proves to be minor or completely lacking in novelty, whereas other matter proves to be of utmost significance to patentability of the invention. The claims on the other hand are subject to amendment in order to meet the strictures of 35 U.S.C. 112—"particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

It is the patent practitioner's duty to *define* his client's invention in the claims. This may be, and usually is, done by drawing claims of varying scope. Significant evidence, if not the best evidence, of the scope of any one claim is the language employed in other claims. Certainly, the express limitation to "broad exposed reference faces" \* \* \*

<sup>6</sup> As noted by the majority, McCutchen argued: Applicants cannot find a single reference surface in the Rettinger head which is coplanar with the plane of the gaps of the head. If there is such a surface will the Examiner please refer to it by reference number if possible, or by some other description.

Independent examination of Rettinger, which is in the present record, appears to bear out that contention.

<sup>7</sup> According to Rivise and Caesar, §56 (1940), it is a fundamental rule of count interpretation that—

It is proper to compare a count with the other claims of the interfering cases in order to find support for a particular interpretation of the count. See also Rivise and Caesar, §67 (1940) which fully considers this rule and cites as authority therefor several cases of this court.

in those of McCutchen's claims not in issue here is strong evidence that the other claims, forming the counts in issue, do not by implication contain such a limitation. The majority completely disregards this evidence, whereas I view it to be determinative.

I would affirm.

## PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

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2,500,274. (See 2,476,900.)

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2,784,521. (See 2,476,900.)

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3,285,752, Hansen, Schwall and Colburn, METHOD OF PREPARING A POULTRY PRODUCT, filed Oct. 23, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1829, *Armour and Company v. Swift and Company*.

3,286,006. (See 3,301,961.)

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3,301,961, M. A. Odom, AUTOMATIC TELEPHONE CALL TRANSLATING AND FORWARDING APPARATUS; 3,286,006, O. A. Ohlsson, COMBUSTION APPARATUS, filed Jan. 5, 1968, D.C., N.D. Calif. (San Francisco), Doc. C-48485, *Marcom, Inc. v. Telefinder Corporation*.

3,327,745, Meece and Dew, TREE CUTTER DEVICE, filed Oct. 25, 1967, D.C., M.D. Fla. (Jacksonville), Doc. 67-701-J, *Harrington Manufacturing Company, Inc. v. Fleco Corporation*.

3,342,500, G. Nissen, GYMNASIUM FLOOR COVERING, filed Oct. 30, 1967, D.C.N.J. (Newark), Doc. C-1117-67, *Nissen Corporation v. Premier Athletic Products Corp.* Stipulation and order of dismissal, Dec. 28, 1967.

3,386,200, J. E. Golden, DRAPERY CARRIER, filed June 14, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1008, *Newell Mfg. Co. v. Kirack Company*. Dismissed on stipulation with prejudice, Oct. 31, 1967.

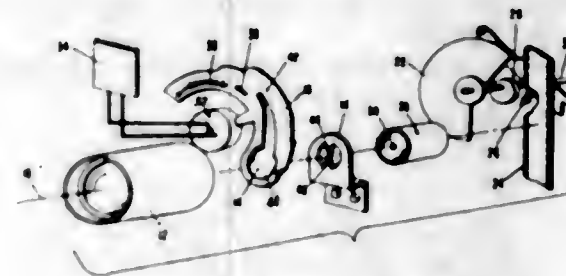


# REISSUES

MAY 21, 1968

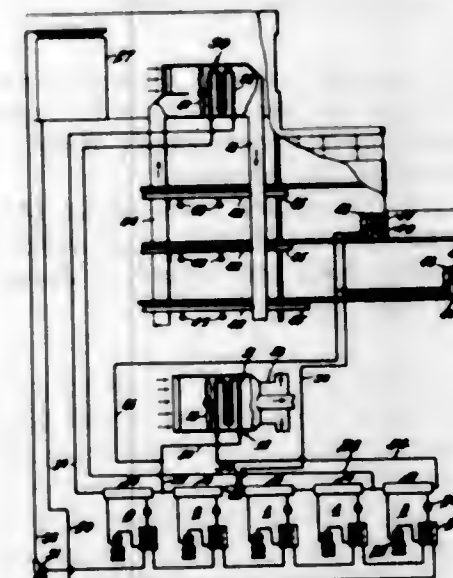
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

**26,390**  
**CAMERA EXPOSURE CONTROL**  
Albert Vess, Hanson, and Daniel E. Philippe and Jean L. Huserwadel, Braintree, Mass., assignors, by mesne assignments, to Keystone Mfg. Corporation, Boston, Mass., a corporation of Massachusetts  
Original No. 3,183,814, dated May 18, 1965, Ser. No. 268,248, Mar. 27, 1963. Application for reissue Jan. 26, 1966, Ser. No. 541,408  
15 Claims. (Cl. 95—64)



15. In a camera including an objective and an exposure control iris in front of said objective having a predetermined physical f/stop aperture range, a neutral density spot on one of the objective lens surfaces, said neutral density spot having a predetermined light filtering value, said neutral density spot being of an area substantially smaller than the largest physical f/stop opening of said iris and substantially larger than the smallest physical f/stop aperture of the iris.

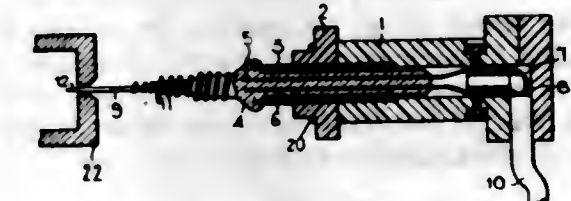
**26,391**  
**AIR CONDITIONING**  
Alden I. McFarlan, 691 Doran Road, Westfield, N.J. 07090  
Original No. 2,984,458, dated May 16, 1961, Ser. No. 571,211, Mar. 13, 1956. Application for reissue Apr. 12, 1962, Ser. No. 188,005  
28 Claims. (Cl. 165—22)



24. An air conditioning system for multi-room buildings comprising a plurality of heat-exchange coils in air communication with respective rooms; means for deliver-

ing primary air to said rooms; means for flowing room air over said coils in heat-exchange relation therewith; conditioning means for treating said primary air and including a chill liquid coil therein; means providing a stream of chilled liquid and a stream of heated liquid; means for supplying a stream of chilled liquid to said chilled liquid coil and means for supplying a stream of chilled liquid to each of said heat-exchange coils; means for supplying said heated liquid to each of said heat-exchange coils concurrently with said chilled liquid; a common return line leading from each of said coils receiving said heated and chilled liquids and valve means for selectively flowing either said chilled or said heated liquid through said heat-exchange coils dependent on whether cooling or heating of said rooms is required.

**26,392**  
**MASS SPECTROMETER SAMPLE INSERTION DEVICES**  
Robert D. Craig, Bowden, and Edward Wildig, Stretford, England, assignors to Associated Electrical Industries Limited, London, England, a British company  
Original No. 3,158,740, dated Nov. 24, 1964, Ser. No. 220,409, Aug. 30, 1962. Application for reissue July 5, 1966, Ser. No. 569,767  
10 Claims. (Cl. 250—41.9)



1. A sample insertion device for use in a mass spectrometer ion source comprising, a body portion, a heating element adapted to support said sample, and flexible spring means for attaching said heating element to said body portion so that when said device is inserted into said ion source the position of said heating element relative to said body portion can be adjusted in order that said sample may be located accurately within the ionization region of the ion source, and said sample can be heated.

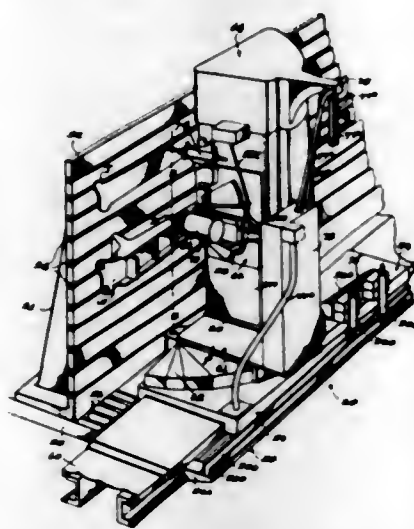
4. In a mass spectrometer, the combination of:  
(a) an ion source body member defining an internal space;  
(b) an ionization chamber member in said space and defining an ionization chamber, said chamber and source body members being connected together;  
(c) said source body and chamber members having aligned openings;  
(d) a sample insertion assembly extending into said openings and closing said source body member opening;  
(e) said sample insertion assembly including a body member and a sample holding member for supporting a specimen in the ionization chamber; and,  
(f) said combination including resilient means between said ion source body member and said sample holding member to permit relative alignment movement between the sample holding and chamber members on insertion of the sample holding member whereby to align a specimen in the chamber.



### 26,393 HIGH-SPEED FLOOR TYPE CONTOUR MILLING MACHINE

Jesse Daugherty, Hollywood, Fla., assignor to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin  
Original No. 2,863,361, dated Dec. 9, 1958, Ser. No. 467,771, Nov. 9, 1954. Application for reissue Oct. 16, 1967, Ser. No. 676,661

9 Claims. (Cl. 90—13)



A floor type contour milling machine having a relatively long fixed base, a sliding base mounted on the fixed base, a generally sector shaped swivel base movable in an arcuate path on the sliding base, an upstanding column of generally triangular cross section fixed to the swivel base and movable therewith, a vertically reciprocable saddle carried by the column and having a vertical swivel saddle mounted thereon carrying a headstock adapted to receive a cutter and power drives for moving the saddles and the bases relative to each other. A source of signals is provided which automatically controls the power drives for effecting a total of five motions of the cutter relative to a workpiece in simultaneous combinations.

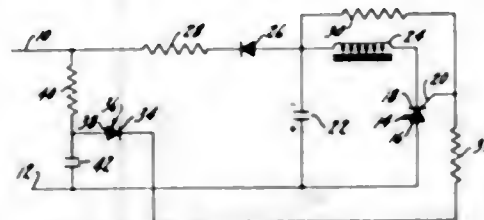
### 26,394 SCR CONTROLLED CAPACITOR FED RELAY WITH FILTER MEANS

Thomas E. Myers, St. Charles, Ill., assignor to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware  
Original No. 3,330,996, dated July 11, 1967, Ser. No. 382,128, July 13, 1964. Application for reissue Sept. 14, 1967, Ser. No. 669,987

6 Claims. (Cl. 317—147)

1. In a control circuit, an AC source of power, a rectifier having an anode, cathode and gate, a control member having an operating coil, a capacitor in shunt relationship with the series-connected coil and rectifier, anode and cathode, one side of said capacitor being connected to one side of said source, and [said cathode] a diode connected between the other side of said capacitor and the other side of said source, said gate being connected to said capacitor to bias said rectifier to a cut-off condition, and a filter connected across said power source, a connection

between said filter and said gate, the receipt of a signal from the power source within the frequency range of



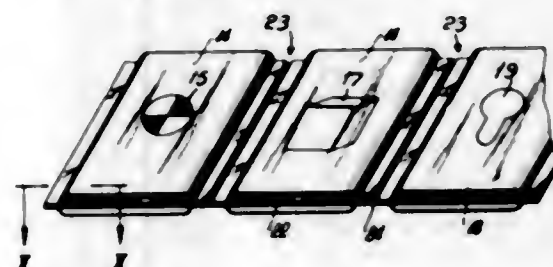
said filter overcoming the bias on the rectifier gate permitting the capacitor to discharge through the coil and rectifier.

### 26,395 PICTURE BOOK

Friedrich Schnelder, Maximilianplatz 9, Munich, Germany  
Original No. 3,257,128, dated June 21, 1966, Ser. No. 366,344, May 11, 1964. Application for reissue Dec. 23, 1966, Ser. No. 606,507

Claims priority, application Germany, June 25, 1963, Sch 33,456

5 Claims. (Cl. 281—39)



3. A washable children's picture book essentially consisting of at least three laminar pages of substantially identical size and shape, each page comprising two face portions, a core portion interposed between said two face portions, and an image imprint exposed on each of said face portions,

- (1) said face portions constituting respective longitudinally spaced integral parts of two superposed elongated foil members of pliable material substantially impervious to water, and being connected with each other by longitudinally interposed hinge portions of said foil members,
- (2) said core portions consisting of resilient, soft, and pliable foam rubber or foam plastic,
- (3) each page being connected to an adjacent page by a pair of respective hinge portions of said two foil members for pivotal movement about an axis transverse of the direction of elongation of said foil members,
- (4) said foil members having respective rim portions projecting from said face portions in opposite longitudinal directions and transversely of the direction of elongation of said foil members,
- (5) the rim portions of one foil member being bonded to the rim portions of the other foil member to form a seal between said foil members about the core portions of said pages.

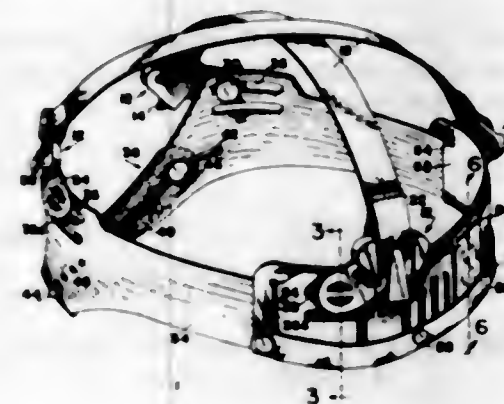
## PATENTS

GRANTED MAY 21, 1968

### GENERAL AND MECHANICAL

3,383,705

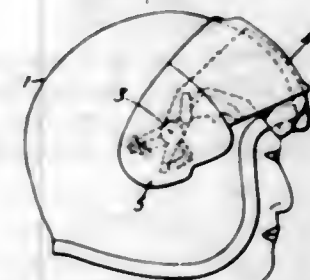
SAFETY HAT SUSPENSION SYSTEM  
Herbert A. Raschke, Greenbrae, Calif., assignor to E. D. Bullard Company, Sausalito, Calif.  
Filed Nov. 26, 1965, Ser. No. 509,942  
6 Claims. (Cl. 2—3)



A safety hat suspension system that includes crown straps for maintaining a space between the wearer's head and the hat and a headband for encircling the wearer's head to retain the hat in place on the head. Fasteners for affixing such suspension system within the safety hat at four points only, such fasteners being adapted to mount the crown straps rigidly and to mount the headband with a degree of freedom of movement so as to permit the headband to bend into conformity with the shape of the wearer's head. A sweat pad and a structure for mounting the sweat pad to the headband so that the sweat pad will not come loose during use but can be quickly unfolded for cleaning and/or drying.

3,383,706

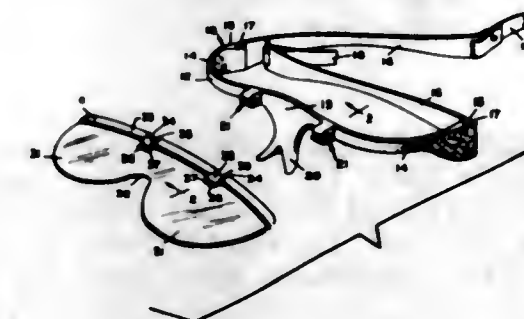
FLYING HELMETS  
Marcel J. O. Lobelle, Slough, England, assignor to M. L. Aviation Company Limited, Slough, England, a British company  
Filed Nov. 4, 1966, Ser. No. 592,166  
Claims priority, application Great Britain, Nov. 9, 1965, 47,500/65  
5 Claims. (Cl. 2—6)



5. A flying helmet fitted with a visor pivoted about a point on said helmet and capable of movement between an upper open position and a lower closed position, the said helmet including a lever responsive to G-forces pivoted at a point on the said visor about a generally horizontal axis, spring means connecting the said lever to the said helmet, and automatic locking means comprising a projection on the said lever and a cooperating projection on the said helmet whereby the said visor can be locked in the lower closed position, the said spring means being anchored at each end at points so located in relation to the said visor pivot point and the said lever pivot point as

3,383,707

FLIP-UP SUNGLASS CONSTRUCTION  
Albert G. McNeill, Maple Glen, Pa., assignor to Bachmann Bros., Inc., Philadelphia, Pa., a corporation of Pennsylvania  
Filed May 3, 1966, Ser. No. 547,321  
6 Claims. (Cl. 2—12)



1. A flip-up sunglass construction comprising a frontpiece for lateral extension along the brow of a user, a nosepiece depending medially from said frontpiece, a pair of vertically spaced gripping fingers on each side of said nosepiece and extending forwardly from said frontpiece, at least one of said fingers being formed with a recess facing toward the other of said fingers, said front- and nosepieces and said fingers being integrally formed of plastic material, a lens sheet in front of said front- and nosepieces, a pintle on said lens sheet snap-engaged between said fingers, detent means on said pintle rotatably engageable in said recess, said pintle and lens sheet being integrally fabricated of plastic material, whereby said lens sheet is mounted by said pintle and fingers for swinging movement relative to said frontpiece.

3,383,708

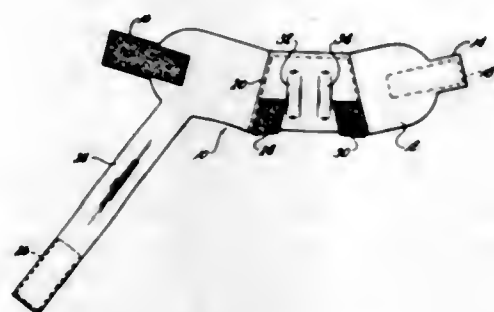
ANKLE GUARD  
Donna M. Pappas, 205 Mackinaw Road, Akron, Ohio 44313  
Filed Jan. 21, 1965, Ser. No. 426,883  
5 Claims. (Cl. 2—22)

The ankle guard of the invention includes an elongate flexible band to extend around the ankle of the wearer and a resilient padding is carried by the band to fit over



the ankle bone of the wearer. Adjustable and releasable strap means are provided on the end of the band and ad-

carbonate or bicarbonate and an acid, such as oxalic or citric acid, as well as bonding materials, for example, a

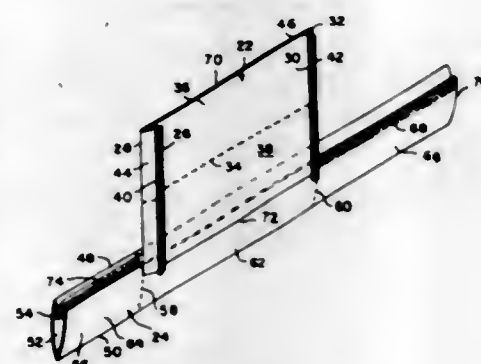


justable and releasable strap means connect to the band and are adapted to pass beneath the foot of the wearer.

3,383,709

#### ADJUSTABLE HEADPIECE

Richard I. Bauer, Philadelphia, Pa., assignor to Keystone Adjustable Company, Philadelphia, Pa., a partnership  
Filed June 16, 1966, Ser. No. 557,975  
4 Claims. (Cl. 2-197)



An adjustable headpiece which includes a crown and an adjustable band. The band comprises an elongated sheet having a pair of substantially parallel longitudinally extending fold lines. The sheet is folded about the fold lines to form a continuous outer panel and upper and lower inner panels. The band also includes a pair of substantially parallel transversely extending fold lines and the band is folded about these transversely extending fold lines to form a central section and two end sections. A first of the end sections of the band is slidably inserted in the other end section of the band so that the first end is movable with respect to the other end. The crown comprises an elongated sheet which is folded thereby providing a pair of longitudinally extending edges. A first of the edges is secured to the inner lower panel of the central section and the other edge is secured to the inner lower panel of the other section. The first end section remains free so that the size of the headpiece is adjustable without deformation of the headpiece.

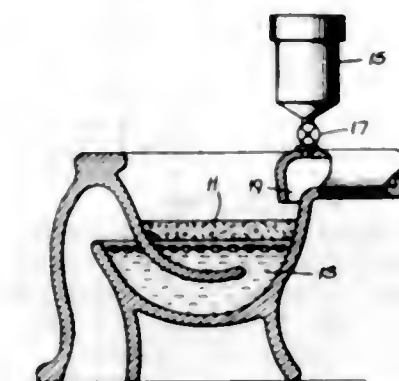
3,383,710

#### APPARATUS AND METHOD FOR NOISE AND SPLASH ABATEMENT IN A TOILET BOWL

B. Carmichael Sumner, New York, N.Y., assignor to Stillwater Development Corporation, New York, N.Y., a corporation of New York  
Filed Aug. 11, 1964, Ser. No. 392,996  
10 Claims. (Cl. 4-1)

The noises and splashes usually associated with the deposit of body wastes in toilets are abated by providing on the surface of the water contained in the toilet a layer of foam through which the wastes are passed. The foam may be produced by chemical action immediately prior to use by the addition of foaming ingredients such as a

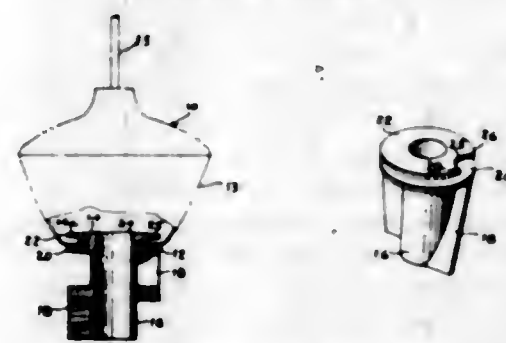
gum or high viscosity methylcellulose, and foam stabilizers, for example, Saponin or licorice, to the water contained in the toilet bowl.



3,383,711

#### PILOT FOR FLUSH VALVE AND MEANS TO ATTACH THE SAME

Wilbur L. Swanson, 693 Far Hills Ave., Dayton, Ohio 45419  
Filed May 27, 1965, Ser. No. 459,303  
1 Claim. (4-56)

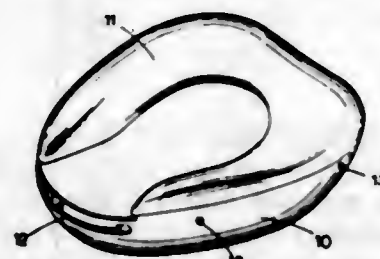


A pilot adapted to enter the effluent of a water tank to assist in seating a flush valve disposed in the tank. The pilot has fins adapted to react with water flowing through said effluent to apply a counter-clockwise torque to said pilot and said flush valve, thus protecting threaded fittings supporting the flush valve. The pilot has spaced and parallel peripheral flanges forming an annular groove which receives the margin surrounding a hole in the flush valve by one of the flanges entering the hole. To facilitate assembly, said one flange is notched to permit passage of the flange into the hole by a screwing action.

3,383,712

#### BEDPANS

Elsie M. Grant, Farley Green Cottage, Albury, Guildford, Surrey, England  
Filed Sept. 13, 1965, Ser. No. 486,713  
10 Claims. (Cl. 4-112)



The present invention is concerned with a bedpan and detachable liner therefor, which bedpan has a plurality of projections on the exterior of one end and an abutment surface in the opposite end thereof. The liner is in the form of an open top container with holes adjacent the open top thereof and is of a water-impermeable flexible

sheet material. The liner is detachably inserted in the bedpan with the projections extending through some of the liner holes and other of the liner holes have an elastomeric loop therethrough which bunches up the liner adjacent thereto and which bunched portion of the liner resiliently engages said bedpan abutment surface.

3,383,713

#### URINAL CHAIR

James M. Adams, Highway 34, Matawan, N.J. 07747  
Filed Oct. 11, 1965, Ser. No. 494,593  
4 Claims. (Cl. 4-134)

1. A urinal chair for senile patients which includes a chair with an open seat area that is surrounded by a seat supporting frame, a pan-like seat to fit into said open seat area, a cushion to fit into said pan-like seat and an impervious cover to fit over said cushion, said pan-like seat formed to drain towards its center and provided with a drainage aperture, said cushion formed with a

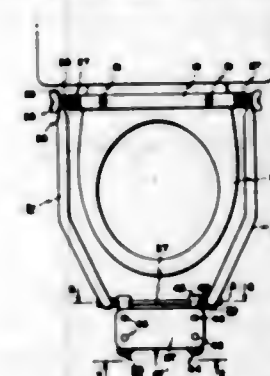


slit center to permit drainage through said cushion to said pan-like seat, said cover provided with a slit to permit drainage through the center of said cover when depressed by the weight of a patient.

3,383,714

#### TOILET AID FOR CHILDREN

Mildred Minasian, 2531 A St., Moab, Utah 84532, and Demost Neilson, 2121 Lorenzo Lane, Sacramento, Calif. 95825  
Filed Nov. 29, 1965, Ser. No. 510,290  
5 Claims. (4-254)



The present invention provides a child's utility device for attachment to toilets and, in particular, provides an extensible and retrievable step by which the child can be elevated when using the toilet. Means are self contained in the structure for supporting the step when in an extended position and also for retrieving the step out of the way for normal adult use of the toilet.

In the preferred form of the invention the step is retrievable or collapsible such that it does not extend more than a negligible amount beyond the supporting structure of the device.

3,383,715

#### SINK STRAINER ASSEMBLY

Jay De Young, Grand Haven, Mich., assignor to Michigan Brass Company, Grand Haven, Mich., a corporation of Delaware  
Filed Sept. 11, 1967, Ser. No. 666,792  
3 Claims. (Cl. 4-288)

A readily installed and removed sink strainer assembly having on the flanged strainer body a plurality of affixed

threaded depending studs around the lower neck of the body, to which are secured by wing nuts both a flanged

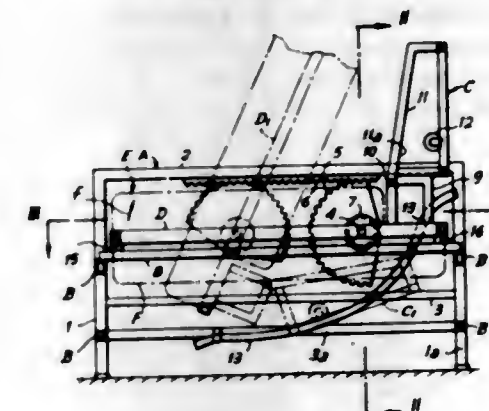


retainer cup fitting around the body and a tailpiece retainer plate.

3,383,716

#### DIVAN-BED

Gianfranco Biancalani, 165/167 Via 4 Novembre, Ferruccio di Quarrata, Pistoia, Italy  
Filed Oct. 19, 1966, Ser. No. 587,847  
Claims priority, application Italy, Oct. 26, 1965, 23,852/65  
8 Claims. (Cl. 5-26)



A divan-bed, convertible between a bed configuration and a seat configuration, is formed of a main frame comprised of a pair of spaced end frames interconnected by side members and defining a vertically extending open space wherein a support frame is pivotally mounted on the main frame. One face of the support frame carries the bed means while the other face carries a seat with a back rest pivotally attached to the support frame. A sector gear is secured to each end of the support frame and meshes with racks attached to the end frames of the main frame for reversing the orientation of the support frame. When the divan-bed is in its seat configuration the back rest extends generally perpendicularly to the support frame. When the support frame is pivoted within the main frame for conversion to a bed configuration a roller member on the backrest engages a track on the end frames and the backrest is guided to a position below the support frame where it is disposed in generally parallel relationship with the support frame.

3,383,717

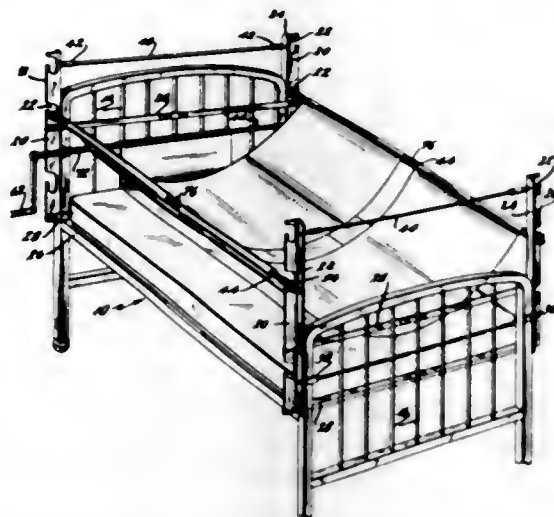
#### BED DEVICE FOR MOVING PATIENTS

Raymond Underwood, Cleveland, Tex., assignor of one-half to Opal M. Underwood, Cleveland, Tex.  
Filed Mar. 3, 1967, Ser. No. 620,393  
4 Claims. (Cl. 5-61)

This application describes a bed attachment for care of bedridden persons and is based upon a construction which adjustably secures an angle iron to each of the four corner posts of a bed. Other adjustable tie members and shafts mounted on the angle irons convert the angle irons into a rigid structure which may support the patient independently of the spring and bed frame. Shafts which extend

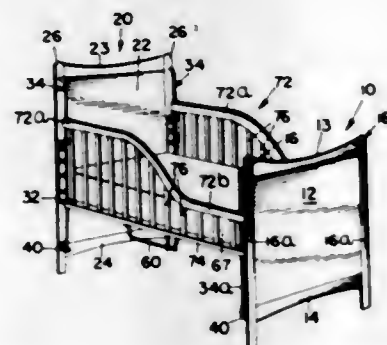


one on each side of the bed are rotatable and can hold bed sheets therebetween on which the bed occupant may



be lifted or turned by appropriate rotation of the shafts. A similar head or foot end shaft may move the bed occupant longitudinally.

**3,383,718**  
**CONVERTIBLE BEDSTEAD**  
Aaron D. Spencer, 34 Elizabeth Circle,  
Longmeadow, Mass. 01106  
Filed Sept. 20, 1966, Ser. No. 580,679  
9 Claims. (Cl. 5—100)

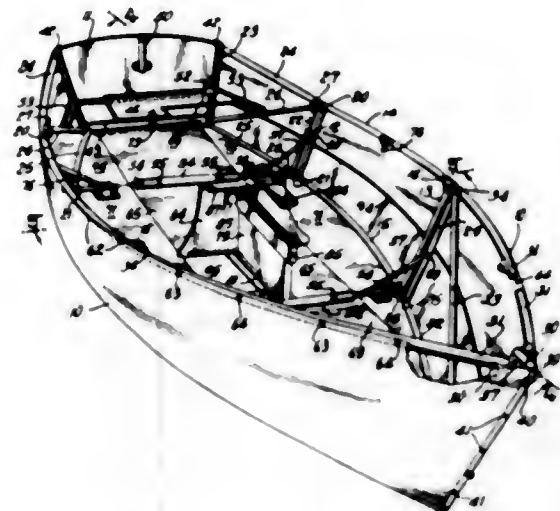


1. A convertible crib and youth bed comprising:
- a pair of spaced end panels;
  - a pair of slide rods on the inboard side of each of the end panels;
  - drop sides slidable upon the slide rods and extendable between the end panels;
  - one of the end panels being of two-part construction with each of its respective slide rods being of two part construction and including an upper portion and a lower portion with first means for releasably interjoining the upper and lower portions together and second means for releasably connecting the interjoined portions to each of the parts of the end panel of two-part construction, with alternate means for releasably joining the upper portions of the slide rods to the remaining part of the end panel of two-part construction following removal of one part of the two-part end panel and removal of the lower portion of each of the two-part slide rods in the shortening of the end panel and the pair of slide rods.

**3,383,719**  
**COLLAPSIBLE BOAT**  
Hugo Homan Van der Heide, Smith Ave.,  
South Nyack, N.Y. 10960  
Filed Sept. 6, 1966, Ser. No. 577,222  
11 Claims. (Cl. 9—2)

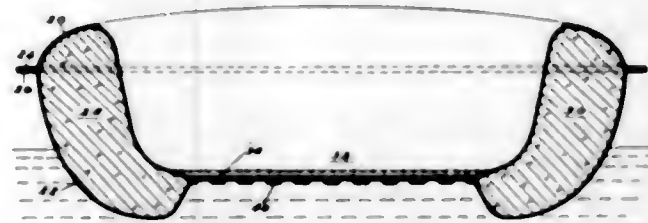
A collapsible portable boat having a hull including a frame and a unitary flexible skin thereon of tough sheet material, which frame comprises an intermediate section,

a forward section hinged to the forward end of said intermediate section, a rear section hinged to the rear end of said intermediate section, and transverse struts for retaining said frame sections in operative position when the



boat is in extended condition for use, said frame sections, struts and skin being foldable into a relatively compact assembly when the boat is in collapsed or non-operative condition for storage or transportation.

**3,383,720**  
**BOAT**  
James W. Greig, Grosse Pointe Park, and Leslie J. Berridge, Detroit, Mich., assignors to Woodall Industries, Incorporated, Detroit, Mich., a corporation of Michigan  
Filed Jan. 15, 1963, Ser. No. 251,620  
5 Claims. (Cl. 9—6)

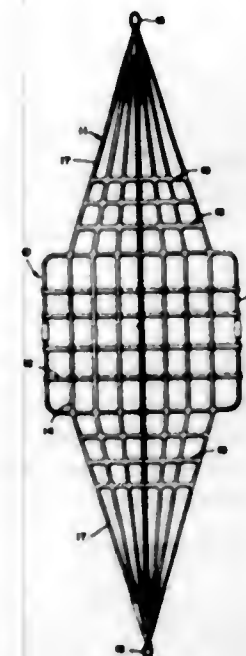


1. A boat hull formed of two plastic sheets, one sheet being shaped to provide an outer and lower hull section and the other sheet being shaped to provide an inner and upper hull section, each section having a marginal flange projecting outwardly, said two flanges being superposed when the upper and inner section is disposed within the outer and lower section, said two flanges being fused together providing a hollow boat hull the two side wall portions of which constitute hermetically sealed hollow chambers, said two fused flanges constituting a support for the attachment of parts to the hull without penetrating the wall of the hollow chambers of the hull, said boat hull characterized in that the bottom portion of the outer and lower section is corrugated fore and aft.

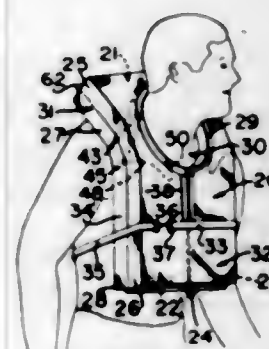
**3,383,721**  
**INFLATED LIFE RAFT LAUNCHING DEVICE**  
Leland D. Adams, Jr., 48 Encino Road,  
Atherton, Calif. 94025  
Filed July 11, 1966, Ser. No. 564,078  
1 Claim. (Cl. 9—30)

Apparatus for launching inflated life rafts from the deck of a ship and for retrieving it after launching. A platform means underlies the raft and has flexible side

webbing with loops for engaging a releasable davit hook. The raft is lifted intact for launching and after being deposited in the water, a release cord is pulled to drop one

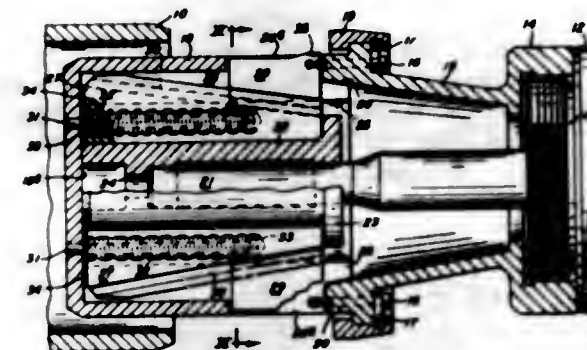


**3,383,722**  
**LIFE VEST AND METHOD OF MAKING SAME**  
Joseph H. Le Blanc, Jr., New Orleans, La., assignor, by mesne assignments, to Tapasco, Inc., Fairfield, Calif., a corporation of Nevada  
Filed Oct. 24, 1965, Ser. No. 504,571  
18 Claims. (Cl. 9—338)



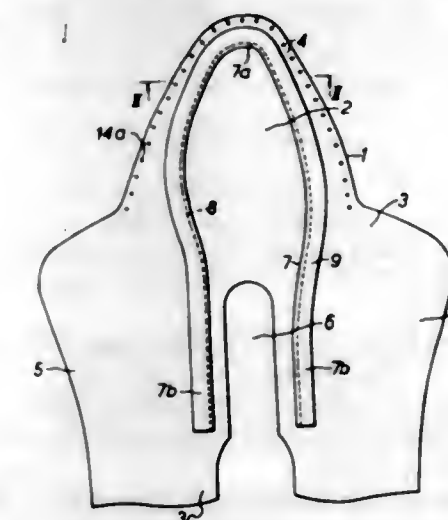
This disclosure relates to a life vest and the method of making a life vest by providing a sheet of buoyant material which is of predetermined size and configuration, and cutting that sheet of buoyant material into desired material portions, which portions comprise life vest components, with none of the buoyant material being wasted. The cutting of the sheet of buoyant material provides a series of finger-like portions adjacent a neck opening and the finger-like portions so provided are more flexible than the remainder of the buoyant material to allow flexibility in the neck area of the life vest. The buoyant material portions are arranged to provide a vest chest portion and a vest neck portion, with the aforementioned fingers extending therefrom about a head opening thereof. The opening may be of keyhole configuration, and may terminate short of the bottom of the vest. The vest is then covered with a suitable covering material which provides a hinged effect at junctures of the various portions of buoyant material.

**3,383,723**  
**EXPANDING MANDREL FOR MACHINING PIPE ENDS**  
Eugene B. Connelly, Churchill Borough, Pa., assignor to United States Steel Corporation, a corporation of Delaware  
Filed Oct. 14, 1966, Ser. No. 586,753  
3 Claims. (Cl. 10—107)



1. An expanding mandrel comprising a hub, an outwardly projecting shoulder disposed adjacent one end of the hub so as to be engageable by a pipe end, a thruster coaxial with said hub and movable longitudinally thereof, a sleeve coaxial with and slidable on said thruster, having an external flange at one end, the interior of said hub having axial slots spaced circumferentially thereof, and slots extending radially through said hub for a limited portion of its length near one end thereof, wedges slidable axially in said axial slots, one end of said wedges being engageable by said flange, the outer edges of said wedges lying at an acute angle to the axis of said hub, fingers having sliding engagement with the outer edges of said wedges and movable radially in the radial extensions of said slots, compression springs extending between said hub and wedges, tending to effect axial movement of said wedges in such a direction as to move said fingers radially outwardly to engage the interior of said pipe end, said thruster being adapted to bottom in said sleeve thereby to move said sleeve and wedges axially against the force of said springs, whereby said fingers are moved radially inwardly, said angle being such that friction between said wedges and fingers prevents displacement of said wedges by radial pressure thereon.

**3,383,724**  
**METHOD OF MAKING MOCCASINS**  
John P. Harris, Park Lane, Northamptonshire,  
Wellingborough, England  
Filed Mar. 10, 1966, Ser. No. 533,197  
2 Claims. (Cl. 12—142)



This invention is concerned with a moccasin type shoe which comprises basically a foundation piece and an outer sole without a middle sole, the method of making

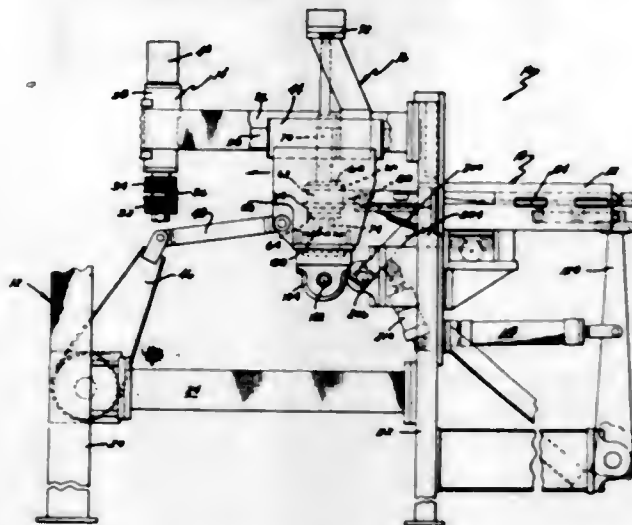


the shoe including the steps of first attaching the welt strip around the perimeter of the sole area on the foundation piece by means of stitching while the foundation piece is flat, and then placing the welted foundation piece on a last and attaching thereto the sole by an adhesive connection to locate the sole on the foundation piece so that it may be located while the sole is stitched to the welt strip.

3,383,725

**EDGE TRIMMING APPARATUS**

Robert K. Allwardt, Grand Rapids, Mich., assignor to Wolverine World Wide, Inc., a corporation of Michigan  
Filed May 6, 1966, Ser. No. 548,098  
8 Claims. (Cl. 12-142)



Edge trimming apparatus for angularly distorted shoe sole and heel workpieces unattached to the shoe and having the heel and adjacent sole portion extending diagonally at an angle from the major portion of the sole, involving workpiece clamping means capable of receiving the workpieces in a flattened condition with the heel aligned with the major sole portion, edge trimming tool means, workpiece advancing pushing means for pushing the distorted workpieces into the clamping means, and workpiece bending and flattening aligning means configured and arranged to flatten and align the angularly distorted workpieces as they are advanced to the clamping means; said last mentioned means having tapered heel contacting surface area and flat sole contacting area, and forming a convergent mouth with surfaces shiftable together to a generally parallel relationship. The apparatus preferably handles two workpieces in mirror image relation.

Edge trimming method for angularly distorted shoe sole and heel workpieces unattached to the shoe and having the heel and adjacent sole portion extending diagonally at an angle from the major portion of the sole, involving bending the angularly distorted workpieces to a flattened condition with the heel aligned with the major sole portion, clamping the flattened workpiece, and trimming it.

3,383,726

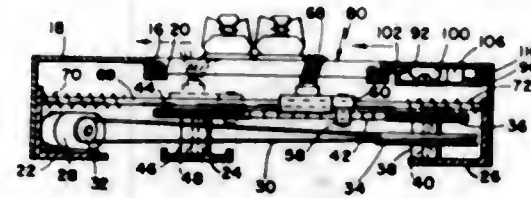
**SHOE CLEANER**

Reynold Sayre Chapin, Mystic, Conn., assignor to Cyclo-Clean Corporation, New London, Conn., a corporation of Connecticut

Filed Sept. 12, 1966, Ser. No. 578,720  
10 Claims. (Cl. 15-33)

6. An automatic shoe cleaner comprising
  - a grating mounted to provide a support surface for the weight of a person;
  - at least one brush carrying bristles mounted for reciprocal horizontal movement beneath said grating parallel to the bars thereof to produce a sweeping action across substantially the entire area of said grating, the bristles covering only a small fraction of the area of said grating at any given time and extending

through and sufficiently above said grating to produce a bristle-snapping sweeping against shoe soles on said grating, the magnitude of movement of said brush in each direction of said reciprocal movement being substantially greater than the width of a typical shoe;

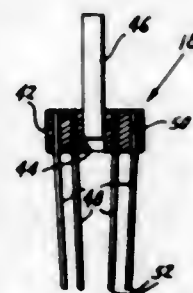


means for driving said brush in said reciprocal movement; and  
means automatically responsive to the presence of a person at said grating to actuate said driving means, maintain said reciprocal movement while the person remains at said grating, and deactivate said driving means when the person leaves said grating.

3,383,727

**CLEANING DEVICE**

William H. Hanson, P.O. Box 82,  
Galata, Mont. 59444  
Filed Mar. 24, 1966, Ser. No. 537,164  
1 Claim. (Cl. 15-104.04)

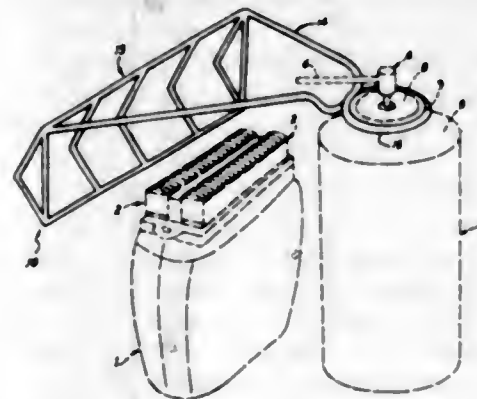


A tool for cleaning corrosion accumulations from the frusto-conical sides of battery terminals and the complementing surfaces of battery connectors, the tool including a cylindrical holder having an end in which is embedded one of the ends of a plurality of circumferentially spaced prongs, the other ends of the prongs projecting laterally from the aforementioned end of the holder and being engageable with the sides of the battery terminals and connectors so as to effect devellication of the corrosion therefrom upon rotation of the holder and consequently of the prongs connected therewith.

3,383,728

**HOOD FOR SPRAY CAN**

William B. Harris, Jr., 1218 W. T. Waggoner Bldg.  
76102, and Elizabeth B. Champion, 3557 Bellaire  
Drive S. 76109, both of Fort Worth, Tex.  
Filed Dec. 17, 1965, Ser. No. 514,591  
2 Claims. (Cl. 15-246)



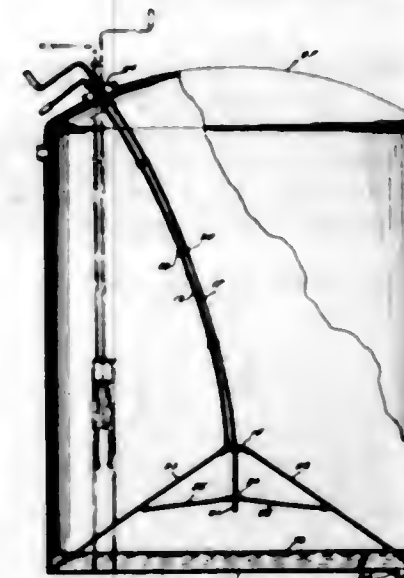
The device of the invention provides a combined hood and backstop positioned in opposing relation to a spray

nozzle and having incorporated therein a receptacle for shavings formed of disposable tissue whereby the shavings as displaced from the cutting surfaces of a shaver are adapted to be first confined and collected, and thereafter may be conveniently disposed of.

3,383,729

**TANK CLEANER**

Lyle J. Grove, Box 337, Coyle, Okla. 73027  
Filed Nov. 22, 1966, Ser. No. 596,112  
4 Claims. (Cl. 15-246.5)

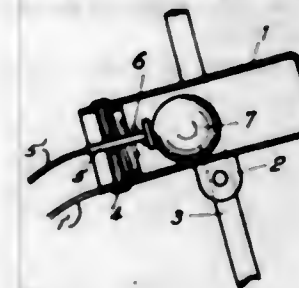


A tank cleaning tool consisting of a flexible supporting rod secured to a plate and a flexible crank rod swiveled in the plate, the rods being retained in parallel relation by spaced connectors, with the crank rod rotatable relative to the connectors. Opposed sweep arms are hinged to the plate and are linked to a nut threaded on the crank rod below the plate.

3,383,730

**SYNCHRONIZED CONTROL CIRCUIT FOR THE WINDSHIELD-WASHER PUMP OF A VEHICLE**

Paul Francois Joseph Lamondiere, 81 Blvd. Suchet,  
Paris, 16eme, France  
Filed June 29, 1966, Ser. No. 561,628  
Claims priority, application France, July 2, 1965,  
23,283, Patent 88,279  
7 Claims. (Cl. 15-250.02)



A control circuit for the windshield-washer pump of a vehicle whereby liquid supplied thereby is synchronously controlled by the oscillatory movement of the wiper blade drive linkage. The control circuit contains a switch means mounted on one of the oscillatory members of the drive linkage, which switch contains a movable contact member therein whereby the switch alternately opens and closes due to the effects of gravity on the movable contact member as the switch means oscillates. The alternate opening and closing of the switch causes the washer pump to intermittently supply fluid to the windshield in synchronism with the oscillatory movement of the wiper blades.

3,383,731

**WINDSHIELD WIPER ARM AND BLADE ASSEMBLY**

Fred A. Krohm, Hobart, Ind., assignor to The Anderson Company, a corporation of Indiana  
Continuation-in-part of application Ser. No. 540,040,  
Oct. 12, 1955. This application Jan. 23, 1956, Ser.  
No. 560,688  
2 Claims. (Cl. 15-250.23)

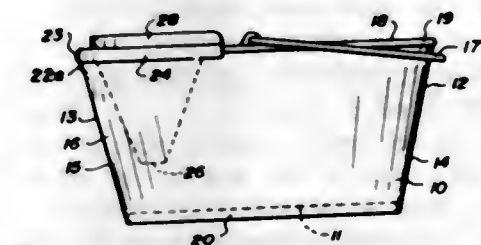


1. In a windshield wiper assembly for a curved windshield including an actuator shaft adapted to oscillate about a longitudinal axis, an arm support comprising a ring member secured about the shaft and having fork elements extending from the ring member, an arm having one end provided with a wiping blade and the other end straddling the fork elements, and a pivot pin mutually journaled in said straddling end of the arm and fork elements and defining an acute angle with a longitudinal axis of the arm to permit that portion of the assembly extending outwardly from the pivot pin to turn thereabout and thereby accommodate conforming movements of said outwardly extending portion of the assembly relative to the curved windshield, wherein the end of the arm straddling the fork elements is channel-shaped and the fork elements limit the turning of the outwardly extending portion of the assembly about the pivot pin by striking the web and sides of said channel-shaped end.

3,383,732

**MOP BUCKET WITH SEPARABLE STRAINER**

Anne C. James and William J. James, both of 2608 11th  
Ave. NW., Calgary, Alberta, Canada  
Filed Dec. 5, 1966, Ser. No. 599,217  
2 Claims. (Cl. 15-260)



This invention relates to a strainer for yacht mops adapted to be detachably clipped over the small end of a bucket and having a clip engageable with the bucket wall for engagement purposes. It also includes water barrier strips between the sides of the strainer and the conical element formed therewith to prevent water from slopping over the outside edges of the bucket.

3,383,733

**DRAPERY TRAVERSE ROD AND PULLEY HOUSING THEREFOR**

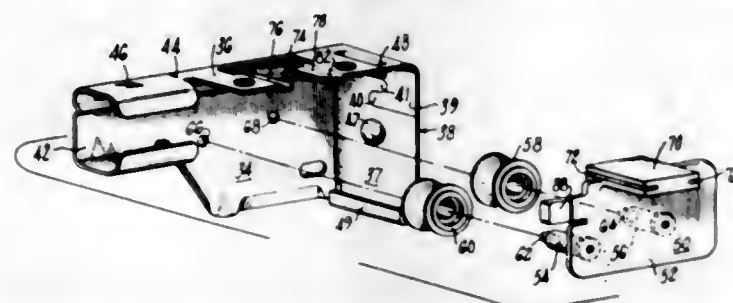
Kenneth M. Johnson, Kensington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed July 20, 1966, Ser. No. 566,616  
9 Claims. (Cl. 16-87.4)

1. A pulley housing for a drapery traverse rod comprising top, front, and end walls formed from a single sheet metal stamping, a molded plastic wheel plate forming a back wall of said housing and having at least one pulley shaft integrally molded thereon, an aperture

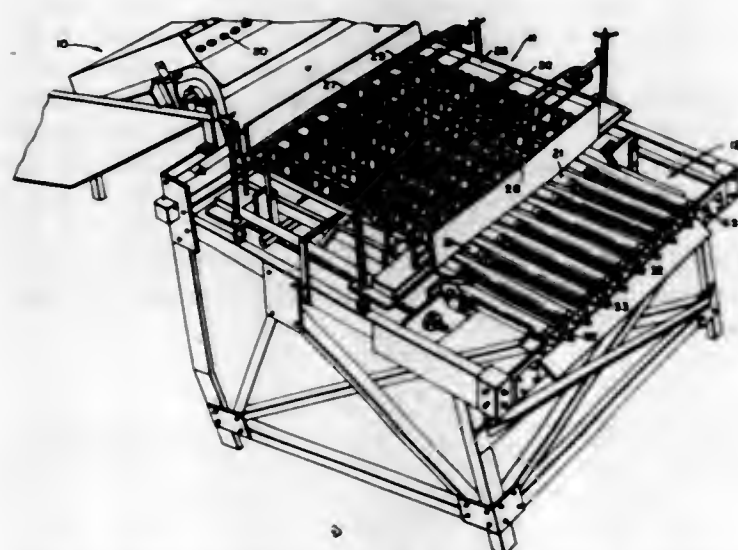


in said front wall receiving and supporting the free end of a pulley shaft, said wheel plate having a mounting



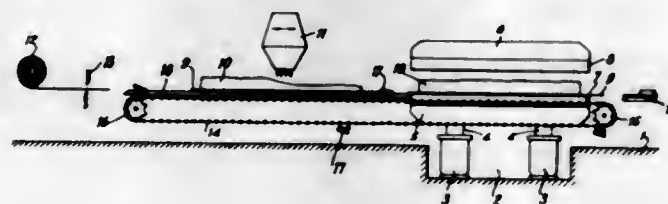
flange at the top thereof interlocked with said top rigidly securing the wheel plate in assembled position.

**3,383,734**  
**APPARATUS FOR PEELING SHRIMP**  
James M. Lapeyre, New Orleans, La., assignor to The Laitram Corporation, New Orleans, La., a corporation of Louisiana  
Filed May 25, 1967, Ser. No. 641,231  
2 Claims. (Cl. 17-2)



The present invention relates to a shrimp peeling machine for peeling precooked shrimp having two peeling sections, the first of which receives the shrimp substantially at cooking temperature and has pressure means for applying more peeling pressure at the introductory end than at its discharge end; while the second peeling section has no pressure means for urging the shrimp into the peeling nips defined by peeling rolls which have a different coefficient of friction between each other and which are shorter in length than the peeling rolls of the first peeling section.

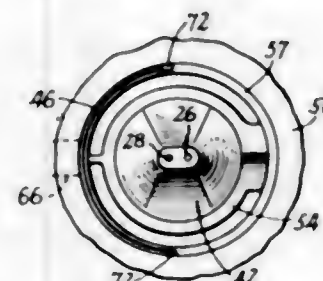
**3,383,735**  
**APPARATUS FOR THE MANUFACTURE OF PRESSED BOARDS**  
Frans Paerels, Zurich, Switzerland, assignor to Fred Fahrni, Zurich, Switzerland  
Filed Dec. 5, 1961, Ser. No. 157,055  
Claims priority, application Switzerland, Dec. 7, 1960, 13,699/60  
1 Claim. (Cl. 18-4)



1. Equipment for the manufacture of pressed boards, with a coating sheet on at least one side, by a single operation in a hot press, said boards being formed from

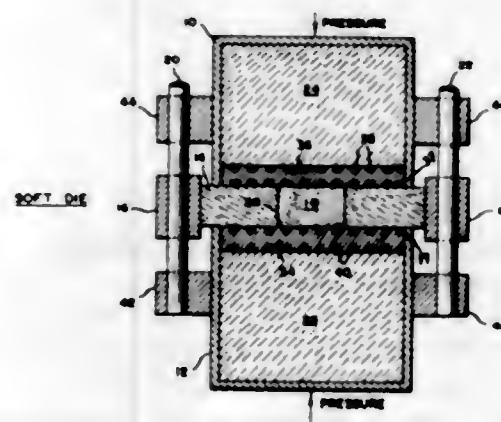
relatively small wood particles, such as shavings, chips, fibers or the like, which have previously been coated with a thermosetting binder, characterized by a particle scattering station for the formation of particle blanks, means for delivering empty coating sheets to a point below said particle scattering station, a consolidating press, a stationary support which extends from said scattering station to said consolidating press and upon which the blank loaded sheets move, and driven endless chains having gripping members for gripping the blank loaded sheets and pulling them over the stationary support from said scattering station into said press.

**3,383,736**  
**COMMUNICATION WIRE EXTRUSION APPARATUS**  
Adolf W. Brandt, Stratford, Conn., assignor to The Whitney Blake Company, New Haven, Conn.  
Original application Aug. 19, 1965, Ser. No. 480,963.  
Divided and this application Aug. 26, 1966, Ser. No. 598,131  
4 Claims. (Cl. 18-13)



Disclosed herein is an apparatus for extruding a base layer of insulating material about a pair of wires while simultaneously forming a thin web joining the wires and applying an outer colored coat layer of insulation to one or both of the wires for color coding purposes. The base and coat layers of insulation are introduced into the apparatus at points spaced from the extrusion die opening to gradually merge and prevent pressure imbalance, turbulence and resultant non-uniform coating.

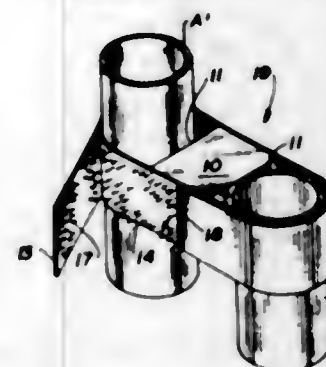
**3,383,737**  
**APPARATUS FOR PRESSURE SINTERING CERAMIC MATERIAL**  
Herbert H. Greger, 9901 Glen Road, Rockville, Md. 20854  
Continuation of application Ser. No. 416,774, Dec. 8, 1964, which is a continuation-in-part of application Ser. No. 173,452, Feb. 15, 1962. This application May 5, 1966, Ser. No. 548,016  
8 Claims. (Cl. 18-16.5)



1. A die assembly for forming large (1 x 2 x 5", for example) pieces of ceramic material on a production line basis, said assembly comprising:  
a die sleeve, said die sleeve having a given height and upper and lower surfaces with a cavity in at least one of said surfaces for receiving said ceramic material,

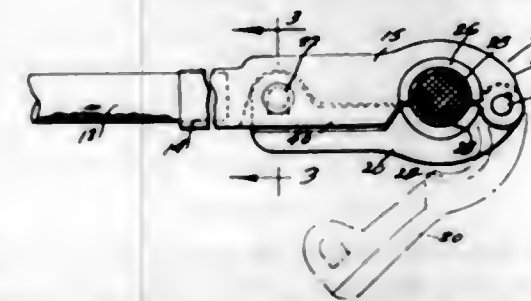
said die sleeve being composed of a rigid, brittle ceramic foam having an air cell volume of 50 to about 87%.  
heating means disposed adjacent to and in essentially direct thermal contact with said ceramic material and said upper and lower surfaces to maintain said ceramic material and at least a portion of said die sleeve at about the same temperature; and  
non-entering means for applying pressure to said surfaces and said charge to rupture and collapse said die sleeve around said charge to cause said die sleeve to assume a new volume by breakdown of its ceramic cell walls.

**3,383,738**  
**CHAIR TIE**  
William A. Fox, San Francisco, and Claude H. McMills, Redwood City, Calif., assignors of one-third to Charles P. Riva, Jr., South San Francisco, Calif.  
Filed Aug. 11, 1966, Ser. No. 571,858  
7 Claims. (Cl. 24-81)



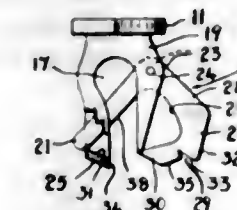
A chair tie for tying chairs in a side-by-side spaced relation. The chair tie includes a separator block defining opposed chair engaging surfaces in spaced relation. This block has affixed thereto on opposite sides inner and outer flexible bindings. These bindings are each attached in their medial portion to the block with their respective ends extending beyond the block. As utilized, the separator block of the chair tie is inserted between two chairs, confronting each chair at one of its chair engaging surfaces and effecting a spaced apart relation between the adjoined chairs. Thereafter the flexible bindings are wrapped in embracing relation around the respective chairs so as to secure each chair to the separator block. The bindings as embracing the chair fasten one to the other typically by interconnecting fiber members extending from the contacting surfaces between the embraced bindings.

**3,383,739**  
**SELF-LOCKING CLAMP**  
Bernard Henry Pitzel, 3436 E. Glenrosa, Phoenix, Ariz. 85018  
Filed Apr. 14, 1966, Ser. No. 542,679  
1 Claim. (Cl. 24-132)



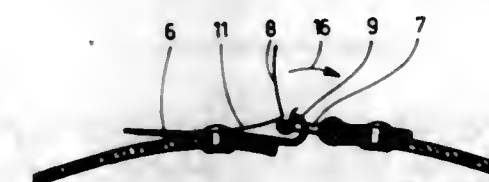
Self-locking clamp having a self-locking pin with a keeper which is locked with the self-locking pin by pressure which is caused upon compression of a neoprene liner securely disposed against conductor means which are received in a conductor-receiving portion when the clamp is closed.

**3,383,740**  
**SAFETY CATCH**  
Jonathan Fraleigh, 1977 Yonge St., Toronto, Ontario, Canada  
Filed Nov. 4, 1966, Ser. No. 592,187  
1 Claim. (Cl. 24-157)



A safety catch having a Y-shaped catch and a pin mounted to a base, the pin being pivotally fastened and so positioned that it may rotate out of and into engagement with the catch between the limbs thereof. The catch has a generally V-shaped guard pivotally mounted to one limb. A first arm of the guard permits the guard to be manually rotated and a second arm frictionally engages with the other limb of the catch and serves as an obstruction to prevent the pin, when between the limbs of the catch, from rotating out of engagement with the catch. To permit the easy opening of the catch, the second arm is notched and yields when force is applied to the first arm.

**3,383,741**  
**FASTENER, PARTICULARLY FOR THE STRAPS OF A SKI SAFETY HARNESS**  
Georges P. J. Salomon, 34 Ave. de Loverchy, Annecy, Haute-Savoie, France  
Filed Feb. 24, 1967, Ser. No. 618,400  
Claims priority, application France, Feb. 25, 1966, 51,239; Sept. 19, 1966, 76,896  
6 Claims. (Cl. 24-236)

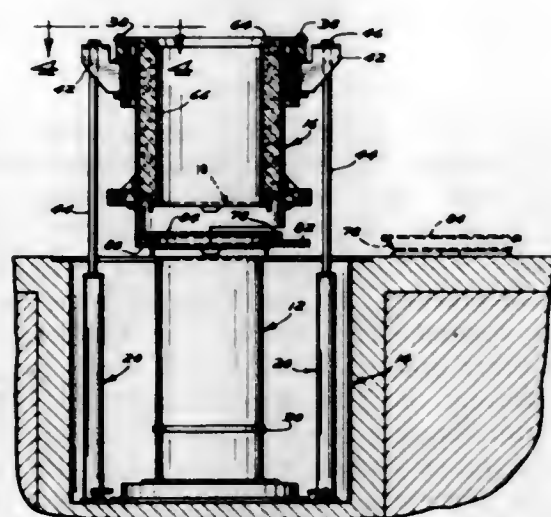


A fastener for tying together a first and a second strap end, of the type wherein one strap end has a hook and the other strap end has a buckle insertable into the hook. The hook has secured thereon a spring blade extending toward the bent end defining the hook and partially closing it. A releasing arm is articulated to the side of the buckle intended to enter into the hook. The releasing arm freely circumscribes the said buckle side and the tip of the circumscribing part bends outwardly to define therewith an angular seat adapted to sit over the tip of the hook so that when this angular portion sits thereon and the arm is pivoted in a predetermined direction, the buckle side portion is forced upward against the spring blade and through the opening to be free of the said hook.

**3,383,742**  
**MACHINE FOR MAKING CONCRETE PIPES**  
Le Roy B. Nelson, Minneapolis, Minn., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin  
Filed Nov. 30, 1964, Ser. No. 414,613  
1 Claim. (Cl. 25-30)  
1. A machine for molding concrete pipe comprising:  
(a) a stationary core;

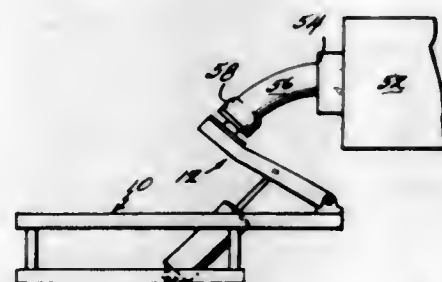


- (b) an axially slidable outer jacket in spaced concentric relation outside said core to form an annular molding cavity for receiving the concrete mix;
- (c) a pallet for closing the bottom of the annular opening between the jacket and the core;
- (d) hydraulic power means for axially displacing said jacket together with said pallet and molded pipe to thereby cause the molded pipe to strip from said core, and alternately reversing the axial displacement of said jacket together with said pallet and molded pipe;



- (e) lift means including spring loaded radially slidable pawls for lifting said pallet upon displacing of said jacket; and
- (f) disc means adapted to interrupt only the reverse displacement of said pallet and molded pipe whereby said molded pipe is stripped from said jacket, said disc means being further adapted to disengage said pawls from said pallet upon reverse displacement of said jacket.

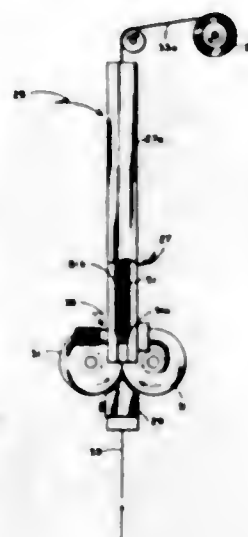
**3,383,743**  
**PIPE BENDING APPARATUS AND METHOD**  
 Herbert L. Cotton, Ocala, Fla., assignor to United States Concrete Pipe Company, a subsidiary of Pittsburgh Coke & Chemical Company, Pittsburgh, Pa., a company of Pennsylvania  
 Filed Oct. 13, 1965, Ser. No. 495,466  
 8 Claims. (Cl. 25-39)



An apparatus for forming curved pipe is described, and the apparatus includes a former member which contacts and grips the end of a pipe section being extruded from an extruding machine. The former member is moved in an arcuate path downwardly and away from the extruder so that the pipe section is formed into a curved pipe. The former member may be carried and moved by a frame means which is mounted to swing around a pivotal axis, carrying the former member with it. Furthermore, the

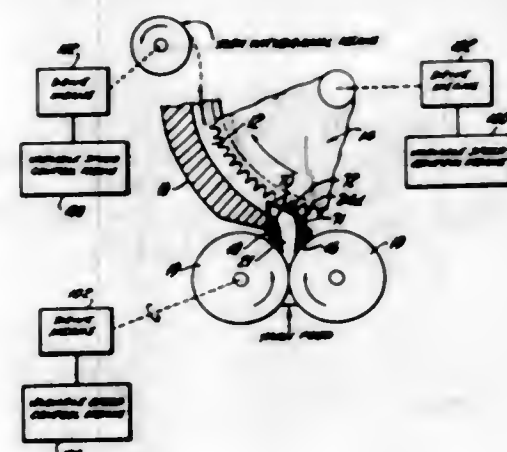
frame means may be power operated and automatically controlled in its movements.

**3,383,744**  
**STUFFER-CRIMPER IMPEDING APPARATUS**  
 William P. Moylan, Nashua, N.H., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware  
 Filed July 20, 1966, Ser. No. 566,542  
 27 Claims. (Cl. 28-1)



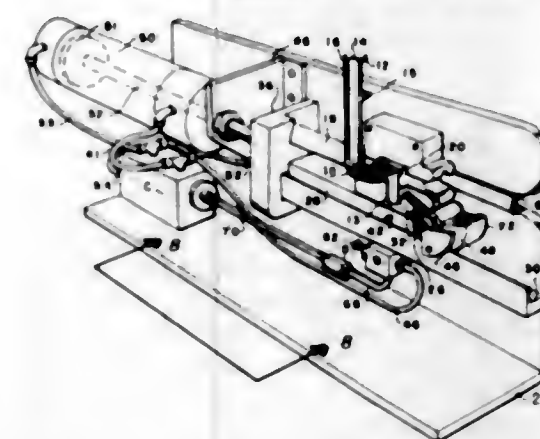
An apparatus for crimping yarn bundles in which an impeding mechanism, such as a cam having a variable cross section, is projected into the crimping chamber of a stuffer box crimper, for causing the yarn to crimp as it is fed through the chamber.

**3,383,745**  
**METHOD FOR CRIMPING YARN**  
 Denis Albert Edward Mattingly, London, England, assignor to The Klinger Manufacturing Company Limited, London, England, a British company  
 Original application June 10, 1964, Ser. No. 374,045, now Patent No. 3,287,783, dated Nov. 29, 1966. Divided and this application May 17, 1966, Ser. No. 562,410  
 4 Claims. (Cl. 28-72)



Synthetic filament yarn to be non-uniformly crimped is fed to a crimping chamber and longitudinally compressed in the chamber to form a plug of crimped yarn while varying the relation between the rate of removal of the plug from the chamber and the rate of feed. A conveyor wheel used to remove the plug can be driven at variable speed or the wheel may have variable yarn conveying properties. Alternatively a variable speed drive for the yarn feed can be used.

**3,383,746**  
**DEVICE FOR SECURING FASTENERS ON FLEXIBLE CONTAINERS**  
 John E. Narduzzi and Ralph L. Wing, Greenville, S.C., and Vincent A. Forte, Lexington, Mass., assignors to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut  
 Filed Sept. 22, 1965, Ser. No. 489,201  
 10 Claims. (Cl. 29-33.5)



A device for fastening the neck portion of a flexible bag with a staple fastener comprising a member adapted for receiving the neck portion of a bag, means for positioning a fastener about the bag neck, a rotatable anvil which moves into and out of position to receive the open end of a fastener positioned about the bag neck, and a driver anvil for driving said fastener against the rotatable anvil thereby securing this fastener about the bag neck.

**3,383,747**  
**SCALING TOOL**  
 Donald M. Browne, 3154 Wascana St., Victoria, British Columbia, Canada  
 Filed July 12, 1965, Ser. No. 470,988  
 11 Claims. (Cl. 29-81)

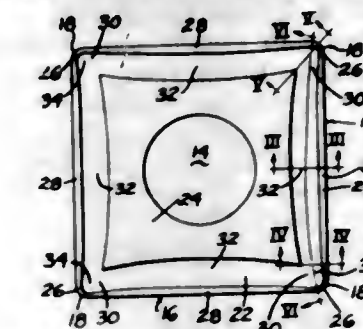


A cleaning device includes a plurality of rods reciprocally mounted in a casing and projecting from one end thereof. The rods are reciprocated by rotation of a drive shaft which actuates a wobble plate assembly in the casing. The rods are pivotally secured to the wobble plate assembly so that movement of the rods in each direction is caused by the wobble plate assembly.

**3,383,748**  
**CUTTING INSERT**  
 James M. Gallimberti, Latrobe, and Dennis G. Jones, Greensburg, Pa., assignors to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania  
 Filed June 16, 1966, Ser. No. 557,962  
 19 Claims. (Cl. 29-95)

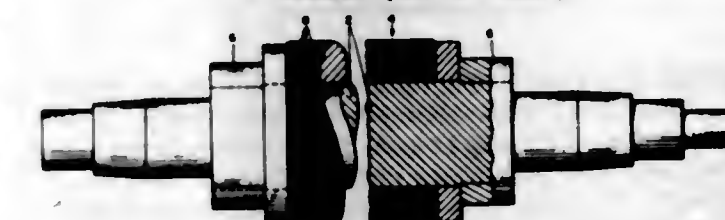
The present invention is drawn to an indexable cutting insert having a cutting edge land and a chip controlling groove about the periphery of the cutting face of the said

insert in a closed path wherein the transverse width of the land, or the transverse width and the depth of said groove are varied individually or collectively to provide



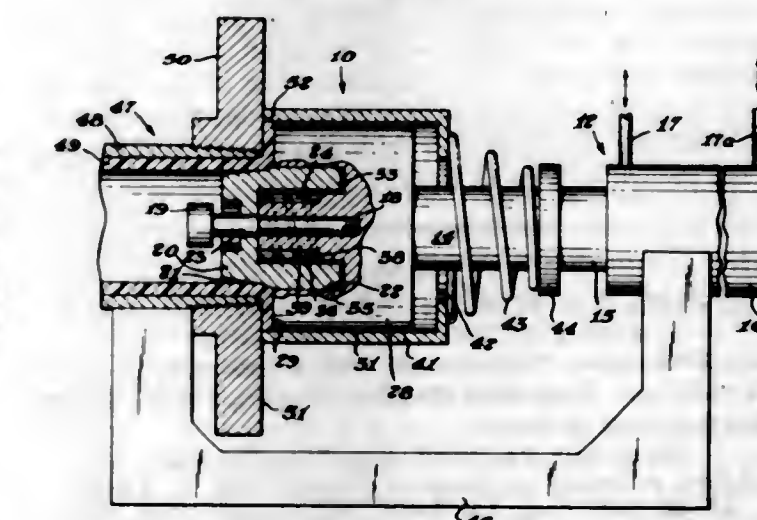
more favorable chip controlling function when rates and depths of machining feeds are varied with the said insert during operational use.

**3,383,749**  
**COTTON FILLED CALENDER ROLL AND METHOD OF MAKING**  
 Vernon L. Wilkinson, Westfield, Mass., assignor to B. F. Perkins & Son, Inc., Holyoke, Mass., a corporation  
 Filed June 28, 1966, Ser. No. 561,217  
 2 Claims. (Cl. 29-125)



1. A calender roll of the class described comprising in combination, a rigid central shaft, disc-like members disposed in adjacency on said shaft, said disc like members being formed of cotton fibers and threads pretreated with a removal therefrom of all residual oils and fats and waxes to allow a pure cellulose filling for enhancing the heat resistant quality.

**3,383,750**  
**METHOD FOR FLANGING OF THERMOPLASTIC LINED PIPE**  
 Robert E. Schroeder, Essersville, Walter H. West, Bay City, and William F. Mick, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
 Filed Apr. 26, 1965, Ser. No. 450,622  
 4 Claims. (Cl. 29-157)



Field flanging of thermoplastic lined pipe is accomplished using a tapered plug to support a heat softened liner during field flanging. The tapered plug is spring loaded and prevents formation of a ridge during molding of the flange.



3,383,751

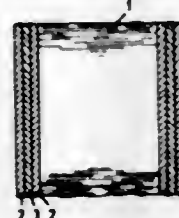
**METHOD OF PROVIDING A WALL AROUND A UNITARY MASS OF GAS-PERMEABLE MATERIAL FOR CONSTRUCTING A HEAT EXCHANGER OR A REGENERATOR**

Johannes Rudolphus van Geuns and Adrianus Petrus Dirne, Emmasingel, Eindhoven, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware  
Filed Apr. 13, 1965, Ser. No. 447,778

Claims priority, application Netherlands, Apr. 15, 1964,

64-4,045

9 Claims. (Cl. 29-157.3)



A method for providing a regenerator with a wall. The regenerator mass is constituted of gauze or fine screening with a wall soldered to the periphery. Since the wall is in excellent contact with the regenerator mass, no leakage occurs.

3,383,752

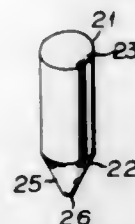
**METHOD OF PREPARING STYLUSES FOR REPRODUCING PHONOGRAPH RECORDS**

Yoshiro Hukao, Ota-ku, Tokyo, Emiko Higashinakagawa, Yokohama-shi, Hayashi Tsujii, Ota-ku, Tokyo, and Kiyohiro Yazawa, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co. Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Sept. 17, 1965, Ser. No. 488,215

Claims priority, application Japan, Sept. 18, 1964, 39/53,060; Mar. 16, 1965, 40/14,802; June 29, 1965, 40/38,453; Aug. 20, 1965, 40/50,563, 40/50,565

5 Claims. (Cl. 29-169.5)



A method of preparing a stylus for reproducing phonograph records by cutting a corundum ore to form a stylus tip having an axis of crystalline orientation in a region other than the region defined by a spherical quadrilateral with four apices and a region defined by the crystalline symmetry of corundum. The stylus tip thus formed is mounted on a holder in a predetermined manner so that the direction of rubbing between the stylus tip and the record will be in desired regions.

3,383,753

**APPARATUS FOR SORTING AND SHORT-CIRCUITING DETONATORS**

Satoshi Watanabe, Nobeoka-shi, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan, a corporation of Japan

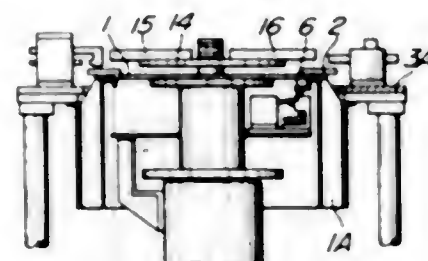
Filed July 21, 1965, Ser. No. 474,214

Claims priority, application Japan, Aug. 5, 1964, 39/44,167; Aug. 13, 1964, 39/45,422; Aug. 14, 1964, 39/45,608; Aug. 21, 1964, 39/46,412, 39/46,413

14 Claims. (Cl. 29-203)

1. An apparatus for handling electrical detonators to measure their electrical resistance, to reject detonators whose resistance values are unacceptable and to short

circuit acceptable detonators, said apparatus comprising an intermittently rotatable turntable, a plurality of holders peripherally mounted on said turntable for releasably engaging respective detonators, said detonators having lead wires with free ends, means for measuring the electrical resistance of the detonators in said holders when the turntable is intermittently halted, a discharge device for detonators operable upon reception of a signal from the electrical resistance measuring means to re-



lease a rejected detonator from a holder when said signal is absent, a metal foil supplying means for severing a length of foil from a supply thereof and forming said length into V-shape when the turntable is in rotation, said foil supplying means feeding a V-shaped foil to the end portions of the lead wires of said detonator when the turntable is halted and means for securing the foil to the ends of the lead wires of a detonator by clamping the foil and the ends of the lead wires.

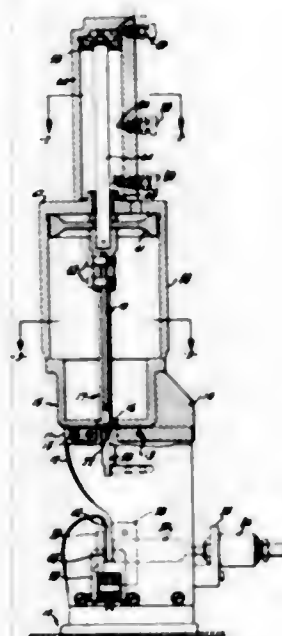
3,383,754

**FLUID DRIVEN MECHANISM WITH PROTECTIVE STROKE FOR APPLYING A CLIP AROUND A CASING**

Karl A. Klenz, Oakland, Calif., assignor to Rheem Manufacturing Company, New York, N.Y., a corporation of California

Filed Jan. 10, 1967, Ser. No. 608,367

6 Claims. (Cl. 29-243.57)



A fluid driven tool in which a piston is driven through a working stroke and applies a relatively heavy load to a workpiece or workpieces and wherein a relatively light load is applied to the tool during the first portion of its stroke and a relatively heavy load is applied at the terminal portion of the stroke for the purpose of minimizing damage to the apparatus.

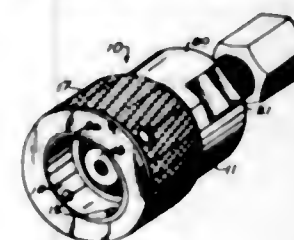
3,383,755

**BEARING PULLER DEVICE**

Jerry H. Chmielewski, 7311 Filbert Lane, Tampa, Fla. 33610

Filed Sept. 1, 1967, Ser. No. 665,150

6 Claims. (Cl. 29-264)



A device 10 for pulling bearings and the like from shafts comprising, a relatively rigid body 11 having a recess 23 in one end thereof, a sleeve member 12 slidably received in the recess and a spring 27 interposed between the sleeve and an inner end wall of the recess urging the sleeve outwardly, the sleeve member having radially extending openings 14 therethrough with lock members 15 in each of the openings and shiftable radially of the sleeve member in the openings and adapted to move into and out of the interior of the sleeve member to lock a bearing in the sleeve, and cam means cooperating with the lock members for urging the members radially inwardly of the sleeve member as the sleeve member moves outwardly of the recess. The sleeve may be retained by a set screw 30 in its inner position in which the balls are retracted to permit a shaft S and bearing B in the shaft to be received within the sleeve. The balls move inwardly to lock the bearing in the sleeve when the sleeve moves outwardly of the recess. The body 11 and the sleeve with the bearing locked therein are moved outwardly along the shaft by force applied by a bolt 16 threaded into the body.

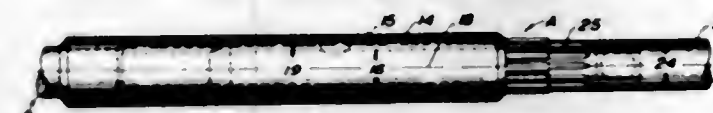
3,383,756

**METHOD OF MAKING A SLIP JOINT**

Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 26, 1965, Ser. No. 509,708

1 Claim. (Cl. 29-436)



A process for manufacturing a slip joint from a pair of shaft to mitigate rotary backlash.

3,383,757

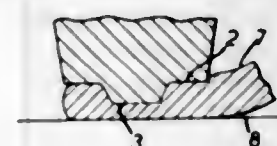
**THERMO-COMPRESSION BONDING OF METALS TO SEMICONDUCTOR, METALLIC, OR NON-METALLIC SURFACES**

Dennis Baker, London, and Ian Ewart Bryan, North Wembley, England, assignors to Her Majesty's Postmaster General, London, England

Filed Feb. 25, 1965, Ser. No. 435,272

Claims priority, application Great Britain, Mar. 2, 1964, 8,781/64

7 Claims. (Cl. 29-472.9)



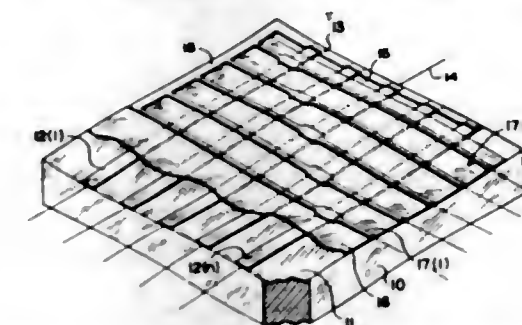
A method of effecting a thermo-compression bond between a wire and a surface in which a tool having a central protuberance is pressed on to the areas to be bonded.

3,383,758

**CRYOGENIC CIRCUIT FABRICATION**

John W. Bremer, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York  
Continuation of application Ser. No. 179,596, Mar. 14, 1962. This application Mar. 9, 1966, Ser. No. 536,558

4 Claims. (Cl. 29-599)



1. A method of fabricating a thin-film superconductive circuit on an insulating substrate comprising the steps of: placing said substrate in a high-vacuum atmosphere; evaporating on said substrate through a pattern defining mask a first pattern of superconductive material; forming a film of insulating material over selected portions of said first pattern; evaporating a film of superconductive material having a thickness of less than 10 microns over said foregoing materials; removing said substrate from said atmosphere; selectively removing portions of said film of superconductive material to form a second pattern of superconductive material; and placing said circuit in an environment wherein said superconductive material is normally in the superconductive state.

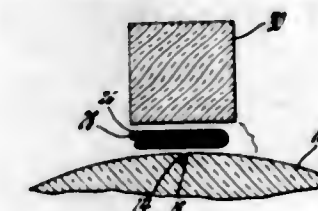
3,383,759

**METHOD OF PRODUCING A TRANSDUCER**

Fay E. Gifford, Lathrup Village, and Charles W. Williams, Essexville, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 18, 1966, Ser. No. 528,564

8 Claims. (Cl. 29-603)



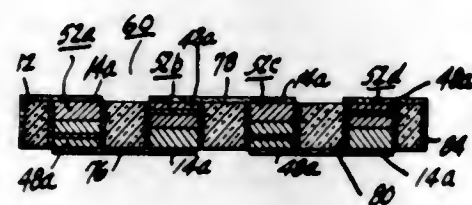
1. A method for filling a narrow groove in a ceramic body such as in a transducer assembly and the like with a metal to form a continuous void-free metal strip comprising the steps of placing metal foil composite on said body whereby said foil composite completely covers the top of said groove, clamping said foil composite to said ceramic body with sufficient pressure to keep the foil composite from moving, heating said foil composite in a vacuum whereby said foil composite melts and flows into said groove to form a continuous void-free metal mass in said groove, cooling said ceramic body and grinding any excess metal which extends out of said groove, said foil composite consisting of a plurality of metal foils including at least one layer of a metal foil selected from the group consisting of nickel, zirconium and manganese and at least one layer of a metal foil selected from the group consisting of zirconium, titanium, molybdenum, vanadium, and copper.



3,383,760

**METHOD OF MAKING SEMICONDUCTOR DEVICES**

Stanley Shwartzman, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Aug. 9, 1965, Ser. No. 478,351  
4 Claims. (Cl. 29—577)



A composite wafer of semiconductor components, separated from each other by glass, is severed along the glass into a plurality of parts. The parts are rearranged and joined to each other in a desired configuration. Some of the parts are turned over so that simple short connections may be made between the components on both sides of the device.

3,383,761

**PROCESS OF PRODUCING MAGNETIC MEMORY ELEMENTS**

Toshio Hayasaka, Kenro Masuzawa, and Yuzo Odani Tokyo, Shigeo Senzaki, Yokohama, and Yuji Gomi, Tadamasu Ogawa, and Keizo Fujisawa, Tokyo, Japan, assignors to Nippon Telegraph & Telephone Public Corporation, Tokyo, Japan, a corporation of Japan  
No Drawing. Filed Oct. 17, 1966, Ser. No. 586,987  
9 Claims. (Cl. 29—604)

Thin magnetic memory elements are made in the form of a conductive wire comprising a conductive non-magnetizable base and a thin covering of magnetic material. The method of the present invention is to produce a composite slug of ductile metals with conductive non-magnetic metal covered by a magnetic material. The slug is then drawn in wire-making machinery to produce a wire useful as a magnetic memory element. The product produced by this method is a wire consisting of a non-magnetizable metal base and a covering magnetic material, in which the base is a ductile metal having a Vickers hardness in the range of 60–200.

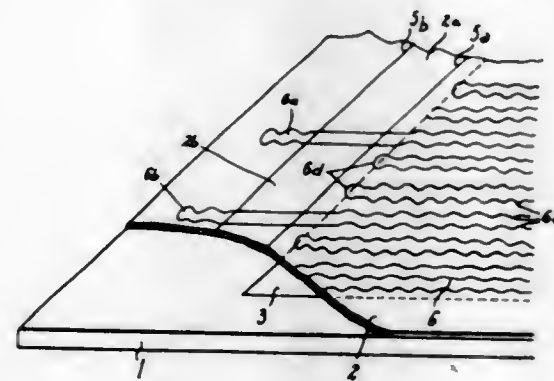
3,383,762

**METHOD OF TERMINATING A HEATING GLASS STRUCTURE**

René Leclercq, Antony, Seine, France, assignor to Jean-Pierre de Montmollin and René Gugger, both of Neuchâtel, Switzerland

Filed Jan. 11, 1965, Ser. No. 424,597  
Claims priority, application France, Jan. 15, 1964, 960,378

7 Claims. (Cl. 29—611)



A method for the production of a heating glass structure and the product thereof. The method comprises the steps of bonding a heating netting of resistance wires to

the surface of a plastic carrier, and attaching the heating netting to a glass plate with the resistance wires in direct contact with the inner surface of said glass plate, and with a portion of the carrier extending past the glass plate, said extending portion of the carrier carrying the end portions of some, but not all, of the resistance wires. Electrode means are then attached to the surface of the carrier opposite that surface to which the heating netting is bonded, part of the extending portion of the carrier is cut away and the remainder is folded back across itself so that the resistance wires which are extending fall across the electrode means to which they are attached. A second glass plate is then applied over the carrier and bonded thereto.

3,383,763

**RAZOR WITH REPLACEABLE BLADE**

Helge J. Strandfors, 4356 N. Bell Ave., Chicago, Ill. 60618

Filed June 29, 1966, Ser. No. 561,603  
2 Claims. (Cl. 30—32)



A razor is provided having a removable blade which is attached to a blade holder by means of a frictional fit between a lug of the blade holder and the edges of an opening provided in the blade. The blade holder and blade fit within a channel having curved side walls which permit a sliding-rolling of the channel relative to the surface of the skin being shaved.

3,383,764

**PLASTIC DISPOSABLE SAFETY RAZOR**

Leonard W. Sachs, Grosse Pointe, Mich., assignor to Sachs Safety Razor Co. Inc., Detroit, Mich., a corporation of Michigan

Original application Oct. 26, 1964, Ser. No. 406,977, now Patent No. 3,274,683, dated Sept. 27, 1966. Divided and this application Sept. 19, 1966, Ser. No. 586,915  
1 Claim. (Cl. 30—32)



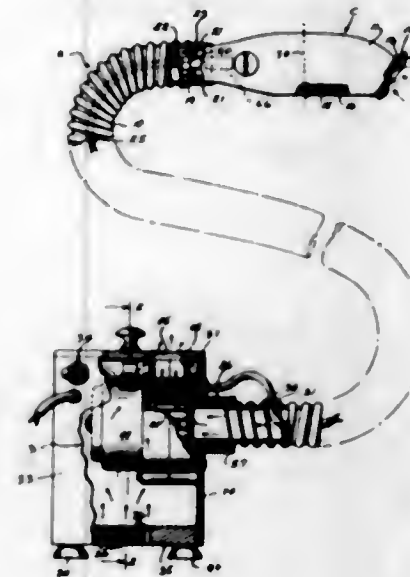
The razor of my invention comprises a head, a separate guard member and a blade interposed and clamped between the head and guard members. The head has integral pins extending through holes in the blade and guard member. The head and guard members and pins are formed of an inexpensive disposable thermoplastic material deformable by the application of heat and pressure, and the pins have deformed enlarged ends to permanently secure the assembly together. A handle is secured to and projects from the guard member.

3,383,765

**FORCED AIR COOLED HAIR CLIPPER**

Henry E. Meltzer, 1745 Flott St., Racine, Wis. 53403

Filed Mar. 7, 1967, Ser. No. 621,235  
2 Claims. (Cl. 30—123)



A forced air cooled electric hair clipper of the type having a sealed outer casing open at its front and rear end terminations. A cutter head at the front end termination and a flexible hose or tube connected to the rear end termination in open communication with a suction apparatus for circulating relatively cool air about and around the clipper head and through the working parts in the clipper casing for cooling purposes.

3,383,766

**CUTTER ASSEMBLAGE HAVING FOUR SELECTIVELY USABLE SINGLE LIP CUTTERS**

Rudolf W. Hummert, Brockville, Ohio, assignor to Falcon Tool Company, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 8, 1966, Ser. No. 600,215  
6 Claims. (Cl. 30—164.9)



1. A cutting tool assemblage for use in engraving and duplicating, comprising: a tool holder having a longitudinal axis and adapted to be rotated thereabout, a tool receiving opening formed in one end of said holder, said opening being generally concentric with said axis and provided with means for releasably securing a cutting tool therein; a pair of cutting tool forming blanks positioned in said opening; each of said blanks comprising an elongated hardened body having a longitudinal axis and a flat exterior surface extending parallel to said longitudinal axis; said blanks being positioned in said opening with their flat exterior surfaces in engagement and their longitudinal axes extending parallel to said longitudinal axis of said holder; one of said blanks positioned so as to extend further from said opening, whereby the flat surface of said one blank constitutes a cutting flat.

3,383,767

**IMPACT BLADE KNIFE**

Henry K. Orthman, R.R. 2, Lexington, Nebr. 68850

Filed Dec. 27, 1965, Ser. No. 516,285

10 Claims. (Cl. 30—272)



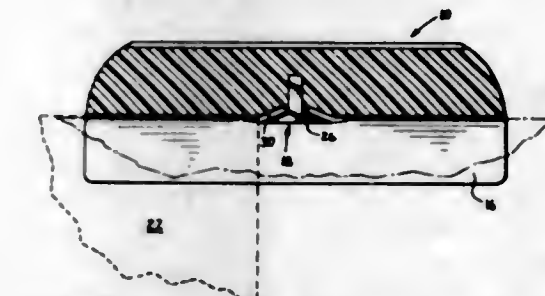
A knife device having a body member including a chamber with a freely movable ball member actuated by an air supply for vibrating a blade rigidly secured to the body member to provide blade cutting action. A plurality of chambers may be provided in the body member and means may be provided for causing the ball members to move in dissimilar patterns to maximize the blade cutting action. The blade may be detachably connected to the body member by a movable anchor element biased into engagement with the blade by a spring and air pressure. The vibration chamber in the body of the blade is sealed to prevent air from contaminating the area in proximity to the blade.

3,383,768

**LETTER OPENER**

Glen V. Hamilton, 1930 E. 47th St., Anderson, Ind. 46013

Filed July 11, 1966, Ser. No. 564,120  
3 Claims. (Cl. 30—287)



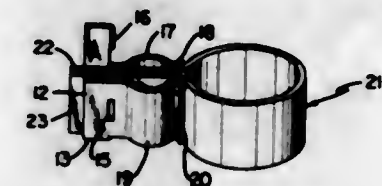
An envelope opener having an elongated body with a V-shaped channel therein, a T-shaped cutter member mounted within the channel, and grooves in the outer sidewalls of the body to provide gripping means.

3,383,769

**LANCE MATRIX BAND CLAMP FOR DENTAL PURPOSES**

Harold G. Davis, Denver, Colo., assignor to Rocky Mountain Dental Products Co., Denver, Colo., a corporation of Colorado

Filed Oct. 22, 1965, Ser. No. 501,607  
6 Claims. (Cl. 32—63)

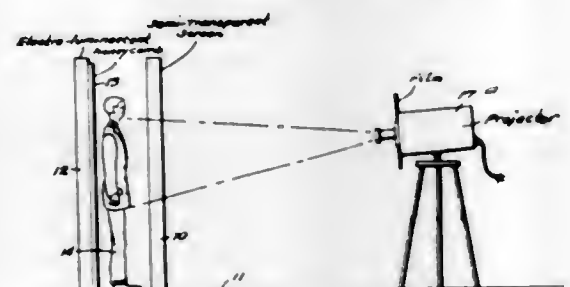


The invention is an improvement in a dental matrix clamp for clamping the looped matrix band around a tooth, the clamp being of the type having two opposed flexibly joined clamping members folded together at a



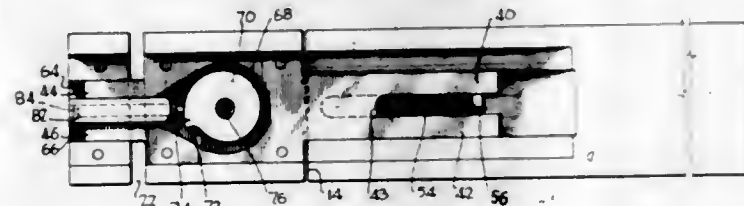
bending portion between them for receiving between them the overlapping ends of the matrix band looped around a tooth, one of the clamping members having a locking member thereon for passing through a slot in the other clamping member and through the overlapping ends to lock the assembly together, the improvement being a leg member for supporting the locking member bendably attached to an end edge of one of the clamping members, and arcuate portions formed in the clamping members adapted to be flattened after assembly of the clamp over the overlapping ends of the matrix band so as to apply additional tightening pressure on the matrix band.

**3,383,770**  
**CLOTHING MEASURING METHOD AND APPARATUS**  
James J. Xenakis, 2 Princess Lane,  
Eatontown, N.J. 07724  
Filed Jan. 22, 1964, Ser. No. 339,563  
4 Claims. (Cl. 33-2)



1. Apparatus for fitting a subject for an article of apparel, comprising a translucent screen having first and second surfaces, a luminescent panel in spaced relation to said first surface of said screen and in alignment therewith, a honeycomb screen on said luminescent panel between the same and said first surface of said translucent screen and adapted to collimate light from said panel onto said translucent screen at an angle normal thereto, there being sufficient space between said honeycomb screen and said translucent screen to accommodate said subject whereby his full sized silhouette is projected onto said first surface of said translucent screen so as to be visible on said second surface thereof, a succession of life size outlines of persons of various known sizes and shapes, means facing said second surface of said translucent screen for projecting a succession of said outlines thereonto in concentric relation to said silhouette whereby to locate that outline which most nearly corresponds to said silhouette, and each outline calling for an article of apparel of a different known size.

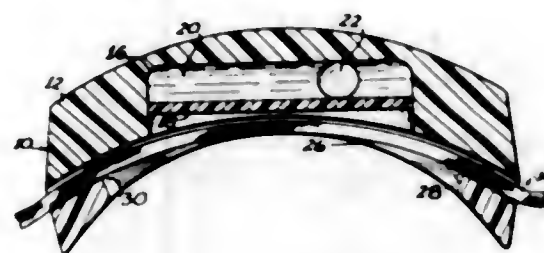
**3,383,771**  
**CALIBRATION MEANS FOR A MEASURING RULE**  
Theodore G. Altenecker, Jr., Hatboro, Pa., assignor to Theodore Altenecker and Sons, a corporation of Pennsylvania  
Filed Apr. 5, 1967, Ser. No. 628,594  
3 Claims. (Cl. 33-107)



A measuring rule includes a movable member adapted to be moved from a zero reference point in small increments away from a main fixed rule having graduations thereon. Means are provided to adjust the position of the

movable member to compensate for slight deviations from the zero reference point which may develop during the use of the rule.

**3,383,772**  
**ROTATIONAL ATTITUDE INDICATOR**  
Howard P. Gardner and Baron G. Roberts, Atlanta, Ga., assignors to Accumatic Corporation, Atlanta, Ga., a corporation of Georgia  
Continuation-in-part of application Ser. No. 403,156, Oct. 12, 1964. This application Aug. 25, 1966, Ser. No. 578,115  
4 Claims. (Cl. 33-207)

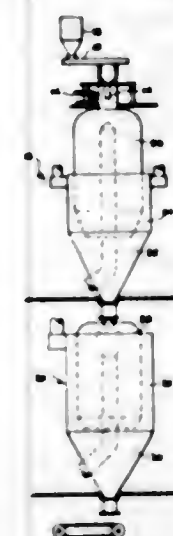


A device for measuring the amount of rotation of one's forearm comprising a transparent elongate vertically arced housing, a horizontally arced bubble indicator within the housing and means for securing the housing to the wrist of a user. A method of performing a sport comprising recognizing the rotation of one's wrist before and after participation by means of observing a wrist mounted rotational attitude indicator.

**3,383,773**  
**METHODS OF REPRODUCIBLY DRYING ORGANOPOLYSILOXANES**  
Duane C. Nugent, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio  
No Drawing. Filed Nov. 15, 1966, Ser. No. 594,381  
17 Claims. (Cl. 34-9)

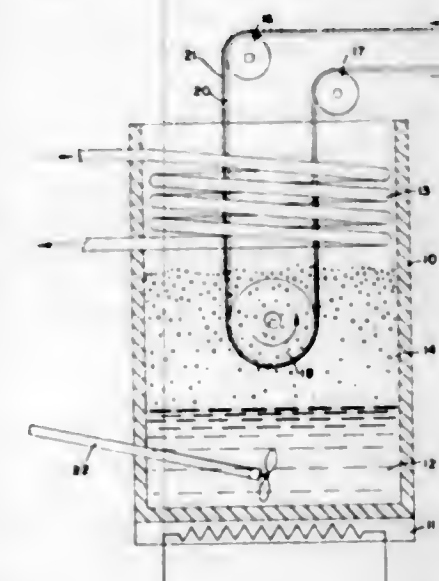
1. A method of preparing a solid powdered organopolysiloxane in a reproducible manner, the method comprising the steps of:
  - (A) heating a mixture of
    - (1) a silane which is a member of the group consisting of methyltrialkoxysilane and a mixture of methyltrialkoxysilane and phenyltrialkoxysilane in which the alkoxy group contains 1 to 6 carbon atoms;
    - (2) at least a trace of acid and at least about 1.5 moles of water for every mole of total silane present, at a temperature of from about 50° to about 80° C. for a period of time of from about 1 to about 10 hours;
  - (B) concentrating the liquid siloxane partial condensation product from Step A to remove some but not all volatile material including alkanol by-product and some water and to obtain a liquid residue;
  - (C) precuring the product of Step B below the gel point of the resin for about 1 second to 1 minute;
  - (D) dissolving the precured prepolymer of Step C in a volatile solvent; and
  - (E) mixing the solution of Step D with inlet air having a volume of at least about 150 cubic feet per pound of the solution of Step D;
  - (F) spray drying the solution of Step D with said inlet air having a temperature in the range of about 120° to 150° F. to provide an outlet air temperature of no more than about 115° F.; and
  - (G) recovering the spray dried prepolymer to thereby reproducibly prepare a powdered prepolymer product.

**3,383,774**  
**APPARATUS AND METHOD FOR TREATING PULVERULENT OR GRANULAR MATERIAL**  
Curtis L. Austin, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware  
Filed Dec. 23, 1965, Ser. No. 516,030  
13 Claims. (Cl. 34-10)



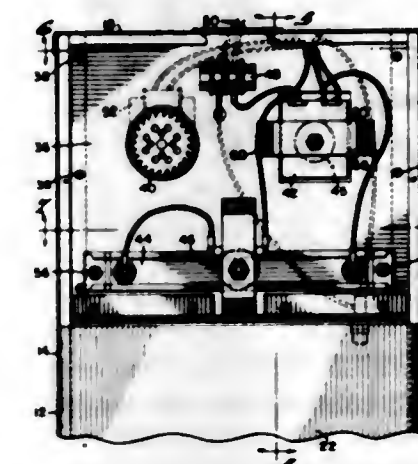
An apparatus and method for drying and/or cooling particles of material with a gaseous medium. A dust collector unit which includes a plurality of tubular filter elements, surrounds a main drying or cooling chamber in such a manner that the interior of the unit communicates with the interior of the chamber. Heated or cooled air, and the material to be treated are introduced through separate openings into the chamber; the particles are removed from the bottom of the chamber, while the air is exhausted through the dust collector unit where entrained particles are collected.

**3,383,775**  
**HOT VAPOR FIXING OF FUSIBLE POWDER IMAGES WITH AZEOTROPIC MIXTURES**  
Yunsh Pete Jacob, Palos Heights, and Ronald L. Millar, Elmhurst, Ill., assignors to Continental Can Company, New York, N.Y., a corporation of New York  
Filed Nov. 25, 1966, Ser. No. 597,112  
13 Claims. (Cl. 34-23)



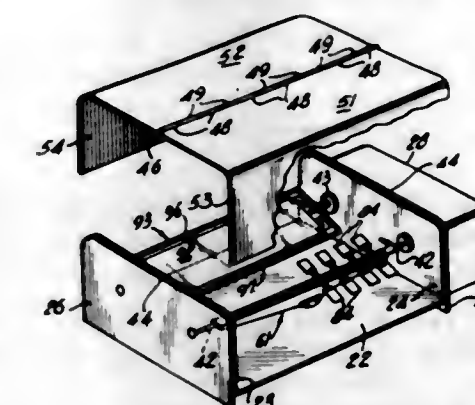
Electrostatically produced power images are fixed in a vapor atmosphere of an azeotropic mixture formed from a two phase mixture of water and a substantially water insoluble solvent.

**3,383,776**  
**WALL-MOUNTED CLOTHING DRIER UNIT**  
Howard J. Wilhoite, Lafayette, Ind., assignor to Topper Tools Inc., Lafayette, Ind., a corporation of Indiana  
Filed May 25, 1966, Ser. No. 552,823  
6 Claims. (Cl. 34-53)



The clothing drier in unit form includes an elongate upright housing dimensioned for installation between the upright wall studs of a building wall or partition, and may be secured to said studs. The upper portion of the housing supports a hot air generating unit including a blower which directs heated air downwardly onto articles of clothing suspended within a drying compartment below the generating unit. The temperature of the drying air is thermostatically controlled, and a timer controls the extent of the drying period. All operating elements and controls are unitized above the drying compartment at eye level, and may be quickly removed for replacement as a unit when necessary, leaving the clothing drier housing securely mounted in the wall. The bottom area of the housing door vents the drying compartment to room atmosphere near floor level, to minimize drafts and noise.

**3,383,777**  
**FILM DRYER FOR SINGLE SHEET FILM**  
Seymour M. Hutchinson, 54-19 Myrtle Ave., Ridgewood, N.Y. 11227, and Franz Krause, 1110 Connetquot Ave., Islip, N.Y. 11751  
Filed June 21, 1966, Ser. No. 559,281  
4 Claims. (Cl. 34-58)



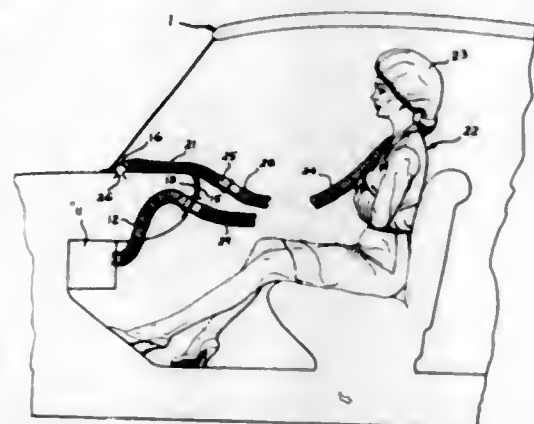
Centrifugal drying apparatus for photographic film, including a frame for holding photographic film, said frame being releasably secured by spring biasing means for rotation in the apparatus.

**3,383,778**  
**MOBILE HAIR DRYER**  
Shelby W. Goodman, Rte. 3, Box 141, Raleigh, N.C. 27609  
Filed Nov. 23, 1966, Ser. No. 596,508  
3 Claims. (Cl. 34-90)

In abstract, a preferred embodiment of the present invention is a standard hair drying bonnet with flexible air hose connected to either a permanently mounted hot



air port in a vehicle or to a removable adapter unit held in place over the window defroster unit of the vehicle by means of magnets, adhesive or similar securing means.

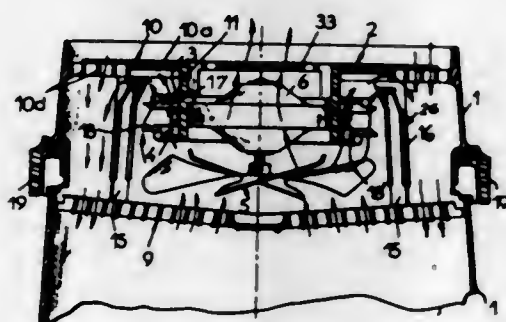


The invention also contemplates the combined use of the defroster attachment and the hot air port to guarantee an adequate volume of warm air for hair drying purposes.

3,383,779

**ELECTRIC HAIR DRIER**

Maurice Marie Achille Trouillet, Lyon, France, assignor to Calor Appareils Electro-Domestiques, Lyon, France, a company of France  
Continuation-in-part of application Ser. No. 398,668, Sept. 23, 1964. This application May 18, 1967, Ser. No. 639,456  
Claims priority, application France, Oct. 18, 1963, 951,170, Patent 1,379,794  
3 Claims. (Cl. 34-100)

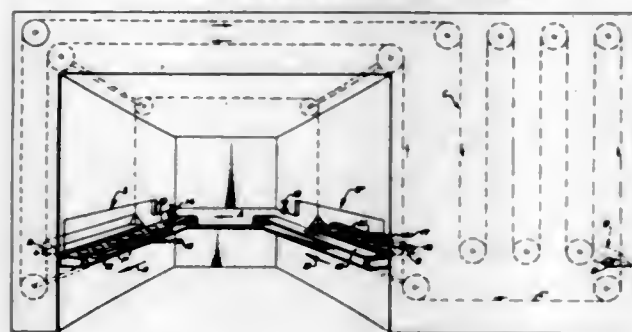


A light electric hair drier for domestic use having a frusto-conical, helmet forming, thin lateral wall closed at one end with a supporting plate of moulded synthetic material and provided with an inwardly extending tubular central portion.

3,383,780

**APPARATUS FOR DRYING CERAMIC WARE**

Antonio Lampani and Gianni B. Margola, Milan, Italy, assignors to Società Ceramica Italiana Richard-Ginori S.p.A., Milan, Italy  
Filed Feb. 8, 1966, Ser. No. 525,989  
Claims priority, application Italy, Sept. 15, 1965, Patent 728,251  
8 Claims. (Cl. 34-203)



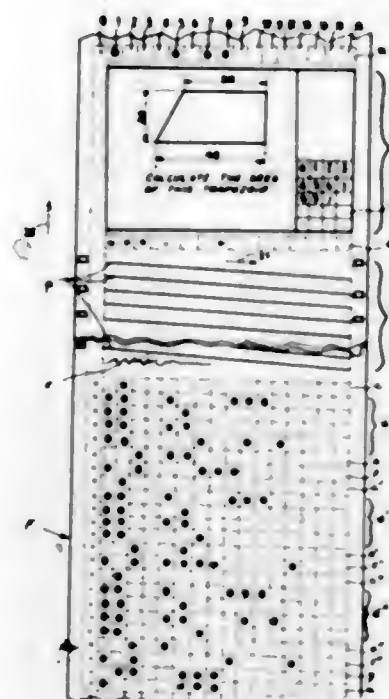
Apparatus for drying ceramic ware in which a conveyor passes through an enclosure surrounding opposite sides and top of a room whereat loading and unloading stations

are located. Conveyor belts move ware to loading station whereat pusher loads a tray connected to conveyor. The same arrangement is used at unloading station.

3,383,781

**TEACHING MACHINE**

Emile Jean Duzet, Meudon, France, assignor to Societe Industrielle des Nouvelles Techniques Radioelectriques et de l'Electronique Francaise, Amieres, France, a French body corporation  
Filed May 10, 1965, Ser. No. 454,548  
Claims priority, application France, May 15, 1964, 974,754  
36 Claims. (Cl. 35-9)

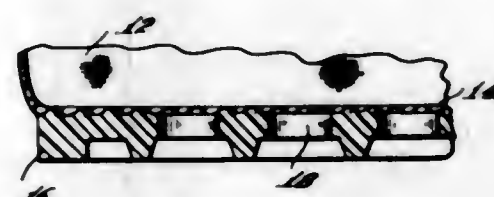


In a teaching machine comprising a cinematographic projector and means, for instance a keyboard, for the student entering his answers to questions or problems communicated audiovisually to him, the film in the projector is provided for each program section with an illustration for said section and with coded information comprising the optical recordings, on successive transverse lines of the film, of the proper number of said section, of the various characters of a plurality of standard answers, and of a same plurality plus one of numbers of other sections to be communicated next to the student if his answer is conform or not to one of said standard answers; sensing means and logic means are provided for utilizing this coded information.

3,383,782

**ARTICLES OF FOOTWEAR**

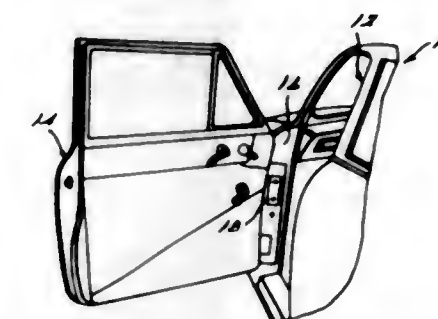
James R. McGinnity, Danvers, Mass., assignor to Mrs. Day's Ideal Baby Shoe Company, Inc., Danvers, Mass., a corporation of Massachusetts  
Filed Nov. 5, 1964, Ser. No. 409,235  
1 Claim. (Cl. 36-3)



1. A foot covering comprising an upper and outsole attached thereto, characterized in that the upper includes a soft, flexible porous fabric which is coextensive with the bottom of the foot of a wearer and forms the insole,

and the outsole is comprised of a layer of impervious polyvinyl chloride bonding means securing the entire upper surface of said outsole to said insole, said outsole containing a plurality of apertures of relatively large size in comparison to the pores of the insole, said apertures providing continuous passages through the outsole from the inner surface to the outer surface, and said apertures and pores collectively providing vents throughout the entire area of the bottom of the foot covering, said bond between the confronting surfaces of the insole and the outsole being constituted solely by the substance of the outsole adhered to the fabric of the insole, spaced parallel ribs crossing each other on the bottom face of the outsole, said crossing ribs forming quadrilateral recesses at the bottom and being spaced at such intervals as to contain within each recess one of said apertures, said ribs forming a supporting structure for holding the lower ends of the apertures and the fabric of the insole exposed therethrough elevated from the ground.

on the "blind" side of the vehicle mounting panel. Any attempt to remove the identification plate as by drilling

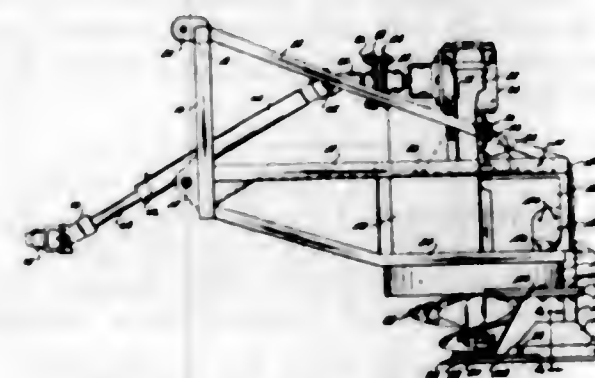


out the extrusions will render the identification plate unsuitable for further use, as, for example, application to another, stolen vehicle.

3,383,783

**TRACTOR TYPE TRENCHING APPARATUS**

Opton F. Smith, 6000 N. Tamiami Trail, Sarasota, Fla. 33580  
Filed Oct. 14, 1964, Ser. No. 403,786  
5 Claims. (Cl. 37-81)



Apparatus adapted for ready attachment to a tractor to perform trenching or ditching operations when pulled behind the tractor by employing a rotary vertically positioned screw having a substantially half-round housing closely surrounding about the full back half of the screw with the edges of the screw extending laterally beyond the edges of the housing, which apparatus has a three-pointed attachment to the tractor and wherein the entire apparatus is mounted for a floating movement about a horizontal pivot in the connection to the tractor with the apparatus riding on a substantially horizontal footer plate which engages the bottom of the ditch as cut. Further, the screw terminates at its upper end in a radially directed paddle for centrifrically throwing the dirt dug by the screw with removable fillet plates joining the upper end of the screw with radially directed paddles, which plates can be readily replaced when worn.

3,383,784

**IDENTIFICATION PLATE**

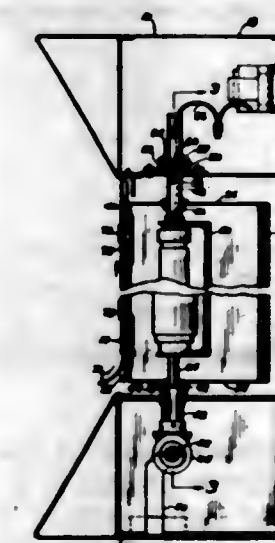
Alfred A. Bion, Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware  
Filed Dec. 29, 1965, Ser. No. 517,374  
8 Claims. (Cl. 40-2.2)

An improved serial number identification plate for motor vehicles and the like which has integrally formed tubular extrusions which are adapted to be received in cooperating apertures formed in the vehicle body. After the extrusions are received within the apertures, a suitable expanding mandrel-like member is drawn through the extrusion causing the ends thereof to flare outwardly

3,383,785

**LOUVERED SIGN**

Willy T. Werner, 12326 E. McNichols Road, Detroit, Mich. 48205  
Filed Oct. 4, 1965, Ser. No. 492,421  
9 Claims. (Cl. 40-76)



A sign having a plurality of illuminated prismatic louvers to be rotated to present a plurality of different messages each mounted in a manner to permit them to be raised axially to disengage the lower end from the driving mechanism and then pivoted outwardly on their upper end to repair to replace the illuminating means and including a complementarily formed spheroidal collar and bracket for pivotally supporting the upper end of each louver, a cover overlying each of the faces of the louver, and a sheet of copy carrying material slidably insertable and removable from between the louver and the cover.

3,383,786

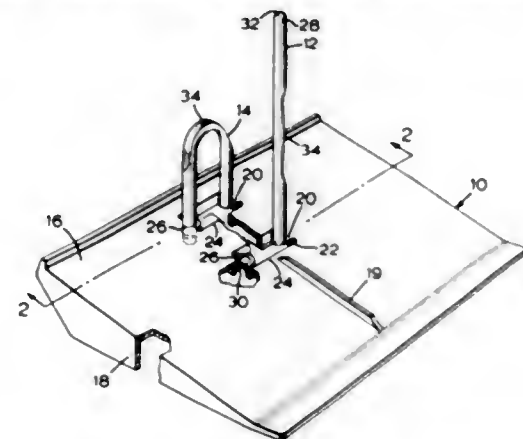
**ONE-PIECE CALENDAR PAD STAND**

Lawrie G. McIntosh, Islington, Ontario, Canada, assignor to The Brown Brothers, Limited, Toronto, Ontario, Canada  
Filed Jan. 12, 1967, Ser. No. 608,839  
Claims priority, application Canada, May 7, 1966, 959,846  
2 Claims. (Cl. 40-120)

This invention provides a calendar pad stand which is formed of one piece of plastic and includes integrally molded arch forming elements which are adapted to be laid flat against the top surface of the pad stand during



shipping and storage but which can subsequently be formed into upstanding arches that are characterized by

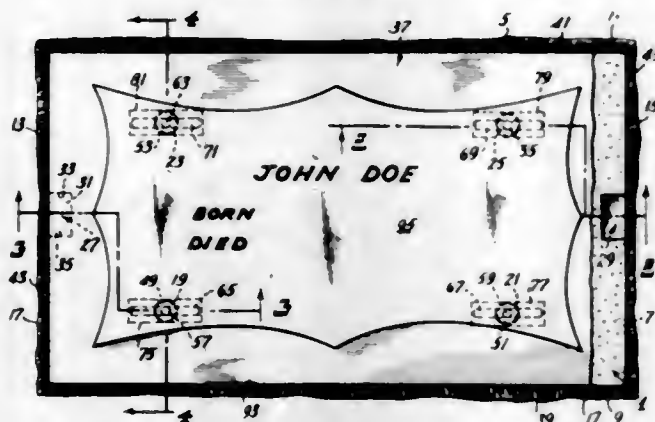


being relatively high compared to their width so that they are adapted to the reception of a calendar pad.

### 3,383,787 MARKER CONSTRUCTION FOR USE IN LAWN AREAS

Joseph P. Lauer, Costa Mesa, Calif., assignor to Underground Vaults, Inc., Newport Beach, Calif., a corporation of California

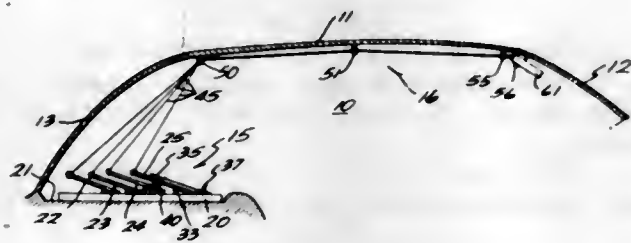
Filed July 30, 1964, Ser. No. 386,192  
23 Claims. (Cl. 40-124.5)



1. A marker for installation in a lawn area, comprising: a base to be set in the ground in a recess of complementary size with the upper surface thereof positioned substantially at ground level; and a tablet overlying said base and being at least approximately as large as said base, said tablet when in use being free to be raised clear of said base to a sufficient height such that vegetation remaining after cutting of the lawn area and overlying said tablet assumes a position below said tablet and overlies said base, so that upon lowering said tablet onto said base, said vegetation is confined between said tablet and base.

### 3,383,788 SIGN DISPLAY FOR VEHICLES

Norman E. Patzer, Rte. 4, Box 349,  
Pewaukee Village, Wis. 53072  
Filed May 2, 1966, Ser. No. 546,871  
6 Claims. (Cl. 40-129)



A group of signs on the rear deck of a passenger automobile that may be raised selectively, by the driver for viewing from outside of the vehicle through its rear win-

dow. The several signs are attached to separate cables that extend to the front of the vehicle where they can be manipulated by the driver for raising the desired one of the signs and the cable can be secured to retain the selected sign in raised position.

### 3,383,789 REFLEX-REFLECTIVE SIGN STRUCTURE

Thomas E. Armstrong, 6546 Westshire,  
Kalamazoo, Mich. 49002  
Filed Mar. 8, 1965, Ser. No. 437,973  
4 Claims. (Cl. 40-135)

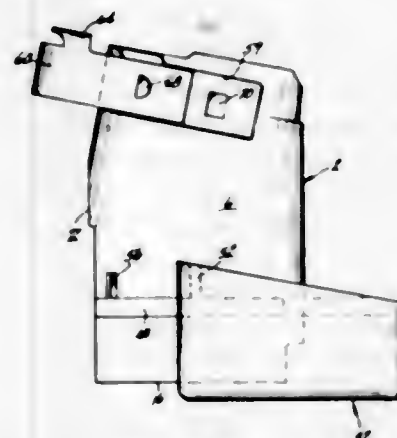


Reflex-reflective sign structure comprising integral sheet of transparent material with convex protuberances on both sides, a backing with indicia on a surface thereof, and support means for supporting said backing and indicia in contact with said transparent sheet, especially such structure wherein said indicia and backing is removable and thus changeable.

### 3,383,790 PLASTIC BOX MAGAZINE WITH A TOP METALLIC CLAMPING MEMBER

Henry A. Into, Wallingford, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed May 16, 1967, Ser. No. 638,832  
8 Claims. (Cl. 42-50)



A box magazine having a body portion formed from two plastic halves held together at the bottom by a plastic base. A metallic clamping member holds the halves together at the top and includes integral metallic feed lips which extend over the top opening of the body.

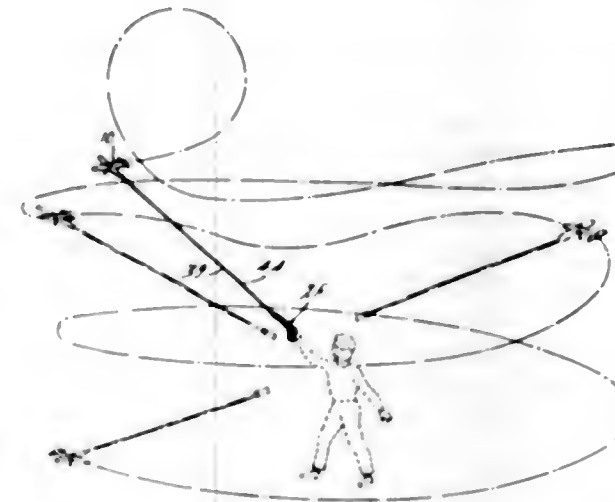
### 3,383,791 CONTROL FOR CAPTIVE TOY AIRPLANES

Marcel O. De Vos, 19922 E. Williams Court,  
Grosse Pointe Woods, Mich. 48236  
Continuation-in-part of application Ser. No. 450,092,  
Apr. 22, 1965. This application Sept. 1, 1965, Ser.  
No. 484,276

8 Claims. (Cl. 46-77)

A device for controlling a captive miniature airplane through flexible guide lines between the control device and the airplane and having a connector rotatably

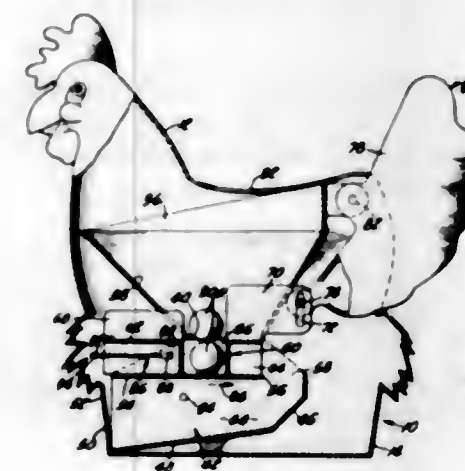
mounted on a housing and including a first portion for connection to one guide line and having a guide opening through which extends the outer end portion of an actuating member mounted in the housing and to the outer end of which another guide line may be connected and



which actuating member rotates on its mounting as the control device is swung above the operator's head to maintain the guide lines in proper relation without twisting or fouling enabling the operator to stand still while the airplane circles him.

### 3,383,792 GAME PIECE DISPENSING TOY

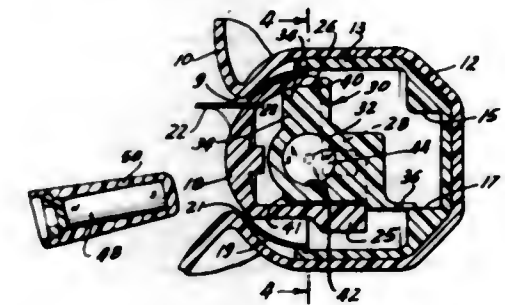
Adolph T. Goldfarb, 7427 Varma St.,  
North Hollywood, Calif. 91605  
Filed Nov. 24, 1964, Ser. No. 413,575  
4 Claims. (Cl. 46-124)



1. An animated toy comprising a simulated figure fixedly supported on a nest-simulating base member and having an interior cavity; a hopper in said cavity and having a discharge opening in the bottom thereof; a generally horizontal fixed partition below said opening and having a boundary edge spaced laterally from the center of said opening a distance at least as far therefrom as an edge of said opening; a slide member slidably supported on said partition and having a generally vertical passageway therethrough, said slide member being slidable from a first position wherein said passageway is aligned with said opening to a second position wherein said passageway is outwardly of said boundary edge; a portion of said simulated figure being movably mounted thereon; means drivingly connecting said portion to said slide member whereby a predetermined movement of said portion slides said slide member from said first to said second position; and means for movement of said slide member to said first position.

### 3,383,793 DOLL'S EYE PROVIDED WITH MAGNETIC MEANS

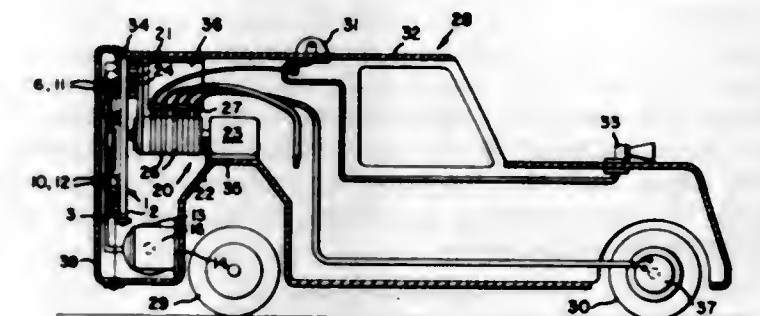
Joseph L. Bonanno, South Orange, N.J., assignor, by  
mesne assignments, to De Luxe Topper Corpora-  
tion, Elizabeth, N.J., a corporation of Delaware  
Filed July 5, 1966, Ser. No. 562,659  
10 Claims. (Cl. 46-235)



Simulated doll's eye pivotally arranged on a horizontal axis within a housing, the housing being accommodated within a doll's head. Eye carries a magnet, the magnetic axis being perpendicular to the pivot axis so that separate control magnet can cause eye movement. Control magnet may be external permanent magnet, or an internal solenoid.

### 3,383,794 PROGRAMMABLE CONTROL DEVICES

Roger F. Ruth, 11 Jade Drive, Victoria, Tex. 77901  
Filed Dec. 28, 1965, Ser. No. 517,042  
11 Claims. (Cl. 46-244)



1. In a programmable electrical control device, the combination of  
a program board presenting a major surface;  
a plurality of electrically conductive means secured to said board and each occupying a different exposed position,  
each of said conductive means defining a predetermined path over said major surface,  
said conductive means being electrically insulated from each other,  
said board being provided with a plurality of groups of apertures with each of said groups of apertures being spaced along a different one of said conductive means;  
means for connecting a source of electrical power to said conductive means comprising a plurality of connector units each including a pin insertable in one of said apertures,  
said connector units and said conductive means coacting, when said pins are selectively inserted in said apertures, to operatively connect the source of power to portions of said conductive means with said portions being predetermined by the selective insertion of said pins in said apertures;  
a plurality of contacts to be connected to electrical means to be controlled;



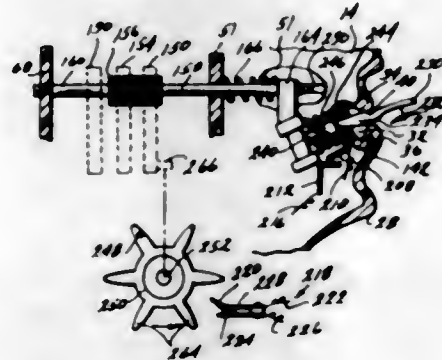
means supporting said contacts in predetermined positions relative to said board such that selected ones of said contacts occupy positions on the predetermined paths by corresponding ones of said conductive means; and  
drive means operatively connected to provide relative movement between said contacts and said board to cause said contacts to traverse the respective paths defined by said conductive means.

3,383,795

## MECHANISM FOR SIMULATING INGESTION IN A FIGURE TOY

John W. Ryan, Bel Air, Warren D. Kabot, Manhattan Beach, Joseph Kossoff, Hawthorne, and Richard L. May and Robert L. Cowell, Manhattan Beach, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California

Filed Dec. 6, 1966, Ser. No. 599,568  
8 Claims. (Cl. 46-247)



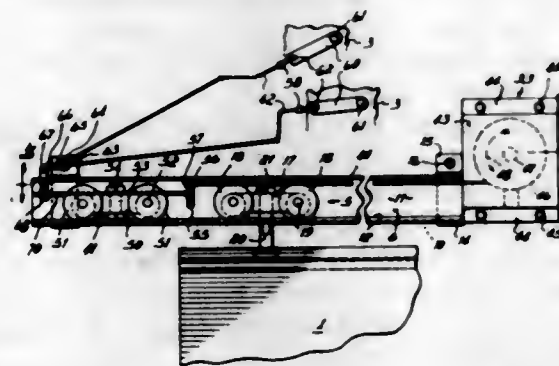
A toy figure having a head with movable lips, cheeks and eyes. In order to simulate nursing or chewing in the figure, a nursing bottle or a spoon may be inserted in the mouth to selectively connect an electric drive motor with either the movable cheeks and eyes or the movable lips and eyes, respectively. The connection between the motor and lips is such that the lower lip will move in an orbital path and will continue movement for a short time after withdrawal of the spoon.

3,383,796

## FIRE DOOR CONTROL APPARATUS

Claud Fredrick, Jr., Cincinnati, and James J. Grimm, Columbus, Ohio, assignors to The Steelcraft Manufacturing Company, Rossmoyne, Ohio, a corporation of Ohio

Filed Nov. 4, 1965, Ser. No. 506,368  
4 Claims. (Cl. 49-7)



The application discloses a heat responsive fire door control apparatus for closing a fire door with reference to a door opening. The structure comprises a horizontal trolley rail of inverted U-shape in cross section mounted in a horizontal plane above the door opening and extending transversely beyond one side of the door opening, and a fire door suspended from the rail by means of trolleys tracked within the trolley rail, adapting the door to be

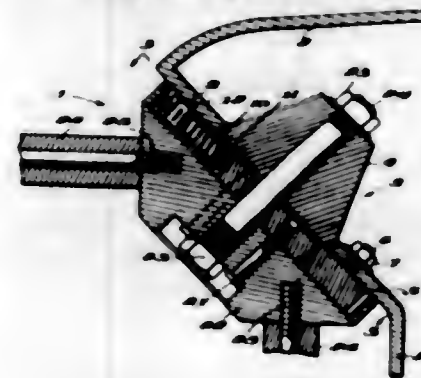
translated from an open to a closed position. The door is free to be shifted to open or closed position manually and is closed automatically in the event of a fire by operation of a fire control trolley normally residing within an end portion of the trolley rail in position to engage one of the door support trolleys. For closing the door in response to a fire, a spring-loaded retriever reel is connected by a retriever cable to the fire control trolley for shifting the trolley and the door from the open to the closed position. The fire control trolley normally is disconnected from the door and is latched in a retracted position by a latching mechanism within the rail, which is connected to a heat-responsive fire control cable having one or more fusible links arranged to melt in response to a predetermined increase in temperature as a result of a fire, allowing the latching mechanism to release the fire control trolley, whereby the retriever cable, by operation of the reel, pulls the trolley into engagement with one of the door support trolleys to shift the door to its closed position with reference to the door opening.

3,383,797

## TURNSTILE

Emmanuel M. Trikila, Lincoln LeVeque Tower, Columbus, Ohio 43215

Filed Mar. 21, 1966, Ser. No. 535,909  
9 Claims. (Cl. 49-47)



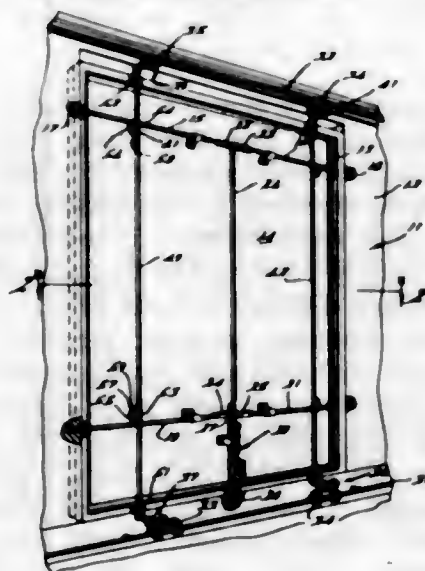
A turnstile having a fixed and movable head, a plurality of cam followers are carried by the fixed head for mechanically cooperating with an undulating cam attached to the movable head.

3,383,798

## DOOR CONSTRUCTION

Douglas W. Day, Livonia, Mich., assignor to Evans Products Company, a corporation of Delaware

Filed Mar. 18, 1966, Ser. No. 535,556  
5 Claims. (Cl. 49-219)



A railway plug door arrangement embodying a pivoted link structure for facilitating substantial transverse movement of the plug door from within the doorway opening

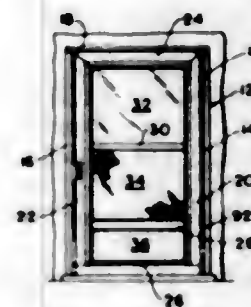
to a position spaced a considerable lateral distance beyond the side of the car for subsequent sliding movement upon a track supported at the side of the car. The link structure comprises a first link that is pivoted at one of its ends on a guide roller and is pivotally connected at its other end to a second link. The other end of this second link is pivotally connected to the door structure by means of a vertically extending operating rod.

3,383,799

## DOOR STRUCTURE

Richard N. Anderson, Rome, Ga., assignor to V. E. Anderson Mfg. Co., Owensboro, Ky., a corporation of Kentucky

Filed June 6, 1966, Ser. No. 555,473  
8 Claims. (Cl. 49-397)



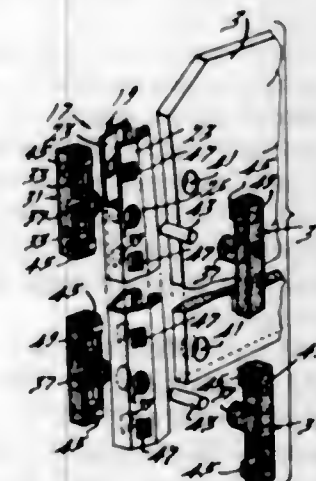
Door structure including a frame, a cross rail for insertion within the frame and securing strips operable to secure the cross bar to the frame at positions within the frame completely determined by the strips and a hinge assembly for the door structure including cylindrical portions adapted to be secured to each of a door and door frame with the cylindrical portions extending over less than three hundred sixty degrees and in axial alignment, a plastic insert positioned in the adjacent end of each of the cylindrical portions in engagement with each other at one end and including means for preventing axial and rotational movement thereof and a pin extending axially through the inserts having means engaged with the other ends of the inserts for preventing relative transverse movement of the hinge members.

3,383,800

## GLASS WINDOW SLIDE DEVICE

Mark J. Sturtevant, Grosse Pointe, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Aug. 22, 1966, Ser. No. 574,236  
12 Claims. (Cl. 49-428)

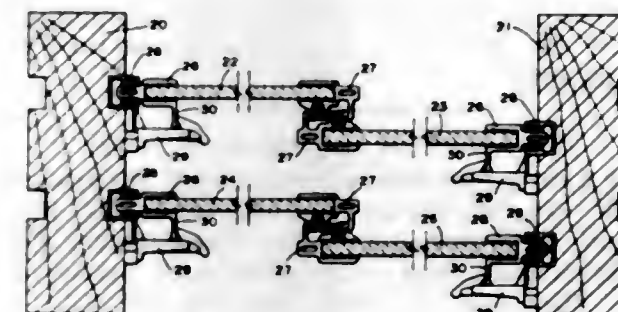


1. A device for guiding the movement of a window glass in a recessed support comprising weatherstripping portions extending along the forward edge of the glass on opposite sides of the latter, a guide having generally

3,383,801  
WINDOW

Raymond Dallaire, St. David, Quebec, Canada, assignor to P. H. Plastics Inc., Lauzon, Quebec, Canada, a corporation of Canada

Filed Feb. 15, 1965, Ser. No. 432,587  
Claims priority, application Great Britain, Feb. 18, 1964, 6,788/64  
6 Claims. (Cl. 49-458)



1. A sliding window comprising, a header, a pair of jambs, and a sill, an extruded plastic sill track mounted on said sill, an extruded plastic header track mounted in said header and superposed above said sill track, a resilient foam member positioned between said header track and said header and adapted to form a seal therebetween, each of said tracks being provided with corresponding grooves wherein a pair of panes of glass may slide, each pane of glass being provided with an extruded plastic meeting rail and an extruded plastic side rail, each jamb being provided with an extruded plastic side track in which said side rail is adapted to be received, said meeting rails being adapted to overlap one another in the closed position of said panes, each meeting rail comprising, a pane receiving channel provided with internal ribs adapted to grip the edge of a pane, an undercut slot on one side of said pane receiving channel adapted to receive a weather strip and a projecting flange having a free edge parallel to the pane in said first channel and with an enlarged tip adapted to overlap the flange of a like meeting rail and form a seal therewith, the flange of said like meeting rail being adapted to bear throughout a substantial portion of its length against a weather strip in said undercut slot.

3,383,802

## DOOR

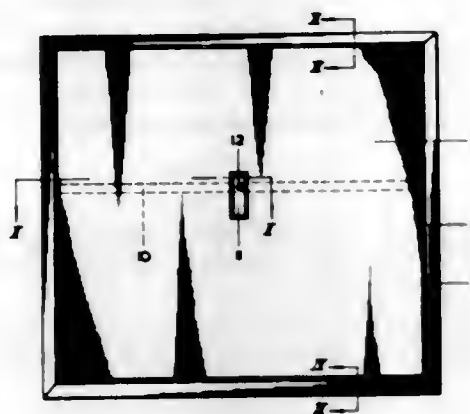
Hendrikus Alphons Jozef Johanna Janssens, Breda, Netherlands, assignor to Frits Bode Mechanische Bouwmaterialen N.V., Breda, Netherlands, a Dutch company

Filed Feb. 23, 1966, Ser. No. 529,347  
Claims priority, application Netherlands, Mar. 1, 1965, 65-2,558  
2 Claims. (Cl. 49-503)

A rectangular door comprises a thin sheet of glass fiber bonded with synthetic resin and formed to have an obtusely angled marginal flange that terminates in a marginal rim parallel to the sheet and forming an obtuse angle with the flange. A horizontal stiff reinforcing member in the form of a hollow tube spaced substantial distances from the top and bottom of the door extends between and is secured to portions of the flange on opposite sides of the door and is spaced a substantial distance



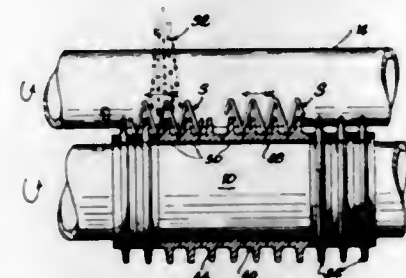
from the sheet over at least most of the width of the door. The sheet has a rearwardly extending forwardly opening depression therein for the reception of a lock blades which are mounted in channels in the throwing wheel disc against locking pins. The locking pins are held



intermediate the width and height of the door, and the bottom of this depression is secured to the tubular reinforcing member.

3,383,803

**MEANS FOR TREATING COIL SPRINGS**  
Harold F. Schulte, Mishawaka, and Ardee H. Freeman, Granger, Ind., assignors to The Wheelabrator Corporation, Mishawaka, Ind., a corporation of Delaware  
Filed Oct. 18, 1965, Ser. No. 497,250  
9 Claims. (Cl. 51-9)



A machine for surface treatment of continuous pitch coil springs comprising horizontally disposed roll cluster having a feed end at one end portion and a delivery end at the opposite end portion and including a support roll and a pair of guide rolls located above the support roll with the rolls spaced one from another to define a spacing therebetween greater than the diameter of the coil springs adapted to be processed therethrough; the support roll has annular ribs extending outwardly radially from the periphery and axially spaced apart by an amount corresponding to the pitch of the coils of the coil springs and which includes means for rotating the rolls in a direction to impart turning movement to the coil springs located on the support roll and for advancing the coil springs from the feed end to the delivery end and means for throwing treating material onto the coil springs as they are advanced through the roll cluster from the feed end to the delivery end and in which the guide rolls at the feed end and at the delivery end are of smaller diameter than the remainder to provide a spaced relationship therebetween which is greater than the diameter of the coil springs to enable radial displacement of the coil springs into and out of the roll cluster.

3,383,804

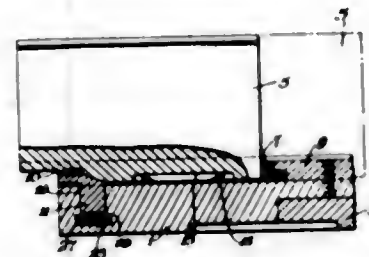
**LOCKING PIN RETAINER FOR ABRASIVE THROWING BLADES**

John V. Haider, Pittsburgh, Pa., assignor to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware

Filed Dec. 9, 1965, Ser. No. 512,707

4 Claims. (Cl. 51-9)

An abrasive throwing wheel assembly includes radial

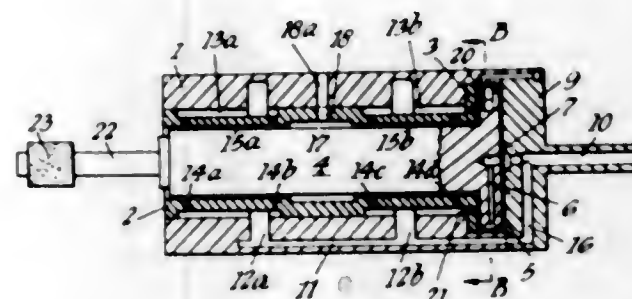


in recesses in the channels by a magnet at the base of each recess.

3,383,805

**AIR-DRIVEN TURBINES**

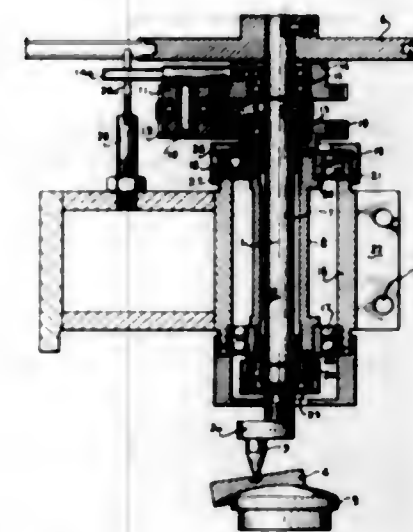
John William Powell, Poole, Dorset, England, assignor to Westwind Turbines, Ltd., Poole, Dorset, England  
Filed Oct. 13, 1964, Ser. No. 403,615  
Claims priority, application Great Britain, Oct. 24, 1963, 42,003/63  
2 Claims. (Cl. 51-134.5)



1. In an air driven turbine for powering a grinding spindle:  
an elongated housing having a bore therethrough and a counterbore at one end;  
an elongated bearing sleeve within said bore having an annular radial flange at one end nested in said counterbore defining an end air thrust bearing;  
a rotor loosely journaled in said sleeve including an annular headpiece journaled in said counterbore and spaced from said end thrust bearing;  
an end plate on said housing closing said counterbore and spaced from said headpiece defining a second end thrust bearing;  
there being a pair of spaced exterior annular air supply recesses in said sleeve with radial air feed holes communicating with the sleeve bore;  
and axial air feed holes through said bearing flange interconnecting an air supply recess with said counterbore on one side of said headpiece;  
an axial compressed air inlet port in said end plate communicating with said counterbore upon the other side of said headpiece;  
there being a series of interconnected radial and axial passages in said housing and end plate communicating with said bearing sleeve annular recesses;  
and a reaction propulsion means in said rotor headpiece communicating with said air inlet port, with jet outlets communicating with the exterior of said housing;  
by which the compressed air operates the propulsion means with some air being bled into the bearing sleeve bore and counterbore to define an air bearing film and an end thrust bearing film for said rotor.

3,383,806  
**MOTION CONTROL DEVICE FOR GRINDING TOOL**

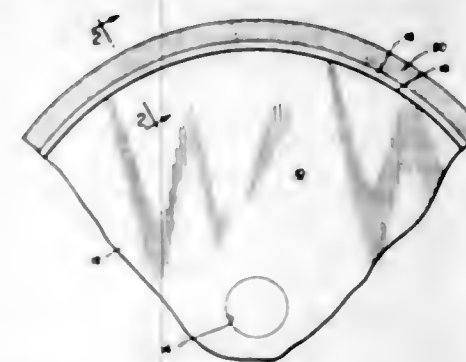
Eugen Stratemeyer, Heckertstrasse 58, Bochum, Germany  
Filed June 22, 1965, Ser. No. 466,042  
7 Claims. (Cl. 51-134.5)



A grinding tool is rotated about first and second axes to move along first and second paths, and also oscillated by a ball bearing having balls of different size to angularly oscillate along a third path whereby the tool moves in an irregular motion along a path composed of the first, second and third paths.

3,383,807

**PERIPHERAL DIAMOND GRINDING WHEEL**  
Harold C. Miller, Chicago, Ill., assignor to Super-Cut, Inc., Chicago, Ill., a corporation of Illinois  
Filed Nov. 19, 1964, Ser. No. 412,493  
3 Claims. (Cl. 51-206)



A peripheral diamond grinding wheel which comprises a circular wheel body and a continuous annular grinding member around and in spaced relation with the body and in the form of a metal matrix and abrasive particles within the matrix, and is characterized by the fact that the space between the wheel body and the grinding member is filled by an intervening ring which is formed of ductile metal and adheres strongly to both the outer periphery of the wheel body and the inner periphery of the grinding member.

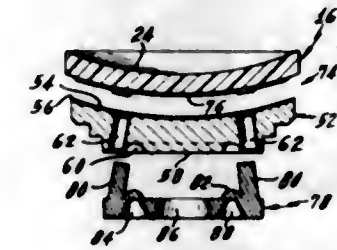
3,383,808  
**LENS BLOCK**

Jean Deshayes, Vincennes, France, and Waldemar Stoppacher, White Plains, N.Y., assignors to La Lunette de Paris, Inc., New York, N.Y., a corporation of New York

Filed May 25, 1965, Ser. No. 458,726  
5 Claims. (Cl. 51-216)

A lens block assembly is formed by placing an intermediate member on top of a mold, the upper surface of which intermediate member seats a lens blank with a

clearance defined between said upper surface and the lens blank. The intermediate member is provided with a passage which provides fluid communication between the clearance and the mold cavity below the lower surface of the intermediate member. A low melting alloy is poured

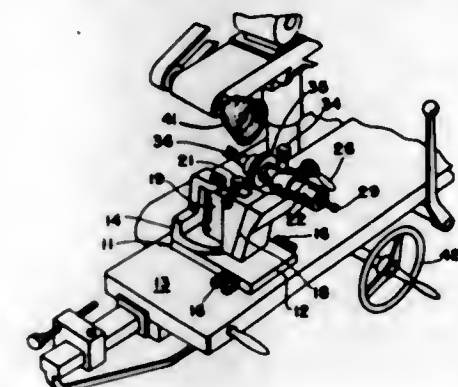


into the mold cavity and fills the clearance, the passage and the cavity below the lower surface of the member. The solidification of the alloy results in a unitary solid lens block assembly which includes as part thereof the lens blank firmly adhered within the assembly.

3,383,809

**TOOL GRINDING APPARATUS**

Paul D. Owen, 539 Highland Ave., Greensboro, N.C. 27403  
Filed May 20, 1965, Ser. No. 457,429  
10 Claims. (Cl. 51-220)

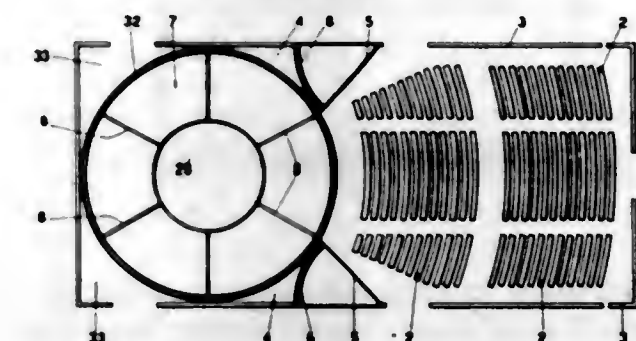


This invention relates to tool grinding attachments and relates more particularly to a tool and cutter grinder for sharpening and shaping tools, ball end mills, router bits, die punches, bolt extractors, and the like, the tool grinder having swivel means, a vertically pivotal rotatable sleeve and a movable piston for positioning an article held for grinding horizontally, vertically, obliquely and rotationally against a grinding surface.

3,383,810

**ROTARY STAGE STRUCTURE**

Oswaldo Mola, Alameda Barao de Lemeira 1330, Apt. 82, Sao Paulo, Brazil  
Filed Aug. 30, 1965, Ser. No. 483,554  
13 Claims. (Cl. 52-7)



A rotary stage structure comprises two floor portions, one of which is circular and the other of which is annular and surrounds the circular floor portion. Both floor portions are rotatable relative to one another. Partition means is provided shiftable with reference to both of the

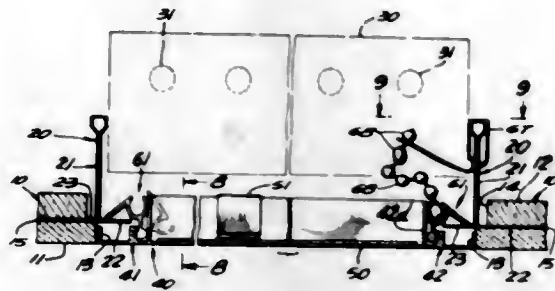


floor portions so as to permit selective subdivision of at least one of the floor portions for the purpose of providing at least one stage thereon.

### 3,383,811 REMOVABLE UTILITY FRAME FOR SUSPENDED CEILINGS

William H. Ades, Reseda, Calif., assignor to Anning-Johnson Company, Melrose Park, Ill., a corporation of Delaware

Filed Jan. 6, 1967, Ser. No. 607,803  
3 Claims. (Cl. 52-28)

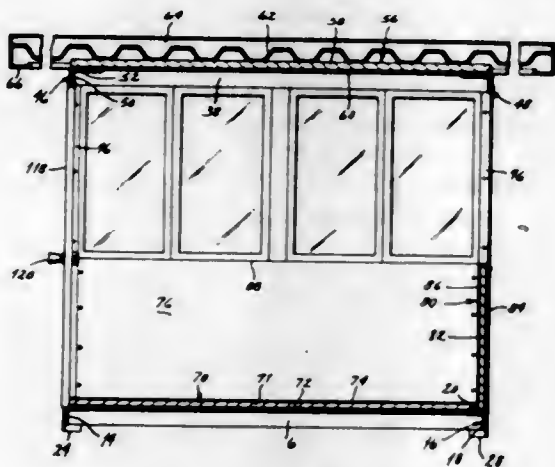


A suspended ceiling installation including ceiling beams suspended in a grid arrangement and having T-shaped flanges at their lower extremities, kerfed and back-cut ceiling tiles attached to the beam flanges and concealing all of the beams except for one rectangular opening, a light fixture attached to the beams over the one rectangular opening, a rectangular metal frame disposed in the one rectangular opening beneath the light fixture, a light lens supported in the metal frame, and support means carried by the side members of the metal frame and removably attached to the associated beam flanges, one of the support means including a bolt which slides longitudinally and rotates for engaging or disengaging the beam flange, the bolt and the side and end members of the metal frame being formed as aluminum extrusions.

### 3,383,812 BUILDING STRUCTURE OF SPACED FRAMES

Michael M. Starr, Richmond Heights, Mo., assignor to Starco Company, Inc., St. Louis, Mo., a corporation of Missouri

Filed Mar. 29, 1967, Ser. No. 626,856  
8 Claims. (Cl. 52-73)

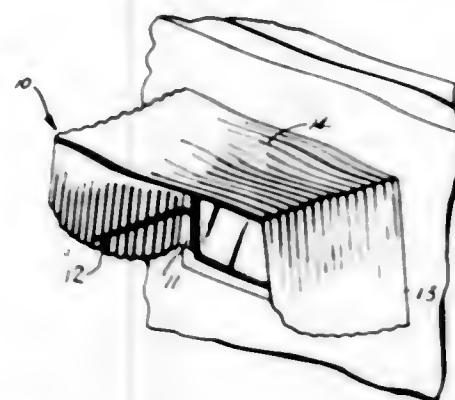


A prefabricated building including congruent top and base frames formed from endwise abutting angles having outwardly presented vertical flanges and upwardly presented horizontal flanges. The top and base frames are connected at their corners by upstanding corner angles having side flanges which are riveted to the vertical flanges of the top and base frames in such a manner that the intersecting vertical flanges and the intersecting side

flanges are located adjacent one another. Side walls extend upwardly from the base frame and window frames are located above the side walls. A floor rests on the horizontal flanges of the base frame and a ceiling rests on and is secured to the horizontal flanges of the top frame. A roof extends across and covers the ceiling and a sliding or swinging door is formed in at least one of the side walls.

### 3,383,813 AWNING

Adolph J. Voigt, Box 1, Olmsted, Ill. 62790  
Filed Sept. 28, 1966, Ser. No. 582,717  
1 Claim. (Cl. 52-74)

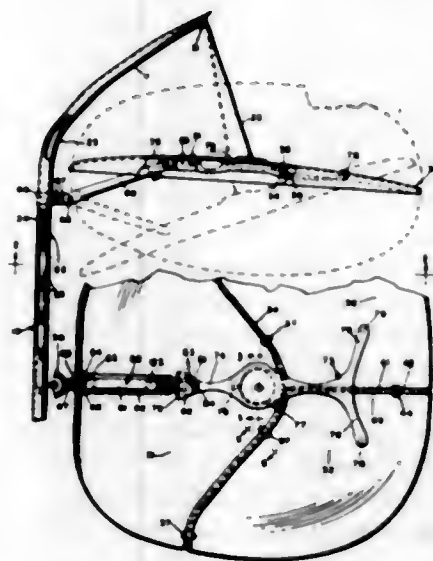


A window awning made of corrugated material and having a horizontal top plate with corrugations running from side to side whereby rain will drain sidewardly from the awning top and then run down a diagonally downwardly extending side plate at each side.

### 3,383,814 VERTICALLY ADJUSTABLE SUNSHADE WITH LOCKING PIVOTED BRACE

Blaine F. Rowe, 5031 S. Oliver Ave.,  
Minneapolis, Minn. 55419

Filed Oct. 22, 1965, Ser. No. 500,587  
10 Claims. (Cl. 52-83)



A sunshade utilizing an umbrella supported by a standard having an outwardly extending arm carrying a vertically adjustable cord to which the umbrella is attached. A brace having two parts relatively rotatable about a longitudinal axis, one part being pivoted to the standard and the other part to the umbrella, together with locking means for locking said parts from movement relative to the standard and the umbrella and clamping means for restraining relative rotation between the parts and operating means for the same.

### 3,383,815 COMBINATION BAFFLED WEEP AND PRESSURE EQUALIZATION SLOT

Perry M. Smith, Jr., Wood Dale, Ill., assignor to The Ceco Corporation, Chicago, Ill., a corporation of Delaware

Filed Feb. 17, 1966, Ser. No. 528,253  
2 Claims. (Cl. 52-209)

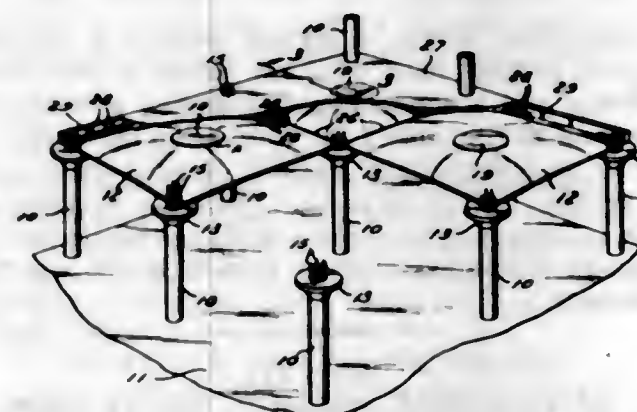


A combination baffled weep and pressure equalization slot for use in a sill channel of a window or other closure where an elongated groove is formed in the exterior wall of the sill channel member having upper and lower inclined walls and a connecting wall intersecting the connecting web of the sill channel member. One or more elongated slots or openings are formed in the upper inclined wall of the groove adjacent the connecting web of the channel member to allow discharge of collected water from the interior of the channel, and a baffle depends from and is an extension of the exterior wall of the channel member to cover the upper portion of the groove and direct water cascading down the window or closure away from the slots or openings.

### 3,383,816 PRECAST FLOOR PANEL

Harry Hodson, Cleveland, Ohio, assignor to The Austin Company, a corporation of Ohio

Filed Oct. 7, 1964, Ser. No. 402,220  
4 Claims. (Cl. 52-263)



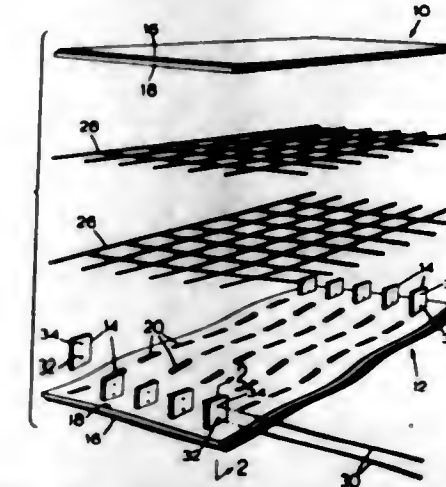
This invention relates to a precast concrete floor panel and to a building structure embodying such floor panels.

It is a principal object of this invention to provide a novel and improved precast concrete floor panel which is concavo-convex, with its top surface convex, and is of a polygonal outline which enables it to be used as one of a plurality of identical floor modules arranged contiguous to one another in a complete floor of a building.

### 3,383,817 CONCRETE FORM STRUCTURE FOR WALLS

Werner K. H. Gregori, Oakville, Ontario, Canada, assignor, by direct and mesne assignments, to Robert-Bohm Limited, Nassau, Bahamas

Filed Aug. 3, 1966, Ser. No. 570,072  
Claims priority, application Canada, June 2, 1966,  
961,888  
7 Claims. (Cl. 52-309)

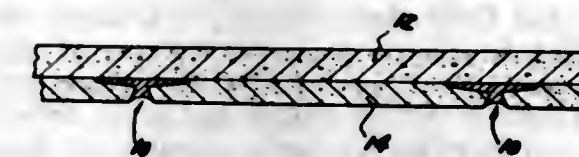


1. A preassembled concrete form structure for use in pouring a concrete wall, said structure being intended to be left in place following pouring of the concrete and to provide finished wall surfaces, said structure comprising two side-by-side composite panel members, each of said panel members consisting of an outer finished wall surface providing panel element and an inner insulation panel element formed of a thermal insulating, fire resistant rigid plastic foam, said inner panel element being adhesively fixed to the inside surface of said outer panel element and having a plurality of cut-outs extending therethrough for the reception of tension members for interconnecting said panel members; a plurality of tension members received in opposed pairs of cut-outs in said inner panel elements and adhesively fixed to the surface areas of said outer panel elements exposed by said cut-outs in said foam plastic panel elements, said tension members serving to interconnect said panel members and to prevent spreading apart of said panel members from the weight of poured concrete received between said panel members in the construction of a permanent concrete wall.

### 3,383,818 PLASTER WALL WITH DIVIDER STRIPS WITH EXPOSED COATED CONCAVE SURFACES

Roy E. Tatum, Detroit, Mich., assignor to Blakely Products Company, Warren, Mich., a corporation of Michigan

Filed Oct. 12, 1965, Ser. No. 495,260  
1 Claim. (Cl. 52-371)



A rigid divider strip for use as a joint between adjacent sections of a wet plaster-like wall surface comprises a generally T-shaped cross-section with the vertical leg of the T projecting outwardly away from the base wall and being exposed. The outer end is concave and decoratively painted, and serves as a guide for establishing uniform plaster thickness.



3,383,819

## SKIRTING MEANS

Ernest C. Zimmer and Raymond W. Sickler, both of  
R.D. 2, Wellsburg, N.Y. 14894  
Filed Aug. 11, 1966, Ser. No. 571,815  
2 Claims. (Cl. 52-483)

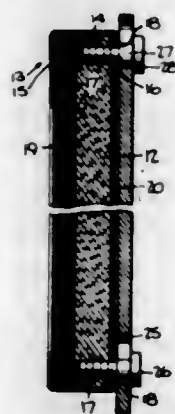


The stringers of a skirting device for a mobile home are provided with offset flanges and means securing them to the flanges of spaced posts. A flat face of the stringers carry pairs of vertically aligned tabs, with the tabs of each pair projecting horizontally and in opposite directions. The tabs receive and secure the edges of vertically extending flexible panels. The posts have controlled spring tensioned means adjusting their length.

3,383,820

## PANELING FOR ELEVATOR CABS

Jay F. Kates, Jamestown, N.Y., assignor to Watson  
Manufacturing Company, Inc., Jamestown, N.Y.,  
a corporation of New York  
Filed Feb. 20, 1964, Ser. No. 346,334  
1 Claim. (Cl. 52-623)

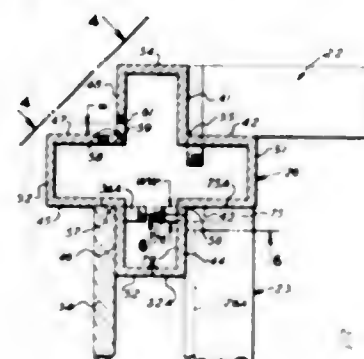


1. A panel for an elevator cab comprising a substantially rigid board having a rectangular shape with four edges and front surface, a metal frame of metal strips extending along a respective edge defining an opening at said front surface, each of said strips having a center piece and rear and front pieces forming a U-shape, said rear pieces being detachably secured to the rear of said board and said center piece spacing said front pieces from said board to form a storage groove and space between said opening and front surface for a plurality of sheets, one of said strips along an edge being removable for insertion of sheets, sheets of less thickness than said board and substantially coextensive therewith and positioned in said groove and storage space by removal of said strip, said metal strips firmly holding said sheets in flat layer relation against said board with the front piece at said opening as an interior decorative surface while the other sheets are stored between said front sheet and said forward surface of said board in said storage space.

3,383,821

## FRAMEWORK APPARATUS AND METHOD FOR FABRICATING SAME

David M. Gatch, 2461 E. Gage Ave.,  
Huntington Park, Calif. 90255  
Filed Aug. 9, 1965, Ser. No. 478,112  
9 Claims. (Cl. 52-648)

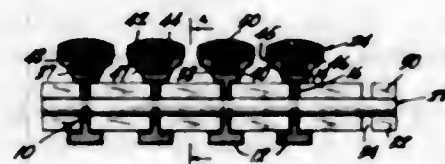


Framework apparatus of components adapted to be assembled without tools wherein a plurality of vertical posts of preferably hollow cruciform configuration have vertically diminishing apertures spaced vertically along the inner corners of the vertical posts. Horizontal beams or wall members have abutting end surfaces with protruding dogs such that the dogs fit into the sloping apertures and contact the reverse sides of the cruciform wall while the horizontal component abutting surfaces are drawn into contact with the obverse side of the wall and the outer surface of the adjoining wall defining the inside corner.

3,383,822

## GRATING

George A. Viehmann, New Providence, N.J., and Dennis  
A. A. Sedgley, Etobicoke, Ontario, and Wayne Brown-  
ling, Toronto, Ontario, Canada, assignors to Construc-  
tion Specialties, Inc., Cranford, N.J., a corporation of  
New Jersey  
Filed Dec. 17, 1965, Ser. No. 514,485  
3 Claims. (Cl. 52-667)



As described herein, a grating includes a plurality of elongated support bars, each bar having a base flange, a top flange and a connecting web having a bi-concave shape, and key members for connecting the support bars together in substantially parallel, spaced-apart relation. The grating further includes a plurality of wear strips which are removably attached to the support bars by longitudinally extending grooves formed in the top flanges of the bars.

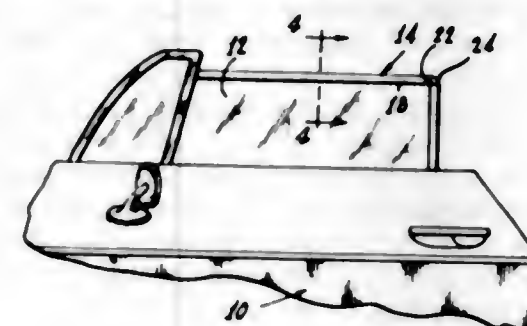
3,383,823

## AUTOMOBILE WINDOW GLASS TRIM

Evert L. Bono, Jr., Boonton, N.J., assignor to Boonton  
Molding Company, Boonton, N.J., a corporation of New  
Jersey  
Filed Aug. 2, 1966, Ser. No. 569,686  
3 Claims. (Cl. 52-716)

A trim strip for automobile windows, especially designed for application by the car owner and formed from plastic material having the appearance of chrome-plated metal. The strip is of U-shaped cross-section, and has resiliently deformable, transversely curved side walls one of which is bowed inwardly and the other outwardly. The

strip is resiliently spreadable, pivoting on the edge of the outwardly curved wall until it straddles the edge of the

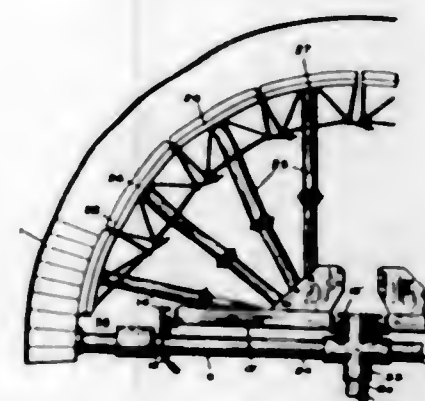


glass. In the final position of the strip, the inwardly bowed wall is flattened out against the glass.

3,383,824

## DEVICE FOR INSTALLING OR REPLACING THE LINING OF ROTARY KILNS

Rolf Linnemann, Sigen, Hohentwiel, Germany, assignor  
to Didier-Werke AG., Wiesbaden, Germany  
Filed Dec. 15, 1965, Ser. No. 514,097  
Claims priority, application Germany, Dec. 15, 1964,  
L 49,531; Nov. 13, 1965, D 48,645  
7 Claims. (Cl. 52-749)



Means for inserting or replacing a lining in a rotary kiln wherein a plurality of telescopically diametrically extending support struts support guide rails upon which conveyor means are movable. A plurality of adjustable sheathing segments are supported from the conveying means and such segments provide a bearing surface for bricks with a curvature corresponding to the curvature of the kiln. Longitudinally adjustable supports for the sheathing segments are pivotally connected to the conveyor means.

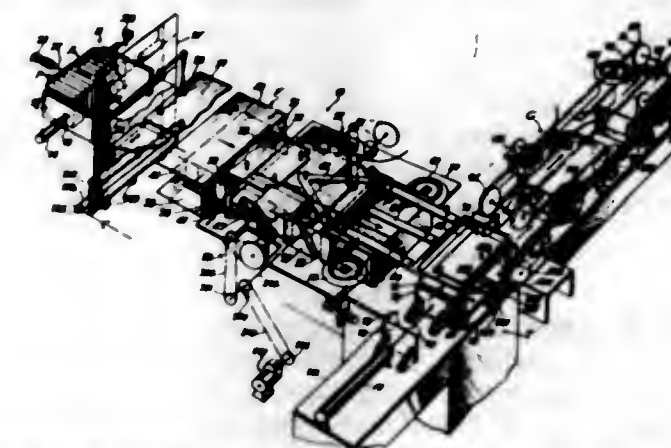
3,383,825

## WRAPPING MACHINE AND METHOD

Oliver R. Titchener, Upper Saddle River, N.J., Fred Jark,  
Blauvelt, N.Y., William S. Coombes, Somerset, Mass.,  
and Walter Ruf, Spring Valley, N.Y., assignors to St.  
Regis Paper Company, New York, N.Y., a corporation  
of New York

Filed Oct. 8, 1964, Ser. No. 402,483  
11 Claims. (Cl. 53-24)

This invention relates to a wrapping machine and method for wrapping a plurality of individual items into a single, unitized package. In accordance with the present invention the individual items are initially compressed with a pre-determined compressive force and advanced against a sheet of flexible wrapping material and hence along a support past a plurality of wrapping and securing members, with the pre-determined compression of the individual units being maintained while the sheet of wrapping material is being wrapped and adhered thereabout to form a single wrapped package of said plurality



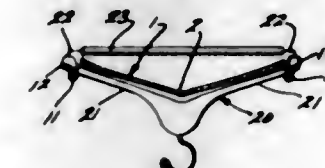
of individual packages. Means are also provided for adjusting the position of the machine of the wrapping material and selected wrapping and securing members to compensate for variances in dimension between successively-wrapped packages.

3,383,826

## METHOD FOR PACKING GARMENT HANGERS

John H. Batts, Grand Rapids, Mich., assignor to John  
Thomas Batts, Inc., Zeeland, Mich., a corporation of  
Michigan

Filed Oct. 21, 1965, Ser. No. 500,001  
11 Claims. (Cl. 53-26)

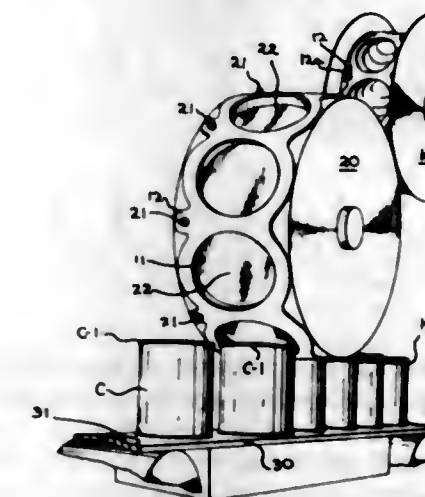


Method for packing articles such as hangers having a pair of diverging legs and an interconnecting bar consisting of providing a holding member of a width slightly greater than the distance between the ends of the legs, inserting the member in bended position between the legs of a plurality of such articles positioned adjacent one another and forcing the member to a plane position for locking the articles rigidly in position with respect to one another.

3,383,827

## MULTI-PACK CONTAINER CARRIER AND METHOD OF ASSEMBLING TO CONTAINERS

Wilbur A. Schleich, Maumee, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio  
Filed Dec. 10, 1965, Ser. No. 512,960  
9 Claims. (Cl. 53-26)



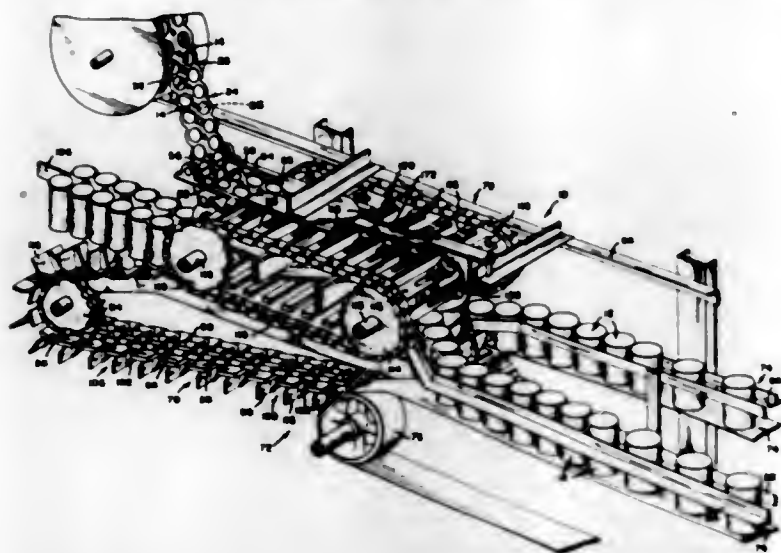
The invention relates to a multi-pack container carrier and method of assembling same, such carrier being formed by assembling two webs of resilient plastic material, each web having lengthwise aligned apertures



therein respectively adapted to engage and hold the neck portions of an equal number of containers and one of the webs having at least one laterally projecting portion which lies in contiguous relation to a portion of the other web when the containers respectively engaged by the webs are disposed in side-by-side relation, the two webs being held in engagement by securing means cooperating with the aforementioned contiguous portions and applied after the webs are assembled to the containers.

### 3,383,828 METHOD AND APPARATUS FOR ASSEMBLING CARRIERS TO CONTAINERS

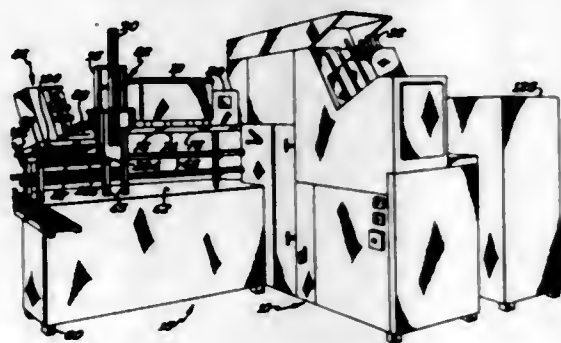
Ernest R. Cunningham, Libertyville, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware  
Filed May 19, 1965, Ser. No. 456,914  
33 Claims. (Cl. 53—35)



Method and apparatus for progressive circumferential expansion and assembly of apertured plastic sheet carrier devices of the type shown in U.S. Patent No. 2,874,835 to a group of containers to form a container package.

### 3,383,829 COMBINED PAPER CARTON AND PLASTIC BOTTLE FILLING MACHINE

James M. Duddleston, 3282 Owasso Heights, St. Paul, Minn. 55112, and Howard R. Garrett, 682 Oak St., Woodstock, Ill. 60098  
Filed Feb. 2, 1966, Ser. No. 524,518  
13 Claims. (Cl. 53—55)



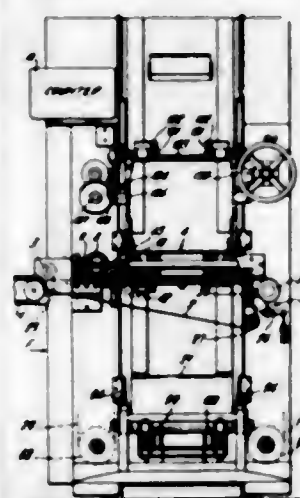
1. A high-speed carton former, filler and sealer machine comprising: a forming machine adapted to form thermoplastic coated blanks of paperboard from carton blanks in a flattened condition to an erected condition by opening the blanks, bending and folding the bottom flaps of the same, heating and sealing the bottom flaps, and bending the top flaps of the erected carton preparatory to filling and sealing of the same; control means for controlling the operation of the carton forming machine in a stepped type of operation; a filling machine adapted to

receive and fill said carton blanks including a filler mechanism, a heater and flap folder, a flap sealer, and a capping mechanism; a second control means for controlling the operation of the filling machine in a stepped type of operation; a conveyer adapted to supply the filling machine with an alternate source of containers which utilize the capping mechanism, third control means for operating the conveyer in a stepped type of operation; the second control means of the filling machine having a supervisory control included in part in the first and third control means to selectively limit the stepped operation of the forming machine and the conveyer in accord with the operation of the filler mechanism of the filler machine.

### 3,383,830 CIGARETTE CATCHING MECHANISM

George Dearley, Richmond, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Jan. 28, 1964, Ser. No. 343,180  
Claims priority, application Great Britain, Feb. 25, 1964, 7,524/63  
18 Claims. (Cl. 53—78)



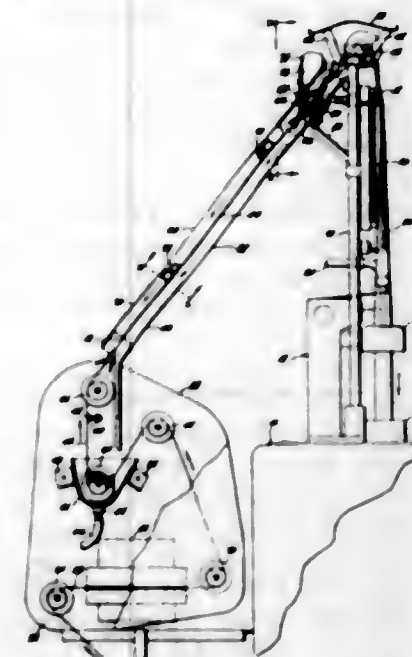
1. Apparatus for removing articles from a continuously moving conveyor in batches each consisting of a predetermined number of articles, comprising a batch removal station to which articles are, in operation led by such conveyor, means for arresting the movement of the most downstream articles, in each batch at the most downstream extremity of such station, sweep means at said removal station, such sweep means being mounted for movement transverse to the direction of movement of the conveyor and operative upon such movement to sweep articles at the removal station from the conveyor, and sensing means for causing operation of said sweep means the said sensing means comprises a device situated upstream of the removal station for counting the articles as they pass and adapted to actuate stop means to cut off the stream of articles at a point upstream of the removal station when a number of articles constituting one batch has passed such stop means, release mechanism for such stop means being provided and being automatically actuable in consequence of the removal of each batch from the conveyor so as to initiate the delivery of articles in the next succeeding batch.

### 3,383,831 WEB STERILIZATION AND PACKAGE FORMING APPARATUS

Frank Goldsmith, 1106 Curtis Drive, and Edward Goldsmith, 1108 Curtis Drive, both of Wyncote, Pa. 19095  
Filed Apr. 3, 1964, Ser. No. 357,198  
4 Claims. (Cl. 53—167)

Apparatus for sterilizing a continuously moving web and forming packages therefrom including an enclosed chute through which the web is passed and a heater

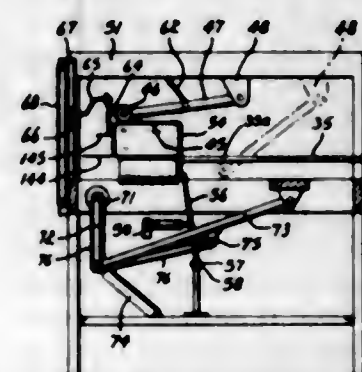
blower for directing a flow of hot air at a sterile temperature into the chute and along a surface of the web, a roll adjacent the discharge end of the chute for supporting the web and means for heating the roll to a sterile temperature. Additional sterilizing means may be provided



ahead of the chute by a flanged roll receiving upwardly extending runs of the web, and means for applying a liquid chemical sterilizing agent to the surface of one of the web runs so that the agent runs down the web surface and accumulates above the web roll to effect a complete wetting of the web surface in contact with the roll.

### 3,383,832 PACKAGE WRAPPING MACHINE

John B. Grant, 167 Omar Ave., Port Colborne, Ontario, Canada, and Edgar R. Elliott, R.R. 1, Lowbanks, Ontario, Canada  
Filed Mar. 7, 1966, Ser. No. 532,235  
12 Claims. (Cl. 53—209)

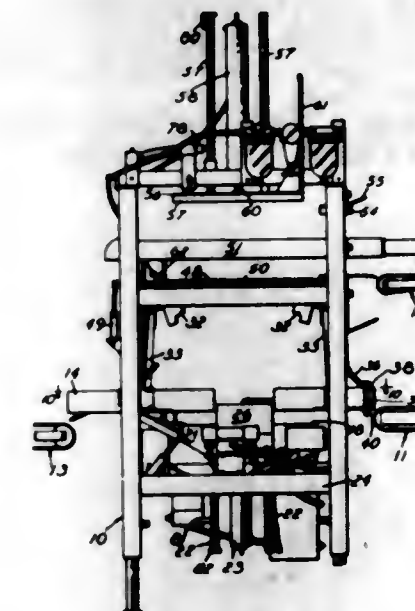


1. In a package wrapping machine, a table top for reception of a sheet of wrapping paper and a package to be wrapped, the package being positioned upon one side portion of the paper sheet, one end portion of the table top receiving the other side portion of the paper sheet and having an orifice therein across which said portion extends, a pair of arms positioned above the table top and protruding downwardly into the orifice past the ends of the portion of the paper sheet extending across the orifice, a spring loaded roller rotatably mounted upon the arms to extend therebetween and initially positioned underneath the paper sheet, a fabric overwrapper rolled around the roller and unrollable therefrom against the spring load of the roller, a member located underneath the table top and moveable in a horizontal direction towards the portion of the table top upon which the package is received and to which the free end of the overwrapper is attached, means for simultaneously swinging the arms and their roller upwardly in a path of movement across the top of the package and under which

movement the overwrapper unrolls upwardly from the roller in following the movement of the roller to bear against and lift the portion of the sheet of wrapping paper extending across the orifice and deposit said portion against one side face and the top face of the package in the roller's movement across the top face of the package, a reciprocal element moveable downwardly towards the table top to engage the portion of the sheet of wrapping paper deposited on the top face of the package and folding said portion downwardly about the other side face of the package, reciprocal means moveable upwardly towards the table top and engaging the portion of the sheet of wrapping paper upon which the package is positioned and folding said portion of the sheet upwardly to lie alongside the portion of the sheet downturned by the reciprocal element and thus partly wrap the package, and means for subsequently folding the end flaps of the sheet of wrapping paper about the end faces of the partly wrapped package.

### 3,383,833 CASE PACKING MACHINE

Reinhold A. Pearson, % R. A. Pearson Co., S. 12 Division St., Spokane, Wash. 99202  
Filed Dec. 17, 1965, Ser. No. 514,440  
5 Claims. (Cl. 53—247)



A machine for packing articles within open cases, particularly for placing cartons within exterior corrugated cases. The cases and cartons are carried along adjacent conveyors, and the cartons are centered with respect to each case. The case is centered with respect to yieldably mounted corner guides which serve to assist in easing the carton or article into the case. The cartons are pushed by a hydraulic mechanism, and an elevator is provided for moving each case into packing position.

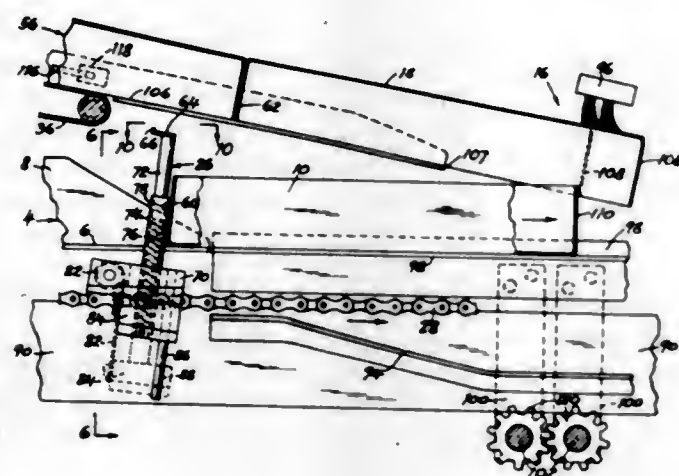
### 3,383,834 BOX LIDDING MACHINE

Vincent S. Switkowski, Glenolden, William B. Yoder, Glenolden, and Carl A. Beck, Bala Cynwyd, Pa., assignors to Charles Beck Machine Corporation, King of Prussia, Pa., a corporation of Pennsylvania  
Filed Oct. 11, 1965, Ser. No. 494,538  
7 Claims. (Cl. 53—315)

Equipment for applying lids to the bases of boxes movable along a support including longitudinally spaced members which project above the support to engage and move the bases of boxes to an assembly point where the lids are applied to the bases. The members which engage the bases of the boxes are adjustably mounted on assemblies so as to project a predetermined distance above the



support depending upon the depth of the base of the box and/or the lid being applied thereto. The members preferably are engageable with the rear end of a base and

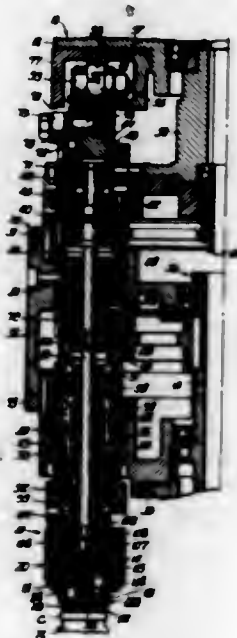


the rear end of a cover and are movable vertically to guide the rear end of the cover into embracing engagement with the rear end of the base of the box to which it is being applied.

3,383,835

## JAR CAPPING MACHINE

Charles R. Polcer, Walnut Creek, Calif., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York  
Filed Apr. 6, 1966, Ser. No. 540,653  
6 Claims. (Cl. 53-331.5)



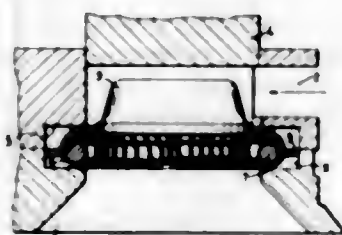
5. In a machine for applying caps to the threaded mouths of jar-like containers, comprising a turret mounted for rotation about a vertical axis, said turret having a plurality of container supporting assemblies mounted about the periphery thereof, a cap applying head suspended above said turret for rotation on a vertical axis aligned with the axis of rotation of said turret, said cap applying head having spindle assemblies mounted thereon which are spaced in accordance with the spacing of the container supporting assemblies, means for rotating said head and said turret with the spindle assemblies vertically aligned with containers on said supporting assemblies, said spindle assemblies being vertically movable and having telescoped shaft members which are rotatable relative to each other about a common vertical axis, one of said shaft members having a torsion producing means connecting two relatively rotatable shaft sections, means

on the lower end of one of said shaft members for releasably holding a cap, means on the lower end of one of said shaft sections for frictionally engaging the top surface of the cap, means for lowering the shaft members in timed relation to place a cap on a container and turn it tight, drive means for rotating the cap holding shaft member at a relatively high speed when it is lowered, so as to rapidly spin the cap held thereon onto the container, drive means for rotating the shaft having the torsion producing means at a relatively slow speed when it is lowered for slowly tightening the cap on the container with a predetermined torque, cooperating stop members mounted on the relatively rotatable shaft sections of said one shaft member for limiting the relative rotation thereof in one direction beyond a pre-set amount so that abnormal resistance to turning of the cap will be overcome by positive turning of the shaft sections.

3,383,836

## MACHINES FOR FITTING CLOSURES ON BOTTLES

Paavo Viktor Ludvig Salminen, Tolo-Helsinki, Finland, assignor to Etablissement Pasinvest, Geneva, Switzerland  
Filed May 11, 1966, Ser. No. 549,196  
Claims priority, application Sweden, May 13, 1965, 6,288/65  
8 Claims. (Cl. 53-358)



It is known in machines for fitting closures on bottles to insert the bottle neck from below into a channel in a head, in which the closure cap is introduced sideways and pressed from above onto the bottle mouth by means of a plunger. It is also known to have an annular spring projecting radially into the channel to support the closure cap before it is pressed onto the bottle. When the bottle with the cap pressed thereon is withdrawn downwards, the cap is drawn through the annular spring, which thereby is momentarily widened.

In order to keep the annular spring centered coaxially with the channel and to damp vibrations of the spring at the withdrawal of the cap, the invention proposes to provide a ring, which is loosely surrounded by the spring and which has pins extending between the windings of the spring. These pins cooperate with guiding surfaces on the head to permit axial movement of the ring while keeping it centered coaxially with the channel.

The ring and the spring can be open to provide a lateral opening for the sideways insertion of caps with a downwardly extending stopper portion.

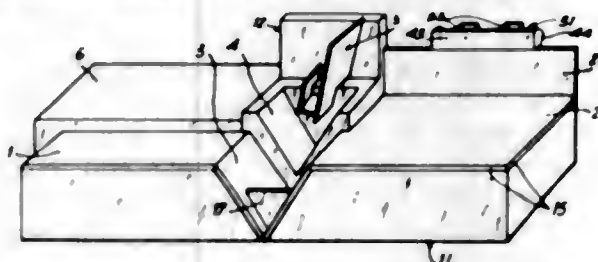
3,383,837

## APPARATUS FOR PACKING STOCKINGS

Jack Grenot, Sainte Savine, France, assignor to Société dite: Société Anonyme Financière & Auxiliaire du Textile, Paris, France  
Filed Mar. 8, 1966, Ser. No. 532,716  
Claims priority, application France, Mar. 19, 1965, 9,964  
13 Claims. (Cl. 53-390)

1. A stocking packing apparatus comprising an elongated table of which the front part consists of one of its major sides, means for supporting a stocking insert at an intermediate position along the front part of the top of the table so that the said insert forms a dihedral angle

with a horizontal edge open at the top, an insert magazine situated immediately to the rear of the insert support, and

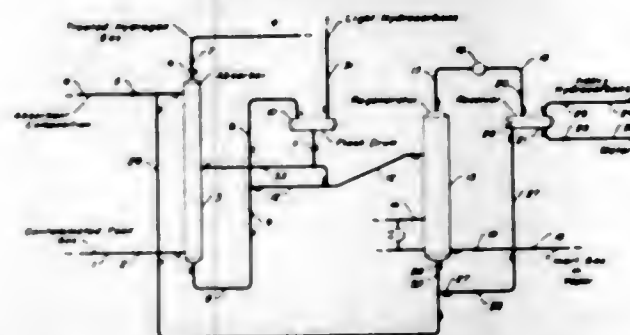


a stocking support and a sachet support situated on the respective sides of the insert magazine.

3,383,838

## HYDROGEN PURIFICATION PROCESS

Don B. Carson, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
Filed June 29, 1966, Ser. No. 561,576  
12 Claims. (Cl. 55-44)



A method for concentrating hydrogen by contacting a gaseous charge mixture containing hydrogen, hydrocarbons, and acid gases with an absorption medium composition comprising polyglycol ethers, organic amine, and hydrocarbon at least partially soluble in the ether, under absorption conditions comprising a temperature in the range of 50° F. to 300° F. and a high pressure in the range of 100 p.s.i.g. to 3000 p.s.i.g. The rich absorbent passes to a flash separator maintained at medium pressure wherein a part of the absorbed non-hydrogen components are flashed off and the resulting partially-regenerated absorbent is recycled in part to the absorption zone while a second part is sent to a stripping zone for substantially complete regeneration of the absorption medium at a low pressure before return to the absorption zone.

3,383,839

## DEVICES FOR COLLECTING FIBROUS MATERIALS

John C. Hintermaier, Troy, N.Y., assignor to Huyck Corporation, Remsen, N.Y., a corporation of New York  
Filed Mar. 23, 1965, Ser. No. 442,142  
1 Claim. (Cl. 55-270)

1. In a device for gathering up loose fibrous materials from the surface of a fibrous web by vacuuming, a filtering device comprising

a cylindrical clear plastic member which is open at both ends and constitutes a part of the air conduit to a vacuum device, said plastic member having markings along its length at .100" intervals beginning near the air egress side thereof, and a cylindrical 150 mesh woven wire filter member which is open at one end and has an outer diameter substantially equal to the inner diameter of said plastic member, said filter member having rigid circular support frame members at each end thereof rigid support frame members interconnecting said circular support frame members and extending therebetween

parallel to the axis of said filter member, and rigid support frame members positioned across the circular support frame member at the closed end of said filter member,

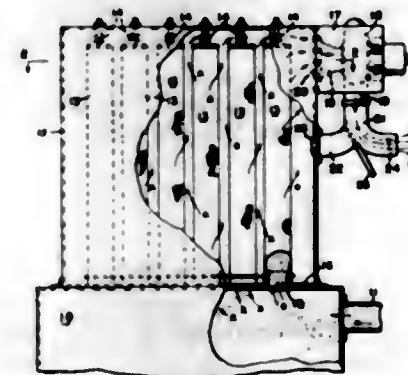


said filter member being positioned within said plastic member with its closed end located at the air egress end of said plastic member.

3,383,840

## DUST COLLECTING SYSTEM

Bob R. Johnson, Troy, and Robert V. McCabe, Elmora, N.Y., assignors, by mesne assignments, to Research-Cottrell, Inc., Bridgewater Township, N.J., a corporation of New Jersey  
Filed May 10, 1966, Ser. No. 548,937  
1 Claim. (Cl. 55-293)



There is provided herein a dust collecting device, a bag chamber containing a plurality of suspended filter bags and first and second passages formed in the chamber interconnected by a duct with valve means and air moving means whereby during the bag cleaning cycle air can be circulated through said passages, said duct and said chamber in a circular motion to shake said bags allowing materials in the fabric thereof to become dislodged and falling by gravity into an enclosure beneath said bags.

3,383,841

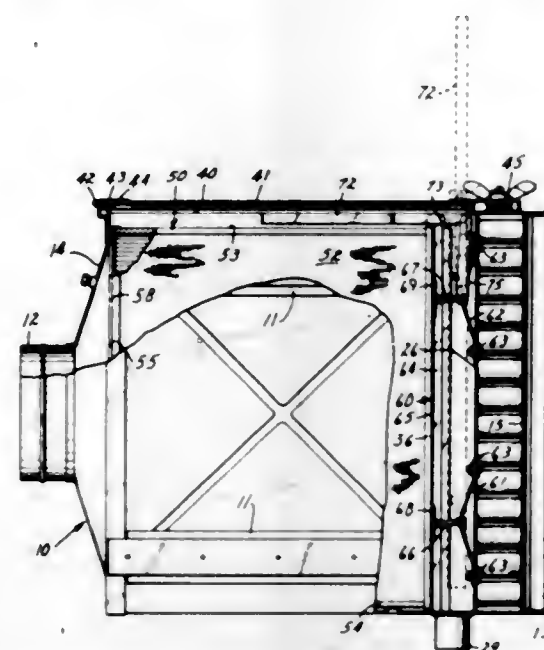
## FLUID FILTER

Lawrence J. Olson, St. Paul, and Erlend D. Anderson and Donald D. Gronholz, Minneapolis, Minn., assignors to Donaldson Company Inc., Minneapolis, Minn., a corporation of Delaware  
Filed Feb. 21, 1966, Ser. No. 528,942  
4 Claims. (Cl. 55-337)

A fluid filter including a fluid permeable V-shaped filter element and a plurality of centrifugal filter elements mounted in two groups, one at either side of the apex of the fluid permeable filter element, and retaining means mounted therebetween for retaining the fluid permeable filter element tightly against an outlet opening in a housing surrounding the entire structure. The fluid to be



filtered flowing inwardly through one end of the housing, the centrifugal filter elements, at least partially fluid permeable tapering sides of the fluid permeable filter element and outwardly through an outlet in the housing.

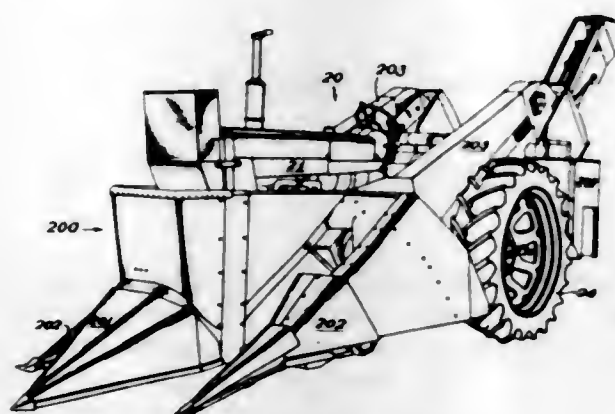


The housing further having a generally V-shaped opening therein compatible with the V-shaped fluid permeable filter element for insertion and removal of said filter element.

### 3,383,842 PIVOT LOCK MECHANISM FOR CORN PICKERS

T. Gary Drayer and John L. Vande Wiele, East Moline, Ill., assignors to International Harvester Company, a corporation of Delaware

Filed Aug. 2, 1965, Ser. No. 476,459  
3 Claims. (Cl. 56-2)



A mounting device for seating and locking an implement in position on an implement frame. The mounting device has pivoted cam plates that function to urge bars carried by the implement into seats and are automatically locked when the bars are properly seated. Operator handles are connected to the cam plates through which pivotable movement is imparted to the cam plates and by which the cam plates can be released from the locked position.

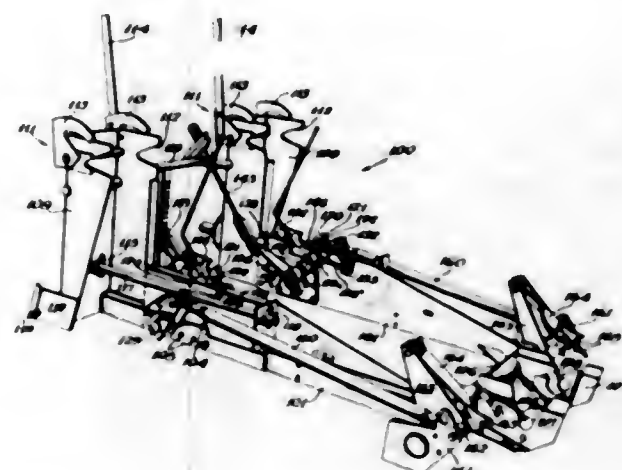
### 3,383,843 TRACTOR MOUNTED CORN HARVESTER

T. Gary Drayer, East Moline, and Ralph L. Satton, Rock Island, Ill., assignors to International Harvester Company, a corporation of Delaware

Filed Sept. 27, 1965, Ser. No. 490,441  
9 Claims. (Cl. 56-15)

1. A tractor mounted corn picker unit comprising: a tractor of the type having a longitudinally extending chassis, a rear axle unit, a dirigible front wheel, a hitch

rockshaft having a lever arm secured thereto, a front tractor mount carried by said chassis between the rear axle unit and the front wheel, and a rear tractor mount carried by the rear axle unit; a longitudinally extending main frame having front and rear portions, front guides mounted on the top of said front portion adapted to engage the front support when the front portion of said main frame is elevated, a lifting link secured at one end to the rear portion of said main frame and adapted to be connected at the other end to the lever arm of said hitch rockshaft; said rear tractor mount including a main section having a bottom surface, an upwardly converging cavity formed

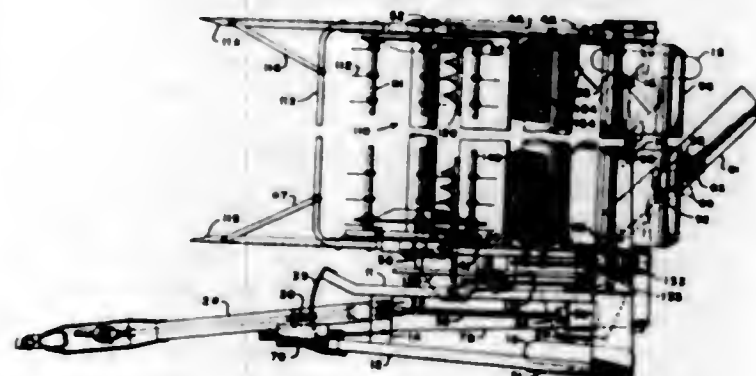


in said main section with its base opening in the bottom surface, a bar extending generally horizontally from said main section; an upwardly tapering horn corresponding in shape to said upwardly converging cavity carried by the rear portion of said main frame such that upon elevating the rear portion of said main frame said upwardly tapering horn will be inserted into said upwardly converging cavity to properly align said main frame with respect to said rear tractor mounts; a latch bar including a hook pivotally supported on the rear portion of said main frame and adapted when pivoted to grasp the bar of said rear tractor mount to hold said main frame in the elevated position.

### 3,383,844 DEFLECTOR STRUCTURE

Emmett F. Glass, Akron, and John K. Hale and Horace G. McCarty, New Holland, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Pennsylvania

Filed Apr. 1, 1965, Ser. No. 444,647  
11 Claims. (Cl. 56-23)



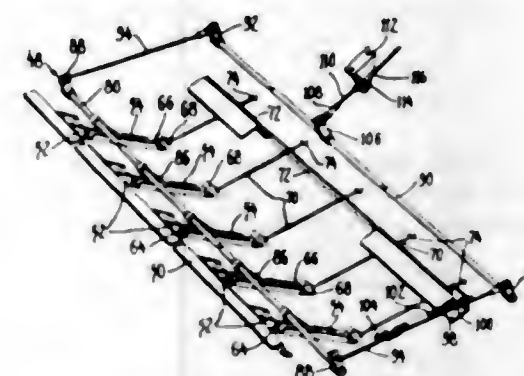
A harvester having a mower, conditioner rolls, and windrowing means in which the stream of material discharged by the windrowing means by the conditioner rolls

is substantially the same width as the swath cut by the mower.

### 3,383,845 AUTOMATIC HEIGHT CONTROL FOR COMBINE HEADER

Walter Hirsch, Don Mills, Ontario, and Wilbert D. Weber, Nashville, Ontario, Canada, assignors to Massey-Ferguson Industries Limited, Toronto, Ontario, Canada

Filed July 22, 1965, Ser. No. 473,925  
7 Claims. (Cl. 56-208)

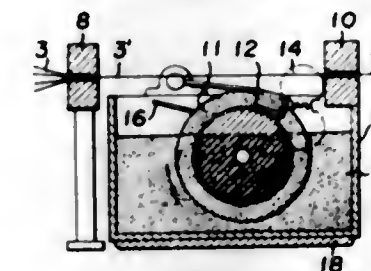


1. In an agricultural combine having a main body with a header mounted on the forward end thereof for vertical movement and power means for raising and lowering the header relative to the ground, automatic control means for operating said power means in accordance with the contour of the ground comprising: a support bar carried beneath the header adjacent the forward end thereof and extending transversely of the longitudinal axis of the combine; a plurality of elongated feeler members each having one end pivotally mounted on said support bar, said feeler members being substantially evenly spaced along the length of said support bar; a guide bar mounted beneath the header rearwardly of the support bar in parallel relationship therewith and projecting downwardly and rearwardly from beneath the header; a plurality of guide rods, equal in number to the feeler members, slidably supported in said guide bar and spaced along the length of the guide bar such that each guide rod is aligned with one of the feeler members; stop means on the rear ends of the guide rods for limiting the forward travel of the guide rods in the guide bars; means pivotally connecting the forward ends of the guide rods with the rear ends of the opposed feeler members with the length of the feeler members and guide rods such that the feeler members project downwardly and rearwardly beneath the header and the guide rods project downwardly and forwardly in trailing relationship with the feeler members whereby upward movement of the feeler members about their pivotal axis causes rearward sliding movement of the guide rods in the guide bar; an actuating rod rotatably mounted beneath the header between the support bar and guide bar in parallel relationship therewith; a plurality of actuating fingers equal in number to the feeler members projecting radially from the actuating rod in parallel relationship with each other and spaced substantially evenly along the length of the actuating rod such that each actuating finger is engageable with one of the feeler members; means interconnecting said actuating rod with said power means for actuating the power means to raise and lower the header upon rotation of the actuating rod; and means biasing the actuating rod to a position such that each of the actuating fingers engages one of the feeler members and urges the feeler member downwardly toward the ground; said feeler members being individually operable upon pivotal movement about said support bar to rotate said actuating rod and actuate the power means to raise and lower the header in accordance with the ground contour as determined by the position of the higher of the feeler members.

### 3,383,846 APPARATUS FOR INTERMITTENTLY APPLYING ADHESIVE TO STRING-LIKE MEMBERS

Toshihisa Takada, Sakura-shi, Shigenobu Tanaka, Nerima-ku, Tokyo, and Seichi Nishikawa, Sagami-ku, Tokyo, Japan, assignors to The Fujikura Cable Works, Ltd., Koto-ku, Tokyo, Japan, a corporation of Japan

Filed Nov. 9, 1966, Ser. No. 593,073  
Claims priority, application Japan, Nov. 11, 1965, 40/69,492; Nov. 22, 1965, 40/71,673  
7 Claims. (Cl. 57-35)

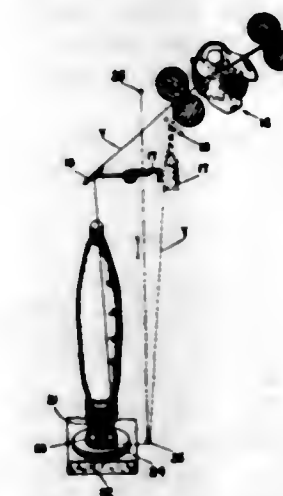


An apparatus for intermittently applying adhesive to a strand and in particular where the adhesive is applied to twist reversal points on said strand. An applicator device is employed wherein the applicator receives adhesive from a rotating wheel submerged in an adhesive bath and the applicator is moved into and out of contact with the yarn in a controlled manner.

### 3,383,847 YARN POSITIONER FOR TEXTILE MACHINES

Joseph W. Dubois, North Smithfield, R.I., and Herman Haagsma, Whitinsville, and John H. Nydam, North Uxbridge, Mass., assignors, by mesne assignments, to John Donald Marshall and Horace L. Bomar, as trustees of The Carolina Patent Development Trust

Filed Aug. 9, 1966, Ser. No. 571,319  
3 Claims. (Cl. 57-54)



Apparatus for offsetting the running ends of a series of filled yarn packages prior to doffing, having a positioning wire extending slidably between a pair of vertically fixed shafts positioned rearwardly of the row of spindles. The positioning wire, having an interconnecting tension spring, may be moved, one end at a time, within a single vertical plane.

### 3,383,848 RING-DROP ASSEMBLY AND LATCH MEANS THEREFOR

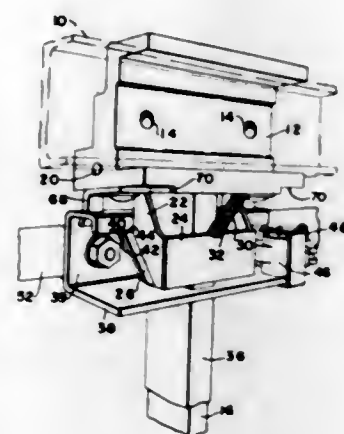
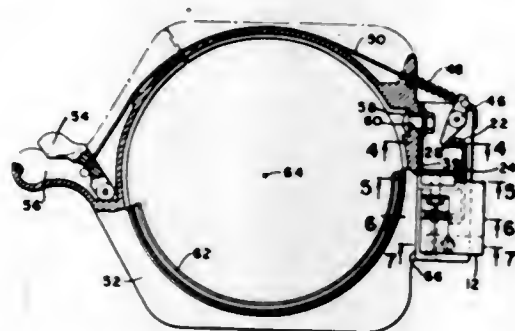
Beryl A. Boggs, Chesterfield County, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Aug. 18, 1966, Ser. No. 573,324  
10 Claims. (Cl. 57-54)

1. A ring-drop assembly for yarn winding machines and the like having a traversing ring rail, comprising



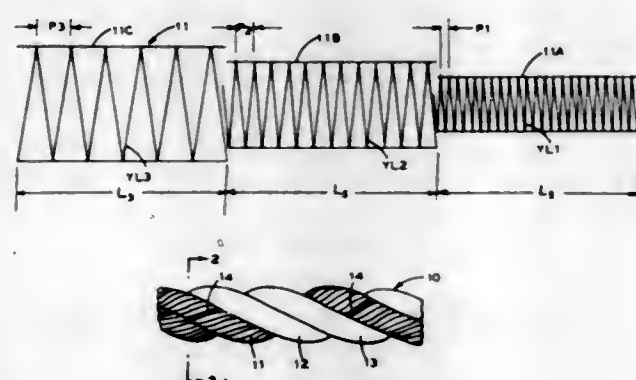
a guide-rod supporting bracket block adapted for mounting on said ring rail and having a guide rod extending downwardly under said ring rail, a tubular guide bearing slidably mounted on said guide rod and having a ring-support bracket at the top, said ring-support bracket having a ring-supporting face plate substantially flush with the front of said tubular guide bearing and extending to both sides thereof, and



latch means between said guide-rod support bracket block and said ring-support bracket, said latch means having axially overlapping members with releasably interlocked supported and supporting edges in the normally latched position of said latch means, said overlapping members and their interlocked edges extending laterally to both sides of said guide bearing.

### 3,383,849 ROPE STRAND OR YARN AND METHOD OF MAKING SAME TO REDUCE ITS WHIP-BACK CHARACTERISTIC AT RUPTURE

James Stirling, 109-26 209th St.,  
Queens Village, N.Y. 11429  
Filed Aug. 10, 1966, Ser. No. 571,640  
19 Claims. (Cl. 57-144)



1. A rope strand comprising a core including a plurality of yarns twisted about a common axis at a predetermined pitch per unit length, and

a layer of individual yarn elements twisted about said common axis onto and about said core whereby the pitch per said unit length of said layer of yarn is adjusted in relationship to the pitch per unit length of said core measured along said common axis so that the individual yarns in said covering layer attain their maximum elongation first and the maximum elongation will be reached by the succeeding layers of yarn in succession going toward the core.

### 3,383,850 METHOD FOR FIXING ONE OR MORE PREVIOUSLY TWISTED OR COILED YARNS OR THE LIKE DURING UNWINDING THEREOF, PARTICULARLY APPLICABLE TO ALTERATION OF TEXTURIZED YARN

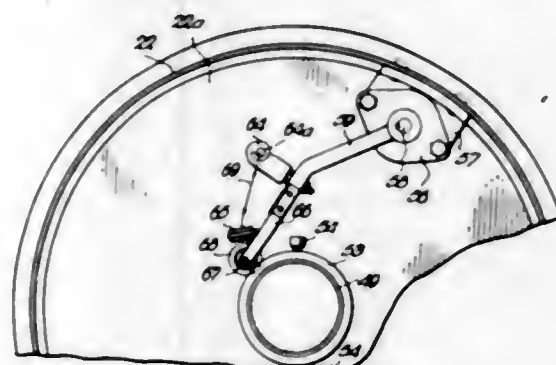
Michele Ratti, Luino, Varese, Italy  
Filed Sept. 24, 1965, Ser. No. 489,896  
Claims priority, application Italy, Aug. 6, 1965,  
7,853/65  
2 Claims. (Cl. 57-157)



Yarn is twisted and the twisted yarn is passed through a heating chamber by feed rolls at the entrance and exit of the chamber which hold the yarn in a straight path and out of contact with solid hot surfaces while being heated. The yarn is heat-set thereby in the original twisted condition, and may be wound on bobbins and otherwise processed thereafter.

### 3,383,851 METHOD OF PRODUCING ROVING

Howard M. Hickman, Overland Park, Kans., assignor, by mesne assignments, to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland  
Filed June 29, 1966, Ser. No. 561,477  
1 Claim. (Cl. 57-157)

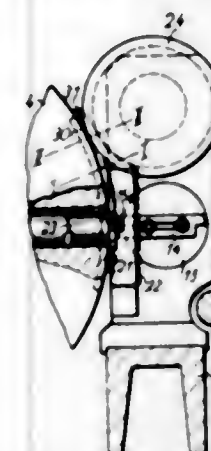


1. A method of producing a roving made up of textile fiber strands, said strands untwisted with respect to one another in said roving, comprising the steps of winding a plurality of textile fiber strands on a nonrotating mandrel in such manner that each circumferential length of

roving wound on said mandrel has one twist per turn of the strands with respect to one another and then withdrawing the roving from the wound package in a direction opposite to that in which the strands were wound on the said package.

### 3,383,852 STAPLE FORMING METHOD AND DEVICE

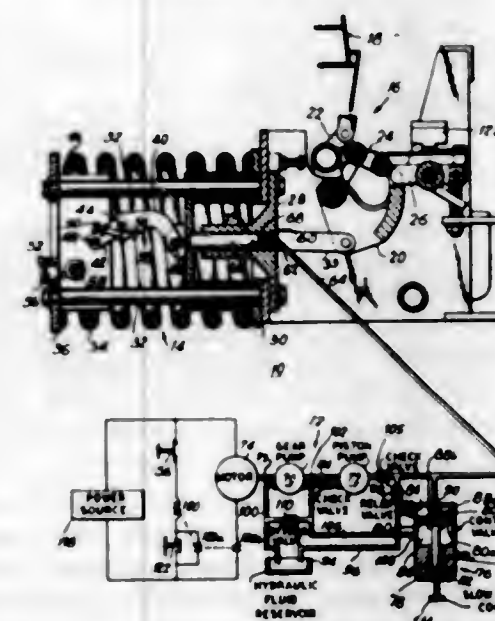
Paul Helmlicher, Bolligen, and Eduard von Hein, Bern, Switzerland, assignors to Maschinenfabrik Winkler, Fallert & Co., AG., Bern, Switzerland  
Filed Oct. 30, 1964, Ser. No. 407,633  
Claims priority, application Sweden, Nov. 8, 1963,  
12,317/63  
15 Claims. (Cl. 59-76)



The disclosure is directed to a wire stapling machine in which cutting of a fed staple wire is effected by a revolving knife in a manner such that the speed of cutting of the staple, which corresponds to the circumferential speed of the knife, is low compared to the circumferential speed of a stapling cylinder operable to transport the cut staple lengths to bending means and to a point of use. A further feature of the disclosure is that, during bending of the cut wire lengths into staples, the speed of the cut wire lengths, relative to bending means co-operable with the stapling cylinder, is substantially zero.

### 3,383,853 ENERGY STORAGE MECHANISM FOR ACTUATING CIRCUIT BREAKERS AND THE LIKE

Edward I. Engel, Matawan, N.J., and William J. Smith, McMurray, Pa., assignors to Federal Pacific Electric Company, Newark, N.J., a corporation of Delaware  
Filed May 17, 1966, Ser. No. 550,830  
7 Claims. (Cl. 60-7)



Energy storage mechanism for actuating circuit breakers and the like utilizing a hydraulic system for charging

### 3,383,854 INTERNAL COMBUSTION ENGINE EXHAUST CLEANER

John H. White, 6494 Leonard Drive,  
Redding, Calif. 96001  
Filed Nov. 28, 1966, Ser. No. 597,273  
10 Claims. (Cl. 60-29)



1. An internal combustion engine exhaust cleaner comprising:

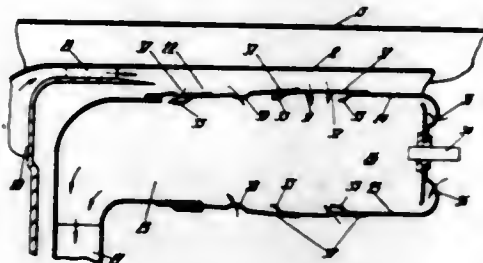
- (a) an elongated housing closed at its ends by a front plate and a rear plate;
- (b) a pair of spaced, interior, transverse partitions within said housing dividing the interior of said housing into a forward intake chamber, an intermediate chamber and an after outlet chamber;
- (c) an intake pipe connecting to the exhaust manifold of an internal combustion engine, said pipe extending through said front plate, through said forward intake chamber, through the forward one of said pair of transverse partitions, through said intermediate chamber and terminating at the after one of said pair of transverse partitions, said intake pipe including a plurality of apertures opening into said intermediate chamber;
- (d) a liquid conducting line leading from a reservoir of treated liquid and discharging into said forward intake chamber;
- (e) means for converting to foam a portion of the treated liquid within said forward intake chamber;
- (f) means for injecting the foam in said forward intake chamber into said intake pipe into the path of the engine exhaust passing through said intake pipe, said foam and said exhaust becoming intermingled and discharging through said apertures into said intermediate chamber;
- (g) a catch basin within said intermediate chamber below said intake pipe to hold a portion of the foam reconverted to liquid state and containing a first fraction of exhaust materials entrained therein;
- (h) a perforated conduit in said intermediate chamber and extending to a port in said after partition to discharge into said after outlet chamber, said conduit being effective to carry to said after outlet chamber a residual portion of exhaust materials;
- (i) an exhaust pipe extending from said after partition through said after outlet chamber and through said rear plate to discharge into the atmosphere, said exhaust pipe including an apertured portion within said after outlet chamber; and
- (j) filter means interposed in said after outlet chamber between said discharge part of said perforated conduit and said apertured portion of said exhaust pipe, said filter means being effective to remove a remaining portion of exhaust materials, the relatively clean gaseous product entering said apertured portion of said exhaust pipe being discharged by said exhaust pipe into the atmosphere.



3,383,855

**GAS TURBINE ENGINE**

Frederick Freeman, Derby, and Herbert Frank Smith, Allenton, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company  
 Filed June 27, 1966, Ser. No. 560,587  
 Claims priority, application Great Britain, July 12, 1965, 29,541/65  
 2 Claims. (Cl. 60—39.65)

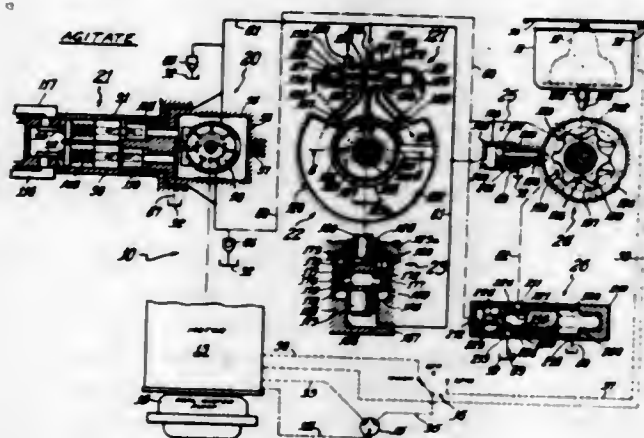


A gas turbine engine comprises a centrifugal compressor, and axially extending combustion equipment arranged to receive air compressed by the compressor. The combustion equipment has a combustion zone at its downstream end. A radially inward flow turbine is disposed immediately adjacent the centrifugal compressor and is arranged to receive combustion gases from the outlet of the combustion equipment. Substantially all the combustion and dilution air which enters the combustion equipment passes through its radially outer periphery.

3,383,856

**HYDRAULIC TRANSMISSION WITH SPEED CONTROL**

Herbert N. Underwood, Chicago, Ill., and Yunus E. Moomchala, Bombay, India, and John Tuzson, Evanston, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois  
 Filed Dec. 13, 1965, Ser. No. 538,436  
 7 Claims. (Cl. 60—52)

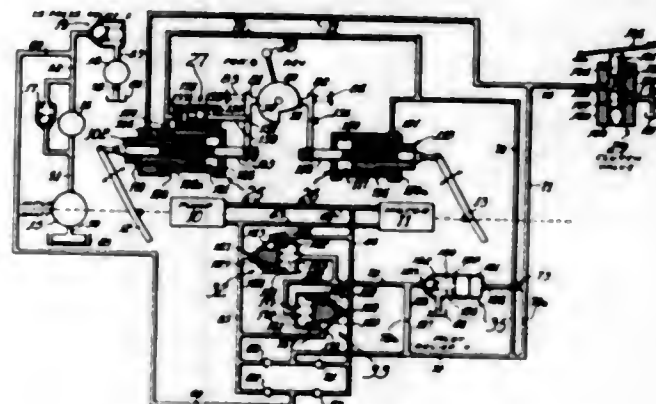


A hydraulic transmission particularly for clothes washers of the type having a hydraulic motor for the agitator drive and a separate hydraulic motor for the basket spin drive including a reversible variable volume fluid pump. The pump is connected to separate fluid circuits one for each of said motors and adapted to supply pressure to one of said fluid circuits in one direction of rotation and to the other fluid circuit in the other direction of rotation and has a pair of pressure control valve mechanisms connected to the pump each being manually operable to vary the displacement of the pump one of said control mechanisms being operative for each direction of rotation of the pump.

3,383,857

**HYDROSTATIC TRANSMISSION MECHANISM**

Richard J. Rajchel, Fort Wayne, and David N. Prevaillet, Gerald D. Olson, and Gerald Randa, Auburn, Ind., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois  
 Filed May 24, 1966, Ser. No. 552,496  
 6 Claims. (Cl. 60—53)

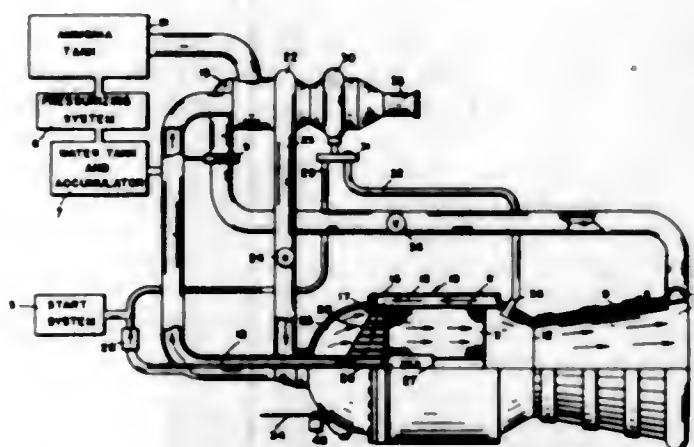


An hydraulic transmission mechanism including pump and motor units having a commonly controlled pair of servovalve mechanisms for controlling capacity of the pump and motor units and having a pair of relief valves wherein at least one of said relief valves will be initially open interconnecting the high and low pressure passages between the pump and motor units and as the pressure developed by the pump builds up the relief valve will close at a controlled rate to prevent shock loads in the hydraulic circuit between pump and motor units.

3,383,858

**NUCLEAR ROCKET ENGINE**

Martin I. Willinski, Northridge, and Ernest A. Lamont, Woodland Hills, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware  
 Filed Aug. 9, 1956, Ser. No. 604,294  
 12 Claims. (Cl. 60—203)



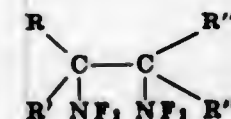
1. A nuclear rocket engine comprising a thrust chamber including a reactor core having means to conduct a coolant-reflector externally thereof, a nozzle section having coolant passages in a wall thereof, a heat exchanger, a rocket propellant fluid, a liquid coolant-reflector, a closed-loop conduit system adapted to flow said liquid coolant-reflector through said means, said coolant passages and said heat exchanger, means to flow said propellant fluid through said heat exchanger in heat exchanging relation with said liquid coolant-reflector, and means injecting said propellant fluid from said heat exchanger through said reactor core, said propellant fluid being substantially vaporized by heat from said reactor and subsequently being ejected from said nozzle section to provide rocket thrust.

3,383,859

**DINITROGEN TETRAOXIDE-DIFLUOROAMINO-SUBSTITUTED FUEL COMPOSITIONS AND METHOD OF USING SAME FOR ROCKET PROPULSION**

Edgar F. Croomes, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army  
 No Drawing. Filed Sept. 10, 1962, Ser. No. 222,737  
 8 Claims. (Cl. 60—214)

5. A method of operating a rocket engine which comprises bringing together and igniting in the combustion zone of said engine (1) a mixture of dinitrogen tetraoxide and difluoroamino-substituted compound of the formula



wherein R, R', R'', and R''' are selected from the group consisting of hydrogen and lower alkyl radicals of up to four carbon atoms, the total number of carbon atoms in R, R', R'', and R''' not to exceed six; the molar ratio of dinitrogen tetraoxide to said difluoroamino-substituted compound being from 0.04:1.0 to 1.5:1.0; and (2) additional dinitrogen tetraoxide such that the total ratio of dinitrogen tetraoxide to said difluoroamino-substituted compound in said combustion zone inclusive of that in admixture with said difluoroamino-substituted compounds is from .6 to 1.2 times the stoichiometric amount.

3,383,860

**LOW FLAME TEMPERATURE GAS GENERANT CONTAINING AMMONIUM IODATE AND METHOD OF OPERATING A GAS GENERATOR**

David C. Sayles, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army  
 No Drawing. Filed May 21, 1965, Ser. No. 458,842  
 5 Claims. (Cl. 60—218)

Compacted ammonium iodate or compositions having ammonium iodate and an organic polymeric binder are used as gas generating compositions that produce gas without solid decomposition products. The gas produced is used in small gas-driven turbines as auxiliary power sources in the field of rocketry.

3,383,861

**REVERSE THRUST CONTROL FOR ROCKET ENGINE**

Harold S. Bell, Jr., Madison, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
 Filed Dec. 13, 1965, Ser. No. 513,382  
 10 Claims. (Cl. 60—229)

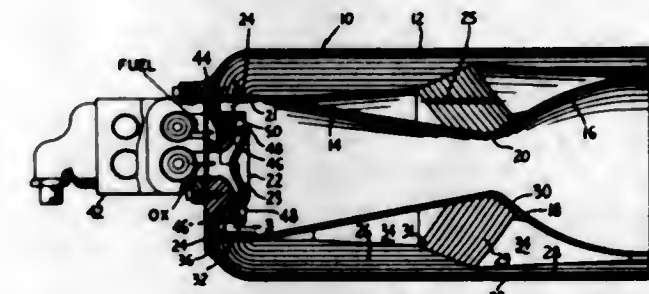


Application discloses an arrangement for reversing the direction of thrust on a rocket engine comprising a slide valve for initiating flow of bi-propellant liquids to a combustion chamber and a control means cooperating with the slide valve to selectively deliver products of combustion to rearwardly and forwardly projecting nozzles.

3,383,862

**ROCKET THRUST CHAMBER**

Raymond J. Novotny, Sparta, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
 Filed Feb. 14, 1966, Ser. No. 527,320  
 12 Claims. (Cl. 60—258)



This application relates primarily to an improved rocket motor thrust chamber in which a solid state heat conductor element carries heat directly from the hot nozzle throat area to the injector area and acts as an efficient thermal regenerator thus obviating the need for a liquid propellant coolant jacket with its inherent disadvantages.

3,383,863

**POND, TANK AND PIT LINER AND METHOD OF DETECTING LEAKS**

Joe R. Berry, 1418 W. 23rd, Odessa, Tex. 79760  
 Filed Aug. 3, 1966, Ser. No. 570,052  
 4 Claims. (Cl. 61—1)

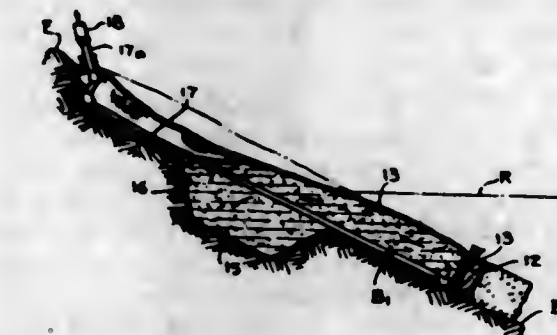


An earthen pond is sealed by applying an impervious reinforced resin coat to a pad in contact with the soil. The pad, e.g., cardboard or kraft paper, forms a backing when the resin is applied and forms a smoothing surface to the rough soil. The liner of resin on the pad may be preformed and rolled and the strips joined on the site. Possible leaks are located by the change of electrical resistance around two sets of wires underneath the liner.

3,383,864

**METHOD OF PROTECTING OR REPAIRING SCOURED AREAS OF A SITUS**

Lee A. Turzillo, Bath, Ohio  
 (2078 Glenary Road, Akron, Ohio 44313)  
 Filed Jan. 23, 1967, Ser. No. 617,446  
 8 Claims. (Cl. 61—38)



Method of protecting a scoured area of an earth situs by injection of liquid grout into a flexible fabric bag, first to expand portions of the bag into a trench provided in the scoured area, and then to fill the remainder of the bag overlying the scoured area. When the grout hardens, the hardened portions thereof within the trench are utilized to anchor the bag in place.

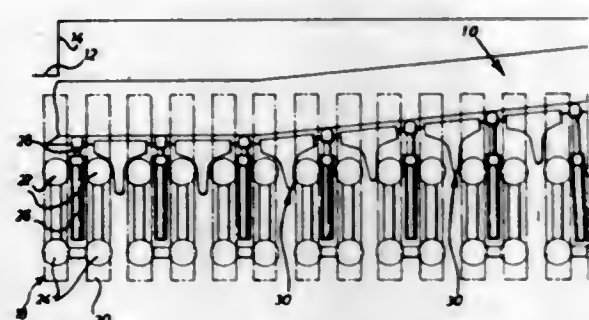


3,383,865

**MINE ROOF SUPPORTS**

Ian B. Wilson, Kirkcaldy, Fife, Scotland, and Eric Norman, Hull, England, assignors to Mastabar Mining Equipment Company Limited, Hull, Yorkshire, England, a British company

Filed Dec. 3, 1965, Ser. No. 511,492  
12 Claims. (Cl. 61-45)



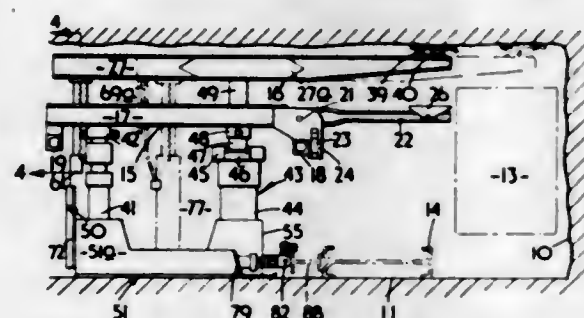
In a roof support and conveyor assembly for a mine, a plurality of roof support units each having at least one horizontal ram attached to the conveyor for advancing the latter upon extension and for drawing the units towards the conveyor to new positions upon retraction; and a plurality of cams fixed to the conveyor to respectively engage certain portions of the units to move the units into a position normal to the conveyor path upon retraction of the rams.

3,383,866

**ROOF SUPPORTS FOR MINE WORKINGS**

Karl M. Groetschel, 44 Stolzestrasse,  
463 Bochum, Germany

Filed Dec. 3, 1965, Ser. No. 511,511  
Claims priority, application Great Britain, Dec. 7, 1964,  
49,739/64; Aug. 3, 1965, 33,045/65  
12 Claims. (Cl. 61-45)



A self-advancing roof support for supporting the roof of a mine working and including at least one base element having laterally spaced, generally parallel, side members; means rigidly connecting the side members to each other adjacent their forward and rearward ends, the side members and connecting means defining a medial longitudinally extending slot, the support further including a roof-engaging superstructure including an outer part having laterally-spaced, longitudinally extending roof bars rigid along their lengths, means connecting the roof bars rigidly with each other and defining together therewith an upwardly open, longitudinally extending channel overlying the slot, the support also including an inner part composed of an elongated, longitudinally rigid beam disposed in the channel, two props each extending between a respective one of the side members at its rearward end and a respective one of the roof bars to support the latter, at least one prop extending between the base element at its forward end and the roof bars for supporting the latter, and two longitudinally-spaced props, one disposed adjacent the forward end of the base element and the other disposed in the slot at a point spaced rearwardly

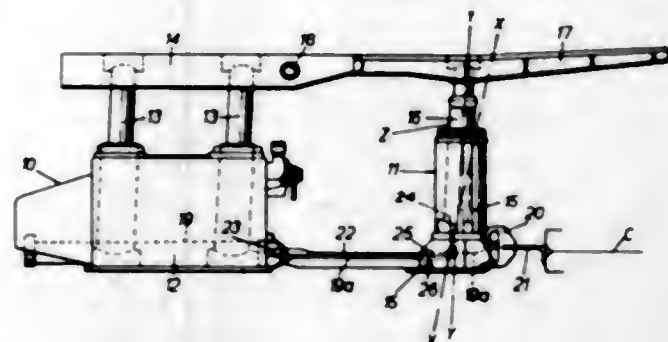
from the forward end of the slot, the latter props supporting the beam, the arrangement finally including traction means for advancing the beam and the outer part of the superstructure alternately.

3,383,867

**MINE ROOF SUPPORTS**

Alan Ormerod, Chorley, England, assignor to  
Gullick Limited, Wigan, Lancashire, England,  
a British company

Filed Dec. 27, 1965, Ser. No. 516,385  
Claims priority, application Great Britain, Jan. 15, 1965,  
1,789/65  
6 Claims. (Cl. 61-45)



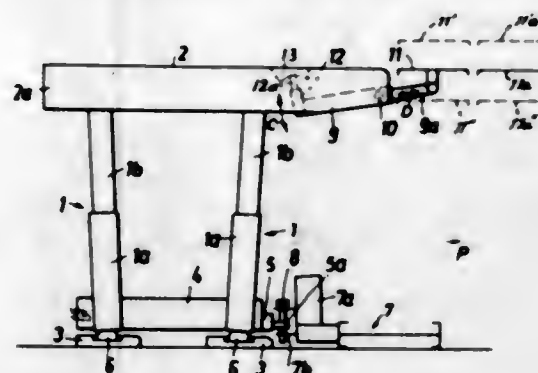
The two support units of a self-advancing mine roof support are connected by a resilient tie bar. The tie bar is pivotally connected to one unit and to the other unit by mechanism which stresses the bar to oppose tilting motion of such other unit thereby to maintain it in required angular disposition in a plane normal to the mineral face.

3,383,868

**MECHANICAL MOVABLE PROP ASSEMBLIES**

Wilhelm Wilkenloh, Duisburg-Wanheim, Erich Jaeger,  
Duisburg-Neudorf, Friedhelm, Kuhnappel, Duisburg-  
Buchholz, and Manfred Koppers, Duisburg-Hamborn,  
Germany, assignors to Rhein Stahl Wanheim G.m.b.H.,  
Duisburg-Wanheim, Germany

Filed Jan. 28, 1966, Ser. No. 523,605  
Claims priority, application Germany, Feb. 3, 1965,  
R 39,804  
17 Claims. (Cl. 61-45)



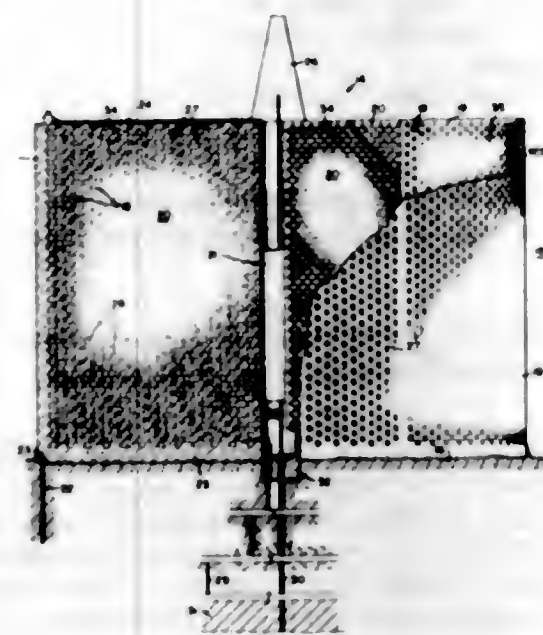
A prop arrangement for use in mine galleries including at least two prop assemblies arranged spaced from each other and movable independent from each other toward and away from a face of the mine gallery and each including at least one extensible and retractable prop member supported at its lower end on a base member shiftable on the floor of the mine gallery and carrying a cap member on its upper end adapted to engage the roof of the mine gallery, shield means extending transverse to the direction of movement of the prop assemblies and adapted to engage the roof in the region between the cap members and the mine face, and extensible and retractable connecting means connecting at least two adjacent prop assemblies with a common shield means for moving

the common shield means and the prop assemblies connected thereto relative to each other in direction of movement of the prop assemblies.

3,383,869

**MARINE PIERS**

Gerard Eugene Jarlan, Ottawa, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada  
Filed Jan. 18, 1965, Ser. No. 426,031  
16 Claims. (Cl. 61-46)



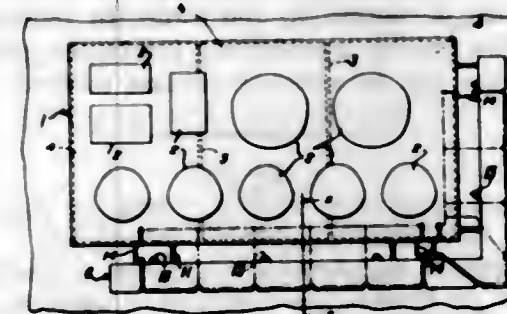
1. A marine pier comprising an upright tubular column resting on seabed and extending above high water, said column having a diameter of at least 50 feet and being apertured extensively over its surface by a large multiplicity of holes between three and four feet in diameter, the total cross sectional area of said holes comprising about 40% of the column surface area, each said hole having a tubular duct of matching diameter and length between three and four feet connected by one end with the margin of said hole, said ducts extending horizontally inwardly within the pier and providing an array of jet-guiding channels effective to produce translation of seawater in either direction when said pier is impinged by deep water waves, and means bracing said column to resist deformation under wave attack.

3,383,870

**OFFSHORE PLATFORM FOR UNDERWATER FACILITIES**

Daniel E. Costello, Elmhurst, N.Y., assignor to The Lummas Company, New York, N.Y., a corporation of Delaware

Filed Oct. 28, 1966, Ser. No. 590,347  
7 Claims. (Cl. 61-48)



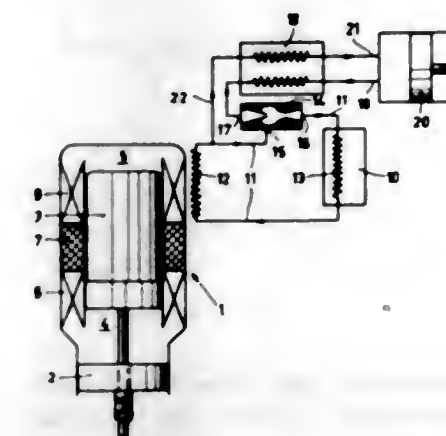
An offshore platform for servicing an underwater facility is provided, incorporating a floating barge. The barge supports fluid and/or slurry handling or processing equipment and is moored to the structure by means of fenders which permit motion of the barge relative to the structure. Flexible fluid connections are provided between the barge and the facility.

3,383,871

**APPARATUS FOR TRANSPORTING COLD TO A REMOTE LOCATION USING AN EXPANSION EJECTOR**

Johan Adriaan Rietdijk and Gijbert Praet, Emmasingel,  
Eindhoven, Netherlands, assignors to North American  
Phillips Co., Inc., New York, N.Y., a corporation of  
Delaware

Filed Oct. 7, 1966, Ser. No. 585,153  
Claims priority, application Netherlands, Oct. 9, 1965,  
65-13,118  
6 Claims. (Cl. 62-6)



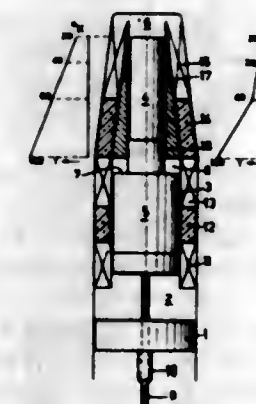
Transport of cold from a cold source such as a cold gas refrigerator to a remote location using an expansion ejector. The supply device for medium provides only a small flow while the ejector provides a much greater flow of medium in the duct system thereby resulting in smaller losses of cold or heat.

3,383,872

**DEVICE FOR PRODUCING COLD WITH COLD LOSS PREVENTION MEANS**

Jacob Willem Laurens Kohler, Emmasingel, Eindhoven,  
Netherlands, assignor to North American Phillips Co.,  
Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 16, 1966, Ser. No. 594,745  
Claims priority, application Netherlands, Dec. 5, 1965,  
65-15,725  
6 Claims. (Cl. 62-6)



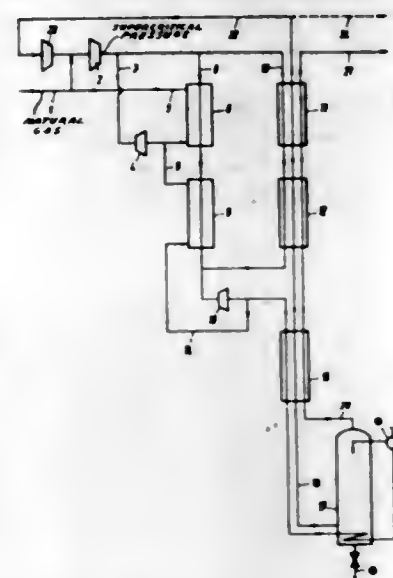
Cold gas refrigerator construction with means to prevent cold to be dissipated to the atmosphere through the walls surrounding a gap between the walls and the adjacent piston. This may be in the form of additional expansion spaces or in a duct system from one refrigerator to another refrigerator.



### 3,383,873 ENGINE EXPANSION OF LIQUEFIED GAS AT BELOW CRITICAL TEMPERATURE AND ABOVE CRITICAL PRESSURE

Rudolf Becker, Munich-Solln, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany  
Filed Nov. 3, 1965, Ser. No. 506,229  
Claims priority, application Germany, Nov. 3, 1964, G 41,930

7 Claims. (Cl. 62-11)

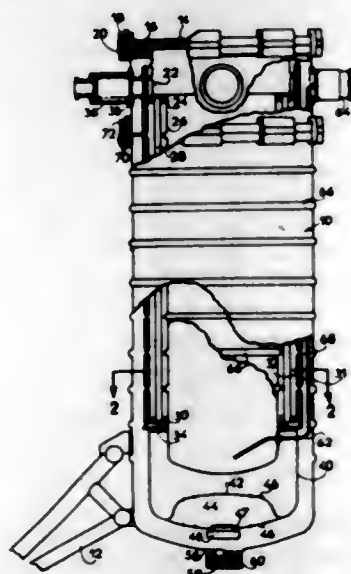


- Liquefying natural gas by the steps of:
- (A) Isothermally compressing the natural gas above the critical pressure;
  - (B) Cooling the compressed gas to sub-critical temperatures;
  - (C) Engine-expanding resultant cooled fluid in an expansion machine under conditions where no gas phase is formed;
  - (D) Isobarically cooling resultant engine-expanded liquid; and
  - (E) Throttling resultant cooled liquid to produce a mixture of liquid and vapor, whereby a minimum of vapor is formed as a result of the expansion steps.

### 3,383,874 CRYOSTAT

Jean Royet, Orsay, Essonne, France, assignor to Compagnie Generale d'Electricite, Paris, France  
Filed July 14, 1966, Ser. No. 565,266  
Claims priority, application France, July 28, 1965, 26,362

19 Claims. (Cl. 62-45)

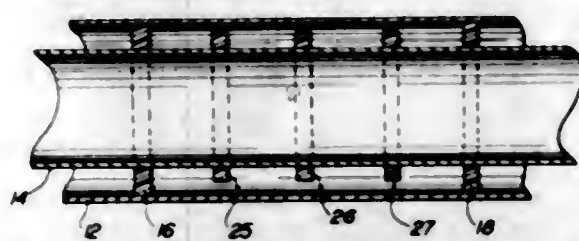


This invention relates to cryostats including an inner container arranged within a casing with a heat screen being provided in the space between the lateral walls of the

casing and container and with an insulating material filling the space between the casing and the heat screen. The heat screen comprises a double-walled jacket made of a high thermal conductivity material which defines an annular space for circulating a cryogenic fluid. The bottom part of the jacket is connected to the top of the container through a plurality of pipes, the upper part of the jacket being connected to a discharge pipe for the cryogenic fluid.

### 3,383,875 CONDUIT FOR CRYOGENIC FLUIDS

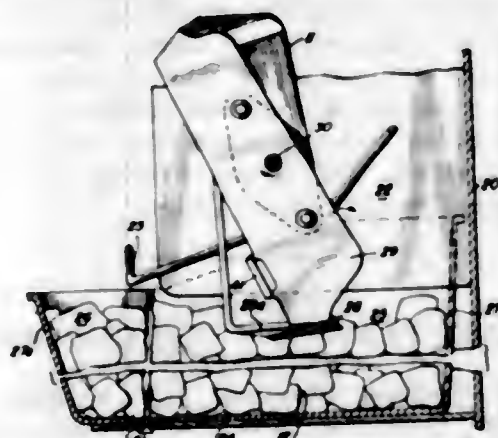
Willard R. Haas, Tinley Park, Ill., assignor to Andrew Corporation, Orland Park, Ill., a corporation of Illinois  
Filed Aug. 17, 1966, Ser. No. 572,939  
12 Claims. (Cl. 62-55)



The flexible cryogenic line is of the type having coaxial tubes separated by radial support means to form an insulating gap. Auxiliary radial support means of lesser radial extension are provided between successive spaced main support points. Heat transfer occurs through the auxiliary supports in regions of sharp bends and other deformations, but is elsewhere limited to the main supports.

### 3,383,876 METHOD OF HARVESTING ICE BODIES AND APPARATUS THEREFOR

Edwin H. Frohbieter, Stevensville, Mich., assignor to Whirlpool Corporation, a corporation of Delaware  
Filed May 31, 1966, Ser. No. 554,102  
12 Claims. (Cl. 62-72)



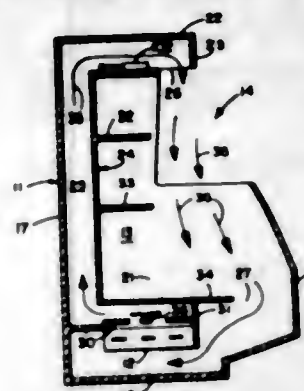
An icemaker apparatus having a mold in which ice bodies are formed. The ice bodies are ejected from the mold into a subjacent collecting bin by inversion of the mold. A rake is carried by the mold for leveling the ice bodies in the bin by transferring ice bodies piled in one portion of the bin to another portion thereof.

### 3,383,877 DEFROST CONTROL MEANS FOR REFRIGERATING SYSTEMS

John Liebermann and Jerome L. Lorenz, Columbus, Ohio, assignors to Ramco Incorporated, Columbus, Ohio, a corporation of Ohio  
Filed May 10, 1966, Ser. No. 548,959  
4 Claims. (Cl. 62-140)

1. In a refrigeration system for cooling a storage space and comprising an air cooling heat exchange unit having spaced heat exchange surfaces, blower means operable at

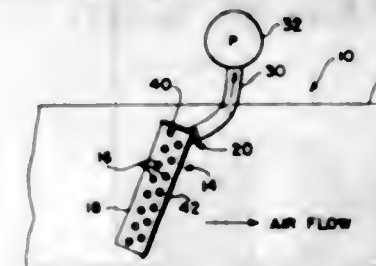
a given rate to force air across said surfaces and into the space to be cooled, defrosting means for heating said surfaces to remove frost therefrom, control means for said defrosting means comprising an electrically actuated control element, circuit means for controlling energization of said control element and including a source of DC potential, said element being connected across said source of DC potential, a pair of self heating resistance members connected in series across said DC source and comprising a first voltage divider network, means responsive to the temperature of said cooling unit and connected across said DC source and in parallel with



said resistance members, means for varying the relative resistance of said resistance members in response to a change in the velocity of the air moved through said cooling unit by said blower means, resistance means connected in series with said temperature responsive means and comprising with said temperature responsive means a second voltage divider network, amplifying means for controlling the flow of current through said control element and including a transistor, means for alternatively connecting the base of said transistor to the junction between said resistance members of said first network and a junction in said second network, and means responsive to said control element for actuating said switch means.

### 3,383,878 CONDENSER-SEPARATOR

Franklin W. Booth, 421 Cynthia Drive, Hampton, Va. 23366  
Filed May 1, 1967, Ser. No. 635,971  
5 Claims. (Cl. 62-281)



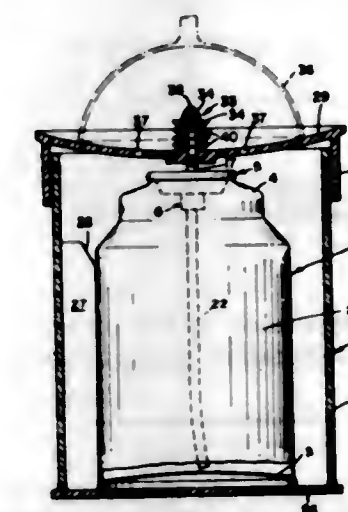
A condenser-separator utilizing plates associated with coolant containers and having gutters for collection of condensate blown therein by an airstream passing over the plates. The plates are at an angle to the airstream such that the collected condensate is blown into a substantially vertical trough that carries the condensate to a conduit having a wick and sintered metal plate upstream of a suction pump connected with the conduit.

### 3,383,879 GLASS CHILLER

Reuben S. Tice, Monterey, Calif., assignor to Chill Master Corporation, San Francisco, Calif., a corporation of California  
Filed Apr. 4, 1966, Ser. No. 540,063  
2 Claims. (Cl. 62-293)

Apparatus having a housing enclosing a container of liquid refrigerant under pressure and a discharge nozzle

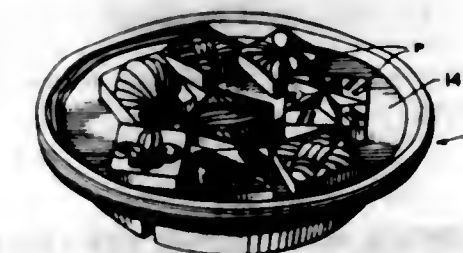
projecting above said table in communication with the interior of said container and with a valve, the latter being operably connected with said valve for actuating the latter



to discharge said liquid refrigerant from said nozzle and into an inverted glass on said table and over said nozzle upon depressing the latter for thereby cooling said glass.

### 3,383,880 REFRIGERATED BUTTER PATTY DISH

Leo Peters, 750 Plymouth Road, SE., Grand Rapids, Mich. 49506  
Filed May 11, 1966, Ser. No. 549,342  
2 Claims. (Cl. 62-457)



A serving dish for butter-pats, with a refrigerant sealed inside a hollow interior, for the purpose of maintaining butter-pats at cold, but spreadable, temperatures for at least two hours while being used in restaurant dining rooms. The dish has an exceptionally large, flat, shallow top surface for the purpose of providing maximum refrigerating contact for and accessibility to the pats; and an exceptionally high and interrupted footing for easy handling and fast refrigerant regeneration.

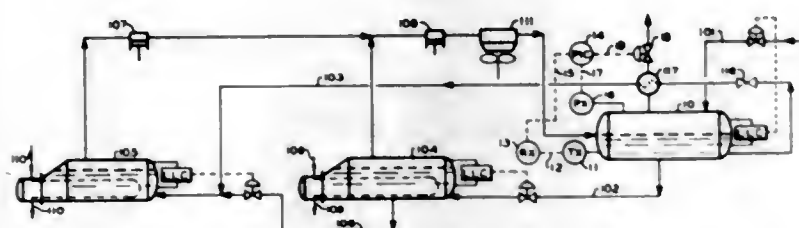
### 3,383,881 METHOD OF CONTROLLING COMPOSITION BY PRESSURE

Dunn M. Bailey, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
Filed Oct. 28, 1966, Ser. No. 590,325  
6 Claims. (Cl. 62-45)

A method of maintaining a desired constant liquid composition in a mixture having a plurality of components existing both in the gaseous and liquid phases in a vessel, wherein the pressure in the vessel is measured and compared with the vapor pressure of the desired liquid composition as determined by the temperature of the liquid mixture in the vessel; the pressure in the vessel being adjusted responsive to the comparison. Apparatus for maintaining a constant liquid composition includes a vessel, gas pressure sensing means and liquid temperature sensing means, a temperature vs. pressure correlation means



which provides a signal representative of the vapor pressure of the desired liquid composition at the sensed temperature and pressure control means for the vessel response.



sive to the signal generated by the pressure sensing means and the signal representative of the correlated vapor pressure.

3,383,882

### ADJUSTABLE STEERING COLUMN EMPLOYING ANTI-BACKLASH SLIP JOINT

Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 15, 1965, Ser. No. 514,027

8 Claims. (Cl. 64-23)



A slip joint of the kind used to couple a driving shaft with a driven shaft and allow relative axial motion therebetween including means to eliminate rotary backlash between the shafts.

3,383,883

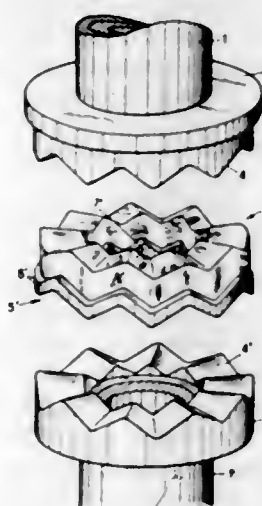
### HIGH SHOCK-ABSORBING FLEXIBLE COUPLING

Alain Pierre José Dutaret, 12 Rue de Tournon, Paris, France

Filed May 12, 1966, Ser. No. 549,520

Claims priority, application France, May 14, 1965, 17,117, Patent 1,457,312

12 Claims. (Cl. 64-27)



A shock absorbing flexible coupling for shafts which comprises a flange fixed to each shaft, teeth on the facing surfaces of said flanges, an annular pre-compressed pad of criss-crossed wires having radial faces shaped to mate with said teeth and positioned between said flanges.

The pad is held in shape by a washer having a radial surface which mates with a radial surface of the pad, and a plurality of pads and washers may be inserted between two flanges. The coupling may also be associated with thrust-absorbing means comprising additional flanges and pads like those of the coupling, except for the fact that they are not provided with teeth.

3,383,884

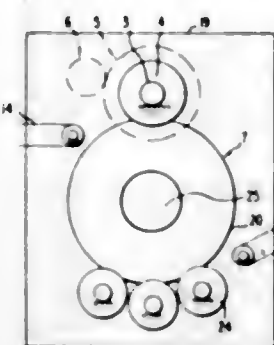
### PRESS INSTALLATION

Arnfried Meyer, Frankenbach, near Heilbronn, Germany, assignor to Firma Passat Maschinenbau G.m.b.H., Frankenbach, Germany

Filed June 18, 1965, Ser. No. 465,098

Claims priority, application Germany, June 18, 1964, P 34,522; Feb. 2, 1965, P 35,986; Feb. 4, 1965, P 36,000

9 Claims. (Cl. 68-256)



An installation for pressing out or squeezing out elastic materials containing liquid, especially wet textile fabrics, essentially consisting of parallel rollers or drums resiliently pressed against one another of which at least one roller is provided with an elastic jacket or casing enclosing an air pressure chamber for providing high radial resiliency.

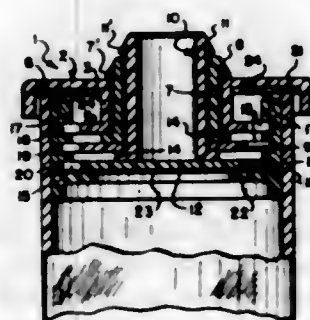
3,383,885

### CLOSURE LOCK

Michael Epstein, 2077 Batchelder St., Brooklyn, N.Y. 11235

Filed Oct. 22, 1965, Ser. No. 501,164

5 Claims. (Cl. 70-167)



A closure device for an open-ended container having a safety locking means comprising a plurality of nested, concentric rotatable members having a locking means for interlocking with a locking means contained in the container.

3,383,886

### KEY-CONTROLLED COMBINATION LOCK

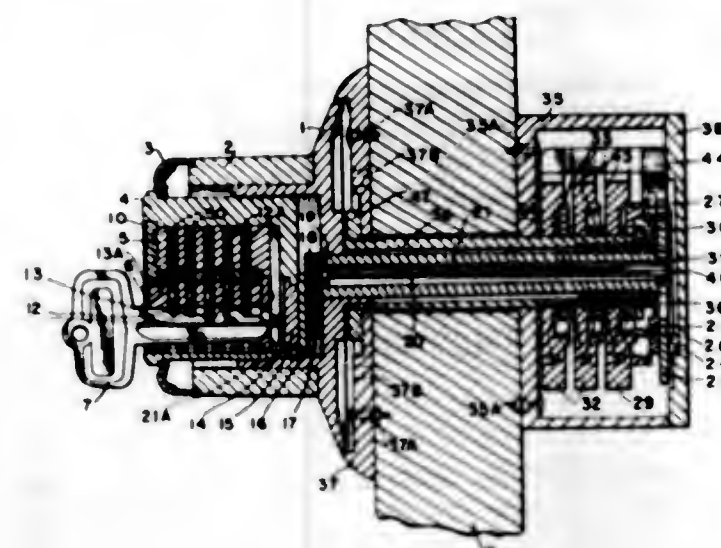
Robert Hermann, Stronghurst, Ill. 61480

Filed Apr. 21, 1967, Ser. No. 632,713

2 Claims. (Cl. 70-284)

A combination lock having an operating key which is turned after the combination is dialed thereby opening a

gate in the lock mechanism which allows a further turning of the dial to actuate the bolt of the lock. The operation of the dial to actuate the bolt of the lock. The operation of the dial to actuate the bolt of the lock. The operation of the dial to actuate the bolt of the lock.



ing key fits into a core which is changeable without dismantling the lock.

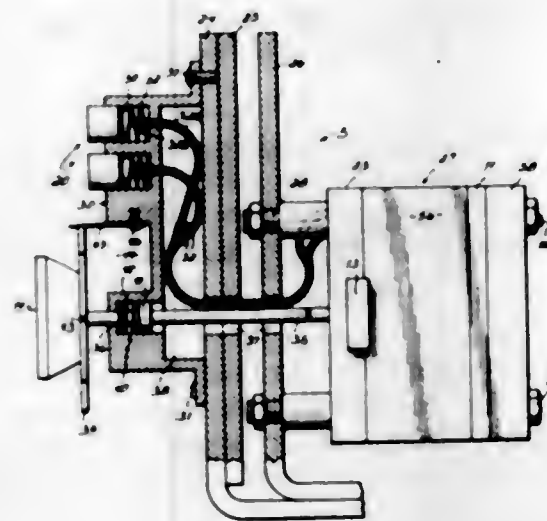
3,383,887

### COMBINATION LOCK

Jeremy M. Harris, Worthington, and Joseph V. Baum and Henry E. Hull, Columbus, Ohio, assignors to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York

Filed Feb. 8, 1967, Ser. No. 614,745

19 Claims. (Cl. 70-305)



A combination lock having a multiplicity of binary tumblers positionable in groups by means of a set of manually actuatable push buttons.

3,383,888

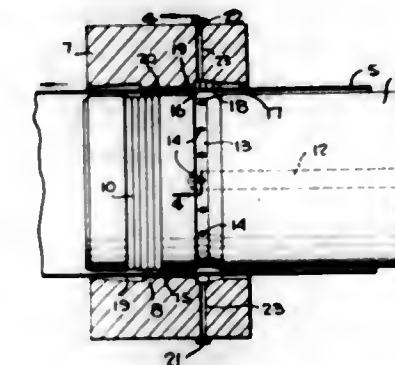
### MAGNETIC CUTOFF GUIDING AND POSITIONING OF TUBING

Anton A. Aschberger, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Dec. 17, 1963, Ser. No. 331,232

19 Claims. (Cl. 72-55)

1. A method of supportingly guiding and positioning a tube during cut-off thereof by a die while moving through the die including the steps of delivering air into the die around the tube, and restricting the escape of air



around the tube to support the tube against distortion during the cut-off thereof.

3,383,889

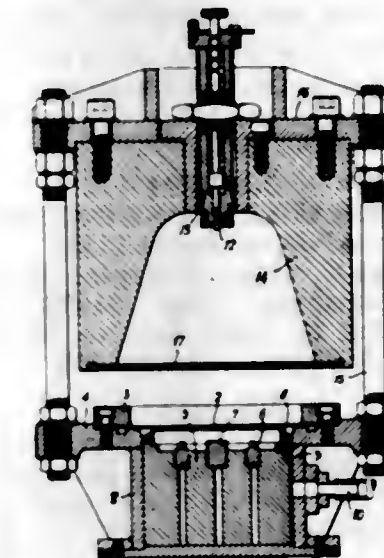
### EXPLOSION-FORMING PROCESSES AND APPARATUS

Ehsanollah Amini, Sutton Coldfield, Stephen Albert Tobias, Birmingham, and Geoffrey Hobson, Manchester, England, assignors to National Research Development Corporation, London, England, a British corporation

Filed Nov. 3, 1964, Ser. No. 408,576

Claims priority, application Great Britain, Nov. 4, 1963, 43,500/63

7 Claims. (Cl. 72-56)



An explosion-forming machine comprising an annular cutting die for cutting a blank from a deformable workpiece; means for mounting a deformable workpiece in spaced relation to said cutting die, said means including clamping means for clamping the edges of the workpiece; a forming die disposed on the opposite side of said cutting die from said mounting means for receiving a blank cut from the workpiece by said cutting die; and means for explosively producing an impulse wavefront, said means being disposed on the opposite side of said mounting means from said cutting die whereby the impulse will deform the workpiece against said cutting die to cut a blank therefrom and will project the blank against said forming die.

3,383,890

### COIL ASSEMBLY FOR MAGNETIC FORMING APPARATUS

Paul Wildt, San Diego, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

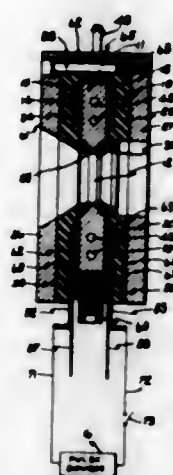
Filed Feb. 23, 1966, Ser. No. 529,499

8 Claims. (Cl. 72-56)

1. A coil assembly for use in a magnetic forming apparatus, comprising a field shaper defining at least one opening for receiving a piece to be formed, said field

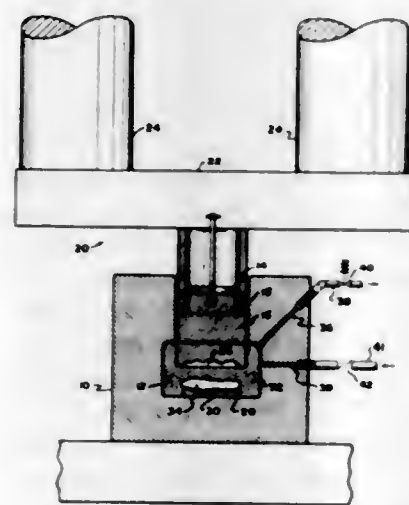


shaper being of substantially greater dimensions in directions normal to the axis of said opening than in the direction parallel thereto, and having at least one surface which extends generally perpendicular to the axis of said opening, an insulating sheet having one surface thereto disposed immediately adjacent said surface of said field shaper, a conductive coil having a turn which is of a



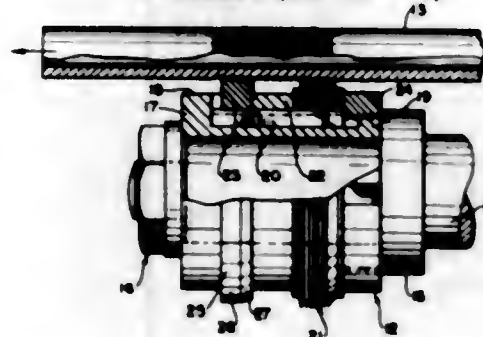
substantially flat configuration and cross section and is disposed immediately adjacent the other surface of said insulating sheet, means for electrically coupling said coil to a source of a current pulse, an insulating member disposed adjacent said coil for holding said coil against said insulating sheet, and means for mechanically securing said field shaper, insulating sheet, coil and insulating member together in a sandwich assembly.

**3,383,891**  
**SUPERHYDRAULIC FORGING METHOD AND APPARATUS**  
Robert C. Gertz, 7 Hoplen Road, Simsbury, Conn. 06470  
Filed Oct. 20, 1965, Ser. No. 498,224  
9 Claims. (Cl. 72-57)



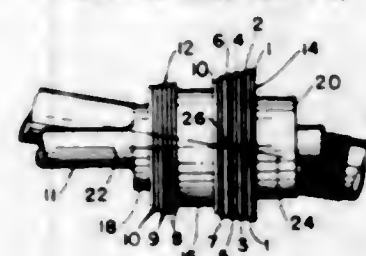
1. A closed die cold forging operation wherein a metallic shape is formed by squeezing a metal billet between dies which define a die cavity, comprising the steps of surrounding the billet with a fluid, increasing the pressure of the fluid surrounding the billet to a high value where the ductibility of the metal of the billet is substantially increased, while thus subjected to this high pressure subjecting the billet to the action of the dies to cause metal of the billet to occupy and conform to the die cavity, thereafter reducing said pressure to a value where it has substantially no effect on the ductibility of the formed metal and not before such pressure reduction releasing the die portions to permit removal of the forging.

**3,383,892**  
**MANUFACTURE OF INTEGRALLY FINNED TUBING**  
Oscar G. Brofthen, Kenosha, Wis., assignor to Anaconda American Brass Company, a corporation of Connecticut  
Filed Aug. 13, 1965, Ser. No. 479,571  
7 Claims. (Cl. 72-98)



An improvement in apparatus for forming axially spaced integral annular fins on a length of tubing which includes a sizing collar mounted on each of a plurality of roll assemblies and axially spaced from the roll assemblies in the direction of advance of the tubing a sufficient distance to allow the forming roll assemblies to be closed in relation to each other in their fin forming position when the collar contacts the tube. The sizing collar is of a diameter such that in the fin forming position of the assemblies the sizing collars define the maximum size of the fins to be formed and are mounted to circumferentially roll down the peripheral surfaces of fins which exceed the maximum size.

**3,383,893**  
**APPARATUS FOR PRODUCING INTEGRAL FINNED TUBING OF FINE PITCH**  
Thomas G. Counts, Decatur, Ala., assignor to Calumet & Hecla, Inc., Allen Park, Mich., a corporation of Michigan  
Filed Aug. 16, 1965, Ser. No. 479,982  
7 Claims. (Cl. 72-98)

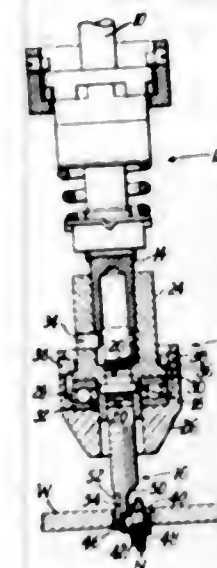


Apparatus for finning tubes comprising three arbors provided with a multiplicity of finning discs and inclined at an angle such that two-start fins are produced. The discs are separated by a spacer into groups. The first group is composed of a plurality of pairs of identical discs having peripheral portions the side walls of which converge at an angle of approximately 13½ degrees, the diameters of the pairs of discs increasing progressively, and the edge surfaces of the pairs of discs being of circular cross-section of progressively increasing radius. The discs of the second group are all of progressively increasing diameter and of generally increasing cross-sectional peripheral radius.

**3,383,894**  
**POWER TOOLS FOR SETTING BLIND FASTENERS**  
Kajetan Leitner, 8939 Waal 187, Germany  
Filed Oct. 23, 1965, Ser. No. 503,206  
Claims priority, application Great Britain, Nov. 28, 1964, 48,450/64  
4 Claims. (Cl. 72-114)

A setting tool for exerting increased axial pull to set a blind threaded fastener in a work piece which minimizes

torque between the drive means and the work piece during the setting operation. The tool is provided with means



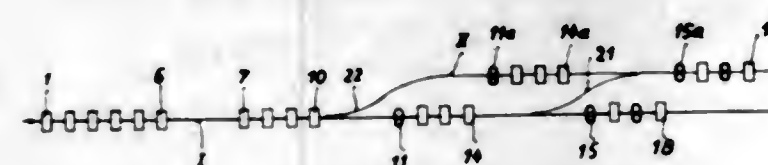
for pivotally supporting the threaded fastener during insertion into the work piece opening.

**3,383,895**  
**COILABLE WAVEGUIDE**  
Günther Lehnert, Hannover-Bothfeld, Germany, assignor to Hackethal Draht- und Kabel-Werke Aktiengesellschaft, Hannover, Germany  
Filed Aug. 11, 1965, Ser. No. 478,905  
5 Claims. (Cl. 72-198)



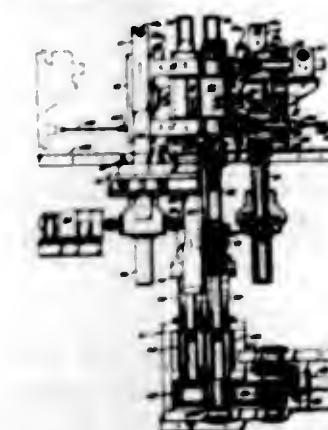
Apparatus for converting a spirally corrugated waveguide originally formed from metal tubing of circular cross-section to a corrugated waveguide of elliptical cross section in a continuous and precise manner.

**3,383,896**  
**CONTINUOUS SMALL SECTION ROLLING MILL LINE**  
Franz Blinn, St. Ingbert (Saar), Germany, assignor to Verwaltungsgesellschaft Moeller & Neumann, Offene Handelsgesellschaft, St. Ingbert (Saar), Germany  
Filed Oct. 23, 1965, Ser. No. 503,538  
3 Claims. (Cl. 72-226)



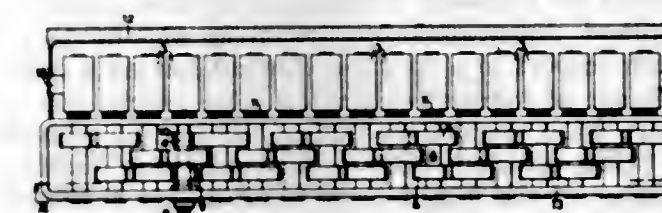
A continuous small section rolling mill line including first and second rolling lines, a multi-stand breakdown group in the first rolling line, a multi-stand intermediate group and a subsequent multi-stand finishing group in each of said first and second rolling lines and a preliminary intermediate group with horizontal stands in the first rolling line directly behind the breakdown group to permit two-core rolling straight through the breakdown group, the preliminary intermediate group and the intermediate group in the first rolling line.

**3,383,897**  
**VERTICAL MILL**  
Jeremiah Wagner O'Brien, Mount Lebanon, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Sept. 22, 1964, Ser. No. 398,321  
Claims priority, application Great Britain, Oct. 8, 1963, 39,568/63  
7 Claims. (Cl. 72-238)



The invention relates to a vertical rolling mill having an inner housing which inner housing is received in an outer housing and adapted to move vertically relative to the outer housing from an operating position to a roll changing position. The inner housing receives a pair of rolls which are removable from and replaced into the inner housing through an opening formed in the outer housing. The outer housing carries a pair of screws for moving one of the rolls horizontally relative to the other. In addition, a second pair of screws is provided for moving the inner housing vertically in which in its roll changing position the inner housing is adapted to be positioned on stops. The rolls of the mill are driven through spindles which are connected to the second pair of screws in a manner to allow movement of the spindles when the inner housing is in both its operating position and its roll changing position.

**3,383,898**  
**CONTINUOUS ROLLING MILL**  
Mario Properzi, Via Cosimo del Fante 10, Milan, Italy  
Filed Mar. 21, 1967, Ser. No. 624,955  
5 Claims. (Cl. 72-249)



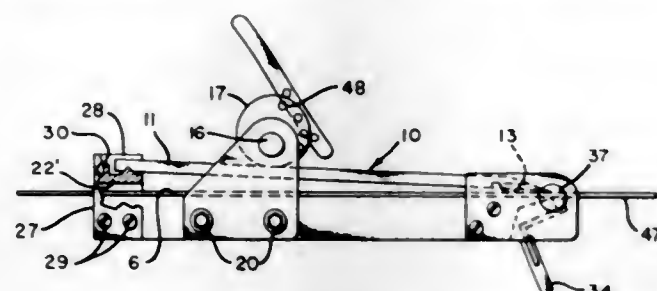
A rolling mill assembly is disclosed, in which all idle gears have been dispensed with for transferring the motive force, thus affording the advantage of having gears of a larger diameter than in the prior art mills and of transmitting thereby larger amounts of motive power than heretofore practicable.

**3,383,899**  
**BENDING BRAKE**  
Alfred L. Ercoline, 941 Sutter, Sunnyvale, Calif. 94086, and Kenneth B. Wilton, 824 San Antonio Road, Palo Alto, Calif. 94303  
Filed Apr. 13, 1965, Ser. No. 447,924  
2 Claims. (Cl. 72-319)

A bending brake comprising a body plate having a flat surface for receiving the workpiece to be bent. One or more bending die units are mounted on the body plate



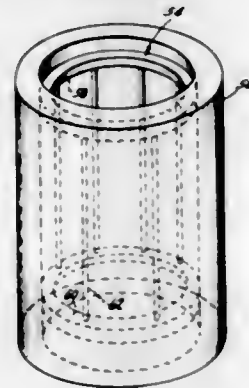
for movement toward the work surface to clamp a workpiece against said surface. A camshaft is mounted on the body plate, upon which a plurality of cams are rotatably mounted, which cams are adapted to engage the bending die unit, or units, to urge the same toward the work surface. A bending leaf is mounted for movement across one edge of the body plate for bending the workpiece.



By using a plurality of bending die units a workpiece of non-uniform thickness is readily clamped to the body plate surface. Also, the bending die units are provided with a groove which fits over a fulcrum bar attached to the body plate to prevent longitudinal movement of the bending die units thereby assuring accuracy of the bend location.

3,383,900

**METHOD OF SIZING OF METAL OBJECTS**  
Carroll H. Van Hartesveldt, Toledo, Ohio, assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan  
Filed Aug. 13, 1965, Ser. No. 479,485  
2 Claims. (Cl. 72-342)



A method of precision forming a metallic article to predetermined dimensions by thermally expanding the article with respect to a forming element having a different coefficient of thermal expansion. The article and the element are fitted together in mating relationship with the element being selected from a material such that the male member of the mated parts has a higher coefficient of thermal expansion than the female member. The fitted members are then heated to a predetermined temperature to which the article will be accurately sized and shaped. A product which is particularly adapted to be formed by this method is a titanium alloy belt of large size.

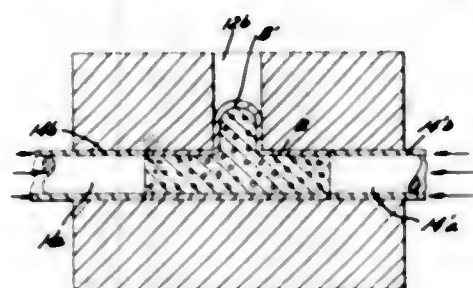
3,383,901

# METHOD OF FORMING COMPLEX TUBING SHAPES

John D. Stalter, Elkhart, Ind., assignor to Nibco, Inc., Elkhart, Ind., a corporation of Indiana  
Filed Apr. 25, 1966, Ser. No. 544,969  
6 Claims. (Cl. 72-370)

1. A method of forming a branch type article from a tubular blank, including the steps of providing a tubular elongated blank of a predetermined width and length; measuring out a specific amount of shot of a filler material capable of compaction into a unitary body, and having viscous plastic flow characteristics as a body under high

pressures; compacting said shot into a slug of a size slightly smaller in width than that of said tubular blank; confining said blank and slug, when said slug is inter-fitted in said blank, while providing at least one con-

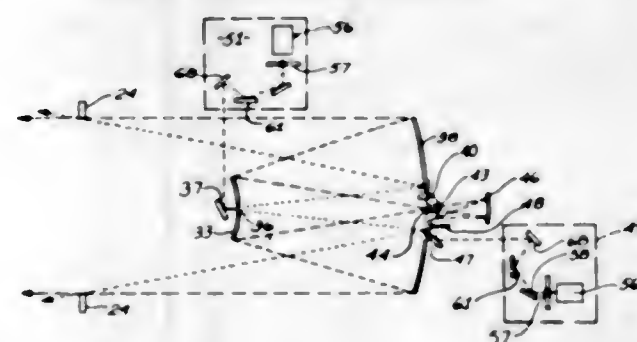


figured relief zone adjacent the blank intermediate its ends; and pressing the blank and slug from their ends to force portions of the blank to be forced into said relief zone.

3,383,902

# INFRARED SIMULATOR

Jack T. Cragin, Woodland Hills, and Maciej J. Makowski, Portuguese Bend, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware  
Filed Jan. 6, 1966, Ser. No. 519,137  
16 Claims. (Cl. 73-1)

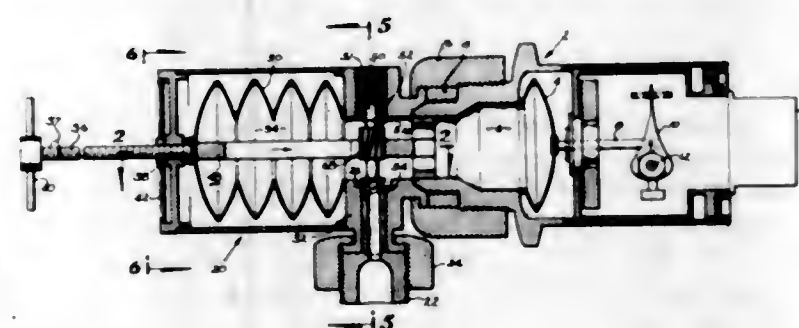


1. A simulator comprising:  
an opaque housing at a first substantially uniform temperature;  
means for generating a collimated beam of radiant energy in said housing having a spectral distribution corresponding to a second temperature different from said first temperature;  
means for generating a background flux of radiant energy in said housing having a spectral distribution corresponding to a temperature different from said first temperature; and  
means for reflecting said background flux coaxially with the collimated beam.

3,383,903

# PRESSURE TRANSDUCER CALIBRATOR

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Frank J. Bogusz, Monrovia, Calif.  
Filed Jan. 10, 1966, Ser. No. 578,916  
5 Claims. (Cl. 73-4)



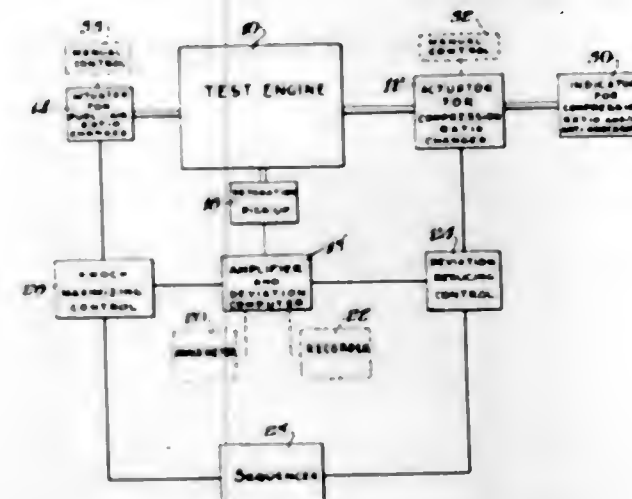
There is provided a calibrating transducer which may be coupled to a pressure measuring transducer and left

coupled thereto while the pressure measuring transducer is functioning. Fluid under pressure which is to be measured, is supplied to both the calibrating transducer and the measuring transducer whereby calibration occurs under actual working conditions.

3,383,904

# AUTOMATIC ANTIKNOCK RATING AND ADJUSTMENT APPARATUS

John T. Jones, Ardsley, William C. Ladt, Yonkers, and Hudson W. Kellogg, Dobbs Ferry, N.Y., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia  
Filed June 25, 1962, Ser. No. 205,015  
10 Claims. (Cl. 73-35)



9. A fuel antiknock rating apparatus which comprises:  
(a) a standard test engine including a first actuating means for changing the compression ratio of the test engine and a second actuating means for changing the fuel-air ratio of the test engine;  
(b) a detonation pickup mounted on said test engine which provides an output proportional to the detonation intensity of the test engine;  
(c) a deviation computer comprising reference means and means responsive to the output of the detonation pickup for generating a deviation signal corresponding to the difference between the detonation pickup output and said reference means;  
(d) a deviation reducing control connected to the first actuating means and responsive to the deviation signal to adjust the compression ratio in a direction which reduces the deviation signal;  
(e) a knock maximizing control connected to the second actuating means and responsive to the output from the detonation pickup for adjusting the fuel-air ratio to give a maximum knock value;  
(f) a sequence control for selectively operating the deviation reducing control and the knock maximizing control in a predetermined sequence; and  
(g) indicator means connected to said test engine to indicate the compression ratio.

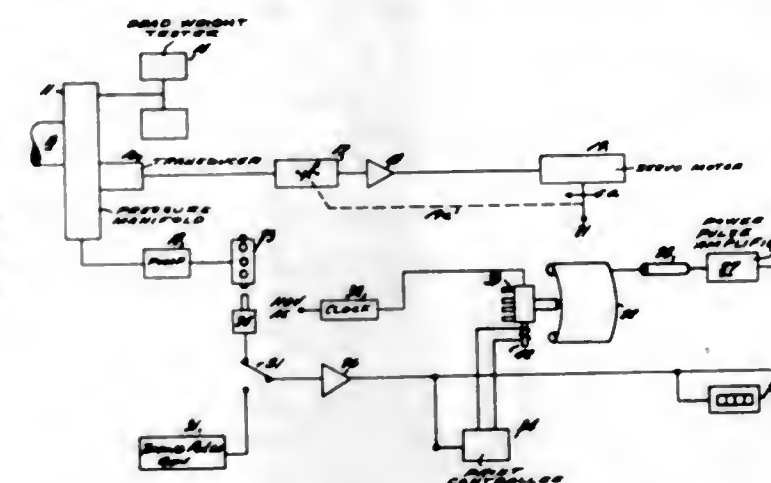
3,383,905

# HYDROSTATIC TESTING SYSTEM

Gerald H. Servos, Elmhurst, and William R. Doenges, Glen Ellyn, Ill., assignors to Instrumentation and Control Systems, Inc., Villa Park, Ill., a corporation of Delaware  
Filed Feb. 23, 1966, Ser. No. 529,459  
9 Claims. (Cl. 73-37)

A pressure vessel is pressurized by a constant displacement pump. A pressure transducer senses the pressure and operates a servo system which drives the scribe of a

recorder. Digital means measure the revolutions of the pump and drive the chart of the recorder. Therefore, the

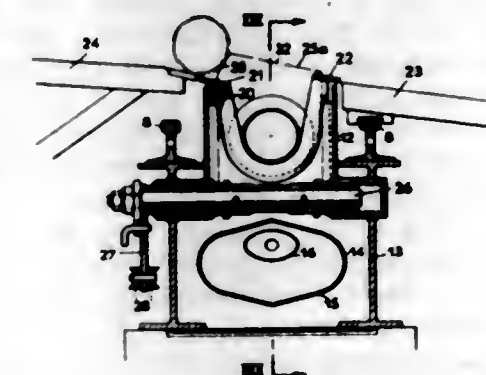


recorder indicates the pressure versus volume characteristics of the vessel under test.

3,383,906

# BENCH FOR PNEUMATICALLY TESTING THE IMPERMEABILITY OF TUBES

Charles Eugene Gillet, Paris, France, assignor to Societe Anonyme dite: Vallourec, Paris, France  
Filed July 25, 1966, Ser. No. 567,751  
6 Claims. (Cl. 73-45.5)

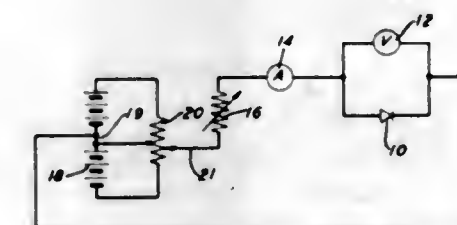


A tank containing water for testing the impermeability of tubes comprising means for closing the ends of tubes introduced into said tank, an expansible bladder for raising the level of the water to cover the tubes, and a rigid container enclosing the bladder. Only the lower surface of said container is perforate.

3,383,907

# TUNNEL DIODE STRESS SENSING DEVICES

Mathew E. Sikorski, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Original application Oct. 4, 1962, Ser. No. 228,354.  
Divided and this application Nov. 16, 1966, Ser. No. 608,243  
4 Claims. (Cl. 73-88.5)



Back-biased tunnel diodes with uniaxial stress applied normally to the junction are employed as acousto-electric transducers, strain gauges and other devices. Optimal junction shapes described include circular, spot and line.

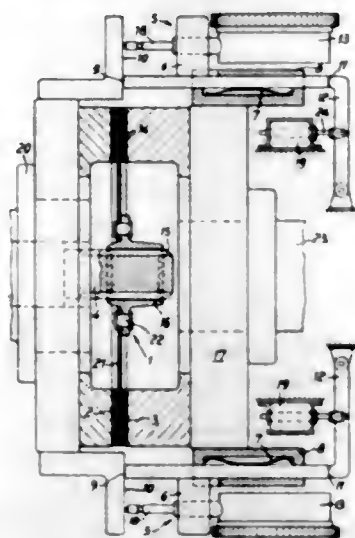


### 3,383,908 INSPECTION METHOD AND APPARATUS FOR AUTOMOTIVE CLUTCH DISKS

Adolf Amrhein, Fennstr. 38, Kurt Krines, Marsstr. 3, and  
Erwin Schmidt, Stoesselstr. 24, all of Schweinfurt,  
Germany

Filed May 16, 1966, Ser. No. 550,320  
Claims priority, application Germany, May 19, 1965,  
F 46,088

6 Claims. (Cl. 73-118)

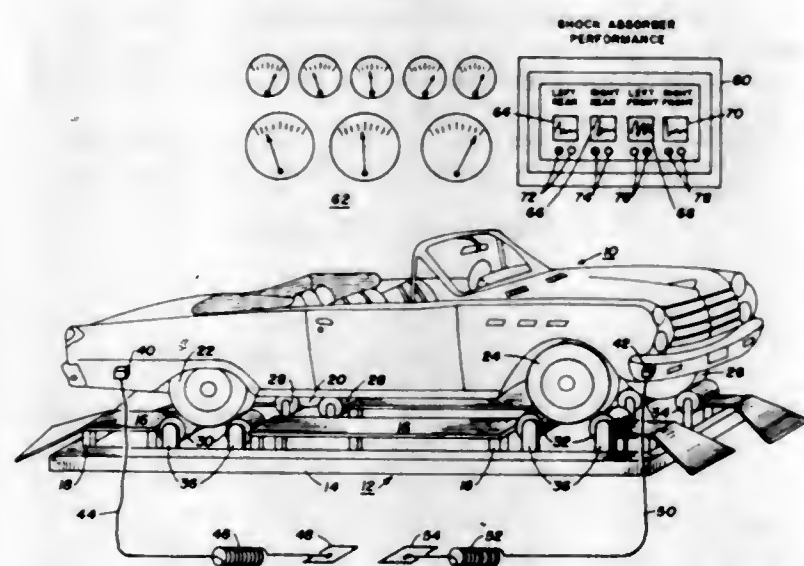


A clutch disc testing mechanism has two pressure platens of which one is provided with a shaft for mounting the tested disk between faces of the platens. Two dial gages on the platens indicate the relative axial position of the platens in two places diametrically spaced from each other relative to the mounting shaft. In operating the mechanism, a disk to be tested is first compressed with the expected working pressure. The pressure is then released to an intermediate value and the resulting axial displacement of the platens is a measure of the resiliency of the facings on the disc. The pressure faces are ultimately moved apart to a final relative axial position in which the force necessary for turning the disc between the pressure faces is measured as a measure of warping of the disc under the working pressure.

### 3,383,909 DYNAMIC SHOCK ABSORBER TESTER AND METHOD

Allan W. Percy, Crystal Lake, Ill., assignor to Union Oil  
Company of California, Los Angeles, Calif., a corpora-  
tion of California

Filed Sept. 10, 1965, Ser. No. 486,365  
6 Claims. (Cl. 73-119)



A method and apparatus for measuring the condition of automobile shock absorbers in which the condition of

the shock absorber is determined by displaying on an oscilloscope an electrical signal proportional to the oscillations of the sprung weight of the vehicle produced by subjecting the unsprung weight of the vehicle to a shock, and summing the magnitude of these oscillations during a finite time period as measured by the time required for the oscilloscope sweep voltage to reach a set value.

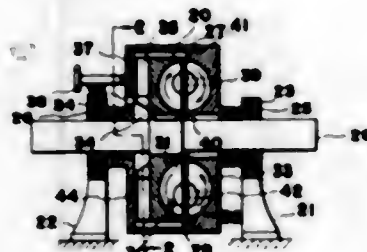
### 3,383,910 HYDRAULIC DYNAMOMETER

Seishi Tanaka, 109 1-chome, Sakai-Minami-machi,  
Matsushiro-shi, Tokyo, Japan

Filed July 27, 1965, Ser. No. 475,062

Claims priority, application Japan, Aug. 10, 1964,  
39/44,570; Jan. 17, 1965, 40/2,079; Jan. 30,  
1965, 40/4,996

16 Claims. (Cl. 73-134)



A hydraulic dynamometer wherein the resistance to turning of an outer casing is a measure of the torque applied to a rotary shaft which extends through the outer casing and which is driven by a machine whose power is to be measured. The outer casing has at least one inner wall surface situated in a plane normal to the rotary shaft and formed with an annular groove coaxially surrounding the shaft and having in its interior transverse vanes which define buckets. At least one rotary disk is fixed to the shaft for rotation therewith and has a surface separated from the above grooved wall surface of the casing by a narrow space, this surface of the disk which rotates with the shaft being formed with an annular groove of the same size as that of the groove of the wall surface and also having in its interior transverse vanes defining buckets, so that both sets of buckets communicate with each other to provide for circulation of the liquid in the grooves which communicate through the narrow space between the wall surface and disk surface. The disk has an outer periphery which is spaced from the inner surface of the casing to define therewith an annular gap communicating with the narrow space between the wall surface and the disk surface, and an impeller means which rotates with the shaft communicates with this annular gap while a liquid inlet communicates with the annular grooves of the wall and disk surfaces to supply liquid to these grooves. As a result of centrifugal force this liquid tends to flow out through the narrow space and the annular gap to the impeller means, but the rotation of the impeller means with the shaft opposes this movement and maintains a balance in the liquid at the region of the inner surface of the casing which surrounds the disk at the annular gap. An adjustable overflow outlet communicates with the impeller means for providing for overflow and discharge of the liquid from the impeller means, and this adjustable overflow is capable of adjusting the location of an overflow aperture with respect to its radial distance from the axis of the shaft, so that in this way the pressure of the liquid maintained in the region of the outer periphery of the disk is regulated and thus the operation is controlled by the adjustable overflow means.

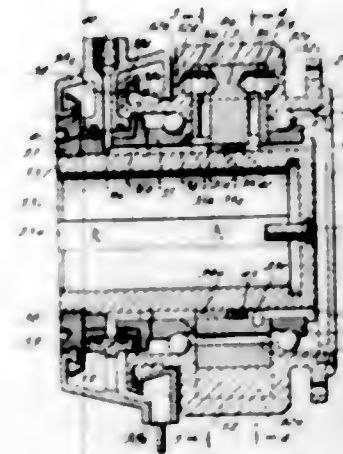
### 3,383,911 TORQUE-MEASURING DEVICE

Georg Wiggemann, Kressbronn am Bodensee, Germany,  
assignor to Reimers & Wiggemann Maschinenfabrik,  
Kressbronn am Bodensee, Germany, a corporation of  
Germany

Continuation-in-part of application Ser. No. 448,997,  
Apr. 19, 1965. This application Apr. 1, 1966, Ser.  
No. 539,361

Claims priority, application Germany, Apr. 20, 1964,  
R 37,736; Apr. 5, 1965, R 40,326

10 Claims. (Cl. 73-136)

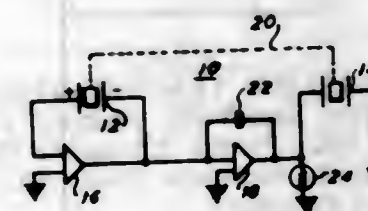


Torque measuring device for coupling a drive shaft to a driven member which includes a vane disc having fluid passage means formed therein and a splined bore extending axially therethrough, hub means extending through the splined bore and adapted to be driven by the drive shaft, the hub means being in the form of a sleeve having axially extending exterior splines for releasably coupling the hub means to the vane disc and for directing fluid to the passage means, means for driving the driven member, the driven member driving means and the vane disc defining compression chambers communicating with the passage means, and pressure-transmitting means communicating with the compression chambers through the axially extending splines for supplying fluid thereto, whereby fluid pressure within the compression chambers and the pressure-transmitting means is indicative of the torque being transmitted from the drive shaft to the driven member.

### 3,383,912 FORCE MEASURING APPARATUS

Thomas H. Leggett, Jr., 223 Prospect St.,  
East Orange, N.J. 07017

Filed Sept. 10, 1965, Ser. No. 486,359  
11 Claims. (Cl. 73-141)

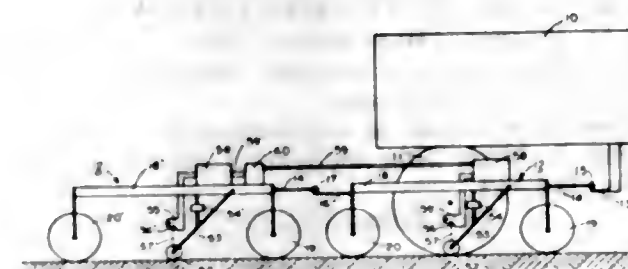


A force measuring apparatus having a first sensor responsive to variations in charge across a first crystal, and supplying its output signal to a second crystal to produce a force therein opposed to an applied force on the first sensor; a second sensor responsive to the charge applied to the second crystal.

### 3,383,913 MEASUREMENT OF PAVEMENT DEFLECTION

Gilbert Swift, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware  
Filed Mar. 1, 1967, Ser. No. 619,767

6 Claims. (Cl. 73-146)

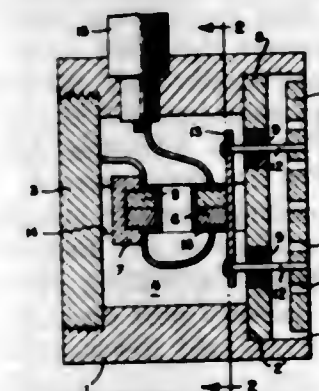


A pair of substantially identical road logging carriages are towed in line behind a loaded vehicle, providing a means for distinguishing between the ability of the pavement to withstand a load and the roughness characteristics of the road.

### 3,383,914 SKIN FRICTION TRANSDUCER

Robert C. MacArthur, Bowmansville, N.Y., assignor to  
Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y.,  
a corporation of New York

Filed Oct. 23, 1965, Ser. No. 503,516  
5 Claims. (Cl. 73-147)

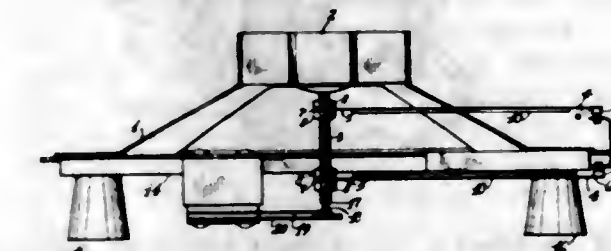


A skin friction transducer wherein a shear sensitive element is responsive to the tangential forces generated by a fluid flow parallel to the surface of the element and wherein pressure equalizing apertures are provided in the shear sensitive element to balance the normal pressure forces acting thereagainst.

### 3,383,915 DEEP-WATER WAVE RECORDER

Reginald L. G. Gilbert, Dartmouth, Nova Scotia, Canada,  
assignor to Canadian Patents and Development Limited,  
Ottawa, Ontario, Canada, a corporation of Canada

Filed Oct. 22, 1965, Ser. No. 501,632  
13 Claims. (Cl. 73-170)



1. Apparatus for indicating a parameter of a reciprocating motion comprising, a stator for movement by said motion, an element freely movable relative to the stator in a direction substantially parallel to the movement of the stator, the element arranged to be urged gravitationally to a neutral position relative to said stator, a multivibrator for producing electrical pulses, switch means controlling said multivibrator to apply an electri-

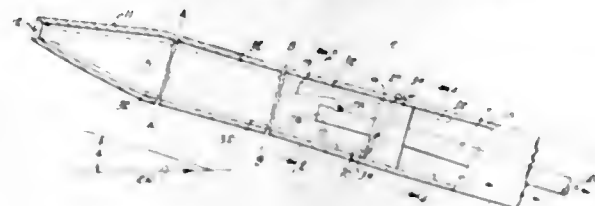


cal pulse to said element when said element is in the neutral position, the frequency of said pulses varying in accordance with the acceleration of the stator.

3,383,916

**PRESSURE INSTRUMENTATION DEVICE**  
Frank D. Werner, Minneapolis, Minn., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota  
Continuation-in-part of application Ser. No. 192,830, May 7, 1962. This application July 22, 1964, Ser. No. 384,443

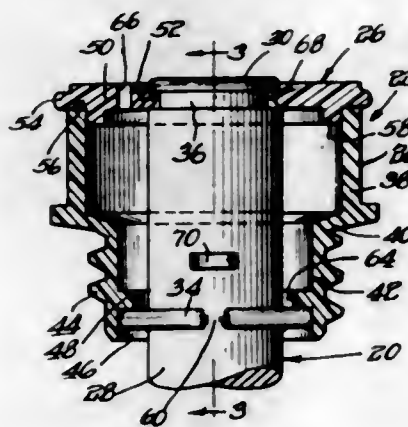
11 Claims. (Cl. 73-212)



1. A pressure instrumentation device for an aircraft missile or the like, having an average normal attitude forming a slight angle with reference to the relative wind through which it travels comprising an elongated tube having a lower surface against which the relative wind impinges at said slight angle and an upper surface and a forwardly directed open end forming a pitot tube port into said tube, a plug in the tube sealing off a forward space thereof adjacent the pitot tube opening, a pitot pressure line extending through the tube and through said plug and into said forward space, said line terminating at a port which is within said forward space and elevated above the floor thereof, and a water delivery channel extending from an entrance mouth within said forward space adjacent the floor of said space near said plug, said channel extending upwardly and terminating at a water delivery port on a portion of the tube which is remote from said lower surface.

3,383,917

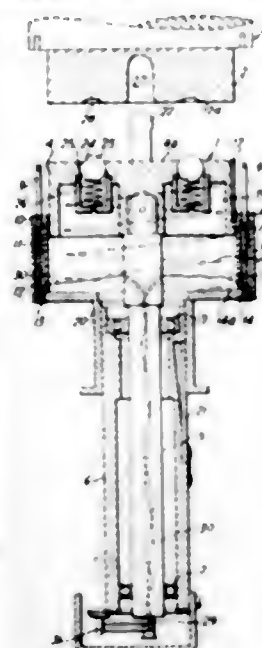
**LIQUID LEVEL INDICATOR**  
Francis E. Ryder and Edwin Grant Swick, Bartlett, Ill., assignors to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware  
Filed Dec. 8, 1965, Ser. No. 512,480  
11 Claims. (Cl. 73-327)



There is disclosed a liquid level indicator comprising a rod-like body member of light transmitting material and hollow cap means connected with the rod-like body member for mounting purposes. Interengaging annular flange means on the cap and on the rod have venting openings formed therethrough; and a deflector element is formed integrally with the rod-like body member in alignment with and axially offset from the innermost vent opening for deflecting any liquid which may splash through such opening.

3,383,918  
**TEMPERATURE MEASUREMENT AND CONTROL**  
David Charles Cumbers, Pontypool, and Walter Leonard French, Clydach, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

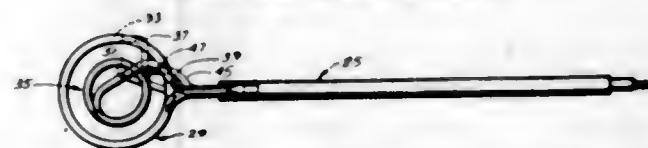
Filed July 22, 1966, Ser. No. 567,136  
Claims priority, application Great Britain, July 26, 1965, 31,781/65  
6 Claims. (Cl. 73-351)



1. Apparatus for measuring the surface temperature of a heated-rotatable member, said member being driven from one end and having pockets beneath said surface arranged substantially parallel to the axis of rotation of said member and having entrances at the end of said member remote from said driven end comprising in combination, a means comprising the end face of said member remote from said driven end and a sensor head mounted for free rotation, and end face means and said sensor head having mutually co-operating male and female head centering means and male and female torque-transmission and gradual speed synchronization means, said male parts of said torque transmitting and gradual speed synchronization means being resiliently yieldably mounted and presenting oblique abutment surfaces to the associated female parts whenever said male and female parts are in register, said sensor head carrying for rotation therewith temperature sensing means, said sensing means being moveable in a direction parallel to said axis of rotation with respect to said head from a position wherein said temperature sensing means does not intrude into said pockets to a position wherein, upon said speed synchronization, said temperature measuring means does intrude into said pockets, said sensor head other than said sensing means being substantially thermally isolated from said member and said sensing means being adapted for connection to temperature indicating means.

3,383,919

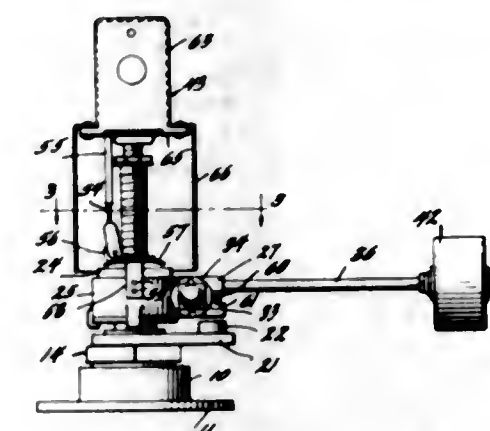
**LAMINAR FLOW TEMPERATURE PROBE**  
Robert D. Marcy, Sepulveda, Richard F. Searle, Santa Susana, and John Perow, Thousand Oaks, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware  
Filed June 23, 1966, Ser. No. 559,956  
5 Claims. (Cl. 73-357)



1. An apparatus for sensing temperature in an environment comprising:

inlet means for admitting a working gas to said apparatus,  
a heat exchanger connected to said inlet means, whereby said working gas passing through said heat exchanger reaches the temperature of said environment,  
a laminar flow tube affixed to an outlet of said heat exchanger whereby said working gas leaving said heat exchanger will establish laminar flow,  
a sonic nozzle,  
means for conducting said working gas from said laminar flow section to said sonic nozzle,  
means for conducting said gas from the outlet of said nozzle,  
and pressure taps disposed at both ends of said laminar flow section, whereby pressure sensing means can determine the pressure of said working gas before and after it passes through said laminar flow section.

said arms, said elongated member extending generally radially outwardly, a coil spring surrounding said bolt on either side of said elongated member and inwardly of

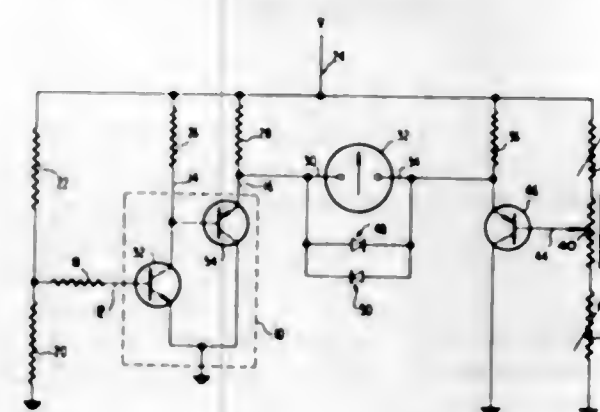


3,383,920

**CIRCUIT FOR MAKING TEMPERATURE MEASUREMENTS**

Dayton George Greenly, State College, Pa., assignor to HRB-Singer, Inc., State College, Pa., a corporation of Delaware

Filed Apr. 8, 1965, Ser. No. 446,487  
3 Claims. (Cl. 73-362)



A transistor circuit for making temperature measurements in which the variation of both the base-emitter voltage and the current gain, with temperature, is employed, having a grounded emitter amplifier which is temperature responsive, is coupled to an emitter follower whose output is applied to a balancing means, having a visual indicator coupled thereto.

3,383,921

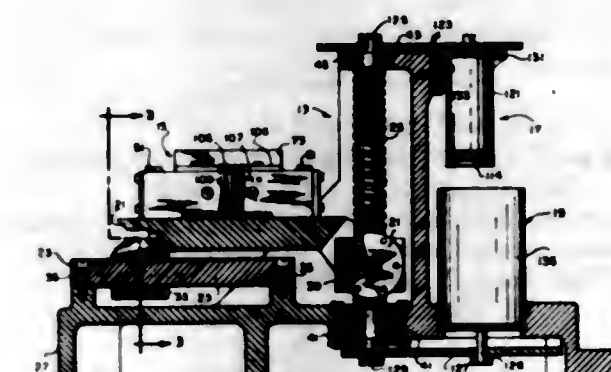
**GOLF PRACTICE DEVICE**  
Otto C. Palmer, 1072 Carroll St., Brooklyn, N.Y. 11225  
Filed Aug. 29, 1966, Ser. No. 575,807  
6 Claims. (Cl. 73-379)

1. In a golf practice device, in combination, a base, a vertical axle secured to and extending upwardly from said base, an antifriction bearing mounted on said axle and having an outer ring concentric with and rotatable about said axle, a clamp member embracing said ring and rotatable therewith, said clamp member comprising two arms extending generally radially outward and generally parallel to each other, adjustable connecting means extending between said arms for securing said clamp member on said outer ring and comprising a headed bolt and a nut, the head of said bolt engaging the outer side of one said arm and said bolt extending through said arms and said nut engaging said bolt at a point beyond the outer side of said other arm, an elongated member having an end pivotally engaging said bolt intermediate

the adjacent arm, an impact member mounted at the other end of said elongated member, and means for preventing said elongated member from pivoting below a generally horizontal position.

3,383,922

**LINEAR DIFFERENTIAL PRESSURE SENSOR**  
Robert C. Seamans, Jr., Deputy Administrator of the National Aeronautics and Space Administration, with respect to an invention of Aaron G. Longhead and James F. Milliken, both of Huntsville, Ala.  
Filed July 27, 1966, Ser. No. 568,354  
8 Claims. (Cl. 73-419)



A linear differential pressure sensor is disclosed including a receptacle having a hollow interior and having a first port opening in one end and a second port opening in the opposed end. A slidable element is received within the hollow interior of the receptacle and is adapted to slide along an axis of translation between one end of the receptacle and the other end of the receptacle in response to a difference in pressure applied to the first port opening and second port opening. Detecting means responsive to the position of the slidable element are provided for producing a control signal which varies with the position of the slidable element. Tilt mechanisms means are provided for supporting and varying the angle of inclination of the receptacle in accordance with the control signal so as to cause an axial component of the force of gravity to be applied to the slidable element to balance the forces acting on the slidable element. Read-out means are connected to the tilt mechanisms for providing a signal which varies directly with the sine of the angle of inclination necessary to balance the forces acting on the slidable element. The difference in pressure between the first and second pressure is a linear function of the sine of this angle of inclination.



3,383,923

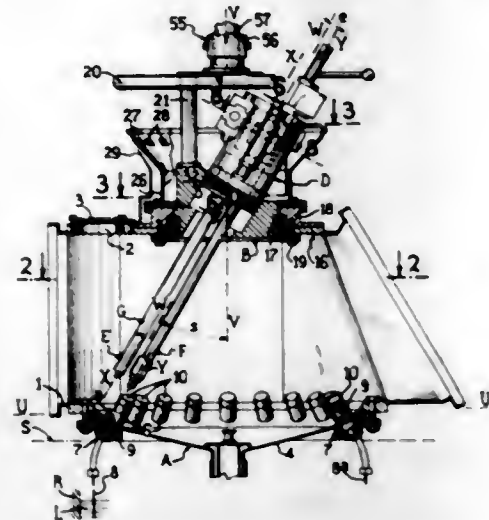
**BENCH FOR TAKING SAMPLES OF LIQUIDS AND IN PARTICULAR RADIOACTIVE LIQUIDS**

Francis Conche, Massy, Jacques Duboz, Meudon, Rene Guilloteau, Cachan, and Jean Pilleraut, Paris, France, assignors to Commissariat à l'Energie Atomique, Paris, France, a French corporation

Filed Apr. 16, 1965, Ser. No. 448,687

Claims priority, application France, Apr. 20, 1964, 971,504

17 Claims. (Cl. 73-421)



A liquid sampling apparatus for obtaining samples from plural liquid sources. A centrally located enclosed chamber is provided with plural hollow needles extending thereinto each communicating with a separate source of liquid. A manipulative means extending into the chamber is provided for removing a cover from the needle, supplying a series of sample bottles each sealed with a rubber plug, evacuating the bottles, empaling the rubber plugs of the bottles upon the needles for taking the samples and subsequently rinsing the needles before returning their covers.

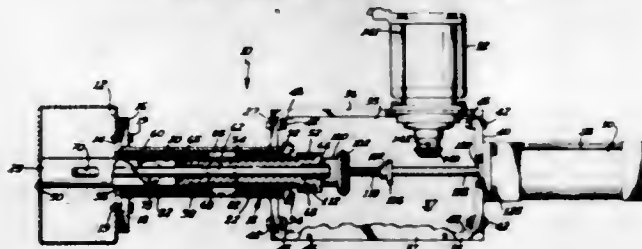
3,383,924

**RETRACTABLE SAMPLING DEVICE FOR PRESSURIZED CONVEYORS**

Ray R. Cordell, Hopkins, Minn., assignor to Gustafson Manufacturing Company, Minneapolis, Minn.

Filed Sept. 7, 1966, Ser. No. 577,686

11 Claims. (Cl. 73-422)



1. A sampling device for pressurized conveying lines comprising, a frame having a tubular portion with a flange at one extremity adapted to be mounted on a conveying line for material to be sampled and conveyed under pressure, said flange being adapted to be positioned around an aperture in the conveying line, a sampling tube sealed at one extremity and slidably mounted in the tubular portion of the frame being adapted to move between an extended position wherein the sampling tube projects out of the tubular portion a given distance and a retracted position wherein the sampling tube is positioned within the tubular portion with its sealed extremity substantially flush with the end of tubular portion, motive means for reciprocating the sampling tube within the tubular portion between said positions, said sampling tube having a sample opening positioned therein and exposed in the portion of the sampling tube which projects beyond the end of the tubular portion of the frame in said one of

said positions, auger means positioned within the sampling tube and having an actuating shaft extending out of the sampling tube in the retracted position, said frame having an opening in the tubular portion thereof and adapted to mate with a second opening in the sampling tube remote from the sample opening, and means coupled to the shaft of the auger in the retracted position of the sampling tube and adapted to rotate the same and transport material in the sampling tube to the opening in the tubular portion of the frame to discharge the sample material.

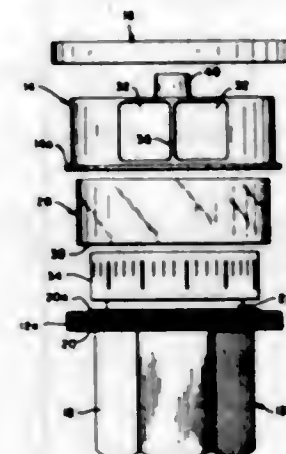
3,383,925

**HIGH PRESSURE GAUGE HOUSING**

Jord O. Nelson, Paramount, Calif., assignor to Eltra Corporation, Toledo, Ohio

Filed Aug. 30, 1965, Ser. No. 483,571

6 Claims. (Cl. 73-431)



A protective housing for a pressure indicating means with a drum type movable indicia bearing member, positioned in an inverted cup-shaped housing horizontally disposed, having an inner transparent cup-shaped sealing portion cooperating with the indicia bearing member to allow the indicia to be made visible to an operator through a sight aperture in the outer housing, the outer housing having a central aperture in its upper wall closed by a frangible sealing element to release excessive pressure in the event a rupture occurs in the pressure indicating means.

3,383,926

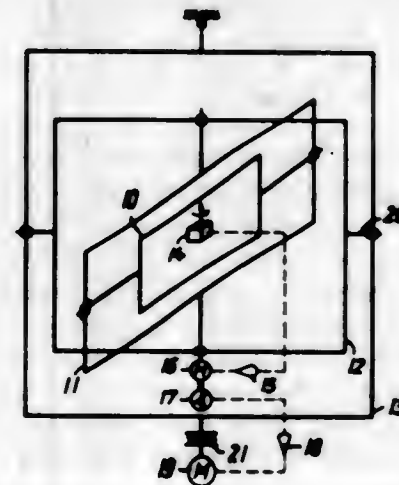
**PLATFORM**

Wolfgang Weber, Waldacker, Germany, assignor to Licentia Patent-Verwaltungs G.m.b.H., Frankfurt am Main, Germany

Filed Apr. 29, 1965, Ser. No. 451,856

Claims priority, application Germany, Apr. 16, 1964, L 47,604

3 Claims. (Cl. 74-5)



In a four-gimbal stable platform, including a pitch gimbal, a yaw gimbal, a roll gimbal, and an additional

3,383,929

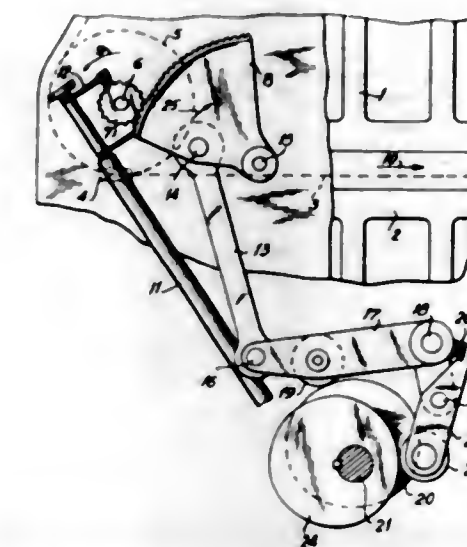
**MACHINES FOR HANDLING SHEETS**

Walter Grütter, Prilly, Switzerland, assignor to J. Bobat et Fils S.A., Prilly, near Lausanne, Switzerland

Filed Mar. 3, 1966, Ser. No. 531,535

Claims priority, application Switzerland, Mar. 8, 1965, 3,350/65

10 Claims. (Cl. 74-53)



A drive mechanism for the chains of a press adapted for transporting sheets one by one wherein a drive pinion for the chains is driven in rotation by a toothed segment under the control of a cam mechanism such that the pinion is driven in opposite directions during active and idle strokes at respectively controlled rates.

3,383,930

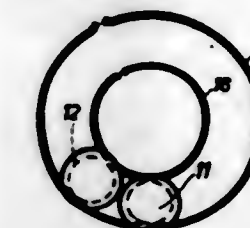
**HYDRAULIC RECIPROCATING ENGINE**

Walter Hauser-Bucher, Zurich, Switzerland, assignor to Bucher-Guyer A.-G. Maschinenfabrik Niederweningen, Zurich, Switzerland

Filed Nov. 23, 1965, Ser. No. 509,275

Claims priority, application Switzerland, Nov. 23, 1964, 15,058/64

3 Claims. (Cl. 74-60)



A hydraulic reciprocating engine is disclosed including a shaft, a cam member connected to the shaft with the cam member having a planar bearing surface oriented angularly relative to the longitudinal axis of the shaft. A plurality of pistons reciprocate along axes parallel to the shaft axis and a plurality of pressure pads is interposed between respective ones of the pistons and the planar bearing surface of the cam member. A resilient holding means in the form of a pair of concentric rings is provided to secure the pads together as a unit and at the same time permit the pads to move radially with respect to the planar bearing surface as the cam member rotates.

3,383,931

**DRIVE MECHANISM**

Earl Patterson, Jr., Excelsior, Minn., assignor to Char-Lynn Company, Eden Prairie, Minn., a corporation of Minnesota

Filed Sept. 16, 1966, Ser. No. 580,116

4 Claims. (Cl. 74-63)

1. A drive mechanism comprising a first member having an axis, a second member having an axis eccentrically

gimbal for preventing gimbal blockage, the additional gimbal is journaled between the pitch and roll gimbals and is maintained at right angles to the roll gimbal by means of a control circuit to prevent gimbal blockage.

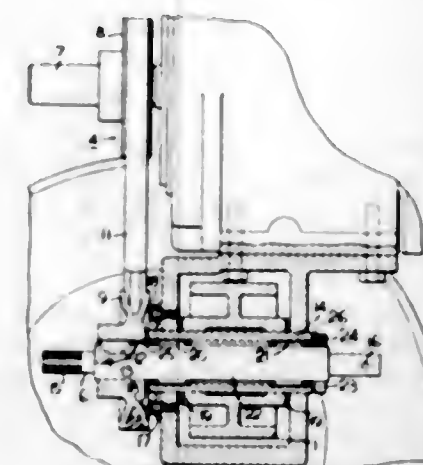
3,383,927

**POWER TAKEOFF SHAFT**

Lee R. Suchy, Eden Prairie, Minn., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Dec. 15, 1966, Ser. No. 601,880

6 Claims. (Cl. 74-15.63)



1. A power takeoff for use on a tractor comprising, a bracket means supporting the front end of the tractor, a front axle, a sleeve pivotally connecting said front axle with said bracket means supporting the front of said tractor, a live power takeoff shaft journaled in said sleeve and having a drive end extending therefrom, means on the end of said power takeoff shaft for drivingly connecting an implement to be driven by said power takeoff shaft.

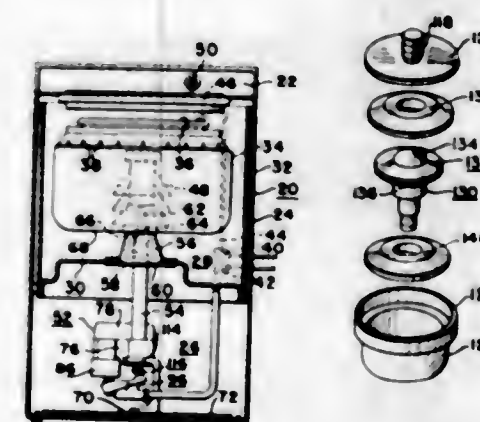
3,383,928

**PRIME MOVING SYSTEM FOR CLOTHES WASHER**

Robert Galin, Bellbrook, and Justus Miller and Verlos G. Sharpe, Xenia, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 1, 1966, Ser. No. 524,239

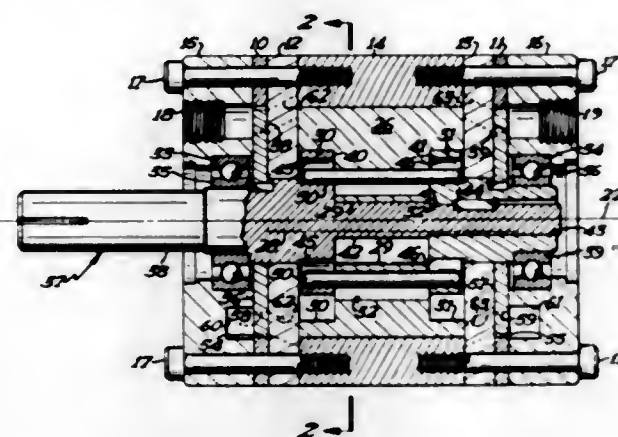
4 Claims. (Cl. 74-49)



In preferred form, a prime moving system for a domestic clothes washer having a reciprocating agitator shaft, the system including a flexible coupling with resilient material and connecting members located to always compressively load the resilient material during forced reciprocation of the agitator shaft by the prime moving system.



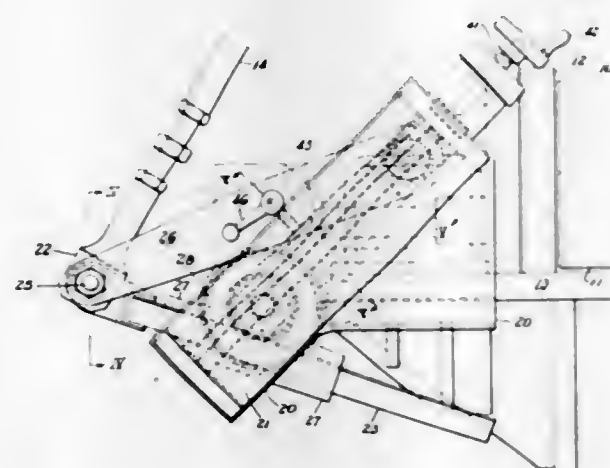
disposed relative to said first member axis, said second member being adapted to orbit in a circular path about said first member axis, one of said members having at least one longitudinally extending cylindrically shaped hole spaced a predetermined distance from the axis thereof, the other of said members having at least one pair



of axially aligned longitudinally extending cylindrically shaped holes on opposite sides of said cylindrically shaped hole and spaced said predetermined distance from the axis thereof, a cylindrically shaped roller disposed in said holes, said holes all having equal diameters which are equal to the diameter of said roller plus the eccentric displacement of said members.

### 3,383,932 ADJUSTABLE DRIVE FOR ROLL FEED MECHANISM

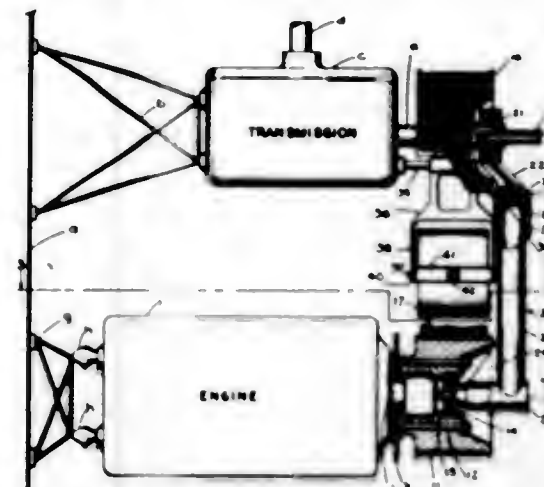
Clarence O. Jones, Jr., Eggertsville, N.Y., assignor to Niagara Machine & Tool Works, Buffalo, N.Y.  
Filed Aug. 8, 1966, Ser. No. 571,083  
11 Claims. (Cl. 74-88)



Apparatus for transmitting an adjustable degree of movement to a driven pinion from a drive member having a relatively constant degree of reciprocating movement. A rack member meshing with the pinion extends at a substantial angle to the direction of reciprocation of the drive member and an adjusting link has a pivotal mounting at one end and is pivoted at its other end to both the drive member and the rack member. The pivotal mounting of the link is adjustable toward and away from the rack member to vary the included angle between the link and the rack member, the amount of drive transmitted to the pinion being thus variable from a maximum down to substantially zero when the link extends substantially coincident with the rack member.

### 3,383,933 ENGINE SUPPORT AND BELT DRIVE APPARATUS

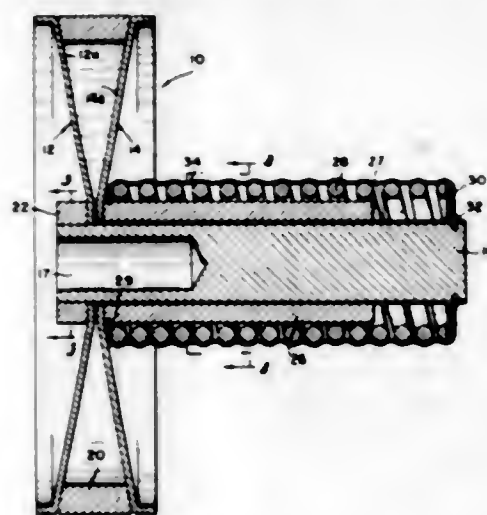
Paul L. Shultz and Robert J. Brett, Menominee, Mich., assignors to R. J. Enstrom Corporation, Menominee, Mich., a corporation of Michigan  
Filed Dec. 6, 1966, Ser. No. 599,635  
9 Claims. (Cl. 74-227)



For belt driven helicopter engine installations, a resilient engine suspension strut is combined with a constant-force belt tensioning means, to permit freer oscillatory movements of the engine. A suspension strut, free to swing about the horizontal transmission shaft, supports the engine's driving sheave on a universal bearing. The strut is elastically cushioned for both axial and torsional resiliency, permitting engine oscillatory movements which lengthen and shorten the distance to the belt-driven sheave. Constant belt tension is maintained by a spring capsule, so pivot-mounted that as the spring deflection is increased, the lever arm at which its force operates decreases.

### 3,383,934 VARIABLE SPEED DRIVE MECHANISM

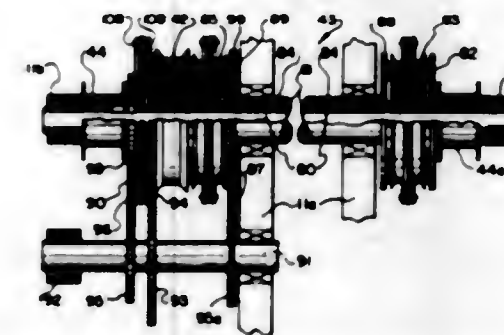
Joseph C. Flynn, Bridgeton, N.J., assignor to General Mold and Machinery Corporation, Millville, N.J., a corporation of New Jersey  
Filed July 1, 1966, Ser. No. 562,177  
7 Claims. (Cl. 74-230.17)



This specification discloses a pulley having a variable effective diameter and which consists essentially of: a pair of complementary conical metal stamped discs, a short hub secured to one disc, a sleeve of polygonal cross section affixed to said hub against axial and rotative movement relative thereto; an elongate hub extending outwardly from the other disc to which it is secured and having a passage of polygonal cross section corresponding to that of the sleeve which is slidably received therein; a spring biasing said discs together, and a cover for the spring.

### 3,383,935 POWER SELECTOR

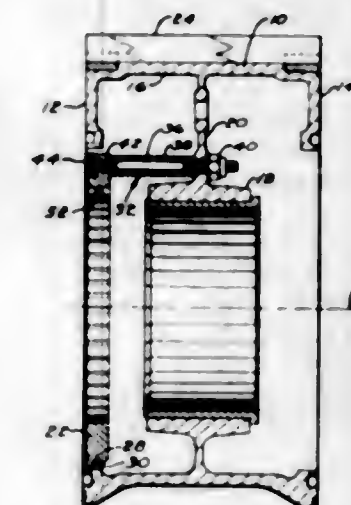
George W. Mosher, P.O. Box 272, Big Piney, Wyo. 83113  
Original application Feb. 1, 1965, Ser. No. 429,265, now Patent No. 3,306,478, dated Dec. 6, 1966. Divided and this application Aug. 15, 1966, Ser. No. 590,447  
4 Claims. (Cl. 74-230.17)



A power selector wherein drive, ratio, and driven belts are maintained taut and centered around variable pulleys as the pulley diameters are changed. Tracks are provided at the ends of the pulleys to guide them into centering position and the pulley shafts are interconnected to maintain the distance between pulleys substantially constant.

### 3,383,936 LIGHT-WEIGHT ROTOR AND GEAR ASSEMBLY FOR ROTARY MECHANISMS

Howard Russell Corwin, North Caldwell, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware  
Filed Feb. 13, 1967, Ser. No. 615,468  
6 Claims. (Cl. 74-433)



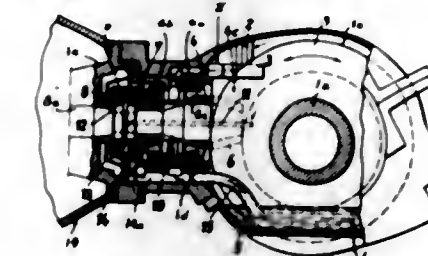
In a rotor and gear assembly for rotary mechanisms, the rotor and gear are secured against relative rotation by interlocking splines which are formed to prevent their separation despite thermal expansion of the rotor relative to the gear, and the rotor and gear are secured against relative axial movement by flexible members which cushion loading shock to the gear.

### 3,383,937 LUBRICATING MEANS FOR TRANSMISSION AND BEARING MEANS

Franz Toeane, Dusseldorf, and Werner Brand, Bergisch-Neukirchen, Germany, assignors to Waggonfabrik Urdingen A.G., Werk Dusseldorf, Dusseldorf, Germany  
Filed Feb. 25, 1966, Ser. No. 530,225  
Claims priority, application Germany, Apr. 17, 1965, W 38,996; Nov. 8, 1965, W 40,255  
11 Claims. (Cl. 74-467)

A lubricating system for a driving arrangement of the type wherein a prime mover transmits rotary motion to an axle through the intermediary of a clutch connected to the prime mover, a first gear coupled to the clutch and

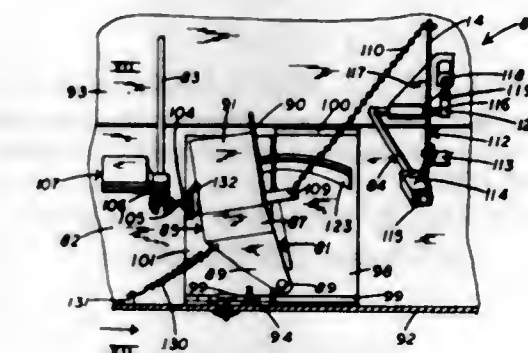
meshing with a second gear connected to the axle, and wherein the lubricating system includes a housing surrounding the second gear and containing a supply of lubricant, a lubricant-admitting channel provided in the first gear and connecting the interior of the mentioned



housing with the interior of another housing surrounding the clutch, means for sealing the clutch housing towards the prime mover, and a return conduit for conveying lubricant from the clutch housing into the first-mentioned housing.

### 3,383,938 ACCELERATOR AND BRAKE CONTROL MECHANISM

Arthur Hollub, 1029 W. Adams St., Chicago, Ill. 60607  
Filed Oct. 19, 1966, Ser. No. 587,856  
14 Claims. (Cl. 74-478.5)



Acceleration and brake control mechanism in which a foot control is pivotal in clockwise and counter-clockwise directions away from an intermediate position for respectively operating acceleration and brake control members. Cam means are preferably provided under the foot control for effecting counter-clockwise movement thereof in response to movement toward a floor plate, and anti-friction roller means are also preferably provided. In one embodiment, a single member on the floor plate provides an arcuately extending cam surface and a ball member is selectively engageable with a pair of members coupled to the acceleration and brake control members. In another embodiment, a member movable toward the floor plate defines a portion of an arcuately extending cam surface and is coupled to the brake control member.

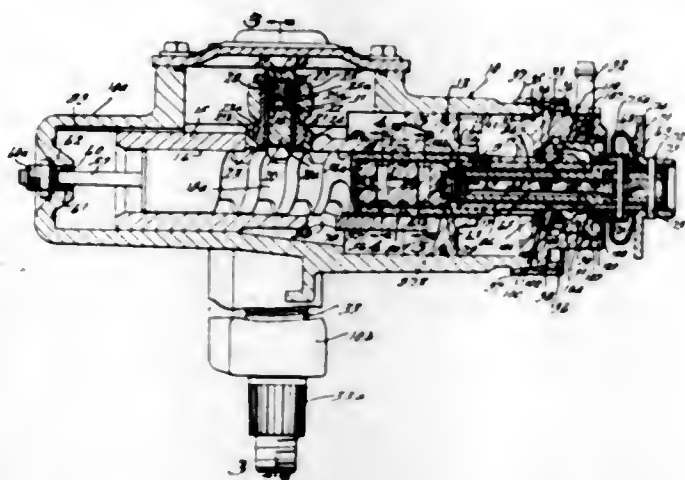
### 3,383,939 POWER STEERING GEAR

Walter E. Folkerts, Hazel Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware  
Filed Dec. 28, 1965, Ser. No. 516,990  
9 Claims. (Cl. 74-497)

A swinging arm coupled with an automobile steering linkage carries a ball element seated concentrically within



a spherical socket element fixed with respect to a power actuated tubular support coaxial with a worm gear, such that the force urging seated relationship between the ball and socket elements is carried by the tubular support rather than worm gear, and the center of the resulting ball and socket coupling remains at a constant radius from the worm axis upon reciprocation of the tubular support along and about the worm axis during a steering operation. A worm follower extending through and supported



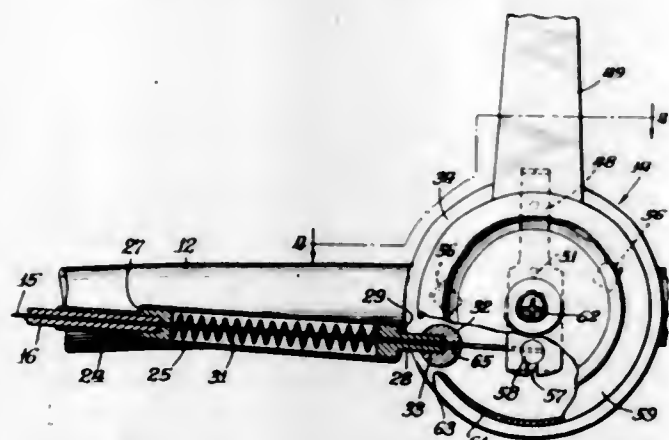
by the ball element terminates in a nose movable along the worm groove and engaging the worm at a variable radial distance from the worm axis and at a constant distance from the center of the ball and socket coupling.

3,383,940

**BICYCLE STICK SHIFT MECHANISM**

Frank P. Brilando, Niles, and Stanley R. Jameson, Chicago, Ill., assignors to Schwinn Bicycle Company, a corporation of Illinois

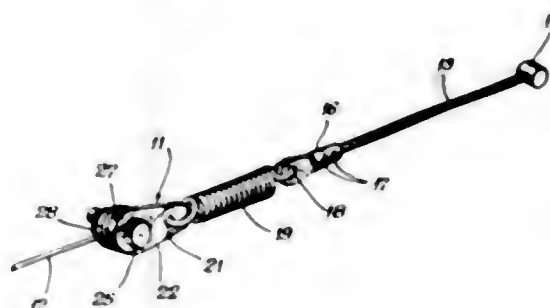
Filed Mar. 9, 1966, Ser. No. 532,996  
10 Claims. (Cl. 74-501)



1. In combination with a cable for actuating a control device at a first end thereof, and a manually operable member connected to the second end of said cable for applying forces longitudinally thereto, a tubular flexible casing slidably enclosing a major portion of said cable and guiding the same for longitudinal movements in an arcuate path, means for anchoring a first end of said casing and defining a first fixed point, and overload means interposed between the second end of said tubular casing and a second fixed point for guiding movements of said casing in response to changes in the curvature of said arcuate path due to the application of forces to said second end of the cable when said first end thereof is held stationary.

3,383,941  
**CABLE INTERCONNECTING MECHANISM FOR CONVERSION ADAPTOR**  
Jorgen L. Nielsen, Wilmette, Frank P. Brilando, Niles, and Rudolph G. Blabo, Franklin Park, Ill., assignors to Schwinn Bicycle Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 25, 1967, Ser. No. 611,652  
5 Claims. (Cl. 74-501)

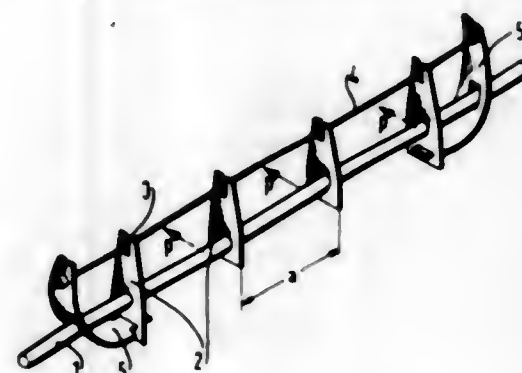


Conversion adaptor for interconnecting an existing control cable on a bicycle to a new style of manually operable control member.

3,383,942  
**DRIVE MEMBER IN POWER-DRIVEN TYPEWRITERS**

Horst Stahl, Rudolf Rekewitz, Bruno Nitschke, and Werner Westram, Munich, Germany, assignors to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed Apr. 6, 1966, Ser. No. 540,635  
Claims priority, application Germany, Apr. 13, 1965, S 96,529  
9 Claims. (Cl. 74-519)



1. A drive member for power driven typewriter, particularly in teletype machines, for the acceleration of actuating members, comprising a shaft, supported for pivotal movement, a plurality of transversely extending cross members carried by and pivotal with said shaft and having a high rigidity to deflection in the pivotal direction, and an elongated member extending between the respective cross members adjacent the free ends thereof and forming the operating member for engagement with members to be actuated for the acceleration thereof, said elongated member being arranged to provide a high resistance to deflection in the direction of its actuating movement.

3,383,943

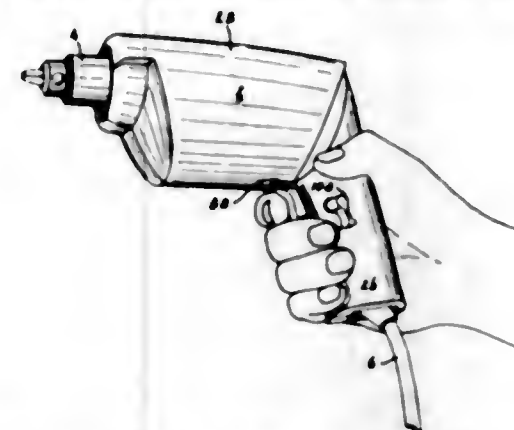
**ALL-SPEED LEVER LOCK**

Earl T. Piber, Oconomowoc, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed July 8, 1966, Ser. No. 563,782  
7 Claims. (Cl. 74-529)

An all-speed lever lock for the index finger operated trigger of a speed control switch for a portable tool. A swingable handle operable by the thumb of the user ro-

tates a cam which frictionally grips a surface on the trigger to lock the trigger in any depressed position. The cam is



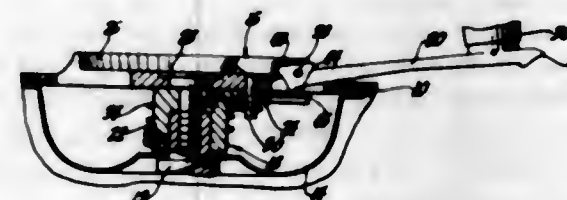
automatically released by further depression of the trigger.

3,383,944  
**UNIVERSAL VALVE HANDLE AND ADAPTOR**  
Harvey Gee Skinner, Latrobe, Pa., assignor, by mesne assignments, to Vulcan Mold and Iron Company, Latrobe, Pa., a corporation of Pennsylvania  
Filed Feb. 23, 1966, Ser. No. 529,361  
5 Claims. (Cl. 74-543)



A universal valve stem adaptor is provided which can be secured to any form of valve stem to cooperate with a removable handle for operating such valve.

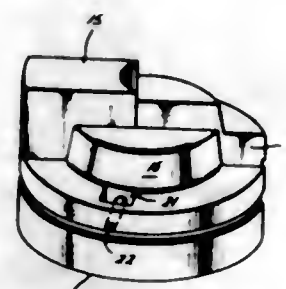
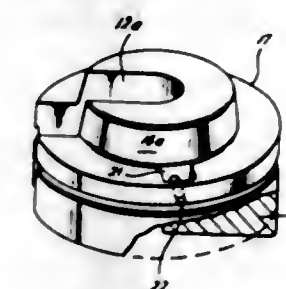
3,383,945  
**HANDLE ASSEMBLY**  
Richard F. Carella, Mount Clemens, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Mar. 7, 1966, Ser. No. 532,229  
5 Claims. (Cl. 74-547)



A retractable crank handle assembly for connection to the spindle of a vehicle body window regulator mechanism or the like includes a hub assembly directly attached to the spindle and a cranking member mounted on the hub assembly and movable between an inoperative position retracted to the hub assembly and an operative position extending therefrom for manipulation and cranking movement on the spindle. The cranking member in cranking position is permitted limited bodily movement relative to the hub assembly under initial cranking effort from a resiliently centered nondetented position to a detented position wherein detent shoulders on the cranking member and the hub assembly engage to prevent movement of the cranking member back to its retracted position while cranking motion is in progress. In a first embodiment, the cranking member is mounted on a decorative outer member of the hub assembly which is permitted limited cranking rotation relative to an inner member fixed on the spindle, the detent shoulders being provided on the cranking member and the inner hub member. In a second embodiment, the limited relative cranking movement for detenting is provided directly in the connection

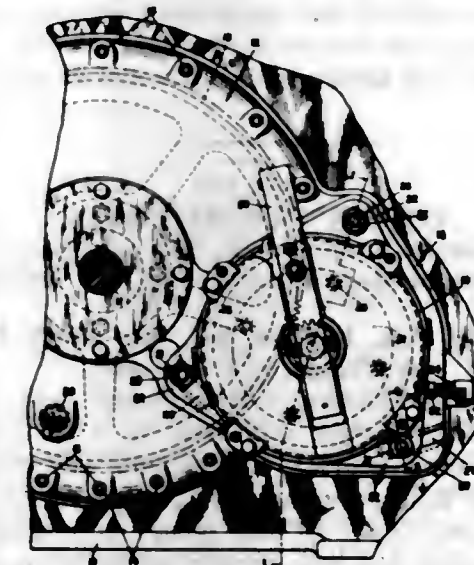
between the cranking member and a single hub member on the spindle.

3,383,946  
**DRILL COLLAR**  
Dan B. Justman, Houston, Tex., assignor to Reed Roller Bit Company, Houston, Tex., a corporation of Texas  
Filed Aug. 9, 1965, Ser. No. 478,123  
4 Claims. (Cl. 74-574)



In the making of large bore holes on the order, for example, of 48 inches to 72 inches in diameter for use in atomic bomb tests, vertical mine shafts, access bores and ventilation or escape shafts for mines, it is necessary to employ in the drilling procedure an enormous amount of drilling weight for use with the large drilling bit. The drill collar may weigh between 200,000 to 300,000 pounds and its diameter may be nominally 60 inches when employing a bit 72 inches in diameter. A drilling rig conventionally can accommodate only three drill collars connected end to end for a distance of 90 feet but said conventional collars thus connected would not provide the necessary weight for drilling large bore holes. The drill collar herein disclosed is intended for use under large bore hole conditions.

3,383,947  
**LOOM DRIVING MECHANISM**  
Theodore S. Higgins, Woonsocket, R.I., assignor, by mesne assignments, to John Donald Marshall and Horace L. Bomar, as Trustees of The Carolina Patent Development Trust  
Filed July 7, 1966, Ser. No. 563,401  
2 Claims. (Cl. 74-606)

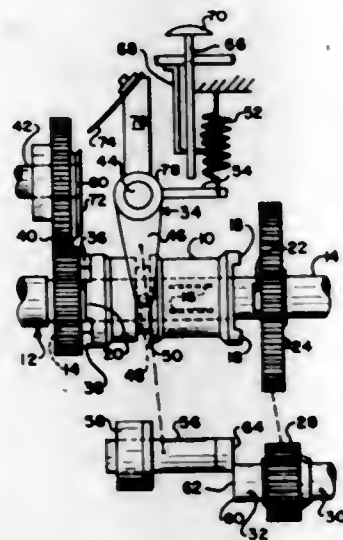


A housing for adjustably supporting a loom motor drive which totally encloses the driving pinion and drive gear



and provides an internal fluid reservoir for automatically lubricating the rotating gears.

**3,383,948**  
**POWER PREFERENCE CLUTCH**  
Thomas W. Palmer and Ronald G. Hune, Harris County, Tex., assignors to E-I-M Company, Incorporated, Missouri City, Tex.  
Filed Nov. 30, 1965, Ser. No. 510,541  
11 Claims. (Cl. 74-625)

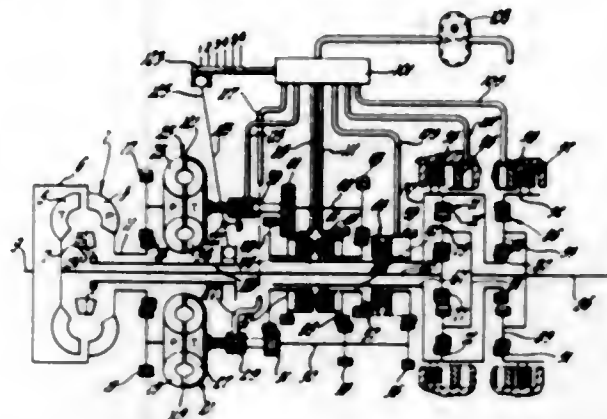


A dual clutch arrangement is disclosed for coupling one of two power sources alternately to an output shaft. The clutch includes a double-ended sleeve which is slidingly and keyingly secured to the output shaft. A pivoted shifting fork operatively secured to the clutch sleeve and is biased into a position of clutch engagement with one of the power sources. However, a flexible finger is secured to the shifting fork and axially but eccentrically engages the end of the first input shaft. Thus, when the first input source is energized the finger is swept off the end of the first input shaft to permit the shifting fork bias to engage the clutch sleeve with the first power source. The shifting fork can be reset manually, upon deenergization of the first power source to restore the flexible finger to its abutting position against the end of the first input shaft. When thus restored the clutching sleeve is moved against the action of the biasing spring into clutching engagement with the second power source. Alternatively, the second power source incorporates an automatic reset mechanism including a groove eccentric member mounted for rotation by the second power source and a second flexible finger on the shifting fork positioned for momentary engagement with the eccentric member to reset the first mentioned flexible finger against the end of the first input shaft.

**3,383,949**  
**POWER TRANSMISSION**  
John O. Edmunds, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Feb. 1, 1966, Ser. No. 524,212  
16 Claims. (Cl. 74-688)

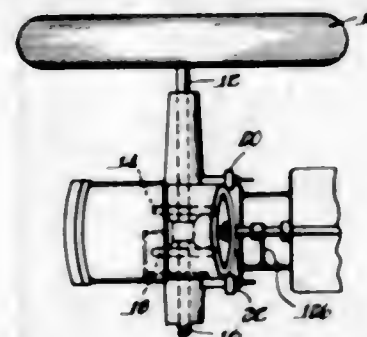
A transmission having a first power path through a variable capacity torque converter to a first input of a power combining gearset and second and third power paths through fluid couplings and change speed spur gearing to a second input of the power combining gearset. The transmission has split torque drives through the first and second or first and third power paths with hydraulic shifts between the second and third power paths achieved

by selective dump and fill of the couplings; converter torque absorption capacity is decreased as the trans-



mission is upshifted to prevent any lugging of the transmission by the converter so that the engine can operate at an optimum speed and power level.

**3,383,950**  
**DIFFERENTIAL BRAKE**  
Osborn A. Kershner, St. Joseph, Mich., assignor, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Mich., a corporation of Michigan  
Filed Jan. 27, 1966, Ser. No. 523,316  
4 Claims. (Cl. 74-710.5)

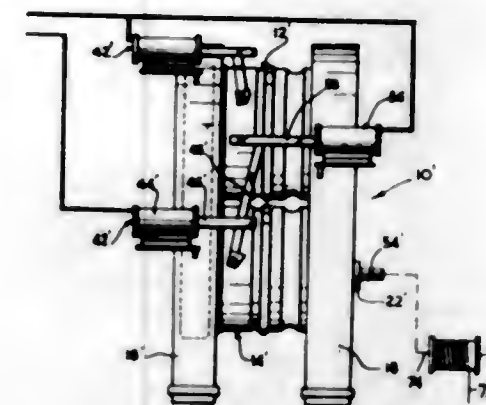


There is disclosed a drive for a tractor or the like which includes axially aligned wheel shafts having large gears thereon driven from a differential mechanism. A hydraulically actuated clutch is mounted between and fixed to the gears for selectively locking the gears for rotation in unison. Hydraulic actuating fluid is supplied to the clutch through a fixed manifold surrounding and sealingly engaging a surface on either an end member of the clutch or a portion of the gear on which said end member is mounted.

**3,383,951**  
**MULTIPLE VARIABLE TORQUE CONVERTER APPARATUS**  
James G. Morrow, Manitowoc, Wis., assignor to The Manitowoc Company Inc., Manitowoc, Wis., a corporation of Wisconsin  
Filed June 8, 1965, Ser. No. 462,353  
3 Claims. (Cl. 74-718)

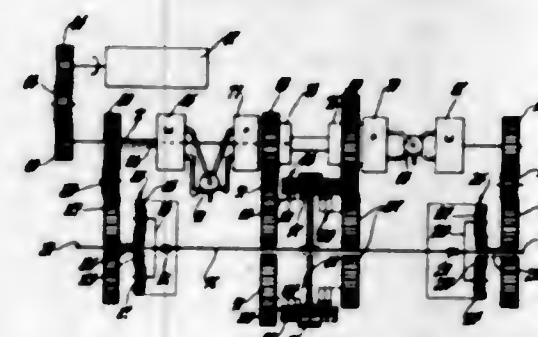
This invention relates to a torque converter arrangement which utilizes a pair of side-by-side continuously variable torque converters arranged to drive an output shaft in either a forward direction or a reverse direction. The torque converters are preferably of the type that may be manipulated to vary the output torque with respect to the input torque. The input structures of the two torque converters are operatively connected as by a chain or the like, to drive in the same direction. The output structures of the two torque converters are operatively connected as by meshing gears or the like, to drive in opposite directions. By placing the first torque converter in an operative condition and the second torque converter

in an inoperative condition, a forward drive through the arrangement is achieved. By reversing this procedure and placing the second torque converter in an operative condition and the first torque converter in an inoperative



condition, a reverse drive is achieved. According to another embodiment of the invention, an interlocking control arrangement is provided for the two torque converters to provide a smooth transition from a forward drive to a reverse drive.

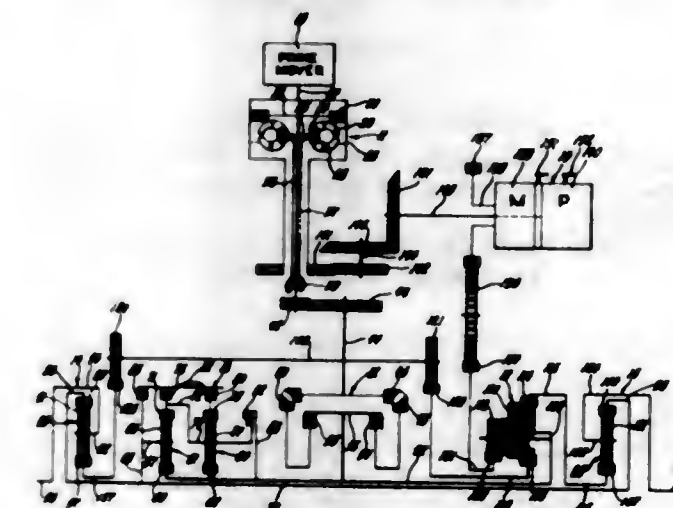
**3,383,952**  
**HYDROSTATIC-MECHANICAL VEHICLE DRIVE**  
Howard W. Christenson, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Feb. 1, 1965, Ser. No. 429,599  
3 Claims. (Cl. 74-720.5)



1. In a transmission having an input and a pair of outputs, a pair of fluid pumps, first drive means connecting said input to each said pump, a pair of fluid motors, means hydraulically connecting a first of said pumps to a first of said motors and hydraulically connecting a second of said pump to a second of said motors, each of said motors having a rotatable output, first and second planetary gearsets associated with said first and second outputs respectively, each of said gearsets including a sun gear member and a ring gear member connected by pinions, one of said members of each gearset providing a first input member and another of said members providing a second input member and a third of said members providing an output member, drive means connecting the output member of each gearset and an associated transmission output, torque transmitting means operatively connected to said first drive means, a selectively engageable clutch having first friction means operatively connected to said torque transmitting means and having second friction means operatively connected to said second input of each of said gearsets, a selectively engageable friction drive establishing device operatively connected to both of said second input members of said gearsets when engaged to hold said second input members from rotation when only said first inputs of said gearsets are driven and to thereby condition said transmission for an all hydrostatic low drive range, displacement control means operatively connected to each

said pump and movable from zero displacement to a high displacement to vary the displacement of each said pump to vary the speed of said motor and the hydrostatic low drive range between low and high speed ratio, reversing valve means hydraulically connected to each said pump and motor movable to reverse the direction of output of each of said motors as said friction means of said clutch are engaged and said friction drive establishing device is released to condition said transmission for split hydraulic and mechanical torque higher range drive and at an initial low speed ratio substantially the same as the high speed ratio in said hydrostatic low range drive, and each said displacement control means being subsequently movable toward zero displacement to reduce the speed of said outputs of said motors until at zero displacement said motors hydraulically arrest the rotation of said first input member of each gearset to condition said transmission for an all-mechanical drive with an input to output ratio different from the high ratio in the hydrostatic drive range.

**3,383,953**  
**POWER TRAIN**  
Howard W. Christenson, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Sept. 29, 1965, Ser. No. 491,128  
12 Claims. (Cl. 74-720.5)



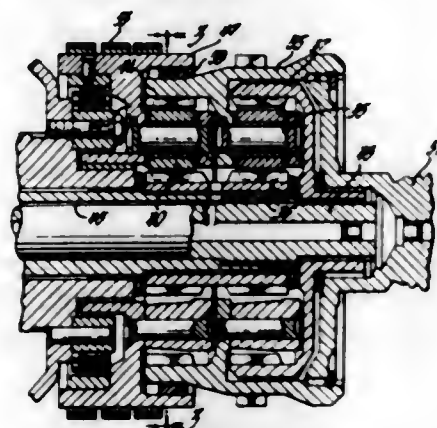
A single input, dual output, vehicle power train having an input driven hydrostatic unit controlling a differential gear unit arranged intermediate of and coaxial with a pair of output differential gear units and cooperating with a multiple speed ratio gear unit to provide single and dual input drive to the output differential gear units for straight vehicle drive and to provide single and dual input differential drive to the output gear differential units for steering. The hydrostatically controlled differential gear unit has an input carrier having a pinion meshing with an output sun gear, an output ring and another pinion which meshes with a controlled sun gear which is either held or driven.

**3,383,954**  
**SELF-ENERGIZING RING**  
Forest R. McFarland, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Dec. 28, 1965, Ser. No. 517,045  
10 Claims. (Cl. 74-753)

A transmission having planetary gearing providing a plurality of forward drive ratios and a reverse drive ratio and having a one-way friction band disposed between a reaction drum that is connected to a planetary gear carrier and a ring gear connected to the transmission output. The band has one end connected to the ring gear and has a free end portion in frictional engagement with

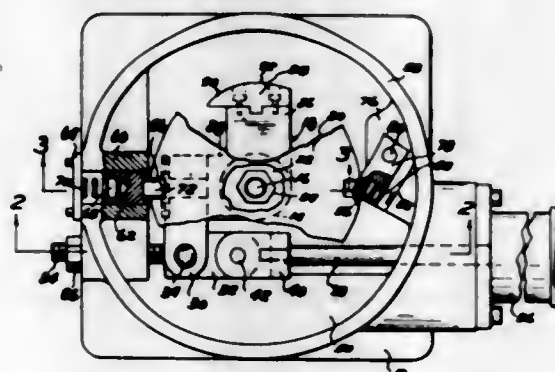


the interior of the drum. This band energizes on attempted relative rotation on the drum and ring gear in one direction to connect these parts with an increased friction force to retard this relative rotation. The band de-energizes on relative rotation of these parts in an opposite direction permitting the ring gear to overrun the



drum. The band dampens vibration of the planetary gear train, reduces gear rattle and substantially eliminates reaction noise when the reverse brake is applied to the drum on shifts from neutral to reverse by holding the drum stationary prior to the engagement of the reverse brake.

**3,383,955**  
**INDEXING ASSEMBLY**  
Anthony K. Schneeman, Southfield, Mich., assignor to Clawson Tool Company, Clawson, Mich., a corporation of Michigan  
Filed Sept. 28, 1965, Ser. No. 490,960  
11 Claims. (Cl. 74-822)

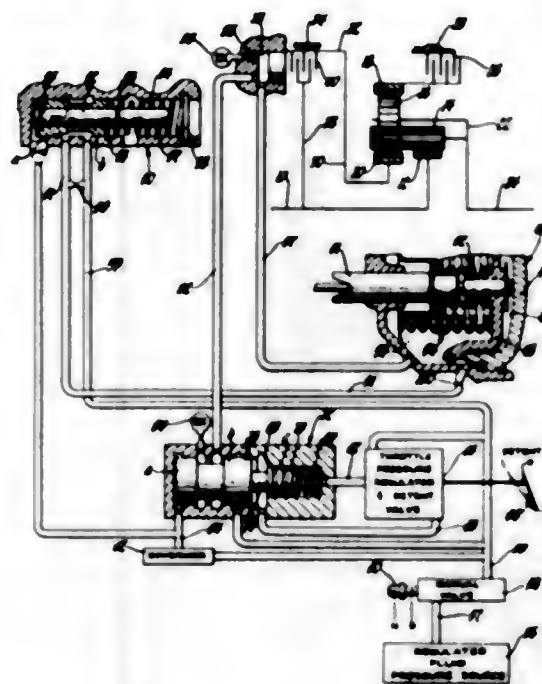


A rotary index table actuated by a driving element engageable with successive notches in the table, the driving element being disengaged by a locking element entering the same notch at the end of an indexing cycle, and the locking element being disengaged by a cam movable with the driving element when same is moved to and engages in the successive notch prior to successive actuation of the table.

**3,383,956**  
**MULTISPEED RESPONSIVE FLOW CONTROL VALVE FOR AUTOMATIC TRANSMISSION CONTROL SYSTEM**  
Howard E. Chana, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Feb. 16, 1966, Ser. No. 527,908  
13 Claims. (Cl. 74-868)

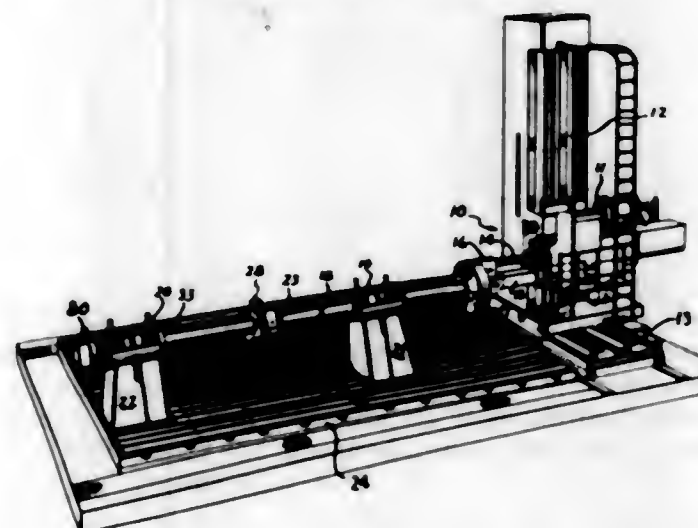
A flow control valve conditioned in response to a speed signal establishes three different flow rates with each establishment maintained throughout a predetermined and different speed range. The flow control valve used

in an automatic transmission control system controls the connection to a friction drive establishing servo on



a downshift to time the drive establishment with three different flow rates dependent upon governor pressure.

**3,383,957**  
**POSITION FEEDBACK DRIVE MECHANISM FOR MACHINE TOOLS**  
Walter L. McCann, Fond du Lac, Wis., assignor to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin  
Filed June 17, 1965, Ser. No. 464,665  
6 Claims. (Cl. 77-3)

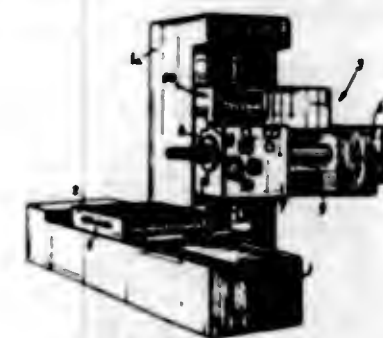


A position feedback drive mechanism for a machine tool employing a differential gear assembly with one input driven by the rotating tool head and the other input driven by the tool support such that the output is proportional to movements of the tool support with respect to the axis of the tool head and thereby serves as an accurate indication of the position of the tool.

**3,383,958**  
**BORING OR DRILLING MACHINE**  
André Mottu, Geneva, Switzerland, assignor to Societe Genevoise d'Instruments de Physique, Geneva, Switzerland, a firm  
Filed Nov. 26, 1965, Ser. No. 509,822  
Claims priority, application Switzerland, Dec. 18, 1964, 16,406/64  
4 Claims. (Cl. 77-3)

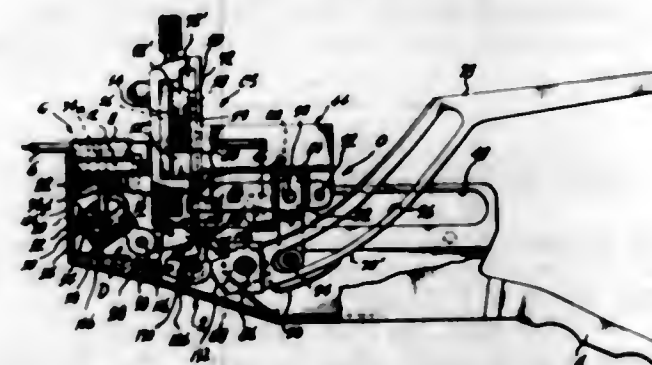
A boring or drilling machine in which the work-support is movable in a direction normal to the axis of the tool-spindle and the spindlehead or spindle support is carried by a vertical column, the head being formed in two parts,

the first being fixed against movement in the horizontal direction and carrying the rear end of the spindle and its driving means, the second carrying the front end of the spindle and being supported on slides on the first part



for being able to move parallel to the axis of the latter, the front end of the spindle, with that part of the head which carries it, being retractable into a position in which it is set back with respect to the front face of the column carrying the head.

**3,383,959**  
**WIRE STRIPPING DEVICE**  
Walter Weglin, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware  
Filed Aug. 10, 1967, Ser. No. 699,807  
24 Claims. (Cl. 81-9.5)



A wire stripping device is disclosed which cuts the insulation, grips the wire, strips away the insulative slug, and releases the stripped wire, all in response to a single motion on the part of the operator with respect to a simple operating member. The device strips off the insulative slug in a straight line and stages the cutting and stripping operations so that the cutting operation is completed before the stripping operation is begun. It also varies the power ratio of the two operations so that there is a high power ratio, such as four to one, for the cutting operation, and a progressively lower ratio (down to one to one), for the stripping operation. The device has a long stripping capability, such as 2½ inches, and automatically centers the wire before the stripping operation is begun. It also automatically controls the force used in gripping the wire, and increases the holding force in proportion to the diameter of the wire. At the end of the stripping operation, it automatically frees the stripped wire, and when the aforementioned operating member is released, the device recycles itself without striking or otherwise damaging the stripped wire. It is also adapted so that the cutting blades can be readily removed and replaced by the operator on the job.

**3,383,960**  
**REPAIR DEVICE FOR ELASTOMERIC PRODUCTS**  
William H. Block, 57 Bank St., New York, N.Y. 10014  
Filed Oct. 22, 1965, Ser. No. 500,916  
1 Claim. (Cl. 81-15.7)

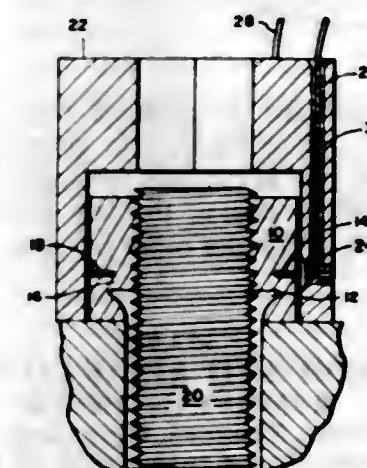
Punctures in elastomeric products, such as inflatable hand tool, having all the high-torque ruggedness and tubeless tires may be repaired by inserting a flexible and

expandable plug into the puncture aperture by means of a device which stretches the puncture plug prior to insertion in such a manner that after insertion, when the



longitudinal stretching force is removed the plug contracts longitudinally but expands laterally in such a manner as to provide a tight seal.

**3,383,961**  
**ELECTRICAL WRENCH**  
Norman C. Dahl, 40 Fern St., Lexington, Mass. 02173  
Filed July 24, 1967, Ser. No. 655,546  
6 Claims. (Cl. 81-52.4)



A tool for tightening nuts and bolts, having an electrical contact in the jaw portion which will engage a contact in the nut or bolt that is exposed when the nut or bolt reaches its predetermined load point, thus closing an electrical circuit.

**3,383,962**  
**RATCHET-WRENCH CONSTRUCTION**  
John V. Harris, Lemon Grove, Calif., assignor to The New Britain Machine Company, New Britain, Conn., a corporation of Connecticut  
Filed June 27, 1966, Ser. No. 560,485  
4 Claims. (Cl. 81-177.9)



The invention contemplates an improved ratcheting hand tool, having all the high-torque ruggedness and reliability of prior designs, but additionally incorporating

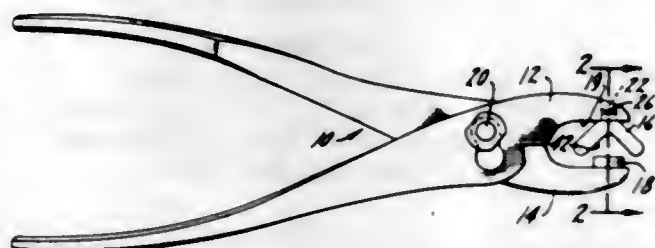


flexibility, both as to elevation angle for torque application and as to one-handed "spin" functions, as when rapidly advancing a nut to an initial bind position, or quickly removing the same once the bind has been released. The flexibility for these ends is achieved by a particular articulation between the actuating handle and the ratchet body, offset from the drive axis of the ratchet.

3,383,963

# PIVOTED GRIPPING TOOL HAVING REMOVABLE SWIVELY MOUNTED JAWS

Wallace R. Vondracek, Rte. 6, Box 40,  
Burlington, Wis. 53105  
Filed Mar. 3, 1967, Ser. No. 620,429  
7 Claims. (Cl. 81-423)

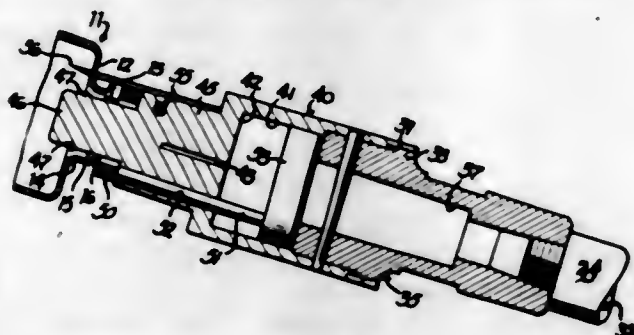


A gripping tool for obtaining a tight purchase on an object from any given angle, said gripping tool having a pair of movable jaw arms with a supplemental jaw swivelly mounted within one of the jaw arms and a bearing surface mounted within the other jaw arm.

3,383,964

# METHOD AND APPARATUS FOR REMOVING MOILE

Carl E. Denlinger, Maumee, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio  
Filed Nov. 22, 1965, Ser. No. 508,942  
8 Claims. (Cl. 82-47)



1. The method of removing from a plastic bottle a tubular moile integrally joined to the bottle finish through a radial lip, comprising the steps of advancing a moile-retaining element and a severing knife axially of the bottle, juxtaposing said element and the periphery of the moile in spaced relation to said lip, rotating at least the knife while engaging the knife with the bottle lip at the juncture of the moile and the lip, continuing to rotate the knife until the moile is severed from the lip, retracting the engaging element and the knife axially from the bottle while retaining the moile, and stripping the moile from the engaging element.

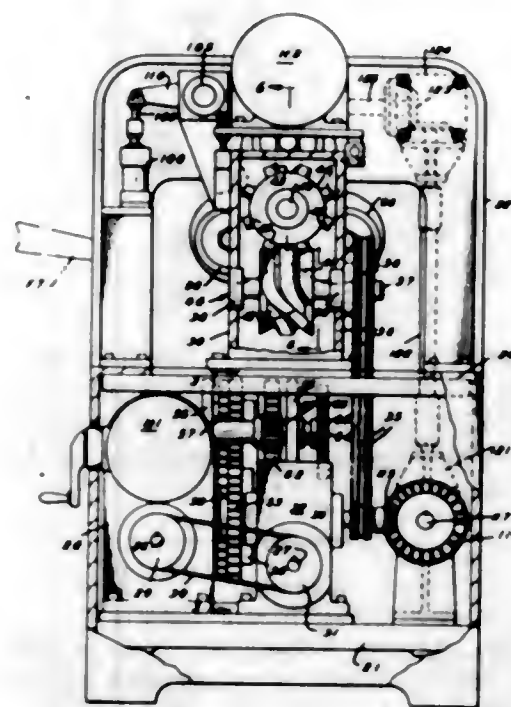
3,383,965

# TUBE RECUTTER

Joseph Snyderman, Philadelphia, Pa., assignor to John Eppler Machine Works, Inc., Philadelphia, Pa., a corporation of Pennsylvania  
Filed Oct. 22, 1965, Ser. No. 500,903  
4 Claims. (Cl. 82-101)

A tube recutter with a plurality of mandrels onto one of which a tube to be cut is fed, that mandrel then being advanced to another location for cutting of the tube, after

which that mandrel is advanced to another location for stripping. Positive indexing for higher speed operation than heretofore is provided for the mandrels, the feeding

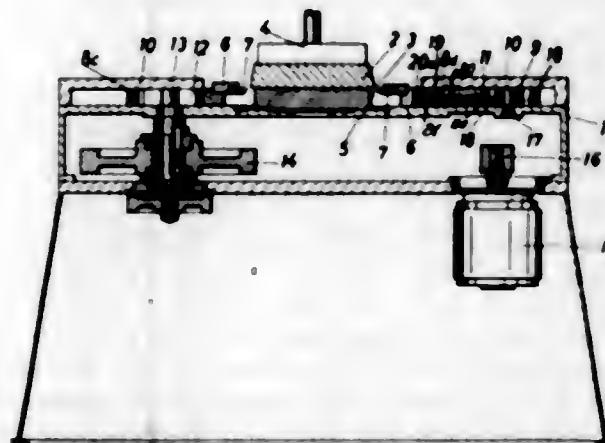


and stripping mechanism being activated so as to be decelerated at each end of its action preferably by a planetary drive.

3,383,966

# DEVICE FOR TRIMMING THE EDGES OF HOLLOW BODIES

Rudolf Widani, Nuremberg, Germany, assignor to Ludwig Widani Werkzeugmaschinen, Nuremberg, Germany, a firm of Germany  
Filed Mar. 16, 1966, Ser. No. 534,823  
Claims priority, application Germany, Mar. 18, 1965, W 38,794  
7 Claims. (Cl. 83-185)

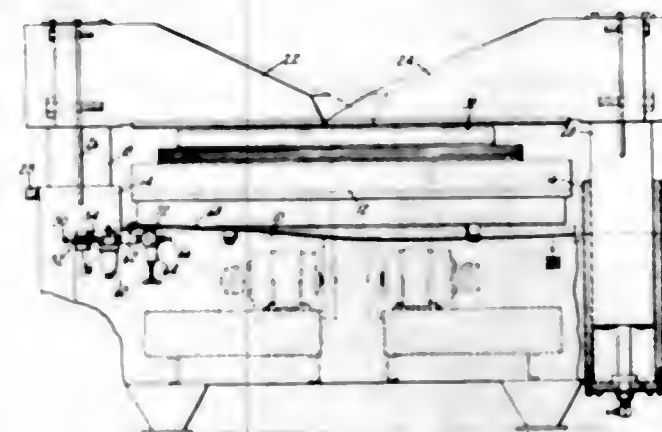


1. A trimming device for trimming the edges of a hollow workpiece, said trimming device comprising, in combination, a stationarily mounted cutting head constituting a carrier for the workpiece to be trimmed, a cutting plate encompassing said cutting head, support and guide means supporting said cutting plate movable in its own plane for coaction with the cutting head, a bearing pin supported transversely of said plane and displaceable parallel thereto, said pin engaging a cutting plate part on one side of said cutting head for pivotal movement of the cutting plate about said pin, rotary cam means coacting with a cutting plate part on the opposite side of said cutting head, and drive means coacting with said cam means for rotating the latter to impart to the cutting plate a combined lengthwise and pivotal movement in reference to said cutting head.

3,383,967

# CUTTING PRESSES HAVING FLUID INJECTION TO POST BEARING FOR FACILITATING SWINGING OF BEAM

Richard W. Hitchcock, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey  
Filed May 12, 1966, Ser. No. 549,543  
6 Claims. (Cl. 83-538)

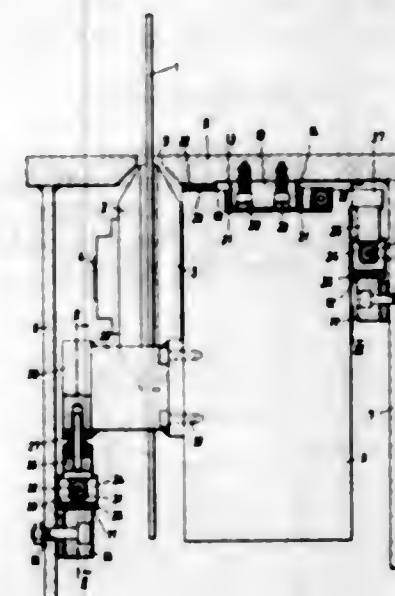


Manual swinging of the beam of a cantilever cutting press is facilitated by supplying fluid, suitably air, under pressure to the bearing of the post on which the beam is supported.

3,383,968

# SAW FOR CUTTING COLD METAL

Leopold Jäger, Munsterfeller Str. 115,  
Euskirchen, Germany  
Filed Mar. 17, 1966, Ser. No. 535,179  
Claims priority, application Germany, Mar. 18, 1965, T 28,201  
12 Claims. (Cl. 83-582)

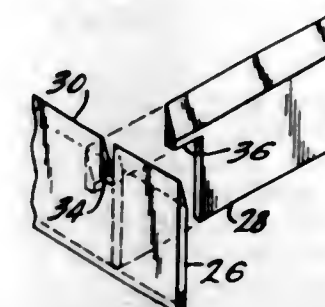


A gear box carries a circular saw blade and is movable in a predetermined path. A support includes two side walls at opposite sides of the gear box and extending parallel to the path of movement, and a top wall above the gear box. Interengaging guideways are provided on the gear box and the underside of the top wall for guiding the gear box in its path. Similarly cooperating guide arrangements are provided on the gear box and the side walls, and one such guide arrangement urges the gear box upwardly towards the top wall to effect close engagement of the aforementioned guideways.

3,383,969

# STEEL RULE CUTTING DIES

Philip G. Saunders, 2425 Ryan Road,  
Toledo, Ohio 43614  
Filed Nov. 14, 1966, Ser. No. 593,920  
11 Claims. (Cl. 83-663)

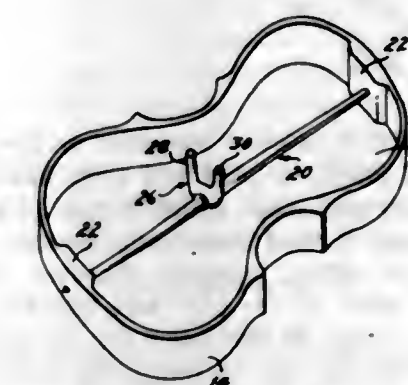


1. A cutting die assembly comprising a die plate, a first slot in said die plate, a second slot in said die plate extending transversely to said first slot, a first cutting rule located in said first slot and having a cutting edge therealong extending outwardly from the surface of said die plate, said first cutting rule having a recess therein extending downwardly from the upper edge to a position below the cutting edge of said first cutting rule, said recess being aligned with said second slot, a second cutting rule in said second slot, said second cutting rule having a locking portion at an upper, cutting edge thereof, said locking portion having a thickness and height less than corresponding dimensions of said recess and received in said recess with the cutting edge of said second rule being substantially at the same level as the cutting edge of said first rule.

3,383,970

# VIOLIN BASS BAR AND SOUND POST CONSTRUCTION

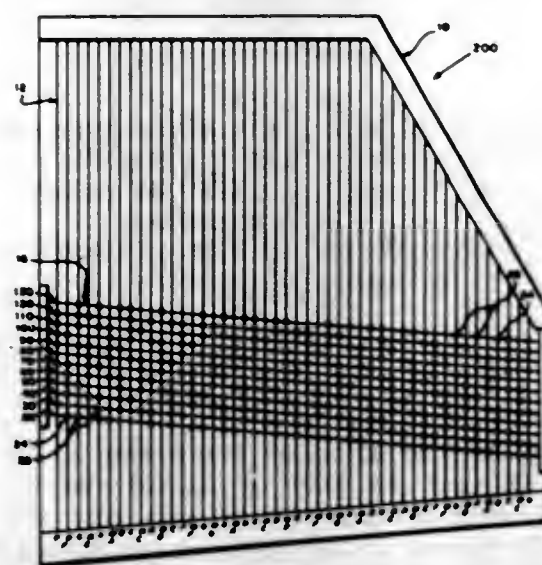
Vincenzo Di Sisto, 3922 Pine St.,  
Philadelphia, Pa. 19104  
Substituted for abandoned application Ser. No. 487,188,  
Sept. 14, 1965. This application May 17, 1966, Ser. No. 560,359  
5 Claims. (Cl. 84-276)



1. In a violin having: a belly, a back, a side, a spacer block at its neck end and a spacer block at its tail end, a bar secured at its opposite ends to said blocks and spaced from said belly and back, there being a recess in the face of said bar which aligns with the bridge supporting portion of said belly, and a U-shaped post having limbs and a bight portion, the side of said bight portion facing the back of the violin having a notch which engages said recess, the length of said post being such that it wedges tightly between said bar and said belly.

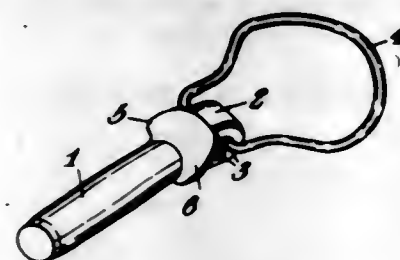


**3,383,971**  
**STRINGED MUSICAL INSTRUMENT**  
 William L. Hoyt, 9729 Chapelcroft St.,  
 Philadelphia, Pa. 19115  
 Filed Aug. 9, 1965, Ser. No. 478,246  
 9 Claims. (Cl. 84-287)



A stringed musical instrument of the cithern type having a plurality of damper bars extending across the strings, each damper bar stopping certain strings when it is depressed, to form chords. The stops to form a given chord are distributed between two damper bars, and two bars are depressed to produce a standard chord. In one form of the instrument each damper bar has a firm and a gentle depressed position, to provide more possible chords.

**3,383,972**  
**LINCHPIN**  
 Isaac E. Jackson, 1 Royle Ave., Glossop, Derbyshire, England, and Herbert H. Jackson, Woodseat Chase, Woodseats Lane, Charlesworth, Cheshire, England  
 Filed Apr. 1, 1966, Ser. No. 539,453  
 3 Claims. (Cl. 85-5)

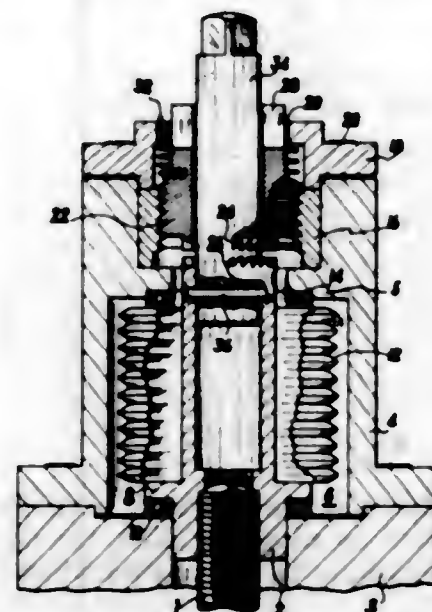


A linchpin used to secure machine parts in position which includes a shank, a head and a resilient clip which has a looped outer end from which a pair of parallel legs including inwardly turned free ends depend. The head includes a pair of offset, laterally disposed holes which receive the free ends of the clip and laterally extending cam means is located on the head for cooperation with the parallel legs of the clip to retain the clip against unintentional displacement.

**3,383,973**  
**AXIAL-STRESS LIMITING DEVICE**  
 Charles Gezal, Chatillon-sous-Bagneux, France, assignor to Commissariat à l'Energie Atomique, Paris, France  
 Filed June 22, 1965, Ser. No. 465,935  
 Claims priority, application France, July 1, 1964, 980,306  
 10 Claims. (Cl. 85-62)

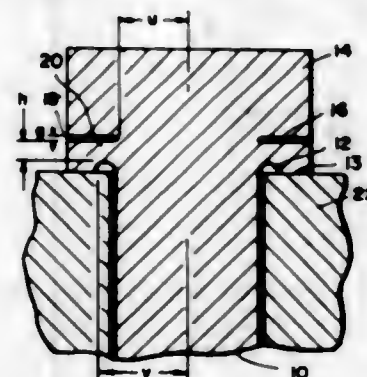
A threaded nut, which upon rotation is adapted to impart axial movement to a threaded screw, is mounted on a fixed body for rotative and limited axial movement. A stack of dished, spring washers, calibrated to withstand

a stress of a predetermined value before yielding, is positioned between the fixed body and the nut and urge one end of the nut against the body. The other end of the nut is provided with teeth which are interengageable with opposed teeth provided on an abutment member for locking the nut to the fixed body. The abutment member is adjustably mounted in the body by means of coarse-pitch threads, the pitch of which extend in the opposite direction to the pitch of the threads on the nut. Lugs, which are formed on the upper end of the abutment member, rotate between projections formed on the body



and a spring acting between the body and the abutment member acts to rotate said member to move it axially upwardly away from the nut. A rod for rotating the nut extends through the abutment member. The axial stress imparted to the screw upon rotation of the nut in a direction to impart reaction forces to the nut tending to compress the stack of washers, is limited to the calibrated value of the washer stack since additional stress moves the nut upwardly and the teeth on the nut into locking engagement with the teeth on the abutment member thus preventing further rotation of the nut and further stress to the screw.

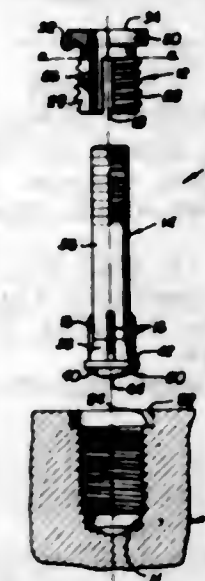
**3,383,974**  
**LOAD INDICATING MEANS**  
 Norman C. Dahl, 40 Fern St., Lexington, Mass. 02173  
 Filed July 21, 1967, Ser. No. 655,112  
 8 Claims. (Cl. 85-62)



A fastening member such as a bolt or nut, which has visual means to indicate when the design axial load of the member has been reached. An external disk-shaped annular groove in the outer wall of the bolt head or nut between the upper and lower faces is filled with a flowable incompressible material. An internal annular groove is located near or at the juncture of the lower face and the threaded diameter. The external and internal grooves are of such depths that the grooves overlap and thus in the region of overlap the material in the section between the

grooves is capable of deforming in axial shear. When the member carries the axial load for which it was designed the yield force in the shear section is reached and the section plastically deforms in axial shear, closing the external groove and extruding the flowable material to give visual evidence that the design load has been reached.

**3,383,975**  
**SELF-LOCKING INSERT ASSEMBLY**  
 Kenneth V. Cushman, Santa Ana, Calif., assignor to The Deltron Company, Inc., Santa Ana, Calif., a corporation of Nevada  
 Filed Feb. 21, 1966, Ser. No. 529,041  
 1 Claim. (Cl. 85-77)



The invention is a stud insert adapted for use in a blind bore. The stud insert has two parts comprising a nut (or sleeve) and an insert stud or bolt held in the bore by the insert. The hole in which the fastener is placed is threaded and the insert nut is threaded. The stud or bolt is fitted to the insert nut before insertion into the hole. The stud has a head at its inner end and adjacent this head it has a taper. The insert nut has a flange head and its sidewalls are axially slotted to receive axial ribs on the stud adjacent to the head. The insert nut and stud may be manually threaded into the hole in the material. Attachment of a part may then be made to the stud and axial force applied to the stud so that its tapered part is forced into the skirt of the insert nut expanding it and locking it in the threaded bore, the head coming up into engagement with the inner end of the insert nut. The engagement between the ribs on the stud and the slots in the nut make it possible to thread the nut into the bore by rotating the stud and after the fastener has been set and the stud is, of course, non-rotatable in the said insert nut.

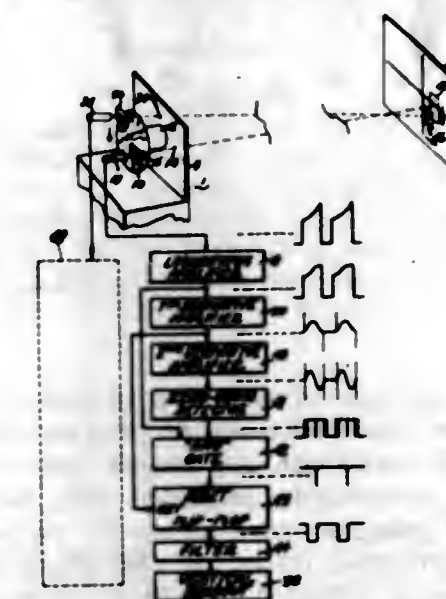
**3,383,976**  
**SCREW ANCHOR WITH INCLINED FINS**  
 Will Scheukel, Zurich, Switzerland, assignor to Glarox A.G., Glarus, Switzerland  
 Filed Jan. 10, 1966, Ser. No. 519,769  
 Claims priority, application Switzerland, Feb. 3, 1965, 1,467/65  
 5 Claims. (Cl. 85-80)



An anchoring member for screws in which the member is slit at one end and provided adjacent the slits with wings which prevent the member from turning in the hole

receiving it. Each wing is of triangular shape, joined at its base with a member and having an edge defined by another leg which is contained within a plane passing through the axis of the member. In this way the member is not forced to rotate as it is inserted and good resistance to rotation of the member is obtained during subsequent insertion of a screw.

**3,383,977**  
**METHOD AND APPARATUS FOR INDICATING THE AIM OF PROJECTION-TYPE LAMPS**  
 Gerald J. Carlson, Scotia, N.Y., assignor to General Electric Company, a corporation of New York  
 Filed Dec. 30, 1963, Ser. No. 334,167  
 5 Claims. (Cl. 88-14)



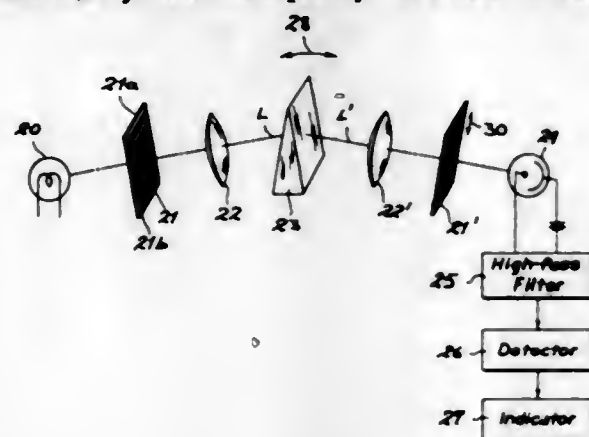
Apparatus and method for determining the vertical and horizontal aim points of projection-type lamps by detecting maximum rate of change of the logarithmic brightness pattern along selected edges of a nonuniform brightness pattern produced by the lamp light beam on a reflective reference plane. Apparatus comprises a rotating disk having narrow radial slits and a pair of optical circuits each comprising a photoelectric cell, slitted mask and pinhole (or focussing lens and aperture) for line-by-line scanning of small rectangular areas of the brightness pattern along two adjacent edges thereof. Electrical circuits connected to outputs of the optical circuits comprise logarithmic amplifiers for converting the viewed areas to logarithmic pattern signals, differentiator amplifiers for obtaining the rate of change of the logarithmic brightness pattern signals and readout circuits for detecting the maximum rate of change of such signals to thereby determine the vertical and horizontal aim points.

**3,383,978**  
**APPARATUS FOR SPECTROMETRIC ANALYSIS OF RADIANT FLUX**  
 André Jean Girard, Chatillon-sous-Bagneux, France, assignor to Office National d'Etudes et de Recherches Aéronautiques, Chatillon-sous-Bagneux, France, a corporation of France  
 Filed Nov. 16, 1964, Ser. No. 411,254  
 Claims priority, application France, Nov. 14, 1963, 953,742  
 23 Claims. (Cl. 88-14)

1. An apparatus for the spectrometric analysis of a flux of radiation, comprising radiation-gate means with an input side and an output side each exhibiting a substantially planar pattern of adjoining zones alternately forming part of a first and a second multiplicity of zones, said radiation-gate means including a support for at least one of said patterns, the zones of said first multiplicity



having a transmissivity for incident radiation different from that of the zones of said second multiplicity, said pattern being nonrepetitive in at least one reference direction; a projection system for directing incident radiation, transmitted by the zones of one multiplicity of the input-side pattern, onto the output-side pattern of said gate means, said system including dispersion means with a spectrum-spread plane parallel to said direction for casting upon said output-side pattern an exactly registering image of said input-side pattern as projected with a predetermined wavelength of incident radiation; photoelectric transducer means positioned to receive radiation transmitted by one multiplicity of zones of said output-

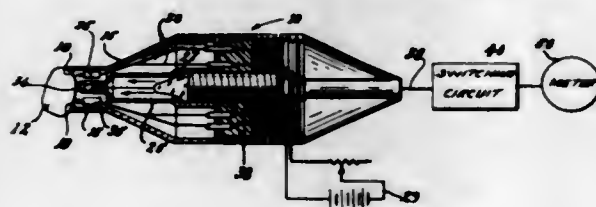


side pattern, the rate of reception of radiant energy by said transducer means attaining an extreme value for said predetermined wavelength and having finite other values for all other wavelengths projected with partial coincidence of said patterns; drive means for periodically displacing the projected image of said input-side pattern relatively to said output-side pattern between positions of exact and partial coincidence by relatively moving said support and at least part of said projection system whereby said rate of reception periodically reaches said extreme value in the presence of radiation of said predetermined wavelength; and circuit means connected to said transducer means for detecting a pulse corresponding to said extreme value in the output of said transducer means.

3,383,979

**COLORIMETER PROBE**

Donald F. Gibson, Billerica, Mass., assignor to Mark Associates, Inc., Lowell, Mass.  
Filed Mar. 24, 1964, Ser. No. 354,484  
4 Claims. (Cl. 88-14)



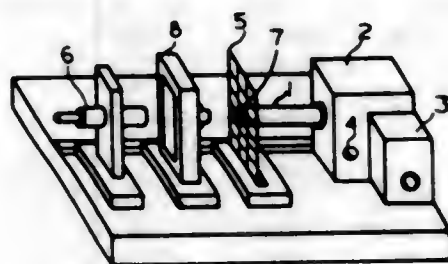
A miniature probe for measuring the color and light intensity of a subject. The probe has an opaque outer surface and an elongated cylinder which houses a light source, light guide and the photovoltaic cell and which can be held in one's hand during the operation thereof.

3,383,980

**OPTICAL APPARATUS FOR MEASURING MATERIAL DAMPING, DYNAMIC YOUNG'S MODULUS AND CREEP BY PHOTOGRAPHIC MEANS**  
Horst Paul Richter, 447 Ontario Drive, Livermore, Calif. 94550  
Filed Sept. 30, 1963, Ser. No. 313,722  
2 Claims. (Cl. 88-14)

Dynamic deflection apparatus including a cylindrical

test specimen supported at one end in a rotatable fixture and having a camera telescopically aligned along the



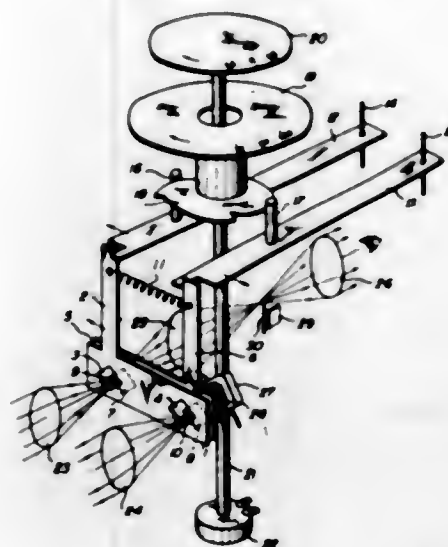
optical path from the specimen axis to record the motion of a fiducial mark on the free end of the specimen.

3,383,981

**PHOTOELECTRIC EXPOSURE METER**

Yasutaka Kawase, Osaka, and Shogoro Yamamoto, Kaizuka-shi, Japan, assignors to Matsushita Electric Corporation, Osaka, Japan, a corporation of Japan

Filed Apr. 11, 1963, Ser. No. 272,286  
Claims priority, application Japan, May 30, 1962, 37/22,394; June 14, 1962, 37/32,213; Sept. 8, 1962, 37/38,818  
5 Claims. (Cl. 88-23)



An exposure meter having front and back light-interceptor plates each of which is provided with two openings. The plates are arranged in close relation to each other so that the four openings form two apertures, one for the light-measuring system and the other for the view finder system. The sizes of the apertures vary according to the opposing sliding movement of the two plates. Measuring errors, arising from variations in the light-receiving area and the internal resistance of the photoconductive element in the light measuring system due to the size variation of the aperture, are compensated for electrically and by the relative gradation of the shutter speed dial and the diaphragm aperture dial.

3,383,982

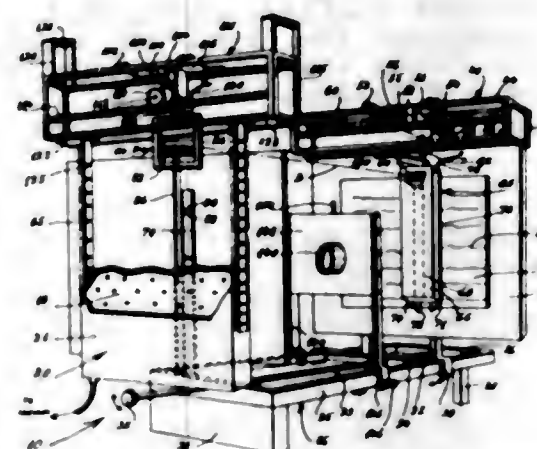
**PHOTOELECTRIC FOLLOWUP SYSTEM**

Mortimer Moss, 133-01 N. Hempstead Ave., Flushing, N.Y. 11355

Filed Apr. 22, 1965, Ser. No. 449,944  
9 Claims. (Cl. 88-24)

A photoelectric followup system for a camera or the like employing a motor driven slit shutter and scanning lamp. The shutter and scanning lamp are driven by separate electric motors which motors are controlled by switching circuit including photoelectric control means. According to the system a shutter plate is provided with

a long narrow opening or slit through which light emitted by a lamp is transmitted from an object being photographed or scanned. The transmitted light passes through the slit and impinges upon a photosensitive sheet supported behind the shutter plate. The shutter plate and



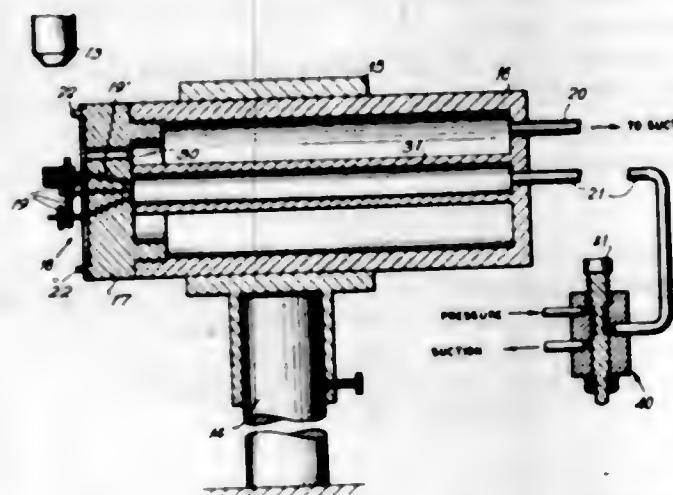
lamp are moved in coordination so that a single elemental narrow area of the object being scanned is photographed at a time. The object scanned can be a picture or graphic copy on transparent film, and the scanning light can be transmitted through the film.

3,383,983

**METHODS AND APPARATUS FOR EXAMINING MECHANISMS FOR THE EXISTENCE OF PLAY THEREIN**

Philippe Mamie, Le Sentier, Switzerland, assignor to S.A. de la Fabrique d'Horlogerie le Coultre et Cie, Le Sentier, Switzerland

Filed Mar. 18, 1966, Ser. No. 535,389  
Claims priority, application Switzerland, May 31, 1965, 7,641/65  
11 Claims. (Cl. 88-24)



A method and device for examining a watch mechanism for play by applying suction and pressure in succession to a gear shaft of the movement to cause the shaft to undergo displacement in the bearings of its support to the extent of its play and projecting an enlarged image of the mechanism on a screen to observe the play.

3,383,984

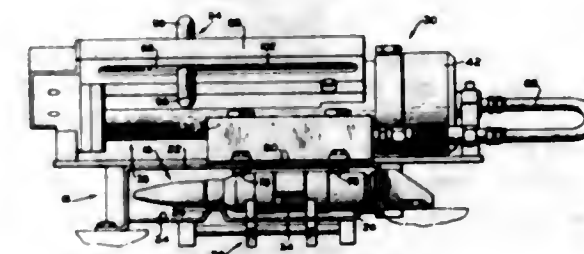
**COMPACT CONSTANT PRESSURE LUBRICATOR FOR THE 20 MM. HS 820 GUN SYSTEM**

Giuliano D'Andrea, Troy, N.Y., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 14, 1966, Ser. No. 601,813  
8 Claims. (Cl. 89-1)

The cases of cartridges are lubricated as they are fed into the receiver of an automatic gun by a lubricator having a reservoir for a lubricant with a cooperating piston

connected to a negator spring for moving the lubricant in the reservoir to an applicator at a constant pressure. The applicator is provided with a pair of nozzles with cooperat-



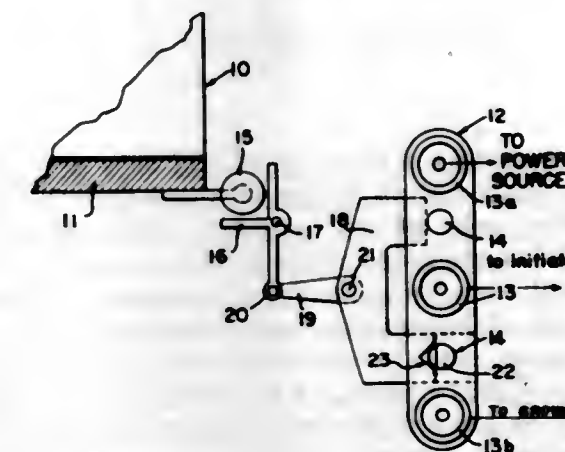
ing plunger-valves contactable simultaneously by each of the cases during movement into the receiver for displacement thereby to apply a specific amount of the lubricant upon the case.

3,383,985

**POSITIVE INTERLOCKING SAFETY SWITCH**

Richard H. Field, Broomall, Charles T. Davey, Dresher, and Raymond G. Amicone, Springfield, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed July 31, 1967, Ser. No. 657,745  
9 Claims. (Cl. 89-1)



A firing chamber housing interlock apparatus having safety switch means which prevents the housing door from being opened while a test is being conducted or until the test device is grounded. A latch plate whose movement is controlled by the opening and closing of the chamber door is held in place until a proper plug connection is made with an associated plug receptacle.

3,383,986

**ROTATING GUN MOUNT WITH RECIRCULATING BALL BEARING MEANS**

Richard Frank Leopold, South Burlington, Eugene Ashley, Burlington, and Donald Henry Spawn, South Burlington, Vt., assignors to General Electric Company, a corporation of New York

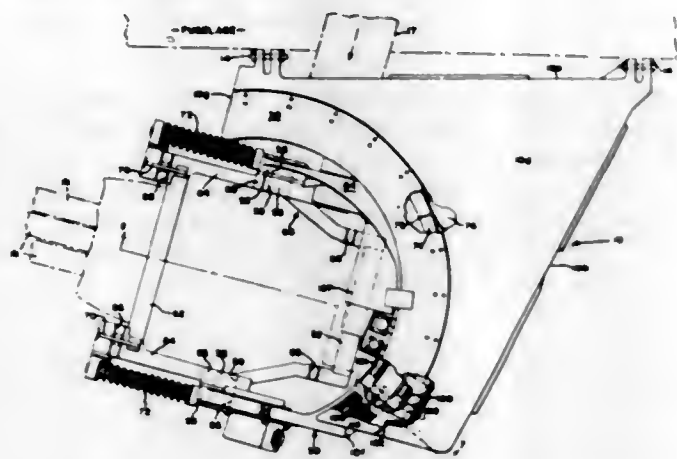
Filed Dec. 30, 1966, Ser. No. 606,211  
6 Claims. (Cl. 89-37.5)

1. In air aircraft gun turret having support structure including an upstanding semi-cylindrical outer housing wall, a gimbal located adjacent the housing wall, means on the gimbal supporting the gun for movement in elevation, the improvement of bearing means providing movement of the gimbal in azimuth comprising:

a plurality of arcuate retainer members each member including means for attaching the member to the upper and lower edges, respectively, of the semi-cylindrical housing wall, each of said members having a vertical wall surface in opposition to a portion of the upstanding housing wall;

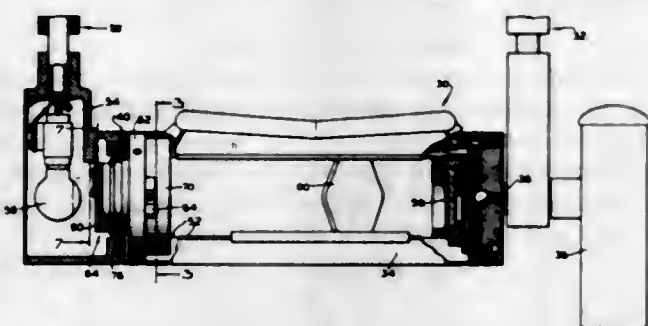


second wall means projecting vertically outwardly of the gimbal, said second wall means being longitudinally arcuate and having oppositely facing surfaces received between the opposing wall surfaces, respectively, on said retainer members and said housing wall portions opposite thereto;  
inner and outer races located at both the upper and lower edges of the housing wall and comprising first pairs of oppositely facing grooves, in the opposing surfaces of the housing wall portions and said second wall means, respectively, forming said inner races, and second pairs of oppositely facing grooves in the opposing surfaces of said second wall means and said vertical walls of said retainer members, respectively, forming said outer races;  
movable bearing means received in the inner and outer pairs of races; and



means including a plurality of end caps of substantial cross-section each having passages therethrough, respective ones of said plurality being affixed to the gimbal at each side of the arcuate second wall means thereof with the ends of the passages opening at one surface of the end cap connecting with both the inner and outer races, respectively, and a plurality of tubular members connecting the other ends of said passages on one side to the said other ends of said passages on the opposite side of said second wall means at the upper and lower, inner and outer races, respectively, for recirculation of said movable bearing means from one side of said second wall means to the other, and vice-versa, during movement in azimuth.

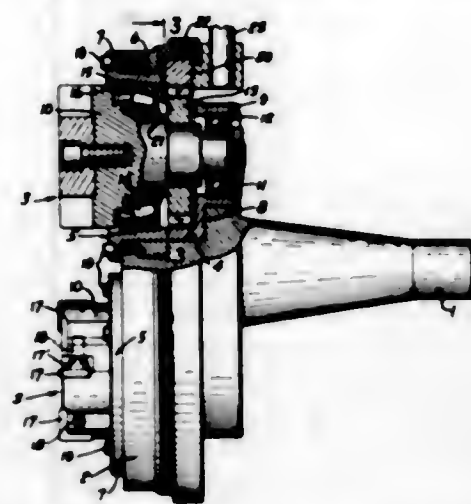
**3,383,987**  
**MULTIPLE-SCALE RETICLE FOR A FIRE CONTROL SYSTEM WITH MEANS FOR ADJUSTING THE SERVOSYSTEM TO A SELECTED ONE OF THE SCALES**  
Lester S. MacMillan, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army  
Filed Mar. 27, 1967, Ser. No. 626,668  
4 Claims. (Cl. 89—41)



This invention provides for the sight of a fire control system with an electric servosystem a reticle divided into two range scales positioned side by side and an indexing

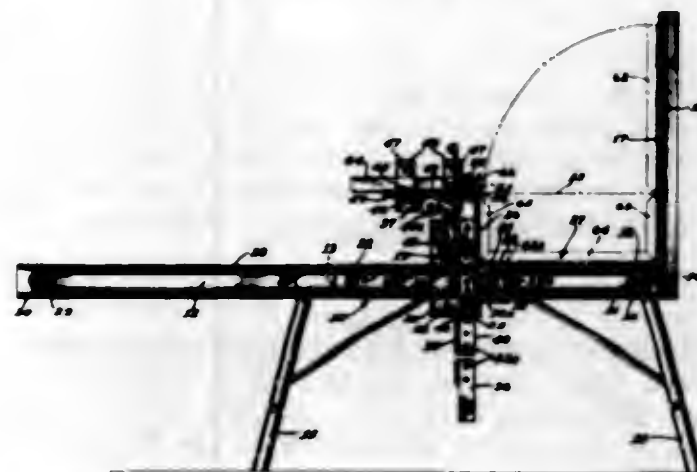
device for adjusting the servosystem to the selected one of the two range scales through predetermined displacement of the sight actuated potentiometer relative to the sight.

**3,383,988**  
**MILLING CUTTER CARTRIDGE**  
Carl E. Grueninger, Elm Grove, Wis., assignor to Waukesha Cutting Tools, Inc., Waukesha, Wis., a corporation of Wisconsin  
Filed May 19, 1966, Ser. No. 551,456  
3 Claims. (Cl. 90—11)



1. For attachment to a milling cutter head having a ring gear thereon which is fixable against rotation, a removable milling cutter cartridge comprising:
  - (a) a generally hat-shaped housing having a cylindrical wall and a radial flange disposed rearwardly therefrom,
  - (b) a spindle disposed for rotation within said housing and adapted to have cutting tool means thereon,
  - (c) front and rear bearings disposed between said spindle and said housing,
  - (d) a drive gear fixedly mounted on said spindle between said bearings,
  - (e) said wall and flange having an opening therein for extension of the head ring gear therethrough for engagement with said drive gear,
  - (f) and means for securing said cartridge to the head.

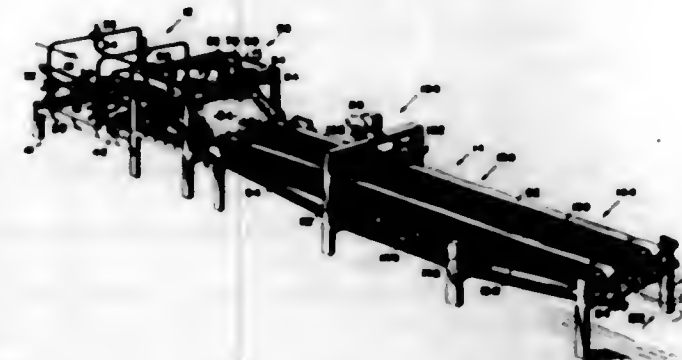
**3,383,989**  
**AIR CONDITIONING DUCT FOLDING MACHINE**  
Paul H. Brandt, 1845 E. Madison St., Phoenix, Ariz. 85034  
Filed Feb. 17, 1966, Ser. No. 528,169  
3 Claims. (Cl. 93—1)



1. A duct folding machine comprising in combination:
  - (a) a frame,
  - (b) a backup plate having a vertically disposed work engaging surface,

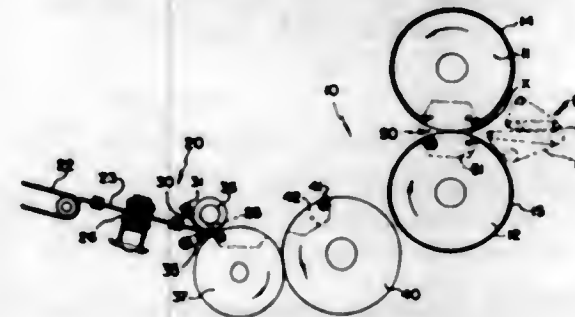
- (c) a carriage on said frame having a vertically positioned work engaging surface facing and positionable relative to said first mentioned vertical work engaging surface on said backup plate,
- (d) a folder frame mounted on and movable vertically on said carriage,
- (e) and a folding and stapling bar carried and movable on said folder frame relative to said work engaging surface on said backup plate.

**3,383,990**  
**BOX FORMING APPARATUS**  
Lo-Roy K. Cheu, San Jose, and Clarence Van Houden King, Carmel, Calif., assignors to Boise-Cascade Corporation, Sunnyvale, Calif.  
Filed Jan. 17, 1966, Ser. No. 521,207  
6 Claims. (Cl. 93—49)



1. Apparatus for folding a box blank into a flattened condition and for forming the bottom closure of the box blank comprising a first conveyor for engaging the lower flaps of the box blank and propelling the box blank along a path of travel, means adjacent the path of box travel along said first conveyor for folding the side flaps of the box blank laterally outwardly of the path of travel, a second conveyor in box blank receiving relationship to said first conveyor, said second conveyor engaging only the laterally extending side flaps of the box blank, and means adjacent the path of travel of the box blank on said second conveyor for folding and gluing the bottom flaps of said box blank to form a bottom closure panel therefor.

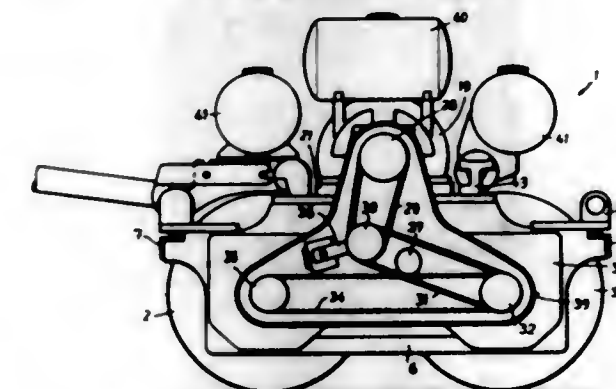
**3,383,991**  
**SHEET MATERIAL FORMING APPARATUS**  
Albert J. Sarka, Fairview Park, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware  
Filed Dec. 6, 1965, Ser. No. 512,576  
24 Claims. (Cl. 93—58.2)



2. An apparatus for cutting and creasing sheets having a printed image thereon comprising a pair of rotary cylinders having complementary flexible die plates mounted thereon, said die plates having a plurality of projecting members thereon defining a cutting pattern and cooperable to cut a sheet advanced therebetween, said cylinders with the die plates thereon defining a sheet deforming nip therebetween, means for feeding sheets having a printed image thereon from a supply toward said rotary cylinders, a registering mechanism

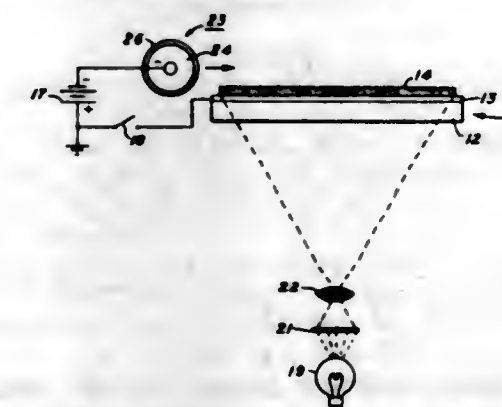
for registering said sheets with said die plates to locate said sheets so that the printed image is aligned with the cutting pattern of said die plates when the sheets arrive at said nip, means for conveying and introducing the sheets in registered condition into said deforming nip defined by said cylinders, and each of said die plates having further projecting members thereon which cooperate to simultaneously deform and feed sheets individually through said nip and maintain the sheets in registered condition and at least some of which also deform the sheets as they pass through said nip.

**3,383,992**  
**SELF-PROPELLED ROAD ROLLER**  
Benno Kaltenecker, Am Fleistolhof, Birlinghoven, Kreis Siegburg, Germany  
Filed June 23, 1966, Ser. No. 559,934  
Claims priority, application Germany, June 26, 1965, K 56,483  
7 Claims. (Cl. 94—50)



1. A road roller comprising a frame, at least two drum rollers, means journaling said rollers for rotation relative to said frame, said journaling means including a pair of shafts, flywheel means carried by said shafts, an engine, transmission means for drivably coupling said shafts and rollers to said engine, said transmission means being disposed on one side of said frame, said transmission means including a plurality of meshed gears forming the sole driving elements between said engine and said rollers, and said transmission means further including pulley and belt drive means inboard of said gears and coupled to said shafts for imparting rotation thereto.

**3,383,993**  
**PHOTOELECTROPHORETIC IMAGING APPARATUS**  
Shu-Hsiung Yeh, Jamaica, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 384,680, July 23, 1964. This application Jan. 3, 1966, Ser. No. 518,041  
8 Claims. (Cl. 95—1.7)



A photoelectrophoretic imaging apparatus is described which includes a pair of electrodes, at least one of which is at least partially transparent. These electrodes are adapted to have a thin layer of a suspension of particles in a liquid carrier placed therebetween. At least one of



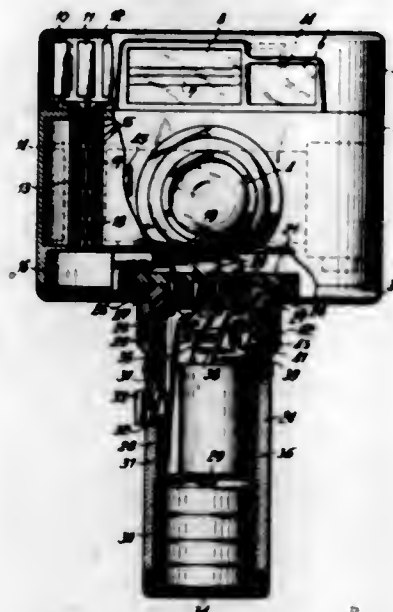
the electrodes has a blocking surface facing the suspension. Means are included to impose an electric field across the suspension between the electrodes and to expose the suspension to an image with electromagnetic radiation through the transparent electrode. This apparatus is suitable for preparing both monochromatic and polychromatic copies of originals by particle migration through the suspension.

### 3,383,994 PHOTOGRAPHIC CAMERA WITH DISENGAGEABLE ELECTRONIC FLASH UNIT

Oskar Bihlmaier, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany

Filed June 12, 1963, Ser. No. 287,359  
Claims priority, application Germany, Jan. 26, 1963, V 23,561

11 Claims. (Cl. 95-11.5)



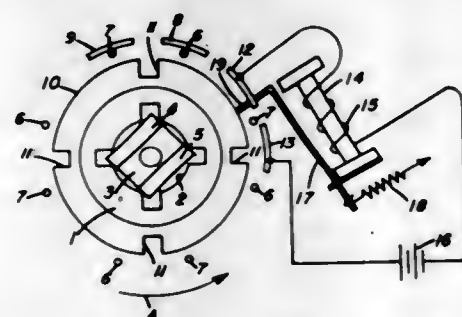
A combined unit incorporating a camera and an electronic flash device is provided in which, of the usual components of the electronic flash device, at least the flash lamp and its reflector are fixedly incorporated into the camera, while other components of the electronic flash device including at least a power supply are mounted in a housing arranged for disengageable mechanical and electrical connection to the camera.

### 3,383,995 BULB SENSING MEANS

Richard J. Bresson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 23, 1965, Ser. No. 481,872

7 Claims. (Cl. 95-11.5)



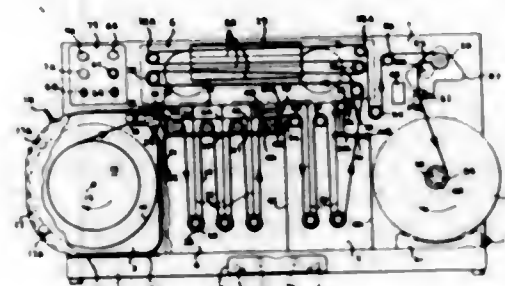
A photographic device having a bulb sensing structure including a socket for receiving an indexable multi-lamp flash attachment, and an electrical circuit for sensing the condition of a bulb prior to placement of the bulb into a firing position and for indicating the sensed condition as by preventing a bad bulb from being moved into the firing position.

### 3,383,996 PORTABLE DAYLIGHT FILM PROCESSOR

John Dokull, Flushing, N.Y., Clyde Russell Dupree, Denville, N.J., and Eli Mealin, Jericho, Sol Morgenstern, New Hyde Park, and Armand J. Plasencia, Jackson Heights, N.Y., assignors to J. A. Maurer Inc., Long Island City, N.Y., a corporation of New York

Filed June 30, 1964, Ser. No. 379,302

14 Claims. (Cl. 95-94)



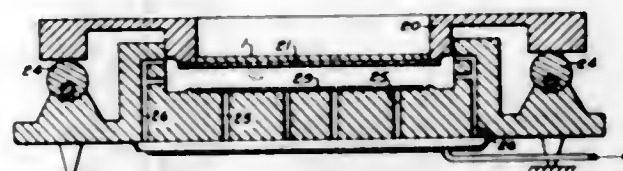
4. A film processing apparatus comprising:
  - (a) a housing;
  - (b) a processing tank within said housing;
  - (c) a rinse tank within said housing;
  - (d) a removable cover for said processing and rinse tanks;
  - (e) a drying chamber within said housing and above said processing and rinse tanks;
  - (f) means for transporting film through the processing and rinse tanks in succession, said transporting means including, a group of spaced rollers located in the upper region of the processing and rinse tanks, said spaced rollers in the processing tank being mounted on a cradle which is removably supported in the processing tank, a plurality of spaced dip rods depending downwardly from the cover into the lower region of the processing and rinse tanks, and an individual film roller at the free end of each dip rod, each dip rod extending when the cover is in place on the tanks between the spaced rollers in the processing and rinse tanks to form a succession of loops in the film being transported; and
  - (g) another transporting means for passing the film exiting from the rinse tank through the drying chamber, said another transporting means including a plurality of roller means which guide the film in a looped path through the drying chamber.

### 3,383,997 COMPATIBLE SYSTEM FOR ENLARGEMENT OF PEEKABOO DATA CARD CAPACITY

Frederick Jonker, Washington, D.C., and William L. Parks III, Silver Spring, Md., assignors to Jonker Business Machines, Inc., a corporation of Delaware

Filed July 16, 1965, Ser. No. 472,740

1 Claim. (Cl. 95-73)



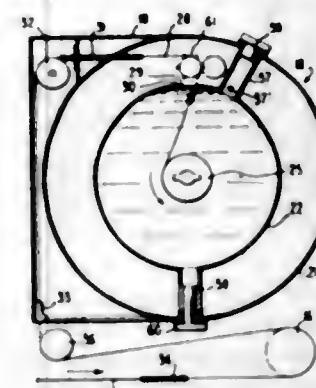
A method of preparing photographic records of peekaboo data matrix cards so as to expand the recording capacity by a factor of 2 or more, by successive exposures to a single photographic film of two or more original matrix cards through a mask having light-transmitting spots of reduced size at all possible matrix intersections, the mask-and-matrix-card unit and the film being relatively offset in a different direction, for each exposure, to record data spots on the film in spaces remaining amongst any previously-exposed locations adjacent each matrix intersection. The application of color film and colored spots, for easier readout discrimination is described.

### 3,383,998 RAPID PROCESSING FILM CASSETTE

Zoltan Takatz, Willow Point, Vestal, N.Y., assignor to HRB-Singer, Incorporated, State College, Pa., a corporation of Delaware

Filed Aug. 31, 1965, Ser. No. 483,987

16 Claims. (Cl. 95-90.5)



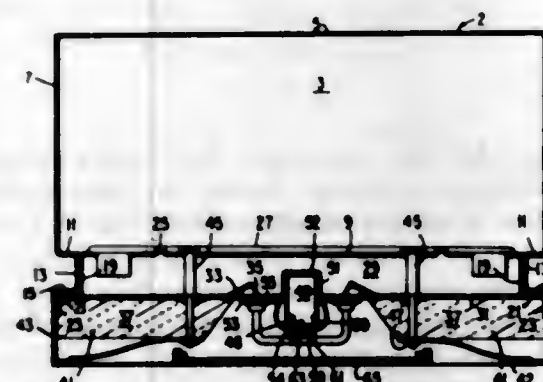
A developing system having a cassette for takeup of photographic film that has just been exposed. The cassette has an interior chamber substantially filled with monobath processing solution and containing a takeup reel which is submerged in the processing solution. Provision is made for accommodation of displaced solution, as the film is wound onto the takeup reel, in such manner that processed film is almost immediately ready for quick removal and use in projection equipment. An intermittent film advance device provides agitation to assure desired action of the processing solution on the exposed film.

### 3,383,999 CEILING AIR TERMINAL

Daniel A. Fragalio, Solway, and Walker B. Tober, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed July 3, 1967, Ser. No. 650,888

2 Claims. (Cl. 98-40)



A room terminal for use in an air conditioning system having a variable air discharge area to regulate air flow into the space being conditioned in response to the temperature thereof.

### 3,384,000 VENTILATION EXHAUST FAN WITH BACK DRAFT PREVENTER

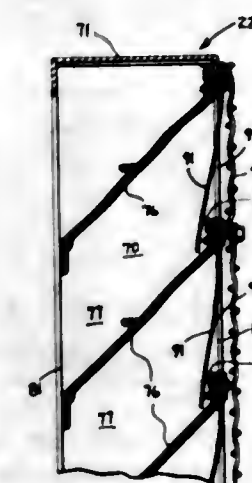
Joseph R. Fuller, 7732 N. Sherman Drive, Indianapolis, Ind. 46240

Filed July 11, 1966, Ser. No. 564,360

3 Claims. (Cl. 98-43)

A ventilating apparatus incorporating a centrifugal blower wheel and constructed for mounting in the wall of a building. The apparatus includes a frame defining an opening through which air may be moved and

having a plurality of louvers fixed to the frame in spaced relation. A plurality of back draft dampers are mounted



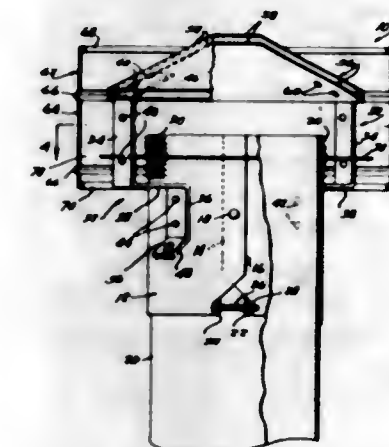
on the louvers and each control a respective space between the louvers with a screen being provided as the backstop for the flexible back draft dampers.

### 3,384,001 CHIMNEY CAP

Hill H. Mathis, Mile "One" Glacier Hi-Way, Juneau, Alaska 99801

Filed Oct. 24, 1966, Ser. No. 588,890

6 Claims. (Cl. 98-58)



A chimney cap having an adjustable sleeve open at both ends, for fitting about a chimney. A first baffle supported on the sleeve overlies one of the ends, while a second baffle circumferentially spans the edge of the first baffle and is spaced from the sleeve. An adjustable deflector is mounted on the sleeve end and thereby defines a restricting air passage therebetween.

### 3,384,002 APPARATUS FOR DEFROSTING FOOD PRODUCTS

James A. Bonuchi, Merriam, Kan., and Richard A. Bracking, Kansas City, Mo., assignors to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri

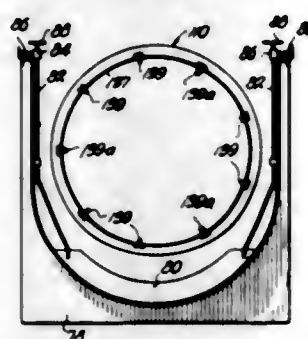
Original application Mar. 20, 1964, Ser. No. 353,323, now Patent No. 3,293,049, dated Dec. 20, 1966. Divided and this application Nov. 7, 1966, Ser. No. 592,627

4 Claims. (Cl. 99-234)

Apparatus for defrosting individual food products frozen together in blocks comprising an elongated tank containing one or more elongated, rigid, perforate, tubular reels mounted for rotation about respective axes generally parallel with the longitudinal axis of the tank. A heating liquid circulatory and heating system provides liquid, such as water or the like, to a predetermined level



in the tank. The reels are partially submerged in the liquid and each reel includes longitudinally extending, inwardly directed projections for engaging the blocks to lift the same as the reels are rotated, whereupon the

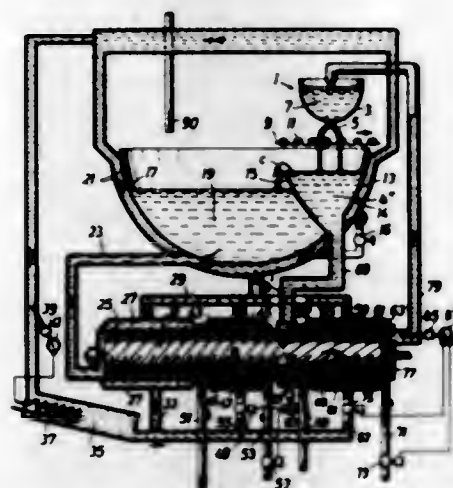


blocks fall back down into the liquid to impactively break up the blocks and separate the individual products. The liquid serves to cushion the fall of the products and the liquid also circulates around the products to bring them to the desired temperature.

3,384,003

# **APPARATUS FOR TEMPERING CHOCOLATE AND SIMILAR FATTY MASSES, PARTICULARLY FOR CHOCOLATE COATING INSTALLATIONS**

Robert Sollich, Auf der Breden 12,  
Bad Salzhausen, Germany  
Filed Apr. 20, 1964, Ser. No. 360,943  
3 Claims. (Cl. 99-236)



Apparatus for tempering a mass having the characteristics of chocolate wherein this mass is applied in excess quantities to the point of application, the excess portion being introduced into a collecting vessel having an adjustable wall permitting some of the excess to flow into a storage container. Material is fed from the storage container by means of a screw successively along a heating cylinder, a tempering cylinder and an after-heating and mixing cylinder. Material is fed from the collecting vessel to a point between the tempering cylinder and after-heating and mixing cylinder where it is combined with material from the storage cylinder and fed at an accelerated rate along the after-heating and mixing cylinder to the point of application. Controlled heating and cooling means are provided to regulate the temperature of the mass throughout its flow path.

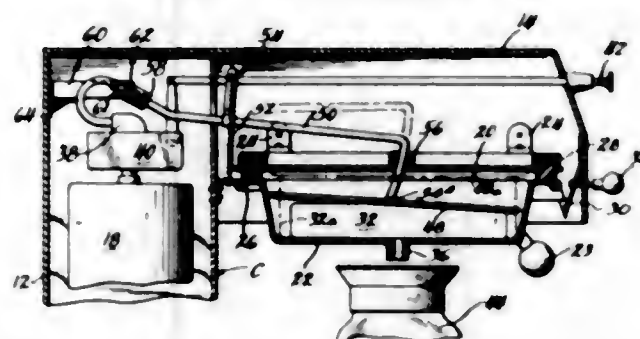
3,384,004

# **COFFEEMAKER**

Paul E. Perlman, Wilmette, and Henry S. Perlman, Deerfield, Ill., assignors to Hill-Shaw Company, Chicago, Ill., a corporation of Illinois  
Filed Nov. 26, 1965, Ser. No. 509,744  
6 Claims. (Cl. 99-289)

A coffeemaker having a brewing chamber for receiving a filter paper bag of coffee and further comprising a spreader plate in contact with the bag and including

means for discharging hot water through the filter paper bag. At least one of the side surfaces of the filter paper bag spaced from the side walls of the brewing chamber during both the dry and wet condition of the filter paper bag so as to avoid sealing engagement therebetween.

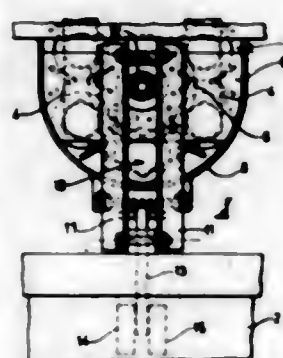


The fluid distribution path within the bag is such that the brewed coffee flows partially out of the opposite surface of the bag and partially out of a side surface of the bag to avoid channeling of the coffee grounds and thereby optimize the extraction rate of the brewed coffee.

3,384,005

# **INSTALLATION FOR THERMAL TREATMENT OF COMMODITIES PACKED IN CONTAINERS**

Johannes Bernardus van der Winden, Amstelveen, Netherlands, assignor to Gebr. Stork & Co's Apparatenfabriek N.V., Amsterdam, Netherlands  
Filed June 23, 1966, Ser. No. 559,910  
Claims priority, application Netherlands, July 9, 1965, 65-6,921  
4 Claims. (Cl. 99-360)



Apparatus having a conveyor for the transport of carriers containing containers through a space in which the commodities in the containers undergo thermal treatment. The conveyor is composed of a conveyor element which transports the carriers along suspending loop paths, a guide member being provided at the bottom of each loop for guiding the conveyor element and the carriers while preventing emergence of the containers from the carriers. The guide member is mounted for vertical displacement in a fixed vertical slit while being prevented from undergoing tilting movement or swinging movement.

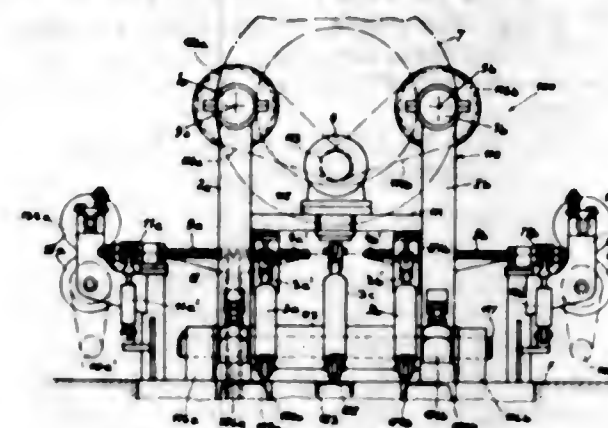
3,384,006

# **COIL BINDER**

Fritz Hellgrath, Rheinhausen, Otto Riedel, Gelsenkirchen, and Walter Zieme, Mulheim-Holsten, Germany, assignors to Betriebs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany, a corporation of Germany  
Filed Apr. 18, 1966, Ser. No. 543,335  
Claims priority, application Germany, Apr. 30, 1965, B 81,688  
8 Claims. (Cl. 100-10)

A coil-tying device wherein the binder tongs are supplied with a binder wire and are pivotally mounted upon a rotatable support and have cutters adapted to sever

lengths of the binder wire which is guided through tubes between the binder tongs, the pairs of tongs being swing-

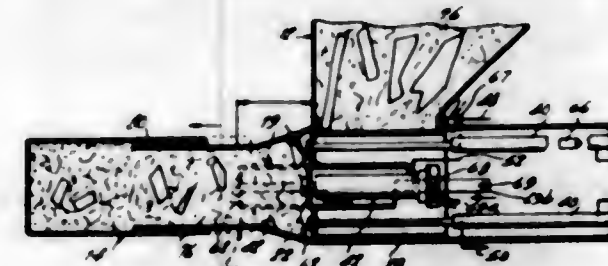


able on an arm jointly toward and away from the coil of wire.

3,384,007

# **WASTE COMPACTING DEVICE**

Daniel Q. Boje, Fairfield, N.J., and Samuel Taylor Permett, Jamaica Estates, and Sol Kestis, Bronx, N.Y., assignors to Compactor Corporation, a corporation of New York  
Continuation-in-part of application Ser. No. 588,050, Oct. 20, 1966. This application Aug. 9, 1967, Ser. No. 659,472  
10 Claims. (Cl. 100-49)

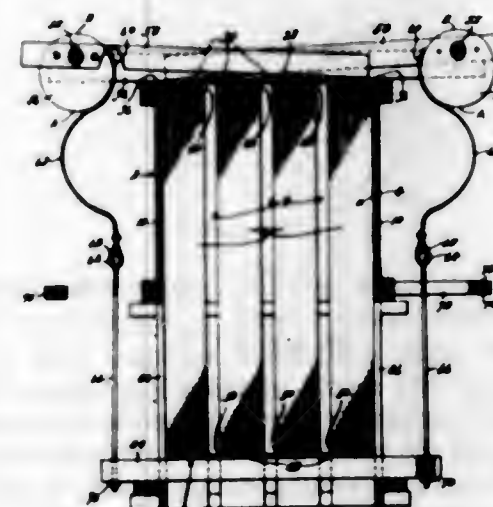


This invention is concerned with providing an improved waste compacting device in which concentrically adapted compactors are so coordinated that continual reciprocating compacting action is allowed to proceed.

3,384,008

# **LEAF BALING PRESS**

Omer L. Holt, Rte. 2, Lockwood, Mo. 65282  
Filed May 11, 1966, Ser. No. 549,307  
3 Claims. (Cl. 100-279)



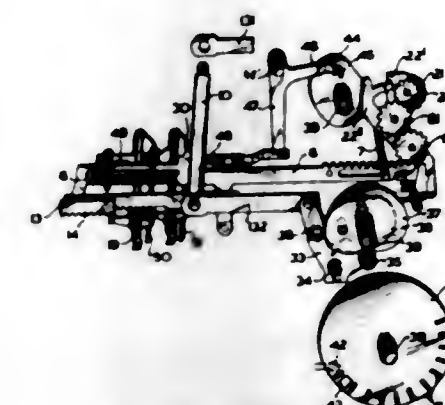
A leaf baling press comprising an elongated, essentially tubular housing, a pair of pressure plates disposed in said housing normally to the axis thereof, one of said plates being fixed and the other being movable toward

said fixed plate, and manually operable means for moving said movable plate toward said fixed plate, said means being operable to provide a progressively increasing mechanical advantage as said movable plate moves closer to said fixed plate.

3,384,009

# **COMPUTER CONTROLLED MULTI-ORDER PARALLEL PRINTER**

Joachim Hilgendorf and Paul Gille, Villingen, Germany, assignors to Kleinle Apparate GmbH, Villingen, Black Forest, Germany  
Filed Apr. 7, 1967, Ser. No. 629,267  
Claims priority, application Germany, Apr. 9, 1966, K 58,976  
10 Claims. (Cl. 101-93)

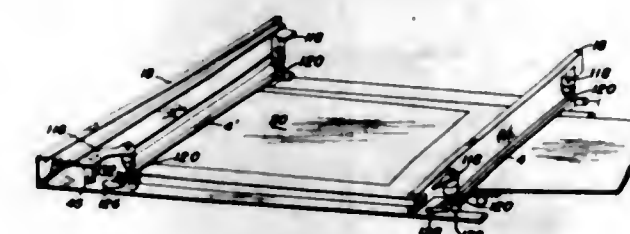


The printing wheels of a multi-order printer have one "no-digit" position in addition to ten digit positions, and are set to one of the eleven positions under the control of an electronic computer whose input is connected with ten digit keys and one "no digit" keys. The printer prints groups of digits separated by spaces in selected positions of the same line, and an \* or \$ may be printed by each printing wheel in the "no digit" position to indicate the highest order of a number formed by the following group of printed digits.

3,384,010

# **SCREEN PRINTING MACHINE**

Jeffrey Cottrell, Parley, England, assignor to Screen Printing Machinery Limited, London, England  
Filed Feb. 6, 1967, Ser. No. 614,343  
Claims priority, application Great Britain, Feb. 14, 1966, 6,425/66  
8 Claims. (Cl. 101-123)



A screen printing machine having a printing bed and a printing frame carrying a silk screen and provided with a squeegee adapted for reciprocal traversing movement across said frame; said printing bed and said printing frame being adapted for movement toward each other into operative position and movement away from each other into inoperative position; there being an endless chain for movement past each side of said bed with gripper bars being suitably supported by said chain for movement across said bed. Said gripper bars having means for engaging work pieces for presenting same upon said bed



and for withdrawal therefrom subsequent to printing operation. Said machine is equipped with positive registering means including apertures formed in the gripper bars for receiving locking pins carried on the said frame so as to assure proper location of the work piece.

3,384,011

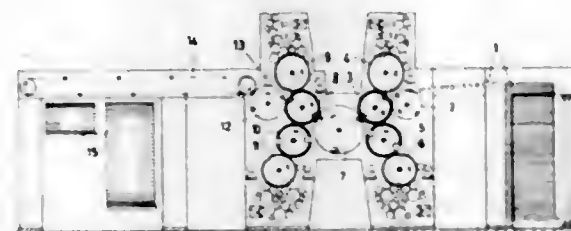
# **ROTARY SHEET-FED OFFSET PRINTING PRESS FOR PERFECTING WORK OR RECTO PRINTING**

Hans B. Bolza-Schünemann, Würzburg, Germany, assignor to Schnellpressenfabrik Koenig & Bauer, Aktiengesellschaft, Würzburg, Germany

Filed Mar. 14, 1966, Ser. No. 533,985

Claims priority, application Germany, Mar. 17, 1965, Sch 36,718

3 Claims. (Cl. 101-177)



1. In a sheet offset printing press having several offset units for selectively printing of perfecting work or of pure recto work comprising blanket and plate cylinders arranged in pairs, each having a circumference corresponding to the length of two sheets, and an impression cylinder of a larger diameter and having an uneven circumferential ratio to said blanket and plate cylinders, means for moving at least one blanket cylinder selectively in contact with an adjacent blanket cylinder for carrying out perfecting work according to the principle of rubber-on-rubber, or in contact with said impression cylinder for carrying out pure recto work according to the principle of steel-on-rubber, said impression cylinder serving solely as a sheet transfer cylinder without printing function when carrying out perfecting work.

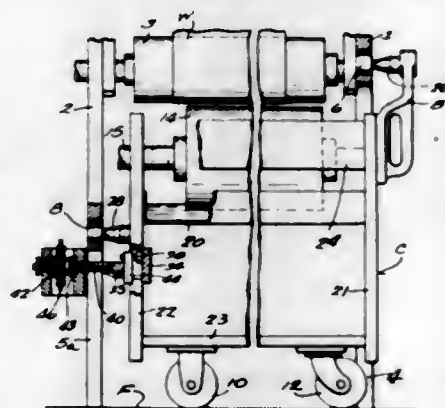
3,384,012

# **DETACHABLE PRINTING CART FOR ROTARY PRINTING PRESSES**

Peter Zernov, Milwaukee, Wis., assignor to Zerand Corporation, Menomonee Falls, Wis., a corporation of Wisconsin

Filed Oct. 13, 1965, Ser. No. 495,647

2 Claims. (Cl. 101-216)



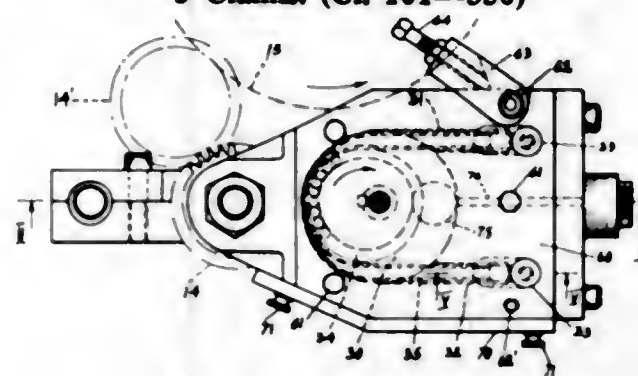
A printing cart including a printing cylinder which can roll on the floor and through the side of a printing press and into approximate printing position. Means are provided for accurately and positively forcing the cart and its cylinder into exact registry with the rest of the press. This means acts to lift the entire cart free of the floor so as to be suspended from the press frame while in the printing position.

# **ROLLER FOUNTAIN FOR LIQUID TRANSFER IN A ROTARY MACHINE**

William R. King, Blackridge, Wilkesburg Borough, and Thomas W. Pangburn, Sewickley, Pa., assignors to Jas. H. Matthews & Co., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 15, 1965, Ser. No. 507,738

5 Claims. (Cl. 101-350)



This application discloses an industrial marking machine for applying ink or glue to the side walls of cartons of the type generally known as vertical printers. The machine comprises, in addition to the vertical printing roll, a vertical inking roll for transferring liquid to the printing roll. The ink is applied to the inking roll by a shoe which bears against the surface of the inking roll and along the face of which is a vertical channel. At the top of the inking roll there is a peristaltic type of pump that continually circulates ink through the channel in the face of the shoe while some of the ink is removed by the inking roll which revolves against the face of the shoe and in front of the channel.

3,384,014

# **SHEET SECURING MEANS WITH SHEET INSERTED AND REMOVED AXIALLY OF CYLINDER**

Milton Berg, 105 W. 72nd St., New York, N.Y. 10023

Continuation of application Ser. No. 467,485, June 28, 1965. This application Dec. 9, 1966, Ser. No. 600,655

5 Claims. (Cl. 101-415.1)



A usual rotary offset printing press roller comprises a cylindrical roller body having a longitudinal grooved cut-out at its outer cylindrical surface. Said cut-out is usually formed with a pair of inner flat surfaces forming an acute angle therebetween and extend to the outer cylindrical surface of the roller body. Rotatably mounted within the cylinder is a tightening device having a flat surface which, in one position of said tightening device, is substantially in the plane of one of said pair of flat surfaces. The other of said pair of flat surfaces is formed with a plurality of closely spaced threaded holes at right angles thereto. The tightening device is also formed with a plurality of closely spaced threaded holes at right angles to the flat surface of said tightening devices.

In accordance with prior practice, the blanket was wrapped about the cylinder and attached to the other flat surface of said pair of surfaces and to the flat surface of the tightening device, by a number of studs passing through holes in the blanket, and through the holes in said other flat surface of said pair of surfaces and in said flat surface of said tightening device. Such construction required considerable time to remove all the studs when it was necessary to change a blanket, and also the holes for the studs in the blanket often weakened the blanket. In the present device the other flat surface in the groove and the flat surface in the tightening device need only have one or two threaded holes. A bar is provided for each end of the blanket. At the ends of the blanket are thickened members which slide into grooves formed in the bars. The grooves have narrow throats to retain the thickened portions in the grooves. These bars are attached to said other flat surface and to the flat surface of the tightening device by one or two screws. Then when the tightening device is rotated, it tightens the blanket which is wrapped around the cylindrical roller body. The blanket can now be easily removed by sliding the blanket relative to the bars after removing only a few studs, and the bars are easily attached by said few screws.

3,384,015

# **THERMOGRAPHIC METHOD**

Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 442,126, Mar. 23, 1965. This application Mar. 11, 1966, Ser. No. 533,498

10 Claims. (Cl. 101-467)

In the thermographic process for copying original images present on an original sheet in which the original sheet is superposed with a transfer sheet and a copy sheet and subjected to infrared radiation, the improvement whereby the original images are applied from a pressure transfer sheet and consist of a resinous composition which absorbs infrared radiation to a predetermined substantial degree and which contains a porous extender.

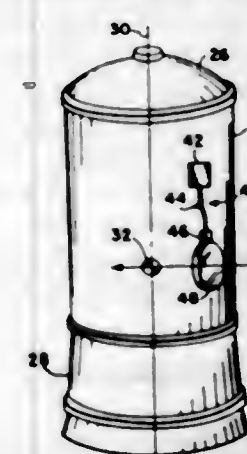
3,384,016

# **LATERAL DISPLACEMENT SYSTEM FOR SEPARATED ROCKET STAGES**

Willard S. Blanchard, Jr., Hampton, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Sept. 6, 1966, Ser. No. 577,546

7 Claims. (Cl. 102-49.5)



A system for laterally displacing connected rocket stages after separation by detonating a shaped charge mounted on the side of one of the stages to impart an instantaneous sideward force and optionally creating an opening in the stage side to permit residual outgassing, applying an additional lateral force.

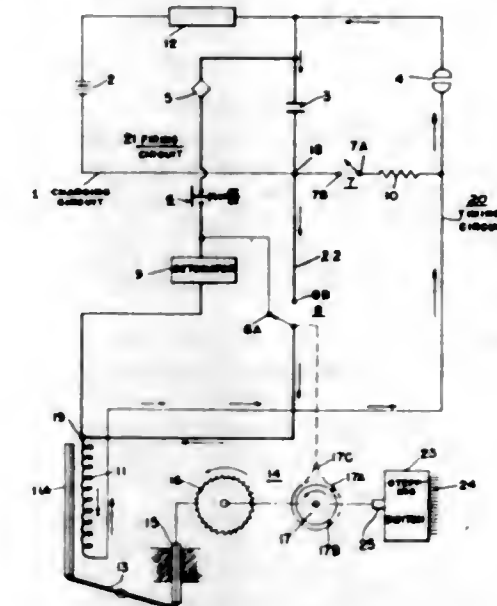
3,384,017

# **LAND MINE CONTROL SYSTEM**

Martin Lazarus, Dover, and Chester L. Smith, Lake Hopatcong, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Nov. 3, 1966, Ser. No. 593,261

5 Claims. (Cl. 102-70.2)



An electrical safing control system for land mines comprising a timing circuit and a firing circuit having a common circuit lead in which a single storage capacitor is connected and charged at a constant rate as the firing voltage and timing current source for the system. The firing circuit, in common therewith, includes a selector switch that is operated to open both circuits and short circuit the detonator after a predetermined time by a stepping mechanism having an operating winding connected in the timing circuit which receives current pulses from the capacitor.

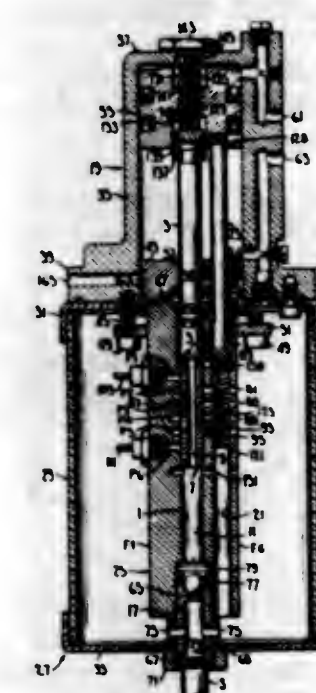
3,384,018

# **INJECTORS**

Carl H. Mueller, Pasadena Hills, Mo., assignor to McNeil Corporation, Akron, Ohio, a corporation of Ohio

Continuation-in-part of abandoned application Ser. No. 549,311, May 11, 1966. This application Apr. 13, 1967, Ser. No. 632,882

16 Claims. (Cl. 103-2)



A lubricant injector of the type comprising a pump cylinder having a series of outlet ports spaced along its length and a pump plunger movable in the cylinder for



forcing out measured charges of lubricant successively from the ports is provided with means for varying the amount of the charge delivered from each port, this means comprising a control cylinder and a control plunger movable in the control cylinder conjointly with the pump plunger for venting part of the charge delivered from each outlet port, the phase of the control plunger relative to the pump plunger being adjustable for varying the amount of the charge which is vented.

3,384,019

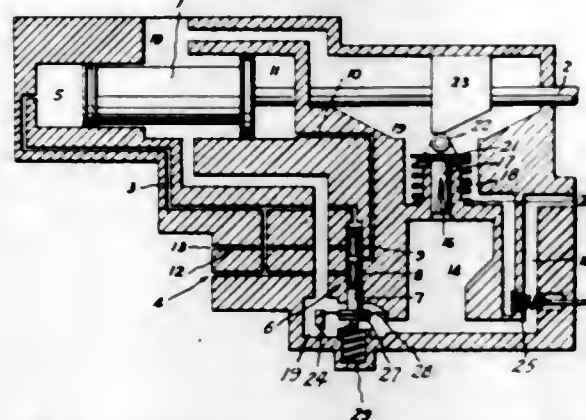
### TORQUE CONTROL MEANS FOR VARIABLE DISPLACEMENT HYDRAULIC PUMPS

Kenneth J. Ifield, Dural, New South Wales, and William R. Ifield, Beecroft, New South Wales, Australia, assignors, by mesne assignments, to Joseph Lucas (Industries) Limited, Birmingham, England, a corporation of England

Filed Nov. 12, 1965, Ser. No. 511,020

Claims priority, application Australia, Nov. 16, 1964, 51,732/64

15 Claims. (Cl. 103—38)

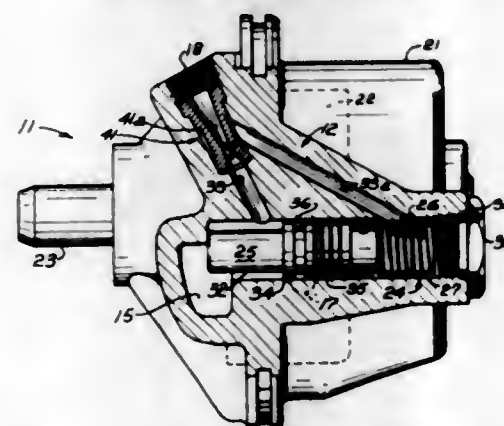


A fluid-operated servo-motor regulates the displacement of a variable displacement pump; fluid from the pump is supplied to a chamber, having a bleeder valve, the position of which and thus the extent of bleed being dependent of the position of a servo-motor and thus on pump displacement; and a comparator valve is provided responsive to pressure in the chamber and further inducting connection to the comparator valve to control the position of the servo-motor.

3,384,020

### PUMP

Clark A. Searle, Marshall, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio  
Filed July 29, 1966, Ser. No. 568,851  
8 Claims. (Cl. 103—41)



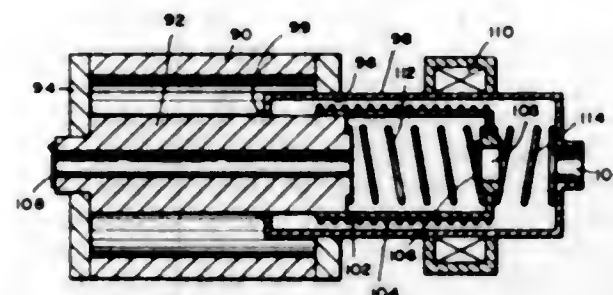
The present invention relates to a pump and more particularly relates to a pump having flow control means associated therewith for providing a controlled output of fluid therefrom. The flow control means includes a valve for diverting from a hydraulic system a portion of the pump's fluid output and a nozzle for controlling operation of the valve.

### 3,384,021 ELECTROMAGNETIC RECIPROCATING FLUID PUMP

Robert R. Perron, Beverly, Mass., assignor to Arthur D. Little Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Aug. 29, 1966, Ser. No. 575,705

2 Claims. (Cl. 103—53)



An electromagnetically driven, reciprocating, fluid pump having a movable cylinder, a pair of hollow, concentric cylindrical, magnetic pole pieces spaced apart to provide an annular flux gap in which the cylinder is movable, the inner pole piece constituting a fixed piston with respect to the cylinder. A coil is mounted on the cylinder and a coil is mounted for energizing the pole pieces, the two coils being inductively couplable with one another.

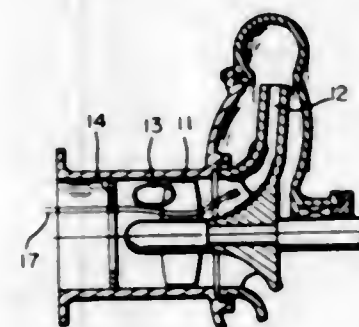
3,384,022

### CENTRIFUGAL PUMP

Masao Oshima, Tokyo, Japan, assignor to Kabushiki Kaisha Ebara Seisakusho (Ebara Manufacturing Co. Ltd.), Tokyo, Japan, a corporation of Japan

Filed Apr. 27, 1966, Ser. No. 545,670

5 Claims. (Cl. 103—88)



A centrifugal pump comprising a main impeller, an inducer situated upstream of the main impeller, and a means for holding the reverse flow about the inlet of the inducer not to retrograde excessively towards the upstream during the operation of the inducer at a level below its normal capacity, that is, in the vicinity of the normal capacity of the main impeller, the inducer is of a normal capacity as large from 2.5 to 4 times that of the main impeller and the means for holding the reverse flow is located upstream from the inducer at a sufficient distance therefrom necessary for turning the reverse flow confluent with the incoming flow so as to thereby impart pre-rotations to the incoming flow prior to the sucking thereof by the main impeller.

3,384,023

### PUMP AND METHOD OF PUMPING

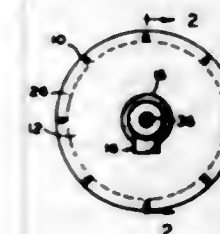
William L. King and John F. King, Eugene, Oreg., assignors to Loyal W. James and Leonard James, both of Eugene, Oreg.

Filed Sept. 19, 1966, Ser. No. 580,225

11 Claims. (Cl. 103—101)

This application discloses a pump which utilizes a dense liquid such as mercury as a pumping medium to pump a lighter fluid, such as water to a pump outlet in place of

the usual pump impellers. The pump includes a closed rotating casing defining a pump chamber confining a quantity of mercury which forms a rotating mercury annulus at the periphery of the chamber upon rotation of the casing. A stationary intake passage extends into the chamber and has an inlet opening into the periphery of the chamber. A stationary aspirator within the chamber has a suction tube connected to the inlet and a venturi tube immersed in the mercury annulus. As the casing rotates, a



portion of the rotating mercury annulus passes through the venturi tube to draw water or other fluid to be pumped through the intake and suction tube of the aspirator and into the venturi tube where it is intermixed with the mercury before being discharged into the annulus. Once discharged into the mercury annulus, the dense mercury expels the less dense pumped fluid toward the center of the chamber to build up a pressure therein. The pressurized fluid is then discharged from the chamber through a stationary axial discharge passage.

3,384,024

### CENTRIFUGAL PUMP

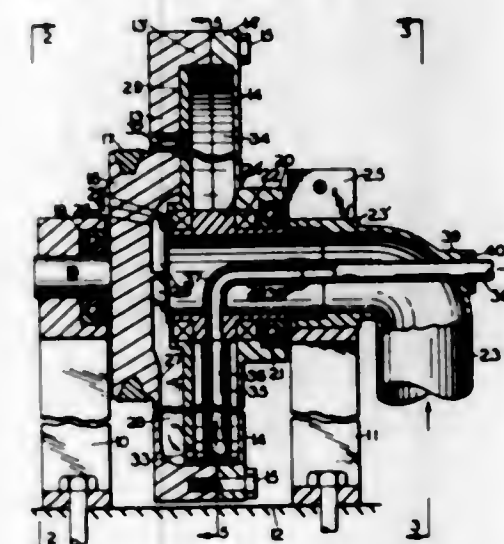
William L. King, Eugene, Oreg., assignor, by mesne assignments, to McKenzle Pump Corporation, Springfield, Oreg., a corporation of Oregon

Continuation-in-part of application Ser. No. 447,133,

Apr. 12, 1965. This application Jan. 9, 1967, Ser.

No. 613,715

18 Claims. (Cl. 103—101)



In accordance with the preferred embodiment of FIGS. 9 to 15 the pump of the invention includes an outer stationary housing secured to one end of the housing of an electric motor. Within the outer housing a rotatable inner casing is fixed to the motor shaft. A fluid intake pipe extends axially through one side wall of both the outer housing and inner casing and into the main pump chamber of the inner casing, terminating within such chamber adjacent a central inner opening in the opposite sidewall of such casing. Radial passages extend within the opposite sidewall from such central opening and terminate adjacent the outer periphery thereof. Fluid injection ports connect the outer ends of the radial passages with outer portions of the main chamber.

A stationary pickup tube within the main chamber includes a streamlined radial arm portion mounted on the intake pipe and a streamlined circumferential head portion having an intake opening at approximately the same distance from the rotational axis of the casing as the injection ports. The radially inner end of the hollow pickup arm communicates with a discharge pipe which passes from the main chamber through the interior of the larger intake pipe.

Thus, as the casing is rotated on the motor shaft, water or other fluid is drawn into the radial passages through the intake pipe from an external source. Centrifugal force urges the fluid to the outer ends of the radial passages where it is injected into the main chamber through the injection ports. Fluid at the periphery of the main chamber passes into the head of the pickup tube under high pressure and thence into the discharge pipe and to an outlet.

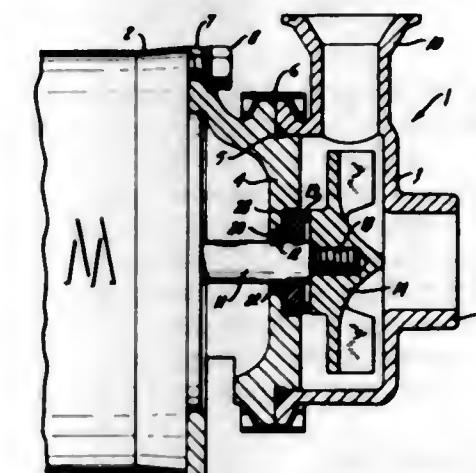
3,384,025

### PUMP CONSTRUCTION

Edward P. Chabica and John N. Hinchley, Delavan, Wis., assignors to Sta-Rite Industries, Inc., Delavan, Wis., a corporation of Wisconsin

Filed Aug. 11, 1966, Ser. No. 571,882

9 Claims. (Cl. 103—103)



The invention relates to a mechanical shaft seal for a pump, which includes a seal ring axially movable on the motor shaft and having a sealing surface adapted to engage a sealing surface on the back side of the impeller. The seal ring is provided with an inclined surface and a resilient annular member is located between the inclined surface and a recess formed in a pump housing.

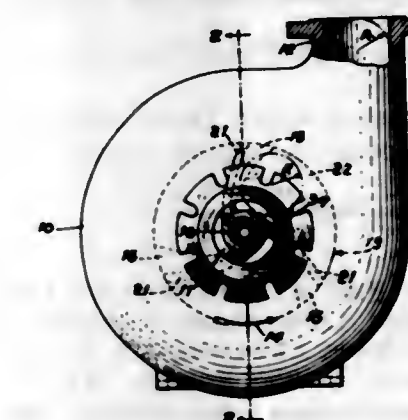
3,384,026

### PUMP APPARATUS

Gilbert D. Williamson, Jr., Verona, N.J., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware

Filed Aug. 16, 1966, Ser. No. 572,782

9 Claims. (Cl. 103—103)



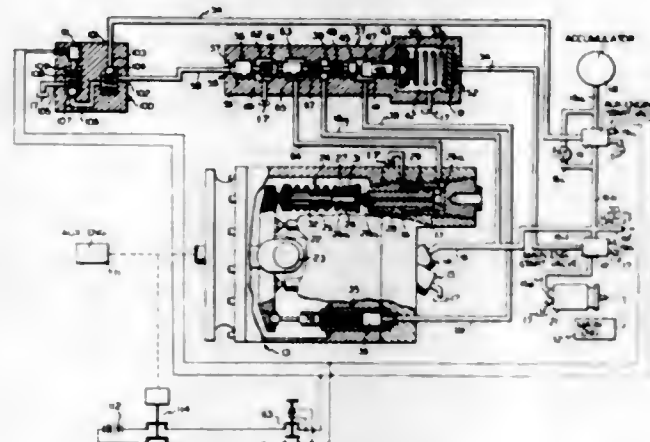
An improved trash pump is provided having a casing and impeller configuration which cooperate to produce an eddy type secondary flow in the impeller periphery



which is conducive to higher discharge pressure in the maximum flow range, thereby improving the overall efficiency of the pump.

separate opposed pistons cooperating with inclined cam plates at opposite ends of the machine, and valve means for admitting and discharging hydraulic fluid from the cylinders, the two pistons of each pair being of differ-

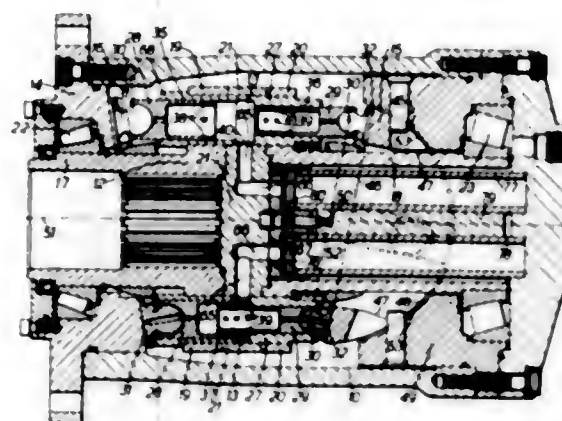
**3,384,027**  
**HYDRAULIC STARTING SYSTEM AND VALVES THEREFOR**  
Lyston C. Jennings and Howard C. Spooner, Watertown, N.Y., assignors to General Signal Corporation, a corporation of New York  
Filed Aug. 3, 1966, Ser. No. 569,921  
8 Claims. (Cl. 103-162)



1. A hydraulic starting and pumping system comprising
  - (a) an overcenter motor-pump unit having high and low pressure ports and a displacement control element which is movable between positions at opposite sides of a zero displacement position to reverse the direction of flow through the unit;
  - (b) an accumulator for supplying motive fluid to the motor-pump unit to drive same as a motor;
  - (c) first conduit means connecting the accumulator with the high pressure port and controlled by a start valve;
  - (d) a fluid reservoir;
  - (e) pressure actuated means for positioning the displacement control element and including a fluid pressure motor, a valve having supply and exhaust positions in which, respectively, it connects the motor with the high pressure port and the reservoir, and an actuating motor for holding the valve in one of its positions during the starting cycle;
  - (f) second conduit means connecting the actuating motor with the first conduit means;
  - (g) means for permitting flow from the accumulator to the second conduit means only when the start valve is open;
  - (h) means for preventing flow from the motor-pump unit to the second conduit means;
  - (i) a check valve in the second conduit means oriented to prevent flow from the actuating motor;
  - (j) third conduit means connecting the actuating motor with the reservoir;
  - (k) a vent valve controlling the third conduit means; and
  - (l) actuating means which closes and opens the vent valve as it opens and closes, respectively, the start valve.

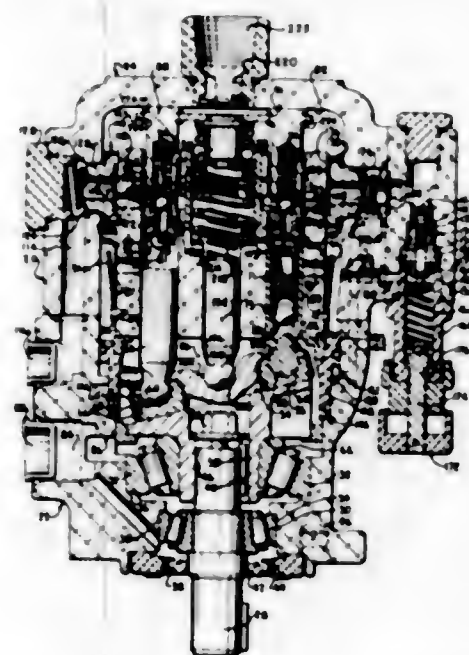
**3,384,028**  
**HYDRAULIC PUMPS OR MOTORS**  
Oswald H. Thoma, Cheltenham, England, assignor to Unipat A.G., Glarus, Switzerland, a Swiss company  
Filed Oct. 3, 1966, Ser. No. 583,673  
Claims priority, application Great Britain, Aug. 19, 1966, 37,169/66  
6 Claims. (Cl. 103-162)

A rotary hydraulic motor having a number of double-ended rotating axial cylinders each containing pairs of



ent diameters and sliding in cylinder bore sections of different sizes, the inner ends of the two pistons to each opposed pair being provided with hollow skirt portions which telescope one within the other when the two pistons are in their closest relative positions.

**3,384,029**  
**HYDRAULIC PUMPING APPARATUS**  
Robert E. Raymond, Zanesville, Ohio, assignor to Hydro-Kinetics, Zanesville, Ohio  
Filed Oct. 12, 1965, Ser. No. 495,168  
12 Claims. (Cl. 103-173)



A hydraulic pumping mechanism that includes a housing with two separate outlet ports, an inlet port, and a control inlet port. Within the housing, a pressurized outlet chamber is isolated from an inlet chamber which communicates with the housing inlet port. A cylinder barrel assembly is sideably mounted within the housing and is provided with a plurality of circumferentially spaced cylinders having a cam driven piston disposed in each cylinder. Each cylinder includes two separate cylinder outlets. The first outlet communicates with an outlet manifold formed in the barrel which in turn communicates with one of the housing outlet ports and the second outlet communicates with the outlet chamber that surrounds the barrel which in turn communicates with the other housing outlet port. Each piston includes an intake port

which communicates with a passage or cavity formed in the piston which in turn communicates with the interior of the cylinder. A ball-check valve and valve seat assembly is disposed within the piston to permit only the ingress of fluid through the intake port. An annular piston and cylinder are disposed in the housing in force transmitting relationship with the barrel to control the relative displacement of the pistons in the cylinders. During variable displacement operation, the flow through the second outlet varies with the required flow to the load and performs a cooling function as it passes through the outlet chamber in heat transmitting relationship with the barrel. When the barrel position remains stationary, two fixed displacement outlet flows are delivered through each of the separate housing outlets in any proportion desired as determined by the relative axial spacing of the cylinder outlets with respect to the piston stroke.

**3,384,030**  
**CONTROL MEANS FOR TOY ELECTRIC RACING CARS**  
Adolph E. Goldfarb, 7427 Varma St., North Hollywood, Calif. 91605  
Filed Feb. 1, 1965, Ser. No. 429,300  
4 Claims. (Cl. 104-60)

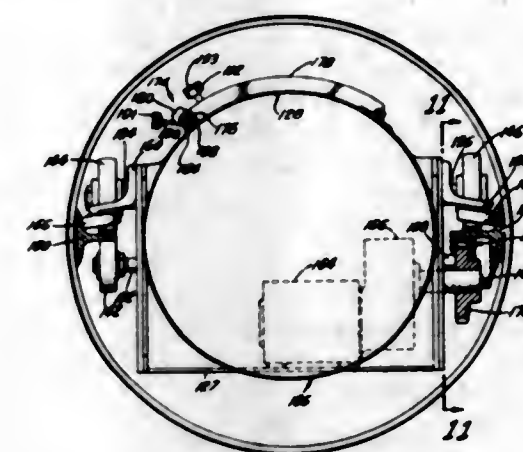


The invention is a control system for toy electric cars driven on tracks that are electrified. The tracks have straight sections, left-hand turn sections and right-hand turn sections. The sections are insulated from each other. The cars are controlled by means of a steering wheel and a potentiometer. The steering wheel controls switch contacts arranged so that the steering wheel must be turned from a center position to right-hand or left-hand position for energizing the respective sections of track. Unless the wheel is turned appropriately the sections are not energized to operate the cars. The operation of the wheel simulates actual steering merely by energization of the track sections. In a modified form the circuitry is arranged so that if the wheel is not turned properly additional power is supplied to a right or left-hand track section to cause the car to leave the track.

**3,384,031**  
**RAILWAY TRANSPORTATION SYSTEM**  
Stanley A. Dashew, Beverly Hills, and Herbert La Mers, Van Nuys, Calif., assignors, by direct and mesne assignments, to The Dashaveyor Company, Venice, Calif., a corporation of California  
Continuation-in-part of application Ser. No. 346,818, Feb. 24, 1964. This application Feb. 15, 1965, Ser. No. 436,409  
21 Claims. (Cl. 104-138)

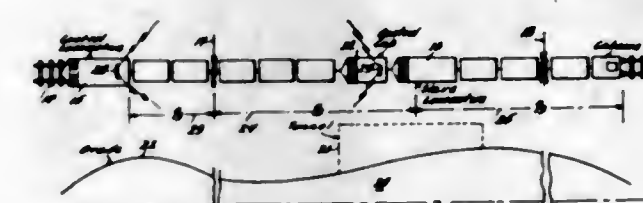
A transportation system is provided wherein cars have wheel clusters which engage a rail on either side thereof to provide positive traction, prevent sideway and enable the cars to ascend vertically and to be turned over for unloading. The cars have doors which can be opened and

closed as the cars continue moving. The rails are supported within a tube, or spaced rings or L-shaped supports so



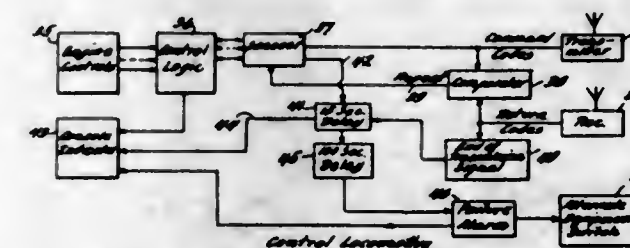
that the rails may be laid over or under practically any type of terrain.

**3,384,032**  
**SEMI-AUTOMATIC LOCOMOTIVE CONTROL SYSTEM**  
Douglas Ruff, 2716 Blaine Drive, Chevy Chase, Md. 20015  
Filed Aug. 31, 1964, Ser. No. 393,440  
2 Claims. (Cl. 105-61)



1. The method of improvement in braking controls for a train comprising, providing a lead locomotive, placing a single helper locomotive amid-train in a position substantially two-thirds of the way back from the lead locomotive, coupling a single airline throughout the train, pumping up the single airline from each locomotive to a predetermined pressure and jointly controlling the brakes through said airline by combined braking action at the two locomotives.

**3,384,033**  
**SEMI-AUTOMATIC LOCOMOTIVE CONTROL SYSTEM**  
Douglas Ruff, 2716 Blaine Drive, Chevy Chase, Md. 20015  
Continuation-in-part of application Ser. No. 393,440, Aug. 31, 1964. This application May 25, 1967, Ser. No. 641,301  
13 Claims. (Cl. 105-61)



An automatic radio-controlled transmission link sets controls on a helper locomotive located amid-train in several operational modes to conform to either match the

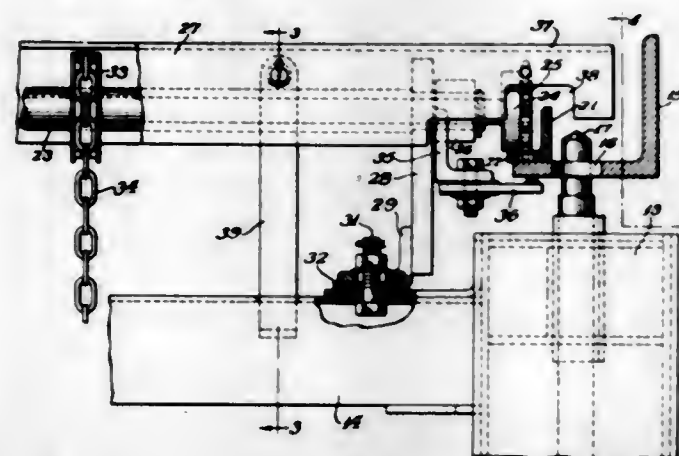


manually operated lead locomotive controls, or to produce different controls dependent upon encountered conditions such as the slack between cars sensed by draw bar mechanisms. All controls operable for this system can be located in a special cab permitting use of a standard locomotive. Protection against interruption to signals by tunnels, etc., is afforded by periodic repeating and affirmation of signal trains at closely spaced intervals of less than one minute. Reliability of the system is assured by dual equipments with automatic changeover in the event of unsatisfactory service of one. In addition, a self-identification signal prevents receiving extraneous signals from a train passing upon a nearby track. Not only air braking, but also dynamic braking and throttle conditions are set in the helper locomotive together with auxiliary functions such as sanding. The system will automatically close down when improperly operating.

3,384,034

**LADING SEPARATOR FOR RAILROAD CARS**  
Russell M. Loomis, Palos Heights, and Leslie W. Martin, Chicago, Ill., assignors to Unarco Industries, Inc., a corporation of Illinois

Filed Aug. 15, 1966, Ser. No. 572,475  
2 Claims. (Cl. 105-376)



In a lading separator of the type that includes a bulkhead supported by support means that are arranged to roll over spaced tracks, there is provided an improvement of extensions which project outwardly beyond the roller members and the tracks and are arranged to engage and hold the bulkhead from falling in the event the rollers should slip from the tracks. The tracks are particularly provided with upwardly extending members outwardly of the tracks and the extensions have downwardly projecting parts located outwardly of the upright parallel members so as to insure against failure of the safety feature. Additional safety means are provided between the support means for the bulkhead and the bulkhead, to prevent the bulkhead from falling if the connection between the support means and the bulkhead should inadvertently fail. The safety means between the support means and the bulkhead provides for freedom of movement by the bulkhead so as to permit of adjustment of the height of the bulkhead relative to the support means.

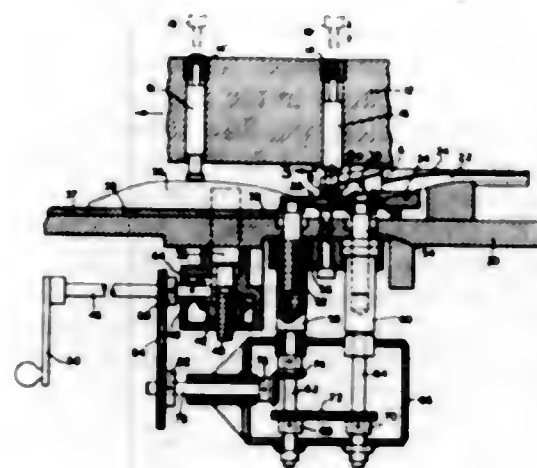
3,384,035

**INDUSTRIAL PROCESS AND APPARATUS**  
Harry Gabriel, Churchville, and John M. Alexander, Jr., and William H. Hamilton, Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 2, 1965, Ser. No. 460,779  
10 Claims. (Cl. 107-17)

In a rotary tabletting machine the means for adjusting

the vertical position of the pull-down cam while the machine is in operation correspondingly adjusts the level of



the lower tablet punch in its lowermost position during the die-filling operation.

3,384,036

**PROCESS FOR THE CONTINUOUS PREPARATION OF PASTRY DOUGH**

Clyde Casimir Lawicki, Milwaukee, Wis., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 15, 1965, Ser. No. 448,279  
4 Claims. (Cl. 107-54)

In the process of preparing pastry dough, the steps of spraying aqueous liquid on a flour-shortening, flaky-crust-providing dry mix layer of predetermined depth and working the wetted mix in a high intensity, low holdup, continuous mixer to form dough.

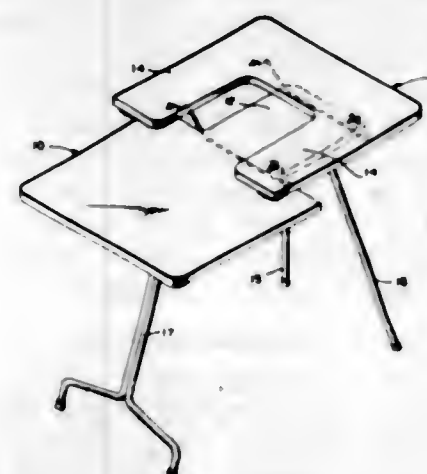
3,384,037

**SEWING-MACHINE TABLE**

Kenneth A. Blevins, Missoula, Mont., assignor to Sirco Manufacturing, Inc., Missoula, Mont., a corporation of Washington

Continuation-in-part of application Ser. No. 566,422, July 19, 1966. This application July 26, 1967, Ser. No. 656,145

8 Claims. (Cl. 108-17)



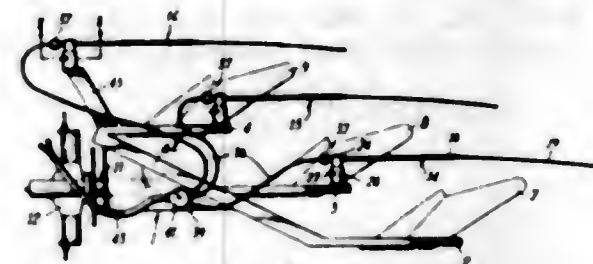
A table convertible from a one-level structure usable for general purposes to a two-level structure in which the lower-level component provides support for a portable sewing-machine and the upper-level component overhangs such lower component and serves as a working surface additive to the working platform of the machine, the upper component having a U-shaped plan configuration along the margin which overhangs.

3,384,038

**LIQUID FERTILIZER APPLICATOR FOR A PLOW**  
Gilbert Fenet, Bergueneuse-par-Heuchin, France, assignor to Societe Anonyme des Etablissements Fenet, Bergueneuse-par-Heuchin, Pas-de-Calais, France

Filed Sept. 30, 1966, Ser. No. 583,400  
Claims priority, application France, Oct. 5, 1965, 33,835

10 Claims. (Cl. 111-6)

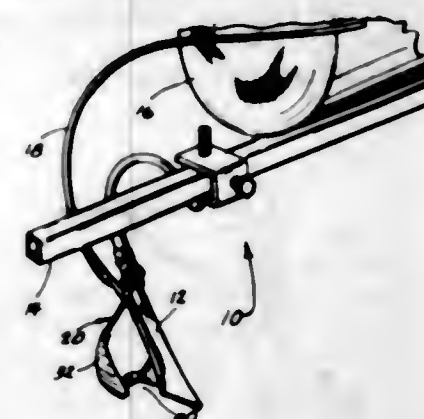


1. A liquid fertilizer distributing device for use in association with a plow, comprising a plow frame having at least one plow share thereon, an elongated lance for each plow share providing for the flow of liquid fertilizer therethrough and including at least an end portion of resilient material which bends downwardly under the influence of gravity and terminates in a liquid discharge located over each associated plow share, and socket means on said plow frame for detachably pivotally mounting said lance.

3,384,039

**FERTILIZER APPLICATOR IMPLEMENT**  
Jack Rathke, 2501 R St., Lincoln, Nebr. 68503

Filed June 17, 1966, Ser. No. 558,339  
8 Claims. (Cl. 111-7)



A levelling device for levelling the ground after a furrow has been formed in the soil and fertilizer deposited therein, the soil leveller including a pair of multi-strand metal cable members secured to a member having a pair of spaced apart wings defining an opening therebetween. The multi-strand metal cable provides resiliency and also is sufficiently rigid to hold the leveller device at a predetermined position above the ground when the implement is raised above the ground.

3,384,040

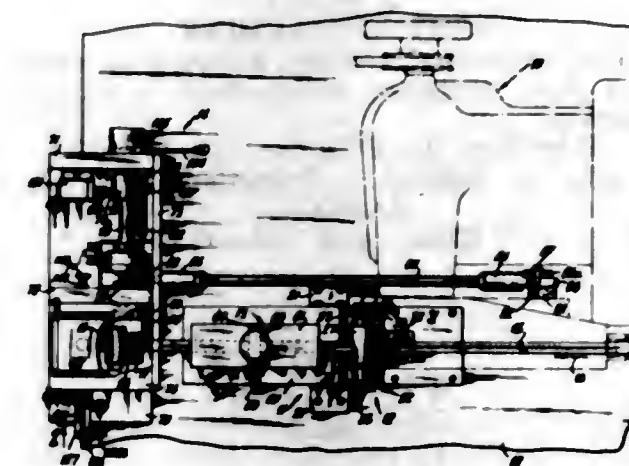
**ATTACHMENT FOR BELT LOOP MACHINE**

Paul Frettelose, Brooklyn, N.Y., assignor to U.S. Blind Stitch Machine Corporation, Plainview, N.Y., a corporation of New York

Filed May 19, 1965, Ser. No. 457,105  
9 Claims. (Cl. 112-3)

An attachment for sewing machines which make belt loops, such as blind stitch sewing machines. The attachment is to be mounted on a sewing machine which has a means including a laterally extending rocker shaft and the like for intermittently feeding a longitudinally folded and stitched narrow band web of fabric and the like intermittently rearwardly in response to rocking of this rocker

shaft. The attachment includes, behind the sewing machine, a moistener, a dry ironer behind the moistener, and a draw means behind the dry ironer. The attachment receives the web in position for the web to be longitudinally movable and to be operably coupled to the moistener to be moistened thereby and operably coupled to the ironer to be ironed thereby, with the web then further extending through the draw means which draws the web rearwardly. A means synchronizes the operation of the draw means and the rocker shaft for actuating the



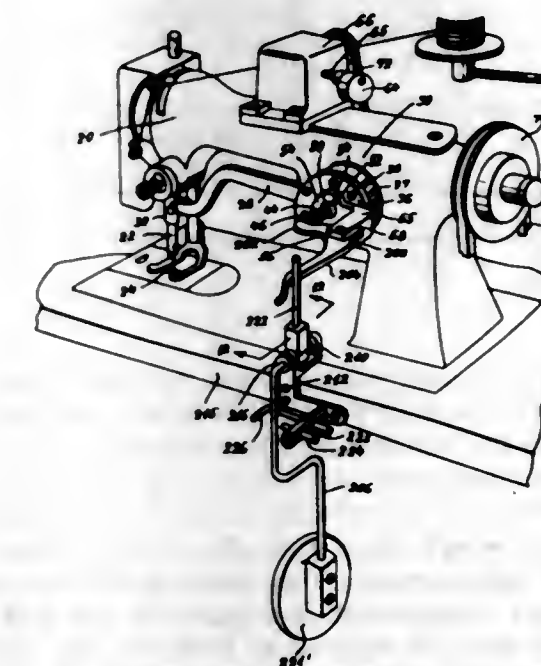
draw means to draw the web rearwardly in synchronization with feeding of the web by the sewing machine, and a knife blade means is situated behind the draw means and includes blades which are mounted so as to be normally spaced from each other for receiving between themselves the web, while the blades of the knife blade means are movable one toward the other in a transverse plane for severing the web. A means is coupled to the draw means for actuating the knife blade means once per selected number of draw movements of the web.

3,384,041

**EMBROIDERY MAKING ATTACHMENT FOR ZIGZAG SEWING MACHINES**

Morris A. Zucker, 3520 Neptune Ave., Brooklyn, N.Y. 10024

Filed Mar. 24, 1966, Ser. No. 537,124  
1 Claim. (Cl. 112-158)



An attachment assembly on a zig-zag sewing machine so that the cyclically repeated embroidery patterns of continuously varying widths can be made automatically in



any desired length of pattern. The attachment assembly includes a cylindrical plunger adapted to be actuated by a rotatable cam on the machine. The plunger has a conical tip at one end. A pin extending radially of the cam and contacting the conical tip of the plunger is adapted to adjust the eccentricity of the cam. The plunger is reciprocated by an L-shaped lever, one arm of which is in the path of movement of a movable lever operatively connected to a circular plate adapted to be actuated when pressed in one direction by the operator's knee.

3,384,042

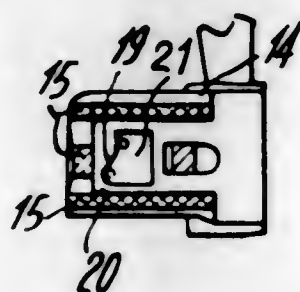
## SEWING MACHINE

Rolando A. Gianinazzi, Geneva, Switzerland, assignor to Meina S.A., Fribourg, Switzerland, a company of Switzerland

Filed Sept. 23, 1966, Ser. No. 581,635

Claims priority, application Switzerland, Oct. 12, 1965, 14,060/65

7 Claims. (Cl. 112-158)



1. A sewing machine having two thread supplies, a needle for feeding a first thread, a shuttle for feeding a second thread, a looper for engaging said threads to form a stitch, a workforwarding device and means carried by said device for repetitively preventing and permitting said thread engagement.

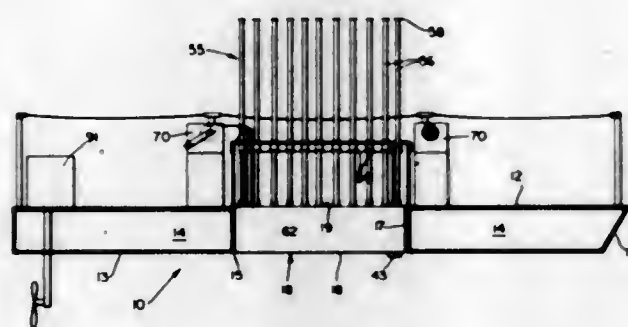
3,384,043

## SPORT FISHING DEVICE

Kenneth Rehner, 3400 N. 11th St., Philadelphia, Pa. 19140

Filed Mar. 20, 1967, Ser. No. 624,559

6 Claims. (Cl. 114-16)



A boat has a well, passing from the deck through the bottom of the boat. In the well there is a watertight container which has suitable means connected to it, to allow water to be introduced into it and to be exhausted therefrom. The top of the container forms a deck, around the periphery of which there is a plurality of spaced apart telescoping guide pipes. The guide pipes are slidably mounted in a frame which is attached to the deck of the boat. When water is allowed to flow into the container, the container will sink below the surface of the water thereby extending the guide pipes and forming a cage. When air is introduced into the container, the water therein will be exhausted so that the container will rise to the surface of the water thereby telescoping the guide pipes.

Winches are provided as an alternative means of raising the container.

3,384,044

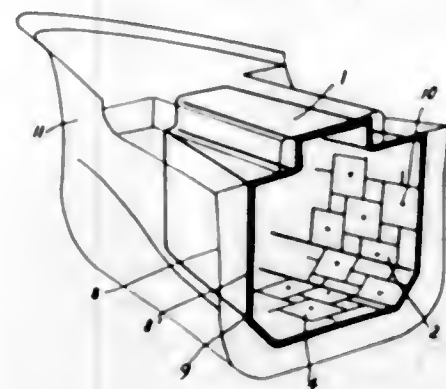
## INSERT MEMBER FOR DISHED TANK BOTTOMS IN SHIPS

Johannes Witt, Kiel-Dietrichsdorf, Germany, assignor, by mesne assignments, to Howaldtswerke-Deutsche Werft Aktiengesellschaft Hamburg und Kiel, Kiel-Dietrichsdorf, Germany, a firm

Filed Mar. 24, 1967, Ser. No. 625,681

Claims priority, application Germany, Apr. 1, 1966, K 58,909

1 Claim. (Cl. 114-74)



A cargo tank having an insert member which is welded to an expansion joint so as to provide drainage for residual cargo.

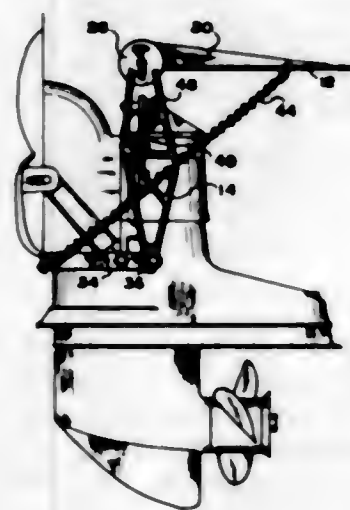
3,384,045

## TROLLING DEVICE FOR HIGH POWERED MOTORBOATS

Seth E. Lusby, 11745 Holmes, Yucalpa, Calif. 92399

Filed Aug. 17, 1966, Ser. No. 572,984

3 Claims. (Cl. 114-145)



An apparatus for trolling a high powered propulsive unit including a pivoted bracket trolling blade sustained above the water line or behind the propeller, and means for automatically raising the trolling blade above the water level when high boat speeds are suddenly required.

3,384,046

## FLUID ACTUATED FOLLOW-UP STEERING CONTROL MECHANISM

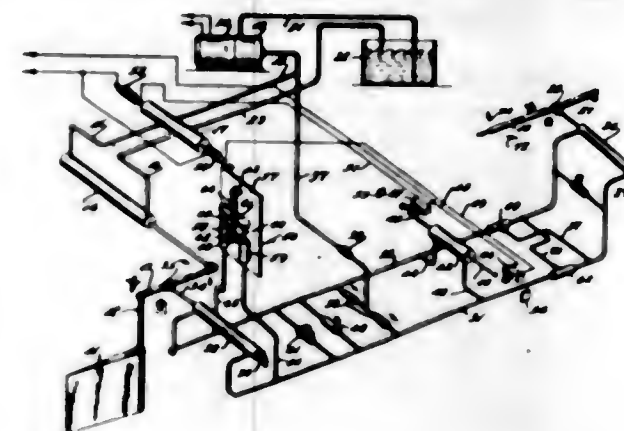
Herman R. Stuterville, Nashville, Tenn., assignor to Nashville Bridge Company, Nashville, Tenn.

Filed Oct. 28, 1966, Ser. No. 590,259

2 Claims. (Cl. 114-150)

Apparatus for the steering control mechanism of a vessel in which the steering control mechanism includes a closed normally balanced hydraulic system. The appara-

tus includes a pressure responsive actuator in the hydraulic system and pressure released check valve means so



that one portion of the system can be operated independently of another portion.

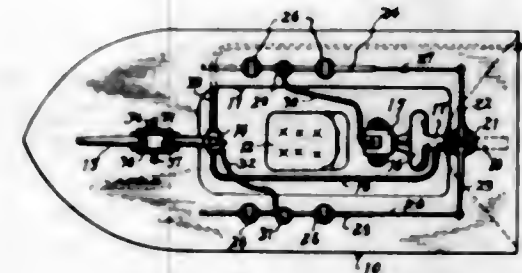
3,384,047

## WATER SPORT GAME APPARATUS

Donald E. Remley, 1138-A Howe Ave., Sacramento, Calif. 95825

Filed July 10, 1967, Ser. No. 652,153

3 Claims. (Cl. 115-12)



This invention is primarily concerned with apparatus for engaging in an aquatic sport or game which I prefer to call Hydro-Fighting, in which a boat or other buoyant body is equipped with hydro or other form of propulsion means having a gun at its bow by which a jet of water under the control of a player in the boat may be projected upon an adversary and with manually operating means in the form of push rods connected to a tiller post with hand grip members carried thereupon by which the maneuvering and speed of the boat and the water gun may be controlled in a simultaneous manner.

3,384,048

## AUTOMATIC GLAZING AND SANDING MACHINE

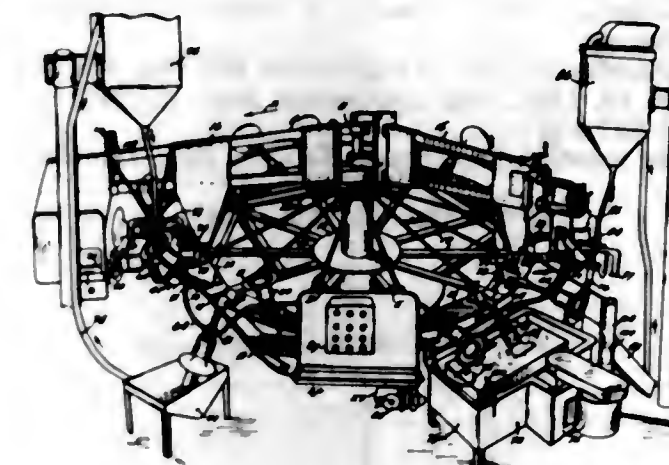
Ira Duane Kutcher, Macomb, Ill., assignor to McGraw-Hill Company, Milwaukee, Wis., a corporation of Delaware

Filed June 1, 1964, Ser. No. 371,503

6 Claims. (Cl. 118-2)

5. A machine for processing electrical insulators by holding a plurality of insulators which are moved along a generally circular path past a series of operating stations and released before making a complete revolution comprising a base member; a substantially horizontal frame mounted on said base member and rotatable about a vertical axis; means for rotating said frame about said axis in one direction; a series of insulator holding spindles each rotatable about the axis thereof and mounted on said frame for pivotal movement in a radial plane; a support structure having an operating station carried thereby and

mounted for reciprocating pivotal movement about said vertical axis; a plurality of releasable engaging means interconnecting said support structure and said frame for periods of unitary travel in said one direction to position said operating station sequentially in an operating position with respect to each successive spindle carried insulator



during a predetermined period of angular rotation along said generally circular path, said period of angular rotation being less than the angular distance between adjoining spindles; and means actuable by the presence of an insulator carried by a spindle disposed in operating position at said operating station for activating equipment associated with said operating station.

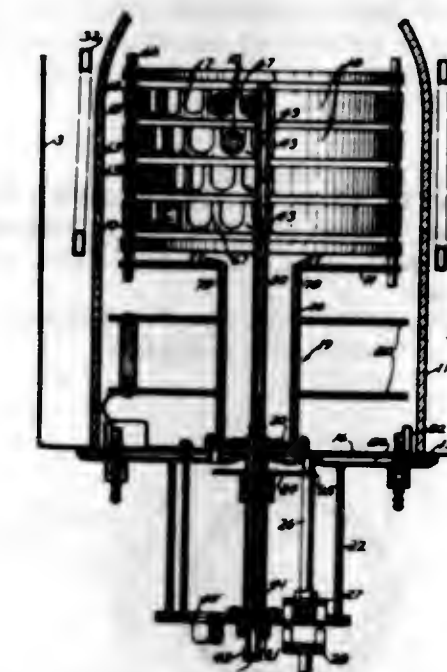
3,384,049

## VAPOR DEPOSITION APPARATUS INCLUDING CENTRIFUGAL FORCE SUBSTRATE-HOLDING MEANS

Emil R. Capita, 7020 Hudson Blvd., North Bergen, N.J. 07047

Filed Oct. 27, 1966, Ser. No. 589,951

12 Claims. (Cl. 118-49.5)



1. Apparatus for vapor plating articles comprising the combination of a hermetically sealed chamber, an electrically conductive article support, means for rotatably mounting said article support within said enclosure, said support having a generally radially inwardly facing article engaging portion, means for rotating said article support whereby articles positioned against said portion are at least partially held in place by centrifugal force, an electric coil positioned for inducting heating current in said

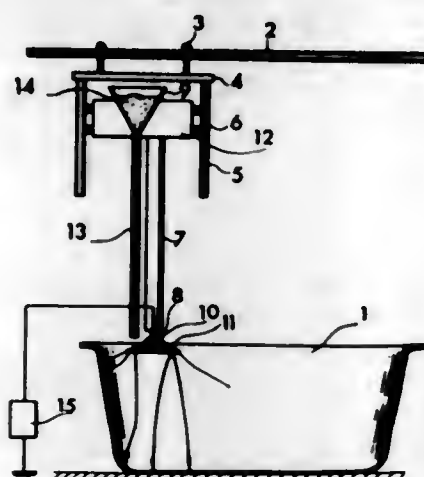


support, and vapor outlet means positioned within said enclosure for directing vapor over the heated articles.

3,384,050

**ELECTROSTATIC COATING SYSTEM**

Marcel A. R. Point, Grenoble, France, assignor to SAMES, Societe Anonyme de Machines Electrostatiques, Paris, France, a French joint-stock company  
Continuation-in-part of application Ser. No. 345,723, Feb. 18, 1964. This application Aug. 1, 1967, Ser. No. 657,631  
Claims priority, application France, Feb. 19, 1963, 925,214  
10 Claims. (Cl. 118—626)

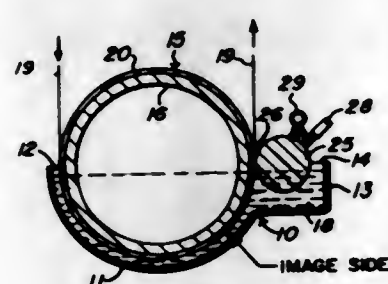


An electrostatic coating system in which a solid pulverulent coating material is led through a feed passage to a point spaced from a rotary discharge member. The discharge member includes an open unobstructed surface for receiving the coating material and is provided with a sharp peripheral edge of circular configuration which is charged to a high D.C. potential. Upon the rotation of the discharge member, the coating material thereon is shaped into a thin pulverulent sheet of substantially uniform thickness which is dispersed by centrifugal force from the circular edge and is directed by the electrostatic field onto the surface being coated.

3,384,051

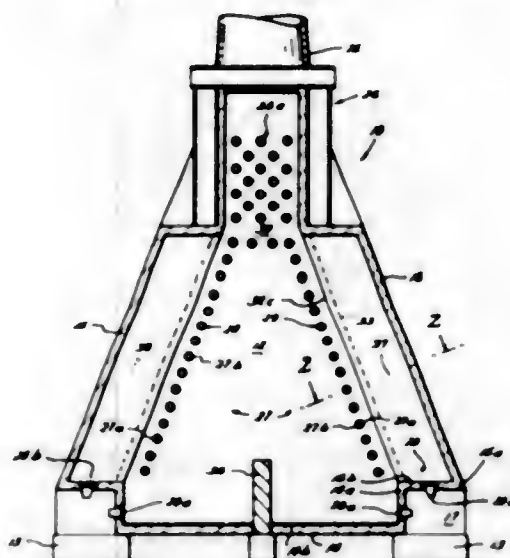
**ELECTROSTATIC LIQUID DEVELOPER SYSTEM**

Francis Hunstiger, Parma Heights, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware  
Filed Sept. 21, 1966, Ser. No. 581,064  
3 Claims. (Cl. 118—637)



A liquid electrostatic developer includes a drum roll for submerging the image side of the web while maintaining the non-image side free of liquid developer in which the drum roll is formed with a blanket of polyurethane elastomer which is relatively unaffected by the developer liquid, and a hard squeegee roll engaging the image side of the web, confining slippage to the non-image side of the web.

3,384,052  
**TUBULAR HEATER**  
Merle A. Zimmerman, P.O. Box 1653,  
Houston, Tex. 77001  
Filed Aug. 29, 1966, Ser. No. 575,761  
9 Claims. (Cl. 122—356)

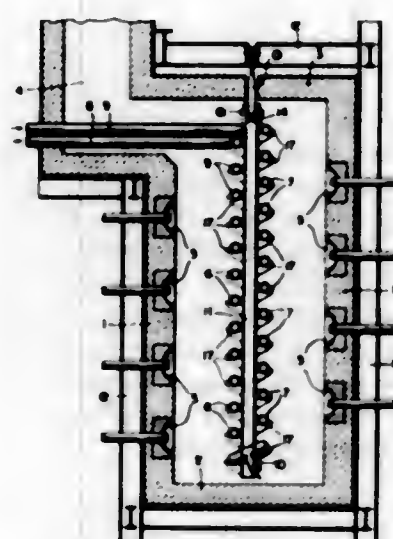


A new and improved construction for a tubular heater, and a means of supporting the tubes and burners so as to uniformly heat the surfaces of the tubes.

3,384,053

**TUBE SUPPORT**

Kurt W. Fleischer, Ambler, Pa., assignor to Selas Corporation of America, a corporation of Pennsylvania  
Filed June 17, 1966, Ser. No. 558,359  
3 Claims. (Cl. 122—510)

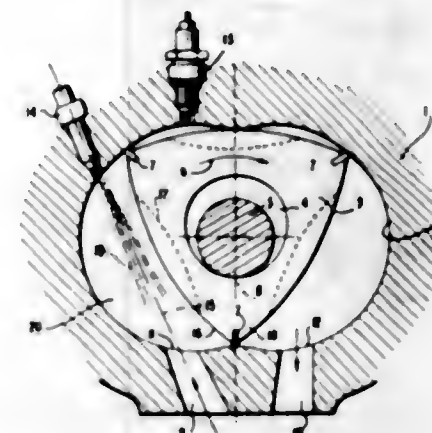


1. A furnace, said furnace being adapted to heat serpentine tube having horizontally disposed passes one above the other, said furnace having a chamber in which the tube is disposed and a roof over the chamber, supporting structure above the roof, a plate attached to said structure and extending through the roof into the chamber, an elongated support member, a plurality of tube supporting arms projecting at different levels from opposite sides of said member for supporting the horizontal passes of the tube, and means mounting said member from one end on the portion of said plate in said chamber, said mounting means being operative to permit pivotal movement of said member on said plate only in a direction perpendicular to the direction in which said arms extend and parallel to said tube passes.

3,384,054

**MIXTURE-COMPRESSING ROTARY PISTON INJECTION-TYPE INTERNAL COMBUSTION ENGINE**

Heinz Lamm, Esslingen-St. Bernhard, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany  
Filed June 10, 1966, Ser. No. 556,630  
Claims priority, application Germany, June 19, 1965, D 47,550  
3 Claims. (Cl. 123—8)



A mixture-compressing rotary piston injection-type internal combustion engine of trochoidal construction in which a polygonal piston of triangular shape slides with its corners along a two-arched case surface formed by the engine housing consisting of a casing and lateral parts, whereby the piston rotates on the eccentric of an eccentric shaft relative to the latter and to the housing and in its rotation valves the inlet and outlet channels whose orifices lie in the casing surface; an injection nozzle is arranged in the housing such that the center longitudinal axes of the inlet channel of the injection nozzle are arranged substantially coaxially which does not contact the piston, as viewed in cross section through the internal combustion engine when the piston rests with one of its corners within the area of the minor axis of the housing.

3,384,055

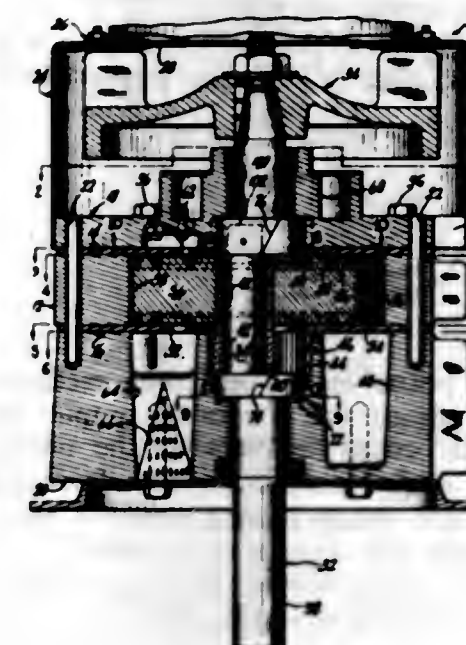
**ROTARY COMBUSTION ENGINE**

Martin J. Glenday, Box 104, and John C. Thomas, Tecumseh Road, both of Clinton, Mich. 49236  
Filed Dec. 28, 1966, Ser. No. 605,363  
8 Claims. (Cl. 123—8)

1. A rotary piston internal combustion engine of trochoidal construction comprising a housing section having open ends and an interior side wall of trochoidal configuration, a first plate overlying one end of said housing section and containing inlet ports, a second plate overlying the other end of said housing section and containing exhaust ports, an output shaft extending through said housing section and provided with an eccentric, a rotary piston adapted to carry out rotary movement about said eccentric within the chamber defined by said housing section and its associated first and second plates, an induction member overlying said first plate and containing a passageway for supplying combustible fuel to said inlet ports, a base member overlying said second plate and containing a passageway for discharging exhaust gases passing through said exhaust ports, and means securing said members, plates and housing section together so that any of a series of interchangeable plates having different port characteristics can be used to provide an engine of preselected operating characteristics.

7. In a rotary piston internal combustion engine having housing means defining a chamber, said housing means having flat end walls, an output shaft extending through said chamber and provided with an eccentric, and a rotary piston adapted to carry out rotary movements

about said eccentric within said chamber, the improvement comprising a compression seal construction on said rotary piston for maintaining an effective compression seal between said piston and one of said end walls, said seal construction comprising a seal ring of lower thermal coefficient of expansion than said piston and having an

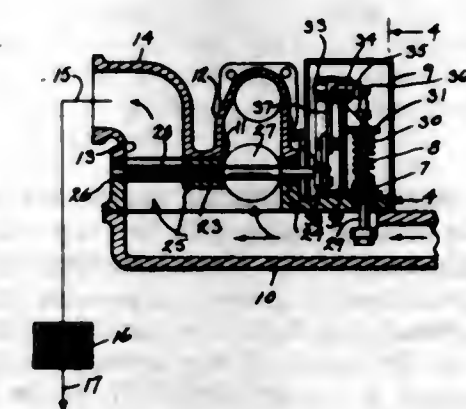


inclined surface on its axially inner end, and said piston having a groove for receiving said ring and having an inclined surface complementary to the inclined surface of said ring, said inclined surfaces being arranged so that when said piston thermally expands relative to said ring, the ring will be urged axially against said one end wall.

3,384,056

**TEMPERATURE CONTROL SYSTEMS FOR INTERNAL COMBUSTION ENGINES**

Howard M. Wiles, Waukesha, Wis., assignor to Waukesha Motor Company, Waukesha, Wis., a corporation of Wisconsin  
Filed Aug. 1, 1966, Ser. No. 569,238  
1 Claim. (Cl. 123—41.1)



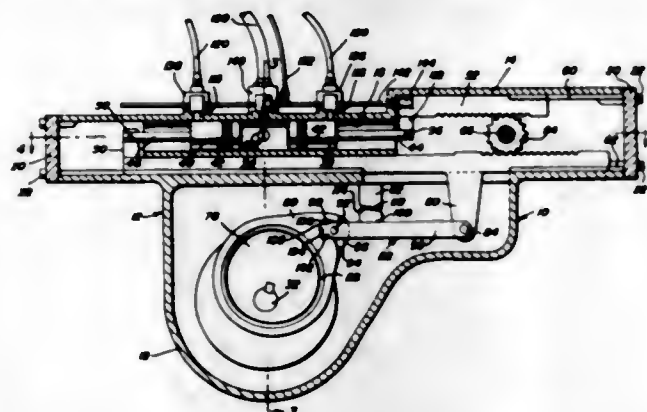
A temperature control system for a liquid cooled internal combustion engine having a heat exchanger bypass conduit connecting a portion of the engine coolant manifold with the suction side of the coolant pump. Two valves, one controlling coolant flow to the heat exchanger and the other controlling coolant flow to the bypass conduit, are reversely mounted on a single shaft. The shaft is actuated by a temperature sensing element in response to the temperature of the manifold coolant so that there is always full flow of coolant to the pump during engine warmup.



3,384,057

**OPPOSED PISTON ENGINE**

Henry S. Boone, 10 High St., Montgomery, Ala. 36104  
Filed Dec. 29, 1966, Ser. No. 605,747  
6 Claims. (Cl. 123-51)

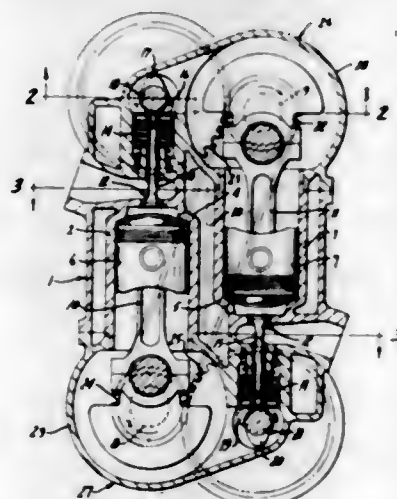


An opposed piston engine including rectilinearly reciprocal piston means and a rotating output shaft with mean operatively connected between the piston means and the output shaft for driving the shaft during movement of the piston means in one direction and through an effective crank arm angulated appreciably relative to the direction of initial driving forces transferred from the piston means to the rotatable shaft.

3,384,058

**OVERHEAD CAMSHAFT ENGINE**

Elmer Carl Klekhaefer, Winter Haven, Fla., and Carl Knuth, Fond du Lac, Wis., assignors to Brunswick Corporation, Chicago, Ill., a corporation of Delaware  
Filed Apr. 21, 1967, Ser. No. 632,791  
7 Claims. (Cl. 123-52)



A four-cycle internal combustion engine has its cylinders arranged in Siamese pairs with two separate crankshafts at opposite ends of the block, synchronized in operation either by a train of gears or a positive drive belt, and having overhead camshafts for actuating intake and exhaust valves in the heads of the corresponding cylinders. Each camshaft is driven directly from the adjacent crankshaft.

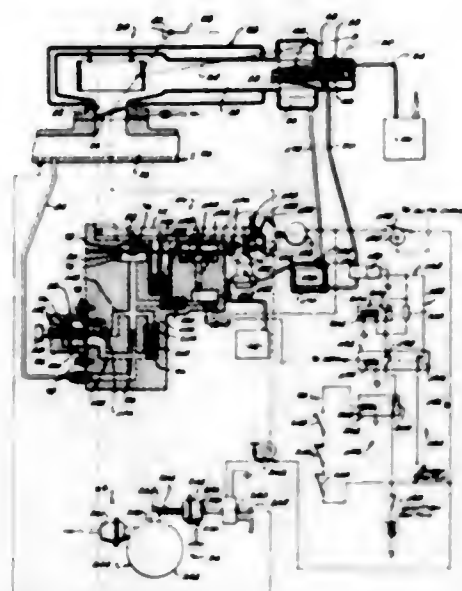
3,384,059

**CARBURETION SYSTEM WITH IMPROVED FUEL-AIR RATIO CONTROL SYSTEM**

Richard D. Kopa, Van Nuys, Calif., assignor to The Regents of the University of California, a corporation of California  
Filed Oct. 22, 1965, Ser. No. 502,090  
8 Claims. (Cl. 123-97)

A carburetor fuel-air ratio control system embodying a fuel injection nozzle through which fuel is injected under pressure into the carburetor mixing chamber, a fuel pressure regulator for regulating the fuel pressure

to the nozzle, and a mechanical linkage between the carburetor throttle valve and a fuel metering valve in the nozzle for effecting unified positioning of these valves in response to operation of the throttle pedal. The fuel pressure regulator is actuated by a transducer which responds to several variables related to engine operation, includ-



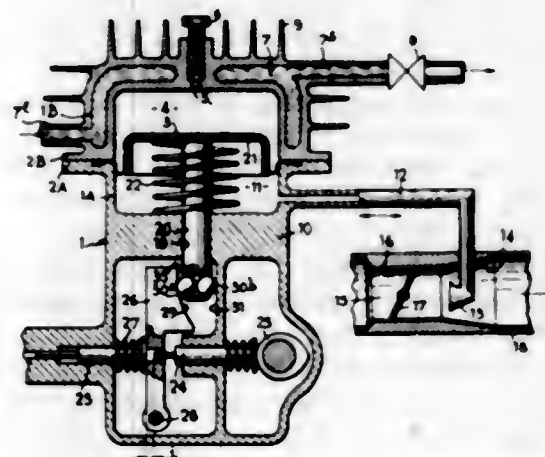
ing atmospheric pressure, engine temperature, and engine air demand, and generates an integrated output signal related to these several variables for positioning the regulating valve of the fuel pressure regulator. This actuation of the fuel pressure regulator occurs in concert with unified adjustment of the throttle valve and nozzle fuel metering valve.

3,384,060

**DEVICE CORRECTING THE AMOUNT OF FUEL INJECTED INTO AN INTERNAL COMBUSTION ENGINE**

Marcel Dangauthier, Paris, France, assignor to La Publicite Francaise, Paris, France, a French body corporate

Filed Nov. 23, 1965, Ser. No. 509,349  
Claims priority, application France, July 30, 1965, 26,625  
5 Claims. (Cl. 123-139)



A device for correcting the flow of fuel injected into an internal combustion engine by an injection pump, said device comprising two chambers separated by a movable wall which is operatively connected to the injection pump to vary the fuel flow from the latter, one of the chambers communicating with the downstream side of the air admission throttle in the induction pipe of the engine and

the other chamber being partly defined by a water jacket connected by inlet and outlet pipes to the engine cooling water circuit, a valve being inserted in one of the inlet and outlet pipes to control the rate of flow of the cooling liquid.

3,384,061

**MEANS FOR SUPPRESSING IGNITION INTERFERENCE**

Eugene A. Hanysz, Troy, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Mar. 28, 1966, Ser. No. 537,988  
8 Claims. (Cl. 123-148)

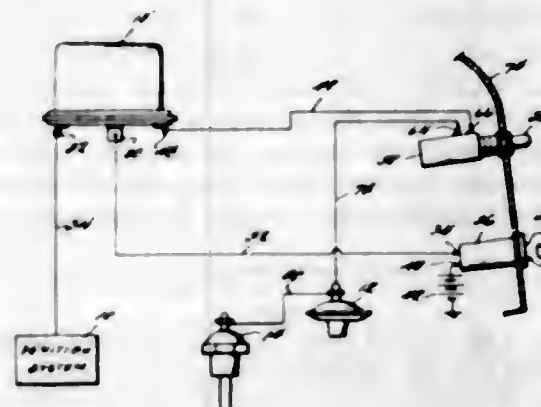


This invention relates to means built into the ignition system of an internal combustion engine to suppress high frequency radiation therein so that it will not interfere with radio reception in the vicinity.

3,384,062

**EMERGENCY CUTOFF SWITCH FOR USE ON INTERNAL COMBUSTION ENGINE**

Kenneth G. Boyer, 707 Country Club Road, Casper, Wyo. 82601  
Filed May 2, 1966, Ser. No. 547,005  
1 Claim. (Cl. 123-198)



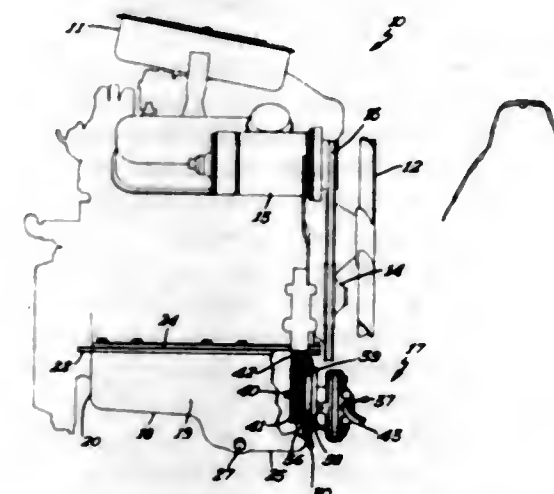
An automatic temperature and oil pressure responsive safety system for cutting off the ignition system of an internal combustion engine. The safety system includes a relay having a pair of normally closed contacts connected in series between the ignition switch and the ignition system. The coil of the relay is connected to the electrical system supplying the engine through a normally closed push button cutout switch and the parallel combination of a temperature responsive transducer and an oil responsive transducer. The transducers are effective to energize the relay in response to a predetermined maximum temperature and/or a predetermined minimum oil pressure.

3,384,063

**ENGINE PAN AND ADAPTOR**

Clifford C. Moulton, 6601 50th Ave. N., Minneapolis, Minn. 55428, and John B. Melby, 2264 University Ave., St. Paul, Minn. 55114  
Filed Feb. 10, 1967, Ser. No. 615,238  
3 Claims. (Cl. 123-198)

An oil pan for an internal combustion engine having

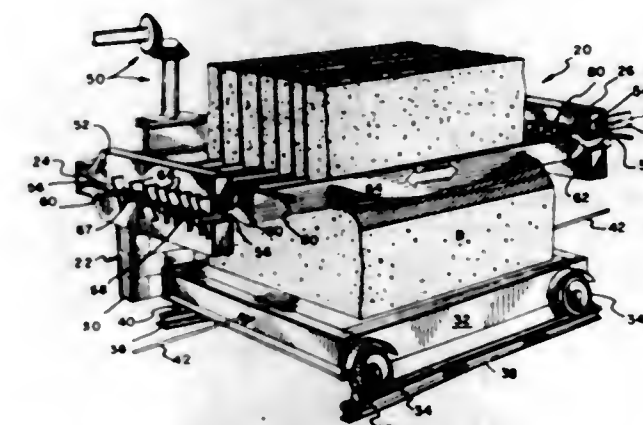


having an opening therein and a pump to be driven by the engine attached to the mounting plate.

3,384,064

**ADJUSTABLE SPACER AND STABILIZING MEANS FOR THE SAW BLADES OF A GANG SAWMILL**

Harold C. Miller, Chicago, Ill., assignor to Super-Cut, Inc., Chicago, Ill., a corporation of Illinois  
Filed May 2, 1966, Ser. No. 546,669  
7 Claims. (Cl. 125-17)



A spacer arrangement in the form of a series of spacer blocks and guide rods by means of which the various saw blade hangers of a gang sawmill may be maintained in selected spaced positions along the foot and header beams of the sawmill.

3,384,065

**APPARATUS FOR BRICK CLEANING**

Hilbert W. Raymond, Amarillo, Tex., assignor of ten percent to Jim Campbell, twenty percent to Herbert C. Martin, and seventy percent to Herbert C. Martin, as trustee, all of Amarillo, Tex.  
Filed Jan. 17, 1966, Ser. No. 521,098  
4 Claims. (Cl. 125-26)

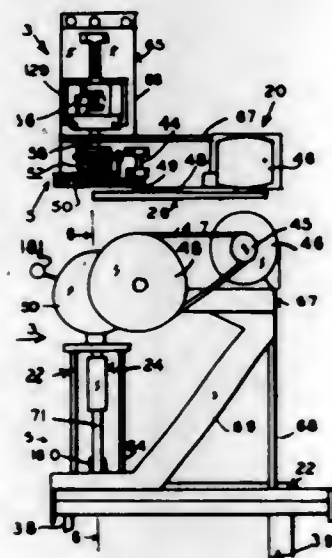
1. Apparatus for cleaning mortar from bricks comprising, in operative combination, an anvil frame and support assembly, a striker guide and drive and support assembly and a brick holder assembly;

(a) said anvil frame and support assembly comprising a table surface and support therefor and connected thereto and, firmly attached to said table surface, an anvil presenting a flat surface of rectangular outline extending upward of said table surface;

(b) said striker guide and drive and support assembly comprising a striker drive support frame, a striker drive unit, and a striker subassembly,

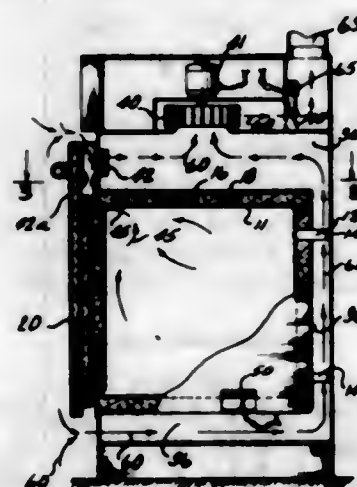


- (i) said striker drive support frame being firmly attached to and supported on and above said anvil frame and support assembly and comprising striker alignment means firmly attached to said striker drive support frame and to said anvil table surface;
- (ii) said striker subassembly comprising a heavy metal striking body frame, one pair of parallel, spaced-apart vertically extending alignment holes passing through said body from the top to the bottom thereof and said body being slidably attached to the alignment means on said striker drive support frame; and operatively connected to and movably supported on said striker drive unit; a hollow chamber within said striker body open at the bottom thereof and there bounded by striker teeth at the periphery thereof and larger in size than the flat surface of said anvil and of a horizontal cross section at least as great as the bricks to be cleaned, a vertically extending brick holder passageway for a brick holding means, said holder passageway extending from the top of said body to the top of said chamber, striker teeth holding assemblies fixed to the striker body and striker teeth held thereby and extending below the bottom edge of said chamber, said striker teeth being formed of metal with a greater compressive strength than the mortar,



A foldable sheet metal charcoal burner having four trapezoidal side walls which are hinged to form a truncated pyramid with a grate pivoted horizontally against one wall substantially above the base of the pyramid and releasably attached to the opposite wall, whereby the grate may be released to fall and dump the fire. One hinge pin is removable to fold the device or arrange it with the two sides adjacent to the hinge pin parallel with a grill extending between such two sides, whereby the sides form a fire shield and grill support which has an open side.

**3,384,067**  
**FORCED AIR COOLING AND VENTILATING SYSTEM FOR SELF-CLEANING OVEN**  
 Kenneth E. Rawald, Anaheim, and Christian E. Buerki, Fullerton, Calif., assignors to Norris-Thermador Corporation, Los Angeles, Calif., a corporation of California  
 Filed July 25, 1966, Ser. No. 567,677  
 1 Claim. (Cl. 126-21)



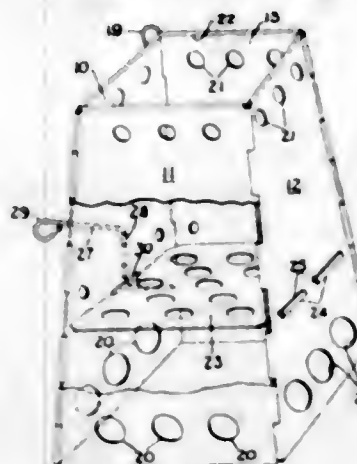
An air jacket is provided between an oven shell and a housing surrounding such shell. Venting openings are provided in the oven shell to permit exhaust gasses from

said striker drive means comprising a reciprocating rigid arm member and drive means operatively attached thereto, said striker drive means being supported on said striker drive support frame and said reciprocable member being operatively connected to said striker subassembly to reciprocate said subassembly in a direction perpendicular to said anvil face, control means connected to said drive means to power or to release said drive means, said drive means providing said striker subassembly with travel from the top of said table surface of said anvil frame and support subassembly to a height greater than the height from the top of said table to the top of a brick on the top of said anvil;

- (c) said brick holder assembly comprising,
- (i) a rigid finger means to contact said brick and extending perpendicular to said anvil surface, said finger means passing through the holder passageway in the striker body and forming a sliding fit therewith, a collar between the top end and the bottom end of said finger means firmly attached to said finger means, the distance from the bottom of the finger means to the bottom of the collar being greater than the height of the striker body,

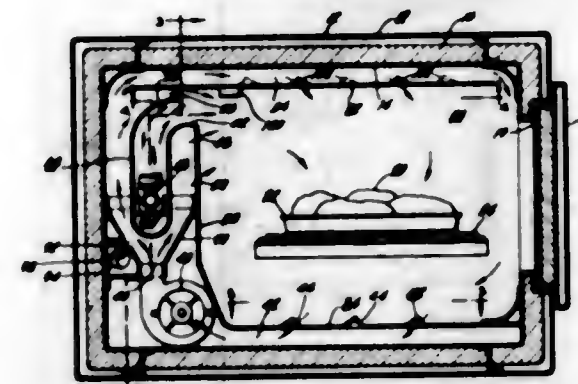
- (ii) spring means at the top of the finger means operatively connected to said finger means and urging the finger means downward,
- (iii) said finger means, at its bottom end, having a maximum movement downward to a height less than the height of the top of a brick to be cleaned on the anvil, said drive means being connected to said striker body, said striker body in its upper position lifting the bottom of the finger means to a height greater than the top of a brick to be cleaned resting on the anvil surface.

**3,384,066**  
**CHARCOAL BURNER**  
 Ralph B. Tufts, 140 Ivyhurst Road, Amherst, N.Y. 14226  
 Filed July 29, 1966, Ser. No. 568,952  
 4 Claims. (Cl. 126-9)



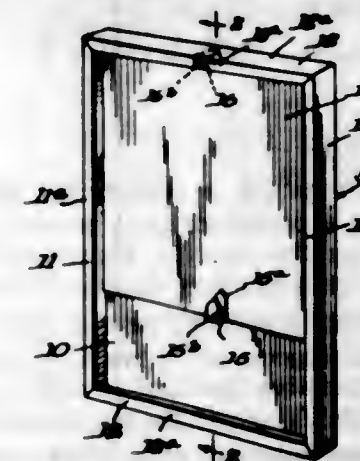
the oven to pass into the air jacket and mix with cool air from the outside. Fan means interposed between the jacket and exhaust piping draws outside ambient air into the jacket through air intakes in the housing, the oven having a heater control for self-cleaning operation which is interlocked with the fan means so that it can be actuated only when the fan means is operating.

**3,384,068**  
**GAS OVEN SYSTEM**  
 Edward H. Perry, Parma, and Carl A. Stas, Jr., Cleveland, Ohio, assignors to American Gas Association, Inc., New York, N.Y., a corporation of New York  
 Filed Dec. 9, 1966, Ser. No. 600,476  
 9 Claims. (Cl. 126-21)



1. A gas oven system, comprising: oven walls defining an oven cavity; a gas combustion chamber adjacent said oven cavity having an inlet for fuel gas and an inlet for air at atmospheric pressure for forming a combustible mixture in said chamber, and having an outlet to said cavity for hot combustion gases formed in said chamber;
- blower means for establishing a forced recirculatory flow of oven gases through said oven and said blower means in sequence;
- said blower means having outlet means adjacent said combustion chamber outlet oriented to direct said flow, adjacent said combustion chamber outlet, substantially along the direction of exit of said combustion gases from said combustion chamber outlet; and
- means for venting said oven cavity to atmosphere.

**3,384,069**  
**CASING PANEL CONSTRUCTION FOR HEATING APPLIANCE**  
 Anthony M. Castello and Robert R. Cooper, Wichita, Kans., assignors to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas  
 Filed Sept. 2, 1966, Ser. No. 576,887  
 4 Claims. (Cl. 126-90)



A space heating appliance for location within the room to be heated includes an exterior casing having at least one panel exposed to the room where the panel com-

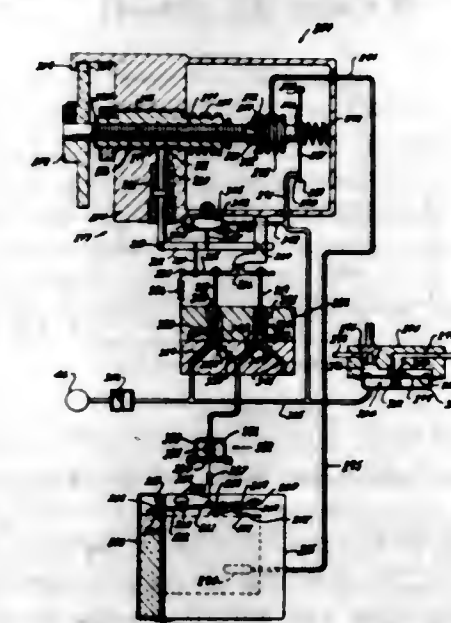
prises in combination an outer panel member formed of thin sheet steel, an inner panel member formed of asbestos board, and a sheet of heat-reflective aluminum foil on the inner surface of the asbestos board. The outer surface of the asbestos board is adhesively attached to the inner surface of the steel sheet, and the aluminum foil is adhesively attached to the inner surface of the asbestos board. The steel sheet may range from .01 to .06 inch in thickness in combination with an asbestos board of thickness from 1/32 to 3/8 of an inch. The panel construction is particularly adapted for wall heaters to provide a combination of sound deadening and heat insulation.

**3,384,070**  
**GAS WALL HEATER**  
 Anthony M. Castello and Robert R. Cooper, Wichita, Kans., assignors to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas  
 Filed Sept. 7, 1966, Ser. No. 577,671  
 6 Claims. (Cl. 126-110)



A gas wall heater equipped with an auxiliary air blower. The heater includes an outer casing and a radiator casing mounted therein. The radiator casing is provided with an air-directing channel for directing air in a generally horizontal direction, and an air blower is mounted in the outer casing adjacent the air directing channel for withdrawing heated air from the channel and discharging the air into the room to be heated.

**3,384,071**  
**COOKING APPARATUS**  
 William K. Body, Whittier, Russell J. Locascio and Harold W. Rice, Fullerton, and Douglas R. Scott, Santa Ana, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware  
 Filed Feb. 12, 1965, Ser. No. 432,228  
 2 Claims. (Cl. 126-197)



1. In a cooking apparatus having an oven casing and a door means for opening and closing said oven casing,

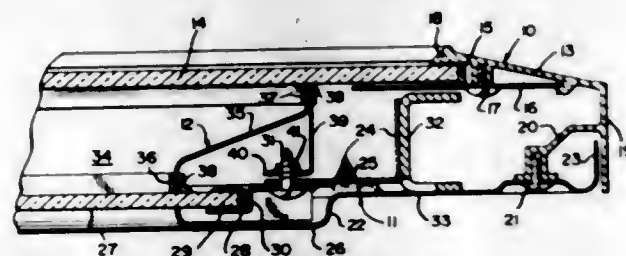


the improvement comprising a movable latch member for latching said door in its closed position when said latch member is in one position thereof, a single selector for selecting a high temperature setting for said oven when said selector is in one position thereof and for selecting any one of a plurality of desired lower temperature settings for said oven when said selector is in a temperature position other than said one temperature position thereof, pneumatically operated means for moving said latch member to said one position thereof, said pneumatically operated means only being actuated to move said latch member to said one position thereof when said selector is in said one position thereof, and temperature sensing means for overriding said pneumatically operated means and moving said latch member to a nonlatching position thereof when the temperature in said oven is below a predetermined temperature.

### 3,384,072 OVEN DOOR

James E. Davis and John T. Doner, Marion, Ohio, assignors to Whirlpool Corporation, a corporation of Delaware

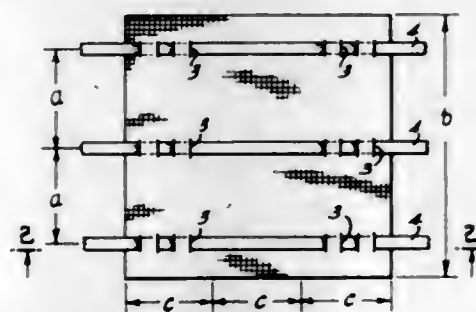
Filed Jan. 19, 1967, Ser. No. 610,354  
8 Claims. (Cl. 126-200)



An oven door having aligned viewing apertures in outer and inner frame sections with each aperture covered by a glass pane for viewing the interior of the oven and with a continuous spacer and seal member between the panes that supplies sealing pressure to each pane and that prevents fluids from entering between the panes and within the confines of the spacer and seal member.

### 3,384,073 SURGICAL DEVICE FOR CORRECTION OF URINARY INCONTINENCE

Walton Van Winkle, Jr., Princeton, N.J., assignor to Ethicon, Inc., a corporation of New Jersey  
Filed Apr. 21, 1964, Ser. No. 361,383  
1 Claim. (Cl. 128-1)

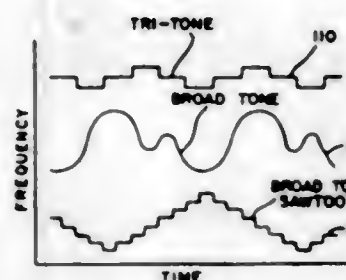


1. A surgical prosthesis useful in the surgical correction of urinary incontinence comprising a woven collagen fabric having several rows of slit-like openings extending across said fabric, the openings in each row being in alignment with each other and parallel to one set of threads forming the fabric; a plurality of collagen tapes, each having a length substantially greater than the distance across said fabric, each of said tapes being laced through the

openings in one of said rows, whereby the tapes are parallel to each other and may be moved in a direction parallel to said rows but are restrained from lateral movement.

### 3,384,074

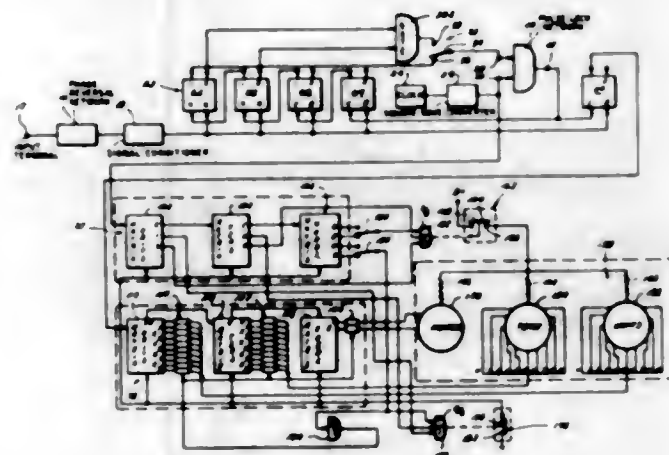
**ACOUSTIC SLEEP INDUCTION APPARATUS**  
Norman A. Rautiola, P.O. Box 567, Hancock, Mich. 49930, and John M. Diehl, Madison, Wis.; said Diehl assignor to said Rautiola  
Continuation of application Ser. No. 348,724, Mar. 2, 1964, which is a continuation-in-part of application Ser. No. 253,893, Jan. 25, 1963. This application Sept. 24, 1965, Ser. No. 495,014  
2 Claims. (Cl. 128-1)



An acoustic device in conjunction with a stuffed toy or the like which provides for soothing and tension relief of sleep centers to promote sleep, the acoustic stimuli being in the range of 60 to 400 c.p.s.

### 3,384,075

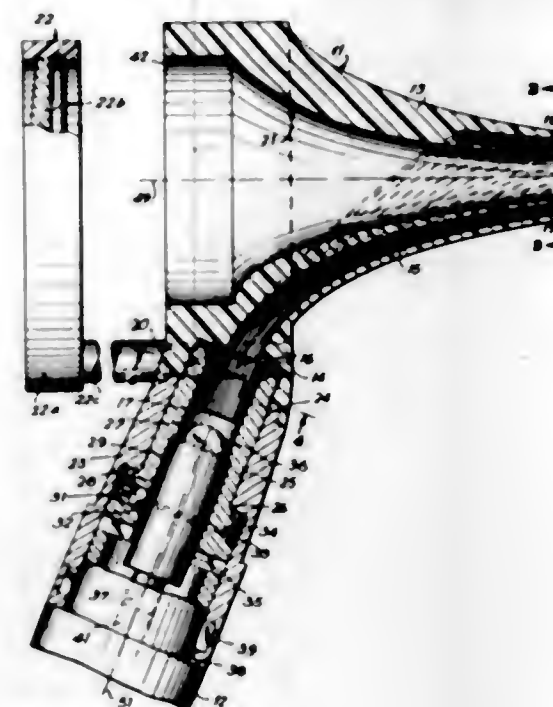
**DIGITAL CARDIOTACHOMETER SYSTEM**  
Virten M. Mitchell, Satellite Beach, Fla., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration  
Filed Oct. 1, 1965, Ser. No. 492,344  
5 Claims. (Cl. 128-2.06)



The invention comprises a system for measuring the heartbeat rate over a predetermined portion of a minute and then converting the rate to heartbeats per minute which is displayed on a readout device. A pulse representative of a heartbeat is used to reset a counting circuit. Each time the counting circuit is reset, pulses are fed to a memory network so that the display will read the heartbeat rate per minute. Thus, if the heartbeat is pressured over a fifteen second interval, four pulses will be fed to the memory for each heartbeat pulse signal, and if the heartbeat is measured over a ten second interval, six pulses will be fed to the timing circuit for each heartbeat pulse signal.

### 3,384,076 OTOSCOPE HEAD

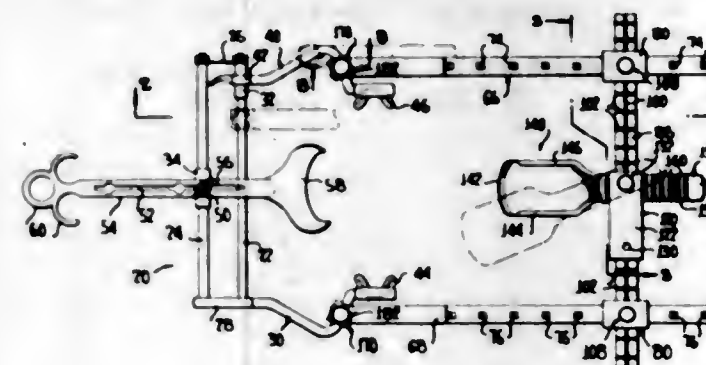
Irving A. Speelman, Roslyn Heights, N.Y., assignor to Propper Manufacturing Co., Inc., Long Island City, N.Y., a corporation of New York  
Filed Nov. 14, 1966, Ser. No. 594,016  
10 Claims. (Cl. 128-9)



An improved otoscope of the fibre optics type wherein a single otoscope head may be used as both an open type otoscope and a closed type otoscope by the mere changing or orientation of magnifying elements. Various advantageous features are embodied in the improved otoscope head including protection for the exposed ends of the fibres, easy interchangeability of illumination bulbs and an improved speculum which may, if desired, be used to transmit light.

### 3,384,077 ABDOMINAL RETRACTOR DEVICE

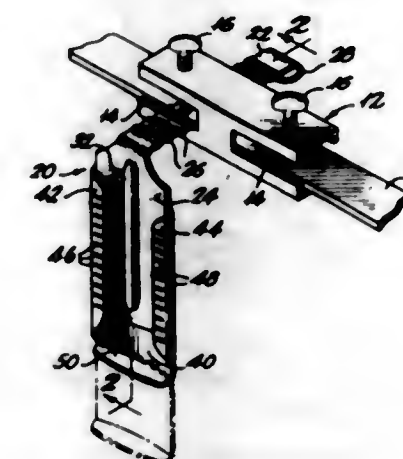
William K. Gauthier, 310 Codder Blvd., Metairie, La. 70005  
Filed Jan. 22, 1965, Ser. No. 427,329  
18 Claims. (Cl. 128-20)



A retractor device includes spaced side arms and connector means adjustably connected with the spaced side arm means. These spaced side arm means may be releasably connected with a conventional retractor in various angular positions. Blade clamp means is adjustably supported on said connector means or spaced side arm means and a retractor blade is adjustably clamped in place by the blade clamp means and may be angularly adjusted with respect thereto.

### 3,384,078 ADJUSTABLE RETRACTOR BLADE

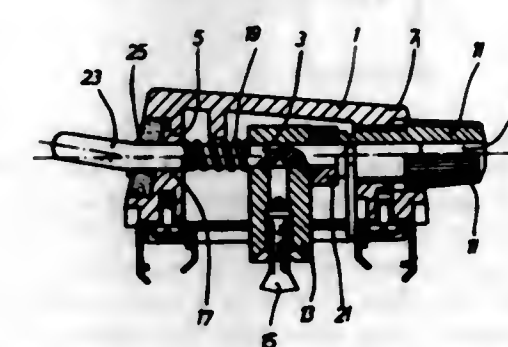
William K. Gauthier, 310 Codder Blvd., Metairie, La. 70005  
Filed Nov. 1, 1965, Ser. No. 505,833  
1 Claim. (Cl. 128-20)



The surgical apparatus includes an adjustable retractor blade secured to a mounting means. The blade has a transversely corrugated portion or arm adjustably secured to the mounting means and a right angular extending support portion with spaced parallel ribs along its lateral edges. A second portion is adjustably secured to the support portion by means of reversely bent resilient side edge portions or flanges. These edge portions have recesses which mesh with the ribs on the support member to hold the adjustable blade portion in position.

### 3,384,079 MASSAGE FIXTURE FOR ELECTRICAL DRIVING APPARATUS

Kuno Moser, Unterkirnach über Villingen, Black Forest, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware  
Filed Sept. 17, 1965, Ser. No. 488,147  
Claims priority, application Germany, Sept. 18, 1964, P 35,091  
5 Claims. (Cl. 128-52)



A massage fixture connected to a reciprocating drive device which converts to pulsed shock movement. The massage fixture has a driving spindle with a driving piece mounted between two resilient members, one of the members is a rubber annulus and the other member is a helical spring surrounding a portion of the spindle.

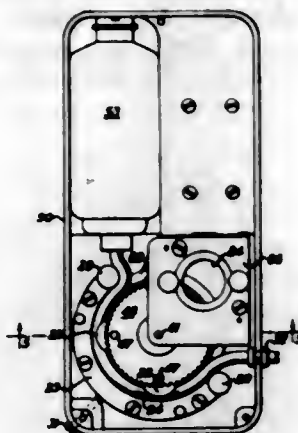
### 3,384,080 PORTABLE SPRING POWERED INFUSION DEVICE HAVING ESCAPEMENT MEANS CONTROLLING SPEED OF INFUSION

Wolf F. Muller, New York, N.Y., assignor, by mesne assignments, to United States Catheter & Instrument Corporation, Glens Falls, N.Y., a corporation of Delaware  
Filed Oct. 16, 1964, Ser. No. 404,425  
4 Claims. (Cl. 128-214)

A portable infusion device for constantly injecting therapeutic fluids into the human body at low but positive



pressures, which has a roller pump squeezing tubing containing medicaments for injection into the body. The



pump is powered by a spring motor, the speed of which is controlled by a watch escapement unit connected by gearing to the spring motor.

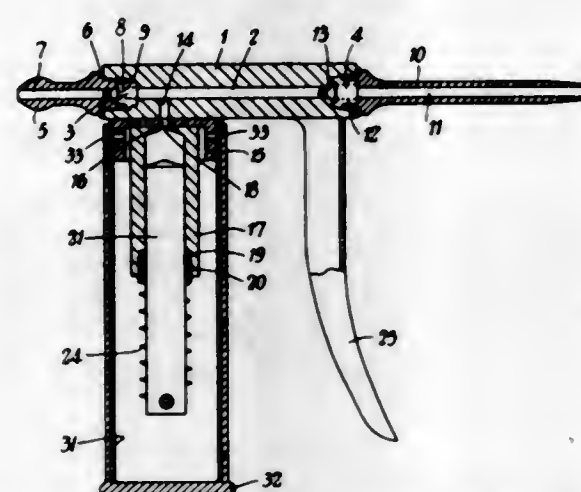
3,384,081

### HANDGRIP SYRINGE FOR CONTINUOUS INJECTIONS

Kenneth Castiglione, London, England, assignor to Kenneth Castiglione Limited, London, England, a British company

Filed June 19, 1963, Ser. No. 289,140  
Claims priority, application Great Britain, June 25, 1962, 24,409/62

6 Claims. (Cl. 128—218)



A syringe has a straight duct connecting an inlet for the liquid to be pumped to an outlet for the liquid. There is a valve at the inlet and another at the outlet. A handle for the syringe extends at right angles to the duct and contains a piston and cylinder arrangement, the cylinder opening into the duct. There is a lever connected to the piston, the lever lying alongside the handle, the arrangement being such that when it is pressed towards the handle, against the force of a spring, it makes the piston move towards the duct and this causes liquid to be expelled from the outlet of the syringe.

3,384,082

### CARTRIDGE-SYRINGE WITH MOVABLE FINGER GRIPS

Andrew V. Harrold, West Chester, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

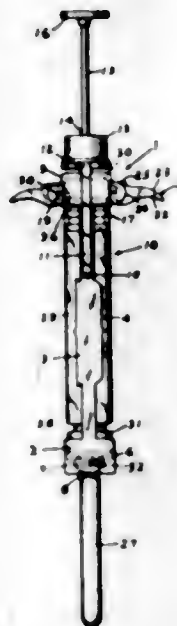
Filed Apr. 29, 1966, Ser. No. 546,341

6 Claims. (Cl. 128—218)

1. A syringe adapted for use with an insertable cartridge unit, said syringe comprising:

- (a) an open-ended barrel having an internal diameter of predetermined dimension adapted to contain a cartridge unit with an external diameter of predetermined dimension;

- (b) retaining means at the distal end of said barrel adapted for receiving and maintaining a hub of a removable cartridge unit;
- (c) a head mounted at the proximal end of said barrel and having an aperture centrally therethrough;
- (d) a push rod reciprocally mounted in the aperture of said head;
- (e) a pair of opposed finger grips operatively associated with said barrel;



- (f) means pivotably mounting said finger grips at the proximal end of said barrel to permit swinging movement of said finger grips from a first collapsed position wherein said finger grips extend substantially in the direction of the main axis of said barrel, to a second extended position wherein said finger pieces extend substantially radially outwardly from said barrel;
- (g) each of said finger grips having a bearing portion which protrudes substantially within the internal diameter of said barrel when said finger grips are in said first collapsed position, and substantially less within the internal diameter of said barrel when said finger grips are in said second extended position.

3,384,083

### TREATMENT DEVICE

John Cozza, Cold Spring Harbor, Merritt Friedman, Brooklyn, and Donald C. Lindley, Greenlawn, N.Y., assignors to Cello-Craft Inc., New Hyde Park, N.Y.

Filed Feb. 15, 1966, Ser. No. 527,718

12 Claims. (Cl. 128—260)



7. An article of manufacture comprising, in combination:

- (a) first and second layers of plastic sealed to each other along the entire periphery thereof to define a hollow article adapted to be worn;
- (b) a medicant disposed on the inside surface of at least one of said plastic layers; and tearing means integral with said plastic layer proximate at least one end thereof whereby said article may be opened by pulling said tearing means.

3,384,084

### COLOSTOMY DEVICE

Fred Jaschawitz, 16 Bleachery St.,  
Chadwick, N.Y. 13319

Filed Aug. 6, 1965, Ser. No. 477,917

4 Claims. (Cl. 128—283)



An improved colostomy device includes a unitary protective shield shaped to surround and cover a body stoma in a secure sealing relationship. A passageway is formed through the protective shield so that body discharges may pass through the stoma and the passageway, and into a collection pouch which is carried externally of the protective shield. A supplemental shield extends into the collection pouch for a sufficient distance to protect the upper portion of the pouch and to prevent leakage around the top of the pouch. The passageway is shaped to provide and direct an uninterrupted flow of discharges away from the stoma and into the collection pouch.

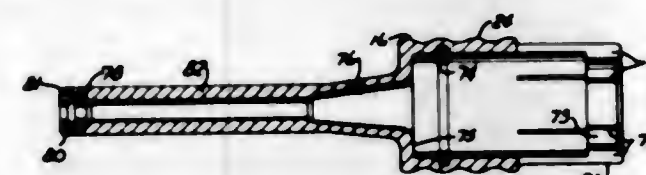
3,384,085

### SURGICAL CUTTING TOOL

Robert M. Hall, Priscilla Lane, Roslyn Farms,  
Carnegie, Pa. 15106

Filed July 3, 1964, Ser. No. 390,171

7 Claims. (Cl. 128—305)



1. An outboard support for a rotary surgical cutting tool including a mounting grip means on one end of the support, and a bearing mounted adjacent the other end of said support to rotatably carry the complementary end of the surgical cutting tool, and an intermediate tubular means secured to and directly connecting the mounting grip means and the bearing at said other end.

3,384,086

### STEREOTAXIC ORIENTED MACROTOME DEVICE

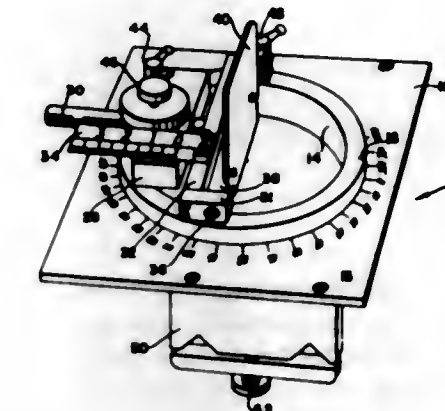
Carlos Eduardo Rocha-Miranda, Eduardo Oswaldo-Cruz, and Francois Leonard Kamel Neyts, Rio de Janeiro, Brazil, assignors to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare

Filed Jan. 10, 1966, Ser. No. 519,776

9 Claims. (Cl. 128—305)

1. A macrotome device for orienting the brain in stereotaxic rectangular and polar coordinates for the taking of histological brain sections comprising: a base plate; means

on said base plate to connect said macrotome device to a stereotaxic apparatus; an annular ring rotatably supported on said base plate, said base plate and said ring defining a generally circular opening therethrough; carriage means supported by said annular ring for movement along a line



parallel to said base plate and said carriage means carrying a sectioning plate for rotation about an axis both parallel to said base plate and perpendicular to said line of movement, said sectioning plate adapted for mounting and guiding a microtome blade.

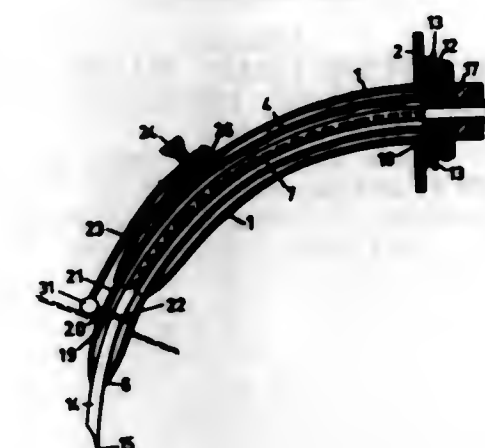
3,384,087

### TRACHEOTOME

Reinbert Brummelkamp, Groenloseweg 1,  
Winterswijk, Netherlands

Filed Nov. 12, 1963, Ser. No. 322,819

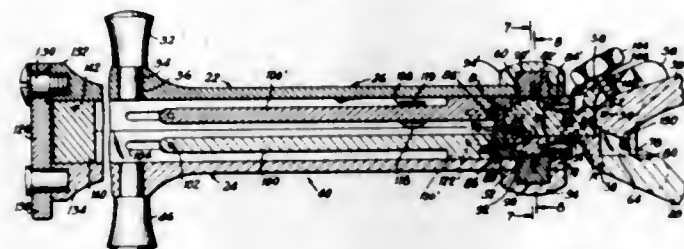
Claims priority, application Netherlands, Nov. 12, 1962, 285,391; Nov. 1, 1963, 300,008  
8 Claims. (Cl. 128—305)



1. A tracheotome comprising,
  - (a) a bent cannula having an end portion adapted to be inserted into a trachea, said cannula having a longitudinal groove extending therealong,
  - (b) a correspondingly bent tubular trocar slidably disposed in said cannula,
  - (c) said trocar having an end portion adapted to extend beyond the end of said cannula inserted into the trachea,
  - (d) a knife means connected to the extended end of said trocar whereby said knife means protrudes laterally through said groove of said cannula along a predetermined length of said end portion of said cannula,
  - (e) a correspondingly bent hollow needle disposed within said trocar,
  - (f) said needle being adjustably disposed within said trocar, and said needle having a sharp point protruding beyond the end of said trocar.



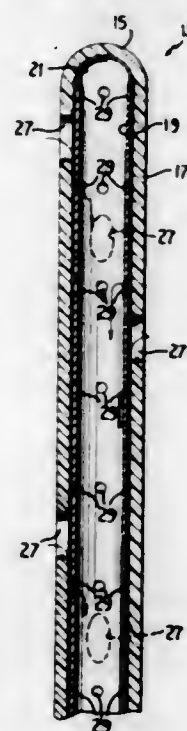
**3,384,088**  
**OBSTETRICAL FORCEPS**  
 Anthony Mileo, Bronx, N.Y.  
 (2147 Arthur Ave., New York, N.Y. 10457)  
 Filed July 2, 1965, Ser. No. 469,209  
 7 Claims. (Cl. 128—323)



An obstetrical forceps composed of two branches. Each branch includes an elongated handle and a curved blade. Each blade has a hemispherical coupling. The two hemispherical couplings are interengageable to form a ball. Each handle has a socket. The two sockets are interengageable by joining the handles in order to form a cage in which the ball rotates. The sockets are mounted on the handles for rotation about an axis perpendicular to the length of the handles. The ball is constrained for rotation about one axis with respect to the socket. The blades thereby swivel with respect to the handle. Each socket has a passageway. Each coupling has a passageway which can be rotated into alignment with a socket passageway. Each handle has a longitudinally reciprocable pin, said passageways being mutually aligned with the pin only when the two blades are in a straight line position relative to the handles, so that the pins then can be thrust into the passageways to prevent rotation of both the ball and the sockets and thus render the blades immobile. When the pins are withdrawn from the passageways the blades are freed for swivelling movement. Locking means releasably holds the pins in either of their two positions.

**3,384,089**  
**SURGICAL WOUND DRAIN HAVING AN INNER COLLAPSIBLE TUBE PREVENTING REVERSE FLOW INTO THE WOUND**

Walter Shriner, Hopedale, Ill.  
 (1133 S. 2nd St., Springfield, Ill. 62704)  
 Filed Mar. 11, 1966, Ser. No. 533,601  
 10 Claims. (Cl. 128—350)



1. A surgical drain comprising an outer axially bendable tube which is substantially noncollapsible, an inner collapsible tube coaxially disposed in the outer tube and

bendable therewith, said inner tube having an outer diameter when uncollapsed to establish a sealing interfacial contact with the outer tube, said tubes being formed with adjacent closed ends and having nonregistered orifices therein, the opposite ends to said tubes being open.

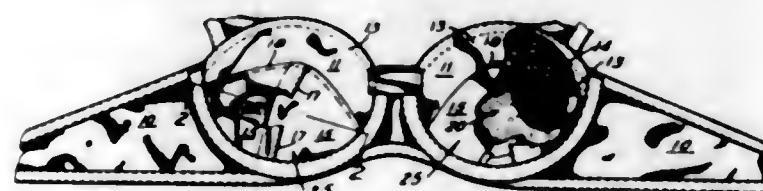
**3,384,090**  
**METHOD AND APPARATUS FOR TREATMENT OF THE DEAFNESS, CAUSED BY DISEASES OF THE MIDDLE AND INTERNAL EAR**

Angelo Manfredi, Via Quattro Fontane 33, Rome, Italy  
 Filed July 17, 1963, Ser. No. 295,760  
 Claims priority, application Italy, July 23, 1962, Patent 672,922  
 8 Claims. (Cl. 128—422)



1. An apparatus for generating pulsating radio frequency waves for the improvement of the hearing capability of human patients having afflictions of the middle and internal ear, comprising: an audio frequency oscillator; a power amplifier electrically connected to said oscillator; a transformer, said transformer having a primary coil and a secondary coil, said primary coil electrically connected to said amplifier; a radio frequency oscillator, said radio frequency oscillator including a radio frequency thermionic oscillator and said secondary coil electrically connected to said amplifier; a cathode ray oscilloscope electrically connected to the output of said radio frequency oscillator to give a visual indication of the wave form of the output of said radio frequency oscillator; two electrodes electrically connected to said output of said radio frequency oscillator, said electrodes having a spherical configuration and a diameter adapted to fit the external auditory canal of human patients; and, said audio frequency oscillator, said power amplifier, said transformer, and said radio frequency oscillator so correlated as to produce at said electrodes pulsating radio frequency waves having positive half waves equal and symmetrical to the corresponding negative half waves and each wave is substantially spaced from the successive wave by a breadth not greater than the breadth of each individual wave.

**3,384,091**  
**CONVERTIBLE PADDED BRASSIERE**  
 Lester W. Block, 3620 Eastham Drive, Culver City, Calif. 90230  
 Filed May 31, 1966, Ser. No. 553,742  
 5 Claims. (Cl. 128—478)

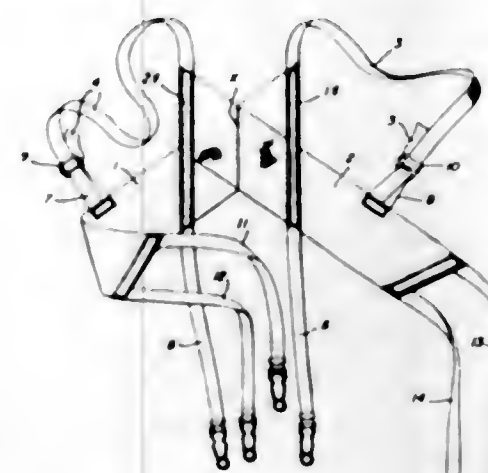


1. A convertible padded brassiere having a pair of breast cups, padding material extending across substantially the entire area of each of said breast cups, said padding being substantially no thicker in the lower part of said breast cups than in the upper part thereof, a pocket disposed on the inside of each of said breast cups, said pockets being offset toward the lower and outer edges of said breast cups, a pair of half pads removably mounted in said pockets, each of said half pads having a thickened portion adapted to fit beneath and both support and move the breasts simultaneously upwardly and inwardly, said

pads being manually insertable in and removable from said pockets to convert said brassiere between an overall padded brassiere and a slanted push-up brassiere.

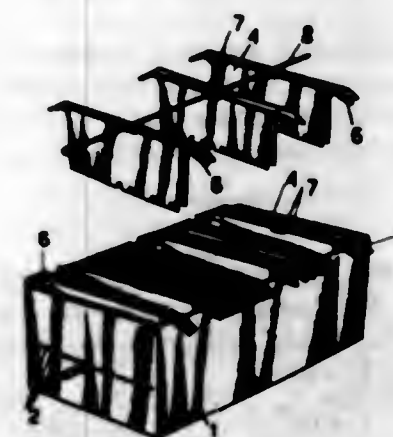
**3,384,092**  
**COMBINATION MATERNITY BACK SUPPORT AND GARTER SUSPENDER**

Paula B. Rucker, Shaker Heights, Ohio (% Nu Vogue Creations, 812 Huron Road, Cleveland, Ohio 44115)  
 Filed July 11, 1966, Ser. No. 564,290  
 4 Claims. (Cl. 128—520)



1. A combination back support and garter suspender comprising a pair of duplicate relatively long and substantially wide longitudinally elastic members, said members being secured together in overlying angular relation near their one ends, said overlying portions being adapted to occupy position in the sacroiliac region of the wearer's body and the other ends of said members being adapted to occupy position at the sides of the wearer's hips, a pair of longitudinally elastic supporting members each having its one end attached to the upper end of one of said wide members and its other end attached to a lower point of the upper edge of said other wide member and being adapted to extend in supporting engagement over the shoulders of the wearer's body, and a pair of garter members attached to and extending from the lower end of each of said wide members for attachment of the stockings at the side and front of the wearer's thighs, respectively.

**3,384,093**  
**HANGING FILING CARD CABINETS**  
 Eduardo Hegedus, Rua Piaui 247, Apt. 92, Sao Paulo, Brazil  
 Filed May 16, 1966, Ser. No. 550,373  
 Claims priority, application Brazil, June 3, 1965, 170,128  
 1 Claim. (Cl. 129—16.1)



A hanging card system comprising a drawer having opposite upper edges and a plurality of metal strips having ends removably engaging the upper edges and forming supporting elements, a filing card having an upper

end folded over and secured on each of the metal strips between the ends, the upper end defining at least one slot adjacent the metal strip exposing an adjacent area of the metal strip. Means are provided for preventing removal of a desired selection of filing cards, and magnetized means for being placed adjacent the exposed area of the metal strips for withdrawing the remaining freely hanging filing cards is provided.

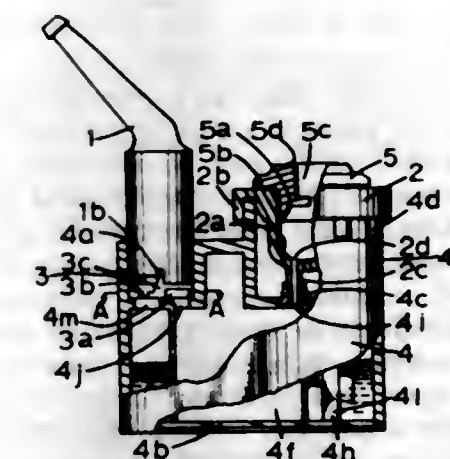
**3,384,094**  
**MANUFACTURE OF MOUTHPIECE CIGARETTES**  
 Desmond Walter Molins, Deptford, London, England, assignor to The Molins Organisation Limited, a British company

Filed Mar. 11, 1965, Ser. No. 438,854  
 Claims priority, application Great Britain, Mar. 26, 1964, 12,881/64  
 3 Claims. (Cl. 131—94)



Mouthpiece cigarettes each having two mouthpiece stubs are made by inserting a double-length stub between two cigarette lengths, cutting the double-length stub in half, separating the two two halves endwise, inserting a further double-length stub between the two halves, closing up all the elements endwise, enclosing the stubs and the adjacent ends of the cigarette lengths in a wrapper, and then cutting through the central stub.

**3,384,095**  
**CONVERTIBLE PIPE**  
 James Y. Shih, 4744 N. Madison St., Chicago, Ill. 60640  
 Filed July 6, 1965, Ser. No. 469,428  
 1 Claim. (Cl. 131—173)



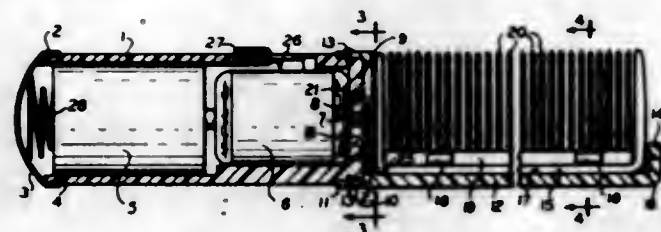
This invention includes the provision of a pipe having a resin body, a tobacco bowl, a stem and a valve plug provided in the stem to control the flow of smoke through passages extending from the tobacco bowl through a cooling chamber having smoke filtering liquid therein such that smoke may be passed either directly to the stem, completely through the liquid, or partially through both paths at the same time.

**3,384,096**  
**OSCILLATORY TEASING COMB**  
 Anthony Paccione, 1681 65th St., Brooklyn, N.Y. 11220  
 Filed Mar. 25, 1965, Ser. No. 442,719  
 4 Claims. (Cl. 132—11)

An oscillatory teasing comb comprising a housing having an annular portion at one end and a flat and open longitudinal portion extending for substantially the length



of a comb and terminating in a raised portion. Means are provided for pivotally mounting the frame in the housing on the inner face thereof in order to permit an oscillating movement of the frame in the housing. A drive shaft is rotatably mounted relative to the housing having eccentric means on the drive shaft, and means



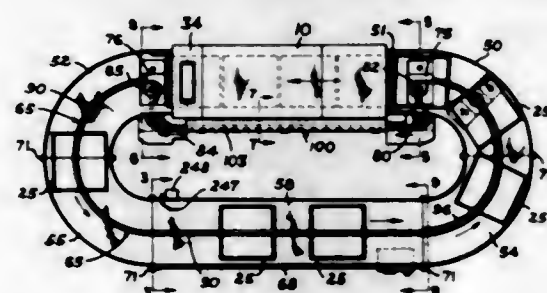
for automatically selectively oscillating the drive shaft are provided, as well as a plate operatively connecting the drive shaft with the frame for oscillating movement of the latter, and a teasing comb removably secured in the frame and joining the oscillating movement of the latter.

3,384,097

**DISHWASHING APPARATUS**

David A. Meeker and Gerald B. Fox, Troy, Ohio, assignors to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio

Filed Apr. 8, 1966, Ser. No. 541,190  
11 Claims. (Cl. 134-46)



A dishwashing machine, with an internal conveyor operating at a predetermined speed to carry racks of soiled articles through the machine, is provided with a conveyor for feeding the racks of soiled articles to the machine, at a rate in excess of the rate of operation of the internal machine conveyor, to tend to eliminate excessive space between racks as they pass through the dishwashing machine. In some embodiments the conveyor is an endless chain which is guided around the dishwashing machine and also functions to remove racks of cleansed articles from the machine at a somewhat greater rate to space the racks apart and facilitate further handling thereof. A connection is provided to flush the conveyor chain with cleansing water, and a shelf-like arrangement is provided along the conveyor for supporting one or more racks out of engagement with the conveyor chain. A control is provided to prevent racks of cleansed articles from passing to sections of the conveyor where racks of soiled articles are placed on the conveyor.

3,384,098

**CONTROL MEANS FOR AUTOMATIC DISHWASHER**

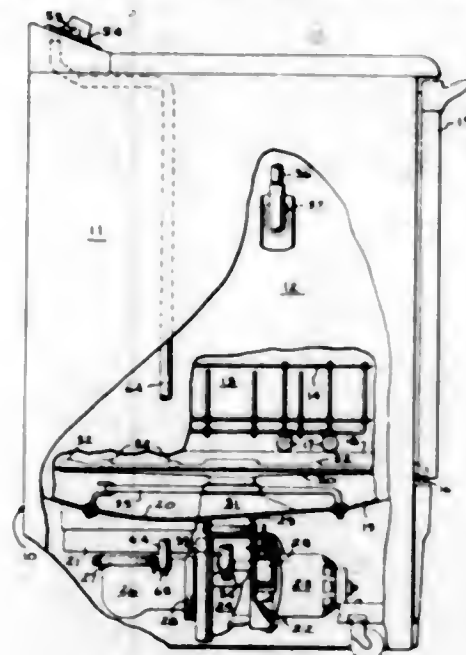
Norman T. Swetnam, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Aug. 17, 1966, Ser. No. 573,102  
13 Claims. (Cl. 134-58)

1. A control means for an automatic dishwasher comprising:

- a housing having a passageway therethrough opening at one end to the atmosphere,
- a flexible carrier secured adjacent one of its ends to said housing,

- a sealing device supported by said carrier adjacent said one end of said passageway,
- a manually-operable pushbutton movable between at least first and second positions and adapted to flex said carrier between first and second positions,

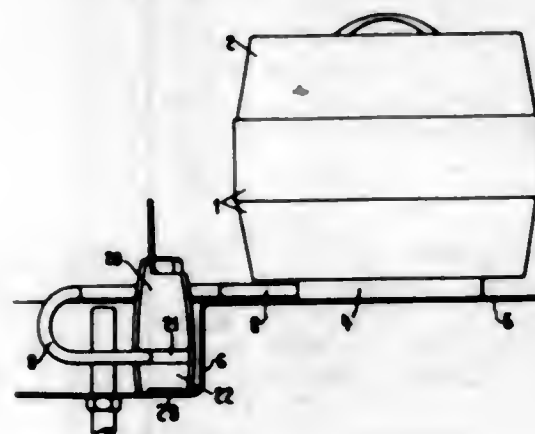


- said sealing device being adapted to close said one end of said passageway when said carrier is in said first position and open said one end of said passageway when said carrier is in said second position.

3,384,099

**HAND-PORTABLE DISHWASHING APPLIANCE**

Willi Baumann, Sternenstrasse 7,  
Herzogenbuchsee, Switzerland  
Filed Oct. 12, 1965, Ser. No. 495,067  
1 Claim. (Cl. 134-115)



A hand-portable dishwashing appliance having a casing adapted to be placed on a drainage board of a sink and means for pumping washing water prepared in the sink for spraying it over dishes contained in said casing.

3,384,100

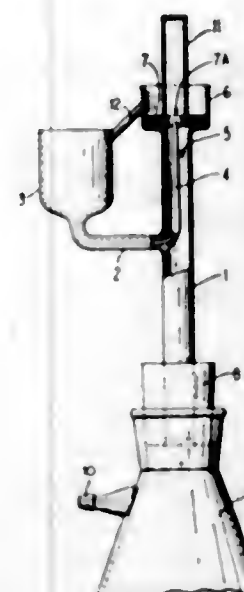
**WASHING CONTAINERS**

William J. Ross and Alexander R. Bolton, Edinburgh, Scotland, assignors to Ross Scientific Company Limited

Filed June 2, 1966, Ser. No. 554,737  
7 Claims. (Cl. 134-166)

1. Apparatus for washing the interior of containers comprising a main tube having an upper end and a lower end, a branch tube extending externally from the main tube to a reservoir for washing liquid, an upwardly directed jet tube within the main tube connected at its lower

end to the branch tube, and a passage between the jet tube and main tube, the arrangement being such that, when the lower end of the main tube is connected to a source of vacuum, and the reservoir contains liquid, and

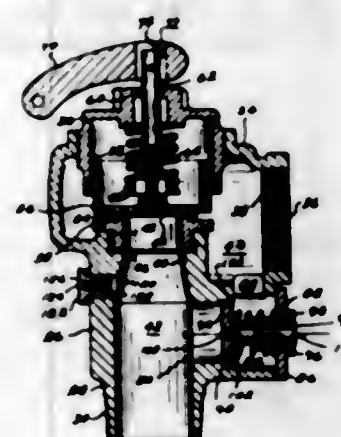


the upper end of the main tube is closed by the mouth of the container, the liquid is ejected as a spray from the jet tube into engagement with the interior walls of the container, and thereafter flows down through said passage.

3,384,101

**SAFETY VALVE**

Julius F. Meiner, 544 King St.,  
Port Chester, N.Y. 10573  
Filed Jan. 27, 1965, Ser. No. 428,454  
6 Claims. (Cl. 137-73)



A combined safety and relief valve to protect a boiler against excess pressure or temperature. The temperature relief valve is normally held closed by an alloy between the valve stem and a surrounding sleeve which melts at excess temperatures and allows the valve to open. When the pressure is relieved, a spring closes the valve to prevent excessive loss of boiler water but a small ancillary passage remains open to act as a tell-tale.

Should the main vent be plugged, a spring-pressed plate over a side aperture lifts to allow steam or hot water to escape into the boiler room as an alarm.

3,384,102

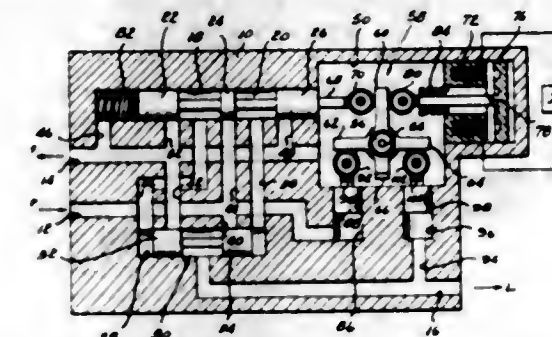
**PRESSURE CONTROL VALVE**

Walter A. Hickox, Glen Cove, N.Y., assignor to Ozone Metal Products Corp., Ozone Park, N.Y., a corporation of New York

Filed Apr. 29, 1964, Ser. No. 363,415  
11 Claims. (Cl. 137-85)

1. A valve system for governing the pressure difference between a variable supply pressure and a variable load pressure including in combination a main valve having an

inlet port and an outlet port and a positionable element for controlling the coupling between said inlet and outlet ports, said valve having a respective control port at each end of said positionable element, a source of variable supply pressure, means connecting said source to said inlet port to provide said load pressure at said outlet port, an auxiliary valve comprising an inlet channel to which supply pressure is applied, an exhaust channel connected to a pressure less than said variable load pressure, ports respectively connected to said main valve control ports and a positionable member movable to a first position to connect one of said auxiliary valve ports to said inlet channel while connecting the other of said auxiliary valve ports



to said exhaust channel and movable to a second position to connect said other auxiliary valve port to said inlet channel while connecting the one auxiliary port to said exhaust channel, means responsive to said supply pressure for urging said auxiliary valve member toward said first position to position said main valve element to change the coupling in one sense, means responsive to said load pressure for urging said auxiliary valve member toward said second position to position said main valve element to change the coupling in the opposite sense, a control force producing means and means responsive to said control force for actuating said auxiliary valve member in concert with one of either said supply or said load pressures.

3,384,103

**AIRLINE LUBRICATOR**

Zdenek J. Lansky, Winnetka, Ill., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 3, 1966, Ser. No. 531,476  
10 Claims. (Cl. 137-205.5)



5. In a device for mixing fluids, a housing having a first passage therethrough for flow of a first fluid under pressure, means for establishing a lower pressure of said fluid in the outlet end of said passage than in the inlet end, a reservoir containing a second fluid, passage means connecting said first passage inlet end with said reservoir to pressurize the fluid therein, a feed tube having an inlet



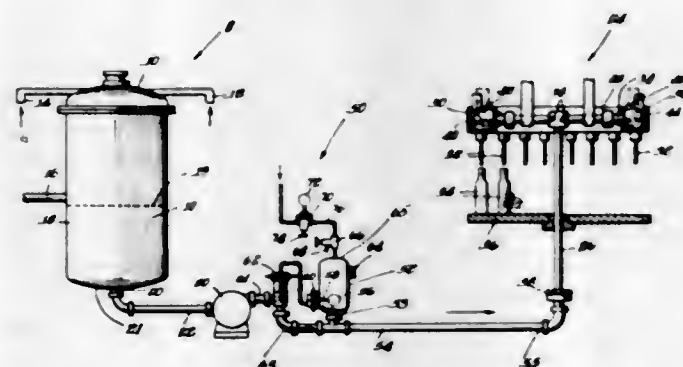
immersed in said second fluid and having an outlet connected to said first passage outlet whereby the greater pressure in the first passage inlet forces the second fluid through the feed tube to said first passage outlet, said tube having a visible transparent portion containing a flow element movable by fluid flowing through the tube to different positions according to the rate of the flow through the feed tube, said transparent portion having bore sections of different tapers to provide different rates of change of radial clearance around said flow element as the latter is moved.

3,384,104

### COUNTERPRESSURED LIQUID TRANSFER APPARATUS AND VARIABLE CONTROL THEREFOR

Sigmund P. Skoll, Elmwood Park, Harry G. Mojonner, River Forest, and Chester J. Witt, Deerfield, Ill., assignors to Mojonner Bros. Co., Chicago, Ill., a corporation of Illinois

Filed July 29, 1964, Ser. No. 385,953  
1 Claim. (Cl. 137-209)



1. Beverage handling apparatus comprising: a supply vessel for containing beverage liquid at a preselected pressure; a filler for containing said liquid generally at a preselected higher pressure, said filler having a liquid space and a gas space over said liquid space; and a differential pressure control device for modifying the pressure on beverage liquid flowing from said vessel to said filler, said control device including a closed tank positioned between said vessel and said filler, first conduit means connecting said vessel to said tank to permit a flow of liquid into said tank, pump means connected to said first conduit means to boost the pressure of fluid flowing into said tank, second conduit means connecting said tank to said filler to permit a flow of liquid from said tank to said filler, gas supply means connected to said tank to maintain the liquid therein at a predetermined operating pressure at least as great as said preselected higher pressure, and liquid supply control means connected to said tank to maintain the level of liquid therein at a predetermined level, including valve means between said pump means and said tank spaced apart from said tank to avoid turbulence in said tank and valve operating means responsive to the liquid level in said tank operatively connected to said valve means, whereby liquid flows from said tank into said filler when the actual pressure in said filler is below said operating pressure.

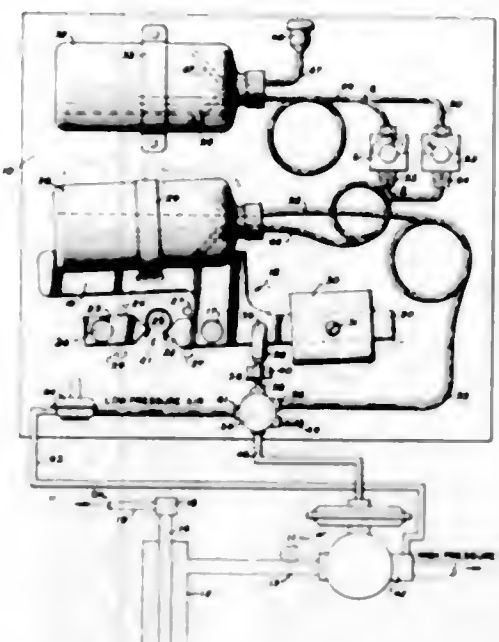
3,384,105

### INTERMITTER FOR GAS LIFT WELLS

Harold E. Leggett, Dallas, Tex., assignor to Timco, Inc., Fort Worth, Tex., a corporation of Texas  
Filed Dec. 13, 1965, Ser. No. 513,514  
3 Claims. (Cl. 137-209)

An intermitter for raising liquid in the tubing of a gas lift well and including a balance beam having a container mounted on an arm thereof and a counterweight

on the remaining arm and a stationary reservoir above the container. A valve arrangement operated by a low pressure air line causes liquid to flow back and forth



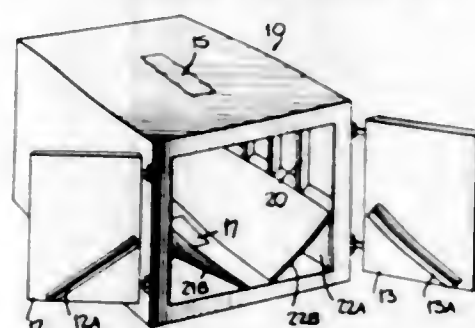
between the container and the reservoir at regulated intervals. The resulting tilting of the balance beam opens and closes a valve which introduces high pressure air into the well annulus for raising liquid in the tubing.

3,384,106

### DUAL-PURPOSE SHIPPING CONTAINER FOR DRY AND LIQUID CARGO

Waldemar M. Isbrandtsen, New York, N.Y., assignor to American Export Isbrandtsen Lines, Inc., New York, N.Y., a corporation of New York

Filed Jan. 21, 1966, Ser. No. 522,230  
7 Claims. (Cl. 137-269)



1. A dual-purpose container comprising a box having a top loading hatch, a bottom dumping hatch, and a retractable hopper which in the operative position directs a dry bulk load toward the dumping hatch and in the inoperative position forms side walls within the box, and a removable bag of flexible material for holding a liquid load and receivable in said box when the hopper is inoperative, said bag having an inlet spout which is extendible through said loading hatch, and an outlet spout which is extendible through said dumping hatch.

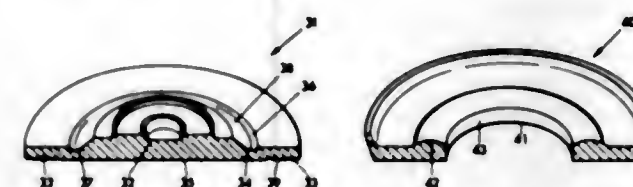
3,384,107

### BAKEABLE VACUUM VALVE

Guntis Kuskevics, South Pasadena, and Carl W. Scott, Sierra Madre, Calif., assignors to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California  
Filed Mar. 31, 1965, Ser. No. 444,301  
8 Claims. (Cl. 137-329.05)

1. A bakeable hermetic sealing means for a vacuum valve comprising:  
(a) an annular valve seat having a smooth, inwardly tapering, convex surface;

(b) a valve plate adapted to make sealing contact with said valve seat over successive new inner annular portions of said convex surface when said seat and plate are brought together with sufficient pressure of water under pressure in the supply line will keep the filter clean.



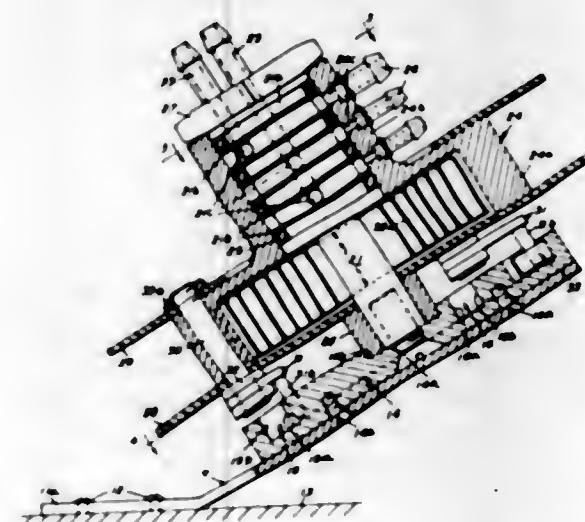
and the valve plate is moved successively closer to the valve seat; and,  
(c) a layer of metal foil between said valve seat and valve plate.

3,384,108

### SPRING-DRUM REEL WITH LOCK AND RELEASE

George R. Kern, Jr., 5525 23rd St. N., Arlington, Va. 22205

Filed Oct. 27, 1966, Ser. No. 589,902  
6 Claims. (Cl. 137-355.17)



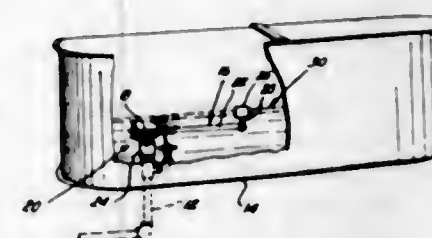
A spring-driven type reel wherein selected pull and release on the member wound thereon permits locking the reel in particular unwound position or permits complete or selected rewind.

3,384,109

### FLOAT VALVE

Clark E. Stroburg and Eldon L. Stroburg, both of Blocton, Iowa 50636

Filed Apr. 12, 1965, Ser. No. 447,496  
9 Claims. (Cl. 137-434)



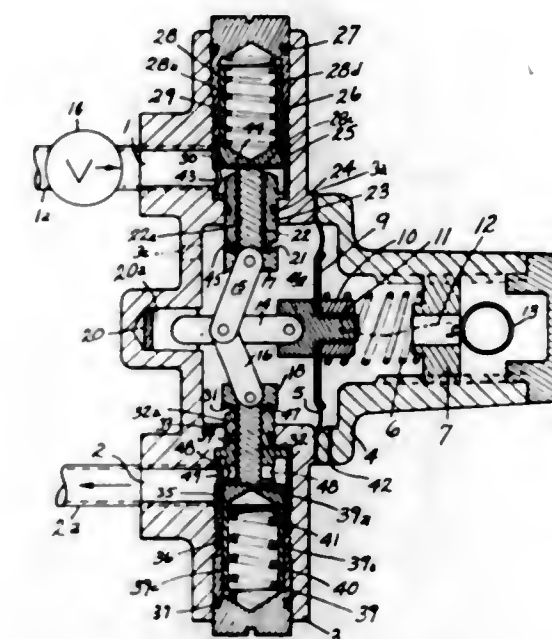
An animal watering tank having a float valve and including a separate water port in the water supply line for directing a stream towards the surface to create a turbulence and agitate the water in order to keep the water from freezing during cold temperatures. Includes a filter for the port to prevent its clogging, with the filter disposed relative to the main supply line so that the flow

3,384,110

### HIGH AND LOW PRESSURE CUTOFF PRESSURE REGULATOR

Donald C. Wiley, 938 Rydal Road, Jenkintown, Pa. 19046

Filed Sept. 20, 1965, Ser. No. 488,458  
9 Claims. (Cl. 137-458)



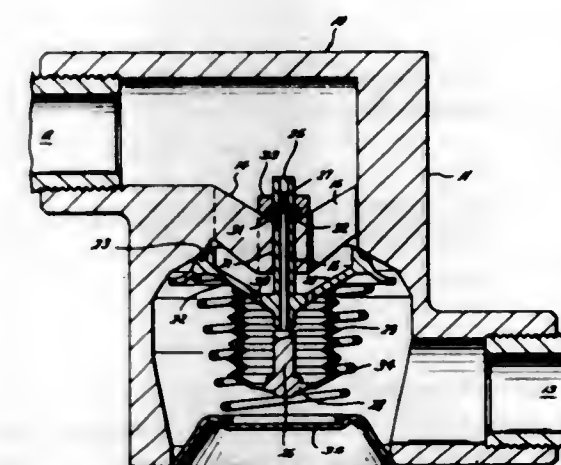
A fluid pressure regulator having inlet and outlet valves and outlet pressure responsive mechanism for exerting a force to open and close both valves, and means biasing the outlet valve open with a force equal to the valve closing force developed by the pressure responsive mechanism under excessive outlet pressure so both the inlet and outlet valves are closed under such conditions.

3,384,111

### POSITIVE LOCKING CHECK VALVE

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Norbert E. Cahill, Anaheim, Calif.

Filed July 20, 1967, Ser. No. 655,724  
6 Claims. (Cl. 137-496)



A check valve assembly capable of opening to allow flow in one direction and of closing and locking to prevent flow in the opposite direction. The valve, by actually locking against reverse flow, is extremely stable and will not flutter or accidentally unseat under vibrational and/or

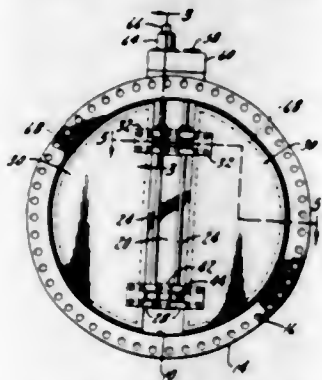


shock loads. Structurally, the valve assembly has a ball detent latch which normally locks the valve in a closed position. The detent latch is normally held in a latched position by the compression spring force of a bellows which is attached to the latch and which is positioned to be expanded by forward flow through the assembly. Upon expansion of the bellows, the valve is unlatched and opened for flow. Reverse flow will reseat the valve, collapse the bellows, and actuate the latch to lock the assembly in a closed position.

3,384,112

## ISLAND CHECK VALVE

Stuart B. Smith, Osprey, Fla., assignor to John W. Woolley, Oak Park, Ill.  
Filed Dec. 15, 1965, Ser. No. 513,951  
12 Claims. (Cl. 137-512.1)

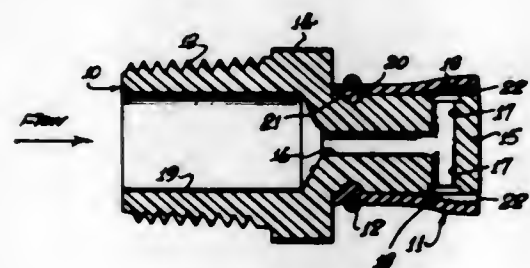


1. In a check valve for use in a conduit or the like, an outer shell, a generally central island within the shell, a pair of vanes, pivotally mounted on opposite sides of said island, for blocking flow through the shell, a pair of spaced torsion members mounted in said island, with each of said vanes being attached to one of said torsion members, means interconnecting said torsion members to distribute the torque applied to either member to both of said members, and yielding means connected to said torsion members for urging said vanes to a normally closed position to block flow through the shell.

3,384,113

## RELIEF VALVE

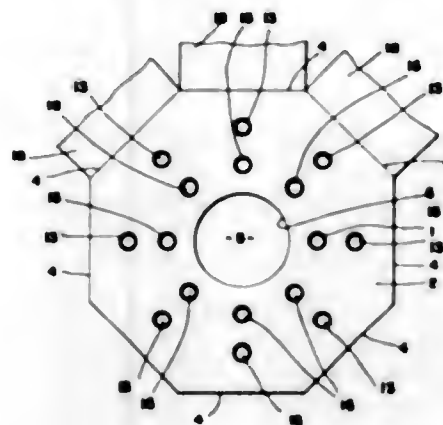
Joseph M. Pennisi, West Lafayette, Ind., assignor to General Dynamics Corporation, a corporation of Delaware  
Filed Nov. 3, 1965, Ser. No. 506,180  
3 Claims. (Cl. 137-525)



A relief valve assembly of the unidirectional flow type comprising a generally tubular-shaped body member having laterally directed vent openings in the wall at one end thereof, a cylindrically shaped rubber boot member which sealingly fits around the body member outer wall so as to cover the vent opening portions, and means for securing the boot member to the body member. In operation, a given fluid pressure which exists in the valve chamber will act against the rubber boot to cause expansion thereof, and consequently a vent passage between the boot and the body member will be formed.

3,384,114  
MANIFOLD FOR MOUNTING VALVES  
RADIALLY

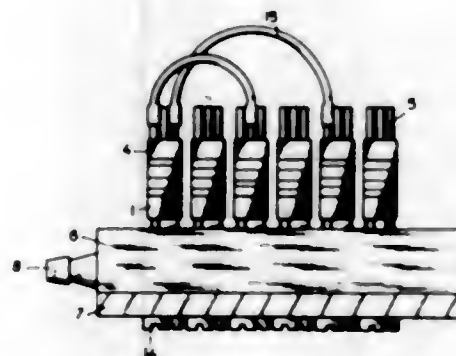
Milton S. Hathaway, 586 Carlin Road, Northfield, Ohio 44067, and John H. Werner, 18000 North Blvd., Maple Heights, Ohio 44137  
Filed Sept. 9, 1965, Ser. No. 486,174  
5 Claims. (Cl. 137-608)



A manifold is provided having axial fluid bores, sides for mounting valves radially, and passageways extending from the bores to said valves, and from the valve to controlled devices remote from the manifold.

3,384,115  
PNEUMATIC LOGIC SYSTEM ON THE  
BLOCK PRINCIPLE

Pavel Dražan, Prague, and Ondřej Brychta, Trenčín, Czechoslovakia, assignors to Zavody průmyslové Automatizace, Národní podnik, Prague, Czechoslovakia  
Filed Sept. 27, 1965, Ser. No. 490,212  
Claims priority, application Czechoslovakia, Sept. 29, 1964, 5,400/64  
4 Claims. (Cl. 137-608)



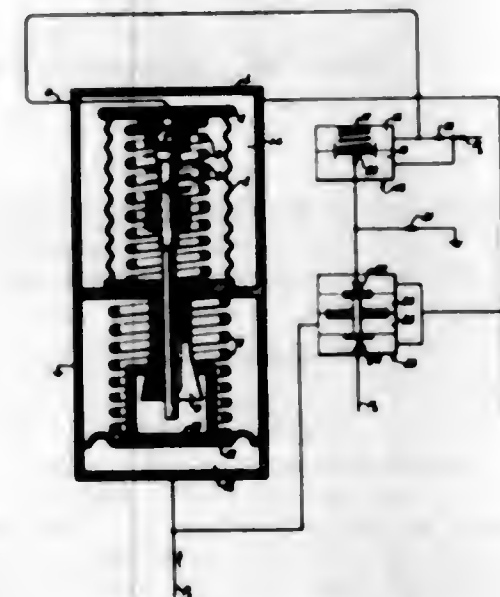
A pneumatic logic system comprising a feeder block which is formed by a top plate and a base plate between which there are disposed a plurality of bores. The latter being in communication with a network of feeder passages which have outlet openings in the top plate of said feeder block, on the one hand, and with the source of pneumatic power, on the other hand. A plurality of logic elements being selectively and removably connected via said network of feeder passages to the plurality of bores of the feeder block. Each logic element has an inlet opening which is placed in communication with a preselected outlet opening of said network of feeder passages by means of a tube of resilient material which is mounted in said outlet opening. Each of the logic elements is composed of a top plate and a bottom plate of uniform ground plan and dimensions, the top plate being provided with at least one opening. Each logic element has moving parts operatively mounted therein which utilize the pressure of

the working medium fed through the feeder block for their operation. The individual logic elements are in operative communication with each other by means of flexible tubes connected to the openings in the top plates thereof.

3,384,116

## PNEUMATIC DEVICE OF LONG-TIME MEMORY

Robert Jurjevich Fedoseev and Jury Alexeevich Konjov, Moscow, U.S.S.R., assignors to Nauchno-Issledovatel'skiy Institut Teploenergeticheskogo Priborostroeniya, Moscow, U.S.S.R.  
Filed May 6, 1964, Ser. No. 365,324  
5 Claims. (Cl. 137-609)



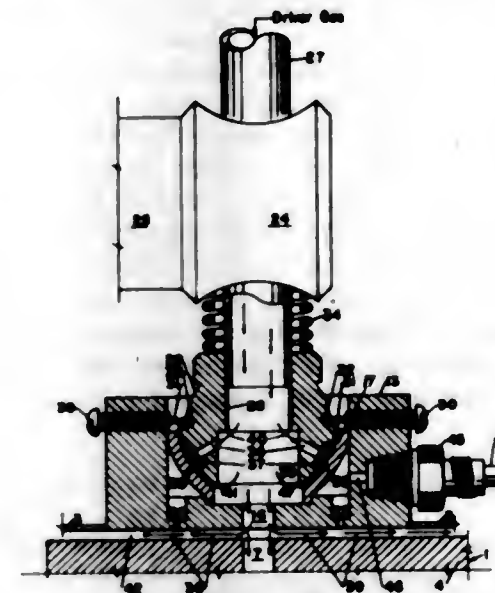
1. A pneumatic device comprising a storing unit adapted for receiving a pulse of a pressure medium, said storing unit including a measuring chamber, an inverter coupled to a supply of pressure fluid and having active and inactive states, valve means coupled to said measuring chamber and to a pressure inlet line, said valve means being responsive to the pulse of pressure medium to pressurize the measuring chamber to the value of the pressure in said inlet line, and sensing means in said storing unit for responding to the pressure in the measuring chamber, said sensing means being coupled to said inverter to activate the same if the pressure in said measuring chamber drops below said value at which it was pressurized, said inverter being coupled to the valve means such that when activated it passes pressure fluid from said supply to said valve means and therefrom to said measuring chamber until the pressure in said chamber, as detected by the sensing means, reaches said value at which the chamber was originally pressurized, said sensing means including means sensitive to the pulse of pressure medium for maintaining a portion of said sensing means in a fixed position corresponding to the original value of pressure in said measuring chamber after termination of said pulse.

3,384,117

FLUID TRANSFER IN WAVE REACTORS  
AND THE LIKE

William B. Hance, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey  
Filed Feb. 1, 1966, Ser. No. 524,019  
4 Claims. (Cl. 137-624.13)

For transferring a pressurized gas to a rotor, a ported essentially stationary shoe member overlies the rotor, with a small gap therebetween. When the device is in operation, the flow of pressurized gas through the port and gap sets up a gas film between the adjacent surfaces of the shoe member and rotor, this film providing a bearing.

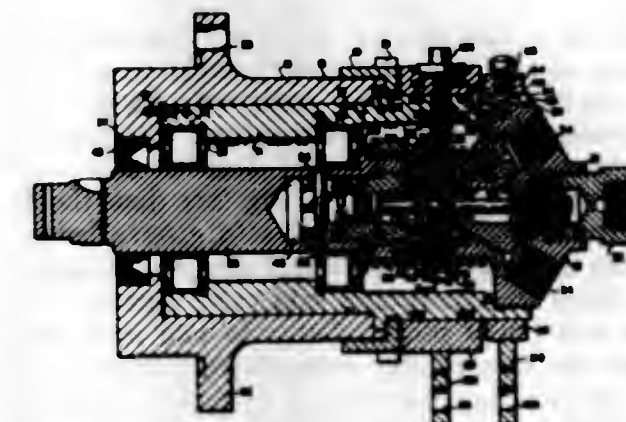


tion of the device the pressurized gas establishes a gas film between the shoe and body members.

3,384,118

## FUEL CONTROL VALVE

Richard P. Heintz and Robert D. Vanderlaan, Kalamazoo, Mich., assignors to Pneumo Dynamics Corporation, Cleveland, Ohio  
Filed Oct. 23, 1965, Ser. No. 503,490  
21 Claims. (Cl. 137-625.21)



1. A fluid control valve comprising housing means having an inlet and a plurality of outlet passages, plate means rotatably mounted in said housing means in biased engagement with a section of said housing means, means for rotating said plate means, said plate means being formed with means for sequentially intercommunicating said inlet and said outlet passages for delivering fluid to the latter, dump means mounted in said housing means and communicating with an area of low pressure, said plate means and said dump means being formed with sequentially communicating passages adapted to connect each of said outlet passages sequentially to said area of low pressure responsive to rotation of said plate means.

3,384,119

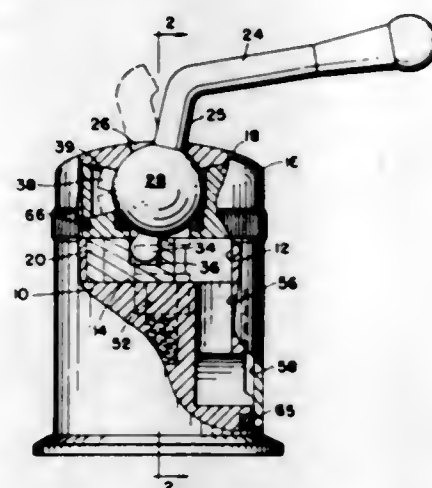
## MIXING VALVE

Alex Manoogian, Detroit, Mich., assignor to Masco Corporation, Detroit, Mich., a corporation of Michigan  
Filed Mar. 16, 1966, Ser. No. 534,751  
3 Claims. (Cl. 137-625.17)

1. A hot and cold water mixing valve comprising a valve body, a flat valve seat formed in said valve body and having hot and cold water inlets and an outlet communicating therewith, sealing means within each inlet having a circular opening coaxial with its inlet and opening into said seat so as to define spaced circular hot and



cold water inlet ports, a flat valve member having a flat surface slidable over said valve seat and sealingly engaging said sealing means, cap means secured to said valve body for slidably confining said valve member against said valve seat, said valve member having circular hot and cold water outlet ports opening from said flat surface and a separate passage intersecting each outlet port and in continuous fluid flow communication with said outlet in said valve body, said outlet ports having the same diameter as said inlet ports and being spaced apart a distance slightly less than said inlet ports, a control groove in the face of said valve member opposite said flat surface and located symmetrically between said outlet ports and to one side of a line joining the centers thereof, a control lever mounted in said cap means for limited rotation about its axis and about a second axis spaced from and



parallel to a line joining the centers of said inlet ports, one end of said lever forming a finger which is cylindrically shaped with its axis transverse to the lever, said finger being seated within said groove with the cylindrical wall thereof engaging the end walls of said groove, the axial length of said finger being less than the width of said groove and the depth of said groove being greater than the diameter of said finger whereby rotation of said lever about its axis rotates said valve member thereby to rotate said outlet ports relative to said inlet ports so as to vary the mix of the water flowing through the valve while maintaining the volume of flow substantially constant, and rotation of said lever about said second axis translates said valve member thereby to translate said outlet ports relative to said inlet ports so as to vary the volume of flow passing through the valve while holding the mix substantially constant.

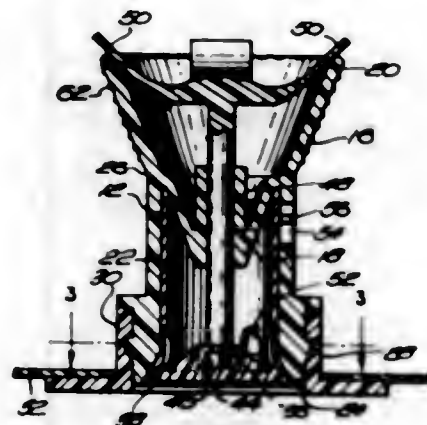
### 3,384,120 SPRING FAUCET

David L. Bourget, Brockton, Mass., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed Dec. 2, 1965, Ser. No. 511,053  
8 Claims. (Cl. 137-625.39)

1. A faucet comprising a body member having a hollow cylindrical portion with an open end and a discharge port through the cylindrical wall at a point substantially spaced from said open end, a hollow inner cylinder slidably fitted in said body member, said inner cylinder having a diaphragm closing one end thereof and a flange extending radially from said diaphragm and adapted to serve as a valve by engaging the open end of said cylindrical portion of the body as its valve seat to close said open end, said inner cylinder having an aperture through its cylindrical wall near its closed end to provide a passage for liquid into the interior of the inner cylinder when said valve is lifted from its seat, said inner cylinder extending beyond and closing said discharge port when said

valve is on its seat, said inner cylinder having two small circumferential ribs integrally formed on its outer surface on opposite sides of said discharge port when the valve is on its seat, said ribs rubbing against the wall of said

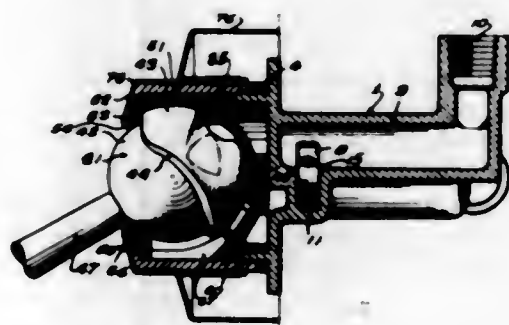


cylindrical portion of the body member when the inner cylinder is moved, means resiliently pressing said valve on its seat and manually operable to move said valve from its seat.

### 3,384,121 MIXING VALVE

Lloyd Spencer, 1842 W. 43rd St.,  
Los Angeles, Calif. 90062  
Continuation of application Ser. No. 359,392, Apr. 13, 1964, which is a continuation-in-part of applications Ser. No. 2,523, Jan. 14, 1960, and Ser. No. 289,806, June 24, 1963. This application Mar. 9, 1967, Ser. No. 622,002

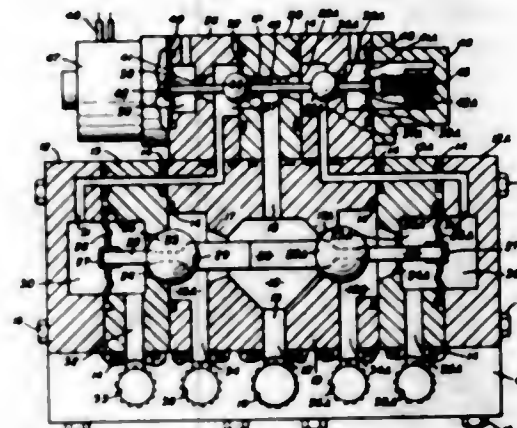
11 Claims. (Cl. 137-625.41)



1. A mixing valve, comprising:
  - (a) a control member of spherical contour;
  - (b) a valve body structure including a journal means for said control member, said journal means and control member cooperating to limit said control member to movement about a point center;
  - (c) means interconnecting said control member and journal means to limit movement of said control member to two axes of movement about said center;
  - (d) a handle for moving said control member;
  - (e) circular confronting stop shoulders formed by said control member and said journal means, one of said stop shoulders being contoured to form a cam having a plurality of facets and peaks therebetween, whereby, on rolling contact with said stop shoulders, said handle and regions at the side of said control member opposite from said handle, describe essentially polygonal figures;
  - (f) and valve units in said body structure confronting said regions and responsive to movement of said control member for opening and closing flow passages therein.

### 3,384,122 SELF-CLEANING POPPET VALVE

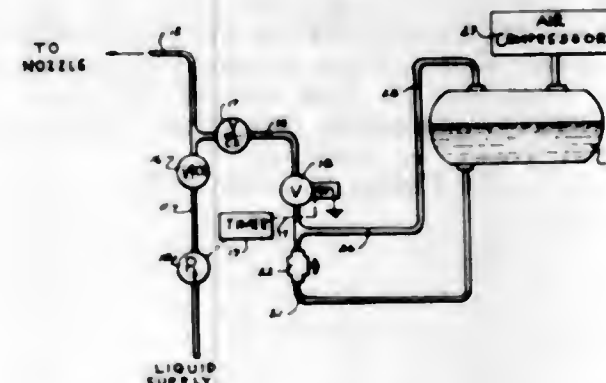
Webster B. Harpman, Youngstown, Ohio, assignor to Kingsley A. Doult, Alpena, Mich.  
Filed July 12, 1965, Ser. No. 471,027  
5 Claims. (Cl. 137-625.64)



More particularly, the invention relates to a four-way self cleaning air valve having a single inlet port. The spool carrying the valves is supported at its ends by diaphragms which reciprocate the spool axially thereof through an air pressure controlled pilot valve. The valve elements carried by the spool have diametrically positioned spherical surfaces which operate between pairs of valve seats.

### 3,384,123 FREEZE PROTECTOR

Robert C. Saddison, Rte. 1, Sturgis, Mich. 49091  
Filed May 27, 1966, Ser. No. 553,445  
8 Claims. (Cl. 138-34)



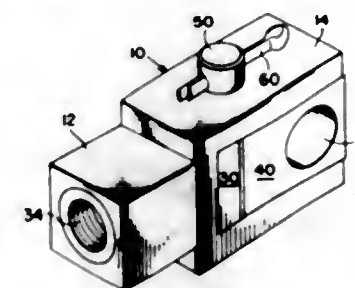
1. A system for preventing the freezing of liquids in conduits, comprising:
  - first conduit means and supply means for effecting the supply of a freezable liquid to said first conduit means;
  - a second conduit means connected to said first conduit means;
  - a source of an antifreeze and a compressed gas source, both of which are connected for supplying antifreeze and pressurized gas to said second conduit means;
  - control means for alternatively connecting (1) said supply means, and (2) said antifreeze source and said compressed gas source, to said first conduit means.

### 3,384,124 SWIVELED DOBBY CONNECTOR

John B. Sherrill, Drawer 578, Gastonia, N.C.  
Filed Feb. 23, 1967, Ser. No. 618,031  
5 Claims. (Cl. 139-46)

The dobby connector of the present invention is so constructed as to cause most of the stresses created on the connector during the forward stroke of the actuating

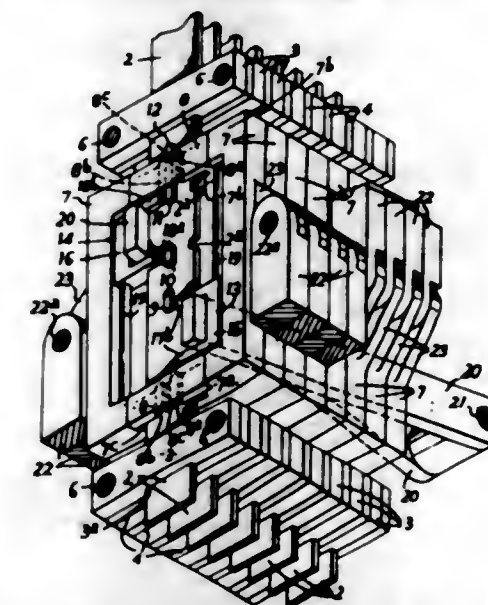
lever to be absorbed by a bearing surface located between the swivel block and the main portion of the dobby con-



necter, rather than to be absorbed by the swivel pin alone, as is the case in prior art devices.

### 3,384,125 CONTROL MECHANISM FOR TEXTILE MACHINERY

Kenneth Wright, Coalville, England, assignor to Clutson & Kemp Limited, Coalville, England, a British company  
Continuation of application Ser. No. 505,504, Oct. 28, 1965. This application Oct. 20, 1967, Ser. No. 676,980  
Claims priority, application Great Britain, Oct. 28, 1964, 43,884/64  
8 Claims. (Cl. 139-66)



A loom dobby mechanism for timing the lifting and lowering movements of healds under patterning control, characterized by the absence of return springs and including a row of drivers disposed on either side of a set of heald shafts, one of each row being engageable and disengageable with one of the heald shafts, to lift and lower the latter, cam controlled driving levers for vertically reciprocating the drivers, opposed control means for engaging and disengaging said drivers with and from said heald shafts and locking means for holding heald shafts in their raised positions.

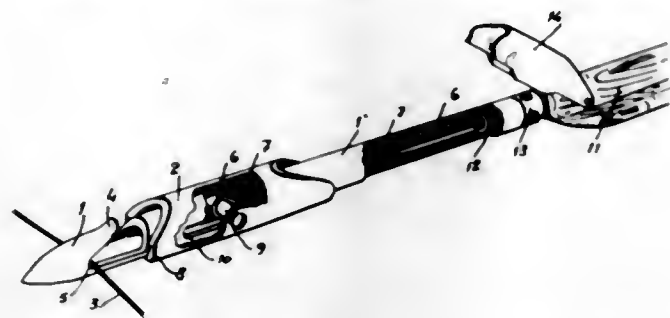
### 3,384,126 WEFT THREAD INSERTING DEVICE IN WEAVING MACHINES

Ramon Balaguer Golobart, Calle Caspe 86,  
Barcelona, Spain  
Filed Nov. 24, 1965, Ser. No. 509,502  
Claims priority, application Spain, Dec. 9 1964, 307,145  
8 Claims. (Cl. 139-122)

A weaving machine having a hollow rigid member for inserting a weft thread through the shed, with a clamping member for the thread at one end and a controlling mechanism for the clamping member at the other end, the clamping member having a fixed jaw and a movable jaw, at least one of the jaws having a throat for the in-



section of the thread to be clamped, the movable jaw being slidably arranged on the fixed jaw and moved, in one direction, by a spring and in the opposite direction



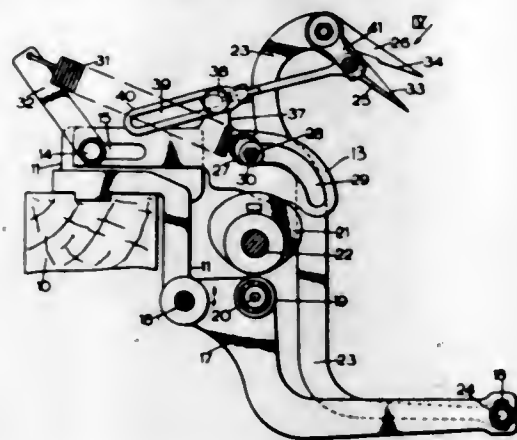
by a traction member controlled by said controlling mechanism in timed relationship to the reciprocating movement of the weft thread inserting member.

3,384,127

### WEFT CUTTER FOR A LOOM WITH A STATIONARY WEFT SUPPLY

Mariano Balbe, Barcelona, Spain, assignor to Magin Desveus Duran, San Olegario, Sabadell, Spain  
Filed Apr. 25, 1966, Ser. No. 544,726  
Claims priority, application Spain, June 28, 1965, 314,730

7 Claims. (Cl. 139—122)



A weft cutter for use in a rapier loom to sever one arm of a loop of weft drawn into the shed by a rapier at about the time when this rapier is transferring the loop to a rapier operating from the other side of the loom so that the second rapier draws out the loop into a single strand of weft comprises a pivoted carrier lever assembly carrying a fixed jaw 25 and a movable jaw 26 with the movement of the carrier lever assembly so modified by cooperating guide slot and follower means that the jaws are constrained to move in an arcuate substantially vertical path, and a cooperating operating member that positively closes the jaws when the cutter is lowered and positively opens them when it is raised, an associated hook holding any weft threads other than the operative one out of the way of the cutter.

3,384,128

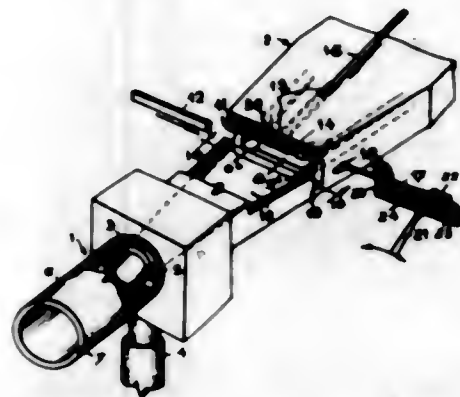
### DEVICE FOR MAKING UP A WEFT

Theodorus Franssen, Deurne, Netherlands, assignor to N.V. Machinefabriek L. te Strake, Deurne, Netherlands, a Dutch company  
Filed May 16, 1966, Ser. No. 550,274  
Claims priority, application Netherlands, May 18, 1965, 65-6,334

5 Claims. (Cl. 139—127)

A device for making up a weft to be used in connection with a loom, comprising a nozzle for blowing a stream of air, a passage having an outlet end adjacent the stream of air issuing from the nozzle and having an inlet end

into which secondary air is drawn by the jet action of the stream of air issuing from the nozzle in order to entrain an end of a weft thread presented at the inlet end of the passage, and to carry such end of the thread through the passage to a point at which such end of the thread is entrained by the stream of air issuing from the nozzle to cause a length of the weft thread to be drawn through the passage and blown into the shed, a needle mounted for movement in an axial path, to engage a weft



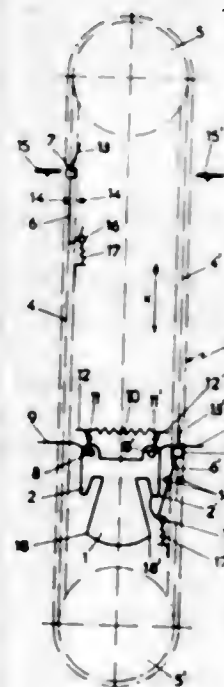
thread and present it at the inlet end of the passage, a tackle member movable across the path of movement of the needle, having a thread-engaging device for entraining a portion of the weft thread during movement of the tackle member, and mechanism for moving the tackle member to entrain a portion of the thread and thereby draw such portion of the thread across the path of movement of the needle into position to be engaged by the needle during subsequent axial movement of the needle.

3,384,129

### DRAW HOOK CONTROL ARRANGEMENT

Jakob Muller, Frick, Aargau, Switzerland  
Filed May 11, 1966, Ser. No. 549,273  
Claims priority, application Switzerland, May 13, 1965, 6,692/65

10 Claims. (Cl. 139—138)



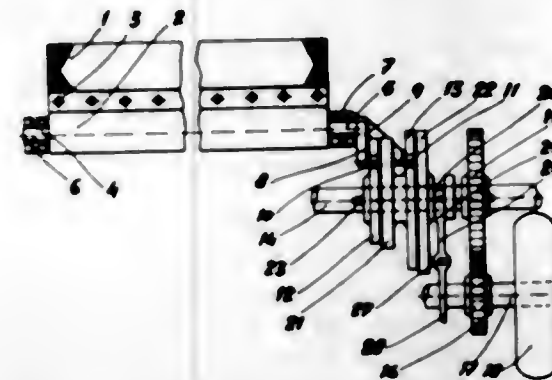
Freely turnable draw hooks on the runs of an endless shuttle chain are alternately coupled with a reciprocating knife which causes movement of the draw hooks to an operative position located in the path of the knife when arriving at the end positions of the reciprocating motion.

3,384,130

### LAY MOTION FOR LOOMS

Ramón Balaguer Golobart, 86 Calle Caspe, Barcelona, Spain  
Filed Feb. 16, 1966, Ser. No. 527,797  
Claims priority, application Spain, Feb. 17, 1965, 309,844

1 Claim. (Cl. 139—190)



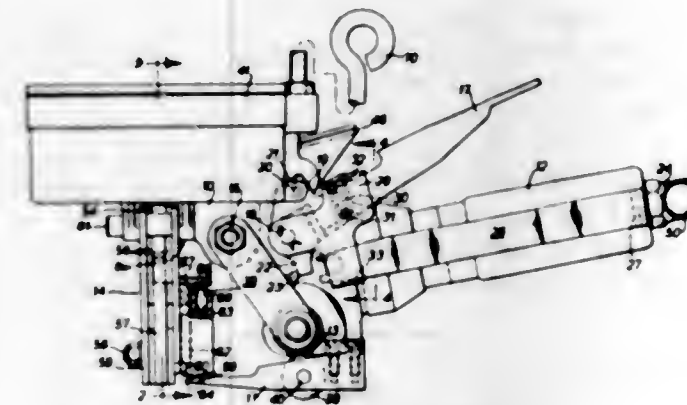
A beating up mechanism for weaving machines, wherein the reciprocating movement of the lay and reed is caused by means of two sets of first and second cams forming a unit axially displaceable on a driven cam shaft for selective engagement with a pair of divergent arms secured to said lay and provided on their ends with respective rollers, so that the operation of said lay and reed may be altered.

3,384,131

### POWER-OPERATED STRAPPING TOOL

Robert David Sansum, Enfield, England, assignor to Gerard Industries Limited, London, England, a British company  
Filed Feb. 7, 1966, Ser. No. 525,694  
Claims priority, application Great Britain, Feb. 12, 1965, 49,584/64

9 Claims. (Cl. 140—93.2)



A power-operated strapping tool for tensioning and securing a strap of metal around a package having an air motor assembly including a rotary gripper wheel for engaging and applying tension to the strapping. A strap severing means is embodied in the tool and upon severing the strap at the end of a cycle of operation of said tool results in a sudden release of tension on the gripper wheel and a stopping of the motor.

3,384,132

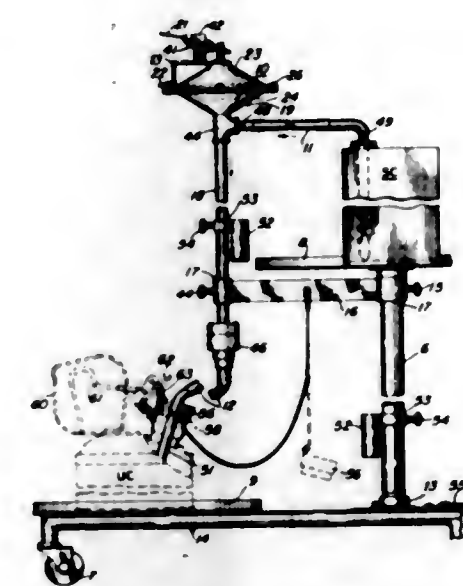
### FLAMMABLE LIQUID TRANSFER STATION

Constantine Lisciani, Westchester, Ill., assignor to The Protocoseal Co., a corporation of Illinois  
Filed Jan. 21, 1966, Ser. No. 522,176

4 Claims. (Cl. 141—18)

The disclosure describes a pair of container-supporting platforms secured in vertically-spaced relationship on a

mobile standard which mounts an elevated manually controlled pump for the purpose of effecting the transfer of



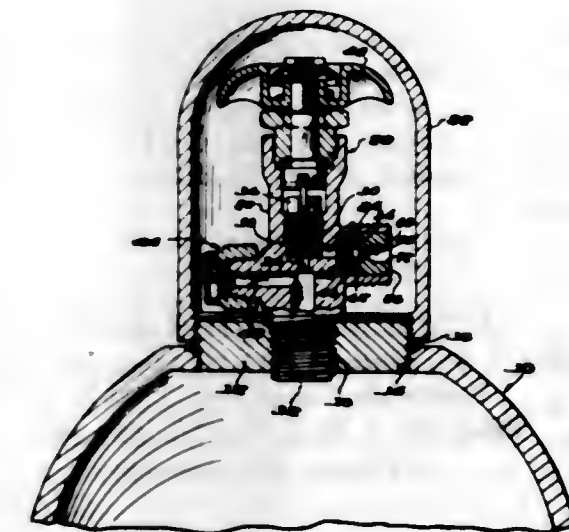
flammable liquids from one container to another and meeting all safety standards.

3,384,133

### ARRANGEMENT FOR FILLING OR REFILLING A DISPENSER

William E. Gordon, 1351 Terrace Drive, Pittsburgh, Pa. 15209  
Filed July 1, 1965, Ser. No. 468,857

4 Claims. (Cl. 141—21)



Method and apparatus to determine whether the interior of a refillable gas storage cylinder has been contaminated. The outlet passageway of the manually operable control valve has a pressure responsive valve positioned therein. The pressure responsive valve closes the outlet passageway when the gas within the cylinder reaches a predetermined minimum pressure thus retaining a preselected quantity of gas within the cylinder. Since the gas is at a pressure above atmospheric pressure, contaminants cannot enter the cylinder through the valve outlet port. At the refilling station, the pressure responsive valve is manually opened and a sample of the residual gas is withdrawn from the cylinder and analyzed for contaminants. The residual pressure of the gas within the cylinder is also measured to determine whether the pressure responsive valve remained closed to retain the preselected quantity of gas therein. To open the pres-

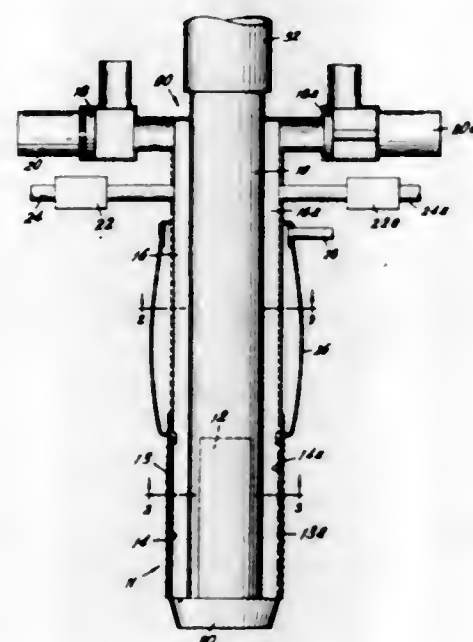


sure responsive valve, a separate mechanical actuator is inserted in the outlet passageway of the manually operable control valve and urges the pressure responsive valve open against the pressure within the gas cylinder.

3,384,134

## FILLING TUBE

Oswald G. Hillerns, Plainfield, N.J., assignor to Union Carbide Corporation, a corporation of New York  
Filed May 25, 1965, Ser. No. 458,577  
14 Claims. (Cl. 141-10)

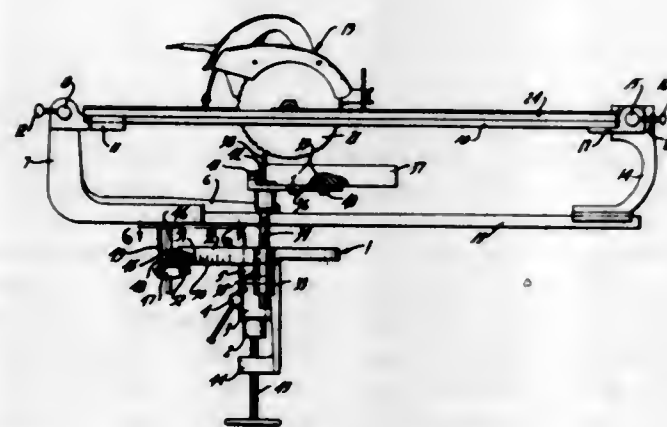


A filling tube for delivering fluidized particulate material into air-imperious industrial bags is provided. The tube has filtered vents for removing fluidizing air from the entering material. The filters are cleaned intermittently while venting of the fluidizing air takes place continuously.

3,384,135

## GUIDE MEANS FOR SAWS

Arthur J. Frydenlund, 533 N. Marquette Road, Prairie du Chien, Wis. 53821  
Filed July 1, 1966, Ser. No. 562,250  
12 Claims. (Cl. 143-6)



1. In a mitre-guide for saws, the combination comprising:

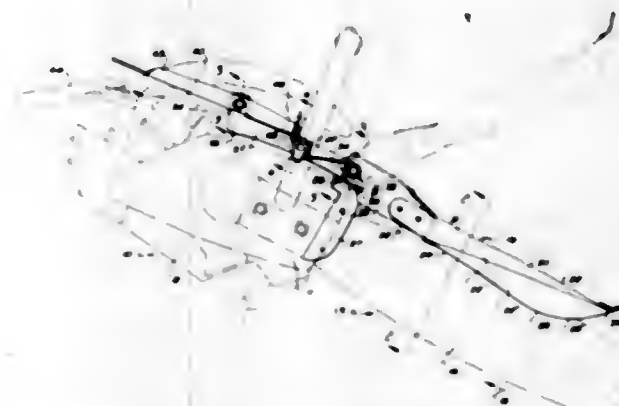
- (a) a frame,
- (b) a pair of saw guide rails,
- (c) means mounting said rails to said frame,

- (d) said mounting means being constructed to permit horizontal pivotal movement of said rails relative to said frame,
- (e) means on said frame for adjusting said rails vertically relative to said frame,
- (f) a work support,
- (g) and means mounting said work support to said frame,
- (h) said last-named mounting means including:
  - (1) means for adjusting said work support vertically relative to said rails,
  - (2) and means for adjusting said work support horizontally relative to said rails.

3,384,136

## CHAIN SAW GUARD

Emil Marin, 291 Grenville Ave., Mirko Drakulich, R.R. 3, and Bart McDonagh, all of Port Arthur, Ontario, Canada; said McDonagh assignor to said Marin and said Drakulich, both of Port Arthur, Ontario, Canada  
Filed Feb. 18, 1966, Ser. No. 528,514  
8 Claims. (Cl. 143-32)

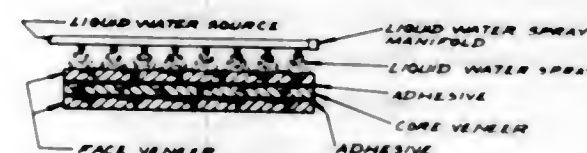


This relates to a chain saw guard having a substantially U-shaped cross section and normally overlying the upper run of the chain saw. The guard is pivotally secured to the chain saw so that as the chain saw is used, the guard is moved upwardly clear of the chain. Also a spring returns the guard to the shrouding position. A finger operated lever and cable and sheave assembly extending from one end of the lever to the guard, enables the guard to be elevated substantially at right angles when it is desired to use the chain saw without a guard.

3,384,137

## HOT PRESS PLYWOOD

Jacob R. Ash, West Seattle, Wash., assignor to Monsanto Company, a corporation of Delaware  
Filed July 8, 1963, Ser. No. 293,275  
4 Claims. (Cl. 144-309)



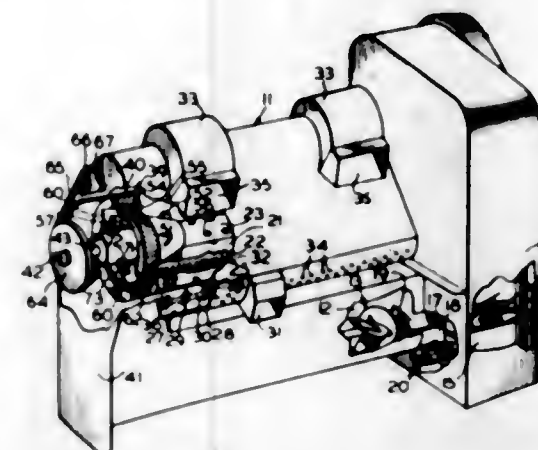
1. In a process for the manufacture of plywood which comprises the assembly of a plurality of adhesive coated wood veneers and subsequent consolidation of said assembly under heat and pressure, the improvement which

comprises applying liquid water to at least one of the outer surfaces of said assembly just prior to hot pressing in a proportion of at least about 3 pounds per 1000 square feet of surface area.

3,384,138

## CORN SHELLER AND COB GRINDER

Kenneth D. Johnson, East Moline, and Elvin L. Carlson, Moline, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware  
Filed Feb. 7, 1966, Ser. No. 525,616  
2 Claims. (Cl. 146-71)

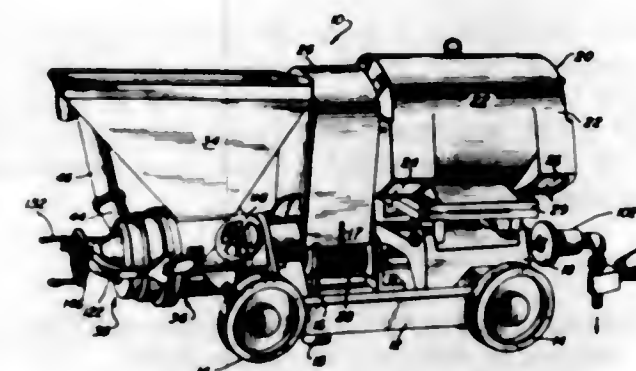


A corn processing machine for processing ear corn. The corn processing machine includes a corn shelling section which shells and collects the corn kernels and a cob grinding section which grinds the cobs after they have been separated from the kernels. The output of the corn processing machine is thus separated into a batch of shelled corn and a batch of ground cobs which may then be mixed at a selected ratio.

3,384,139

## COMMINUTING AND DEAERATING MACHINE

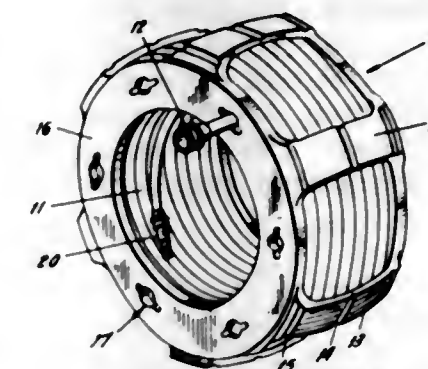
Carl Schnell, Winterbach, near Schorndorf-Wurtemberg, Germany, assignor of one-half to The Griffith Laboratories, Inc., Chicago, Ill., a corporation of Illinois  
Filed Feb. 1, 1966, Ser. No. 524,010  
Claims priority, application Germany, Aug. 7, 1965, Sch 37,519  
4 Claims. (Cl. 146-182)



Continuous food comminuting and deaerating apparatus wherein upstream of a comminuting area which is sealed to prevent ingress air, is a rotating deaerating element with outwardly extending projections and openings between the projections through which a vacuum is drawn as the food material is directed radially outward by centrifugal force.

3,384,140  
HOSE REEL

Jack Brothers, 34 St. Mary Drive, Succasunna, N.J. 07876  
Filed Aug. 29, 1966, Ser. No. 575,845  
7 Claims. (Cl. 150-52)

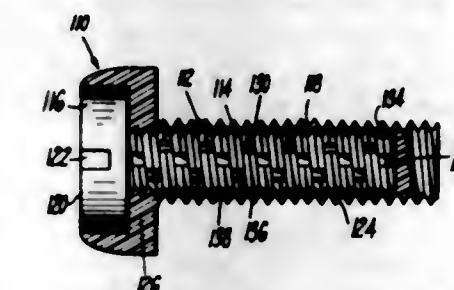


A collapsible device for storing flexible lines, such as hoses and the like, in the interior thereof in such a manner as to permit both ends of the flexible lines to be available for use whether the flexible line is partially or totally coiled within the storage device. The design of the device permits it to be stored in a collapsed condition when not used as a holder for the flexible line.

3,384,141

## COMPOSITE SCREW

Harold W. Kost, Suffield, Conn., assignor to Connecticut International Corporation, Windsor Locks, Conn., a corporation of Connecticut  
Filed July 8, 1966, Ser. No. 563,857  
7 Claims. (Cl. 151-7)



A composite fastener comprising a one-piece metal core having a shank and a flat head radially extending in perpendicular relation to the shank, and a tensioned shell of molded plastic material surrounding and compressively engaging the core. The shell shown in FIGS. 1 and 2 includes a molded compressible unthreaded neck portion extending under the head of the core which reinforces the neck portion for effecting a fluid tight seal with a surface surrounding a mating threaded opening at a juncture of the neck portion with molded threads formed on the shell surrounding the core shank, said juncture being in axially spaced relation to the head of the core. The modified form of the fastener shown in FIG. 2 features a neck portion having a fillet for sealing the opening, and the thread profile construction of FIG. 4 provides a fluid seal between the fastener threads and the threaded opening.

3,384,142

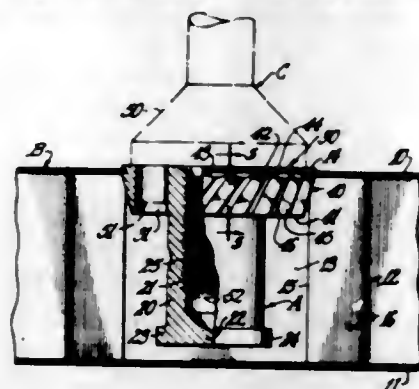
## SANDWICH PANEL INSERT, ROTATABLE SNAP-IN TYPE

Charles S. Phelan, Tustin, Calif., assignor to Frederick W. Robe, Placentia, Calif.  
Filed Apr. 5, 1965, Ser. No. 445,416  
11 Claims. (Cl. 151-41.73)

1. An insert fastener for installation in a lightweight sandwich panel embodying spaced skins attached to opposite sides of a low-density core, having a hole extending through one of said skins and through said core, said hole beginning with an opening in said one skin sheet, said



fastener comprising, in combination: a tubular body and an integral, radially enlarged head at one end thereof, said insert having a fastener element receiving bore extending through said head and into said body; said head having a plurality of helical flutes collectively defining a frusto-conical periphery operable as a screw-feed expander cone for forcible passage through said opening, said cone having a smaller end of less diameter than said opening, for free entry therein, the ends of said flutes at said larger end collectively defining an annular shoulder having an outer diameter greater than the diameter of said opening, for engagement against the inner side of



said one skin at the margin of said opening; said flutes having helical crests adapted to penetrate said margin in response to axial pressure applied to said head, so as to develop in said margin a plurality of notches and intervening teeth intermeshing with said flutes so as to develop between said cone and said one skin sheet, in response to a combination of axial pressure and rotative torque applied to said head, a camming action facilitating the passage of said cone through said opening with a minimum of axial pressure such as to avoid compressive damage to said panel; said flutes being helically pitched at an angle of between 30 degrees and 60 degrees to a circumference of said cone periphery.

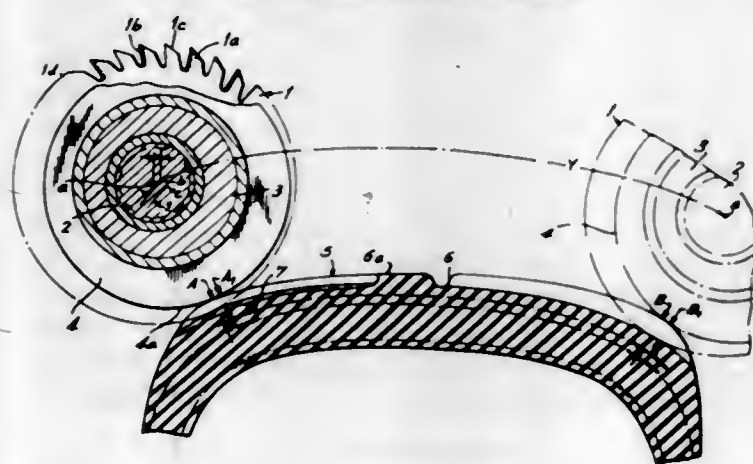
3,384,143

## NONSID TIRE

Robert B. Sommer, 46 Laurie Drive,  
Englewood Cliffs, N.J. 07632

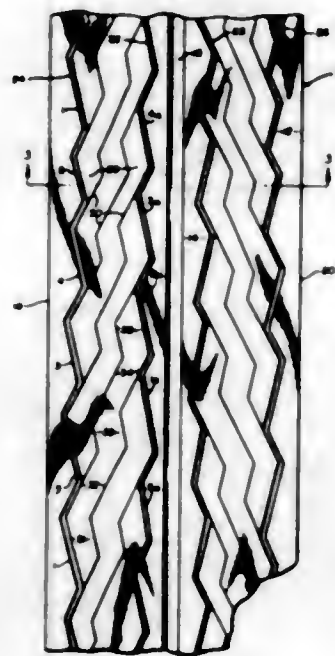
Original application Dec. 20, 1965, Ser. No. 488,566.  
Divided and this application Jan. 23, 1967, Ser.  
No. 636,225

2 Claims. (Cl. 152-209)



The present invention is drawn to a modified pneumatic tire having an annular carcass, a tread of uneven thickness circumferentially and axially of the carcass, the tread being provided with spaced transverse grooves wherein the thickness of each groove along the length thereof is proportional to the tread as seen in an axial plane containing each groove, so that the bottoms of all the grooves are spaced substantially the same distance from the periphery of the carcass with each groove having a constant width and the depth of at least the major part of each groove is substantially greater than its width.

3,384,144  
LONG WEAR SAFETY TIRE TREAD  
Michael Tiborez, 714 W. Market St.,  
Akron, Ohio 44303  
Filed Dec. 28, 1965, Ser. No. 516,992  
9 Claims. (Cl. 152-209)



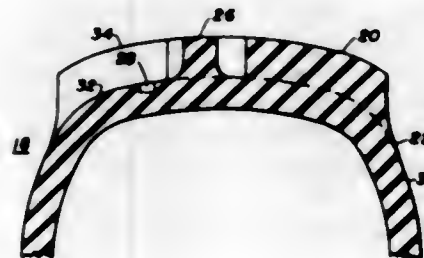
A pneumatic tire having a ground contacting surface that is divided into sections by circumferential grooves. Each of said sections containing a series of substantially V-shaped grooves grouped in a repetitive pattern about the circumference of the tire.

3,384,145

## TIRE

Otto J. Wolfer, Park Ridge, Ill., assignor to Union Oil  
Company of California, Los Angeles, Calif., a corpo-  
ration of California

Filed Nov. 8, 1965, Ser. No. 506,727  
14 Claims. (Cl. 152-330)



A vehicle tire having a tread comprised of cross lugs or ribs defining voids therebetween which includes a tread depth reference marker comprised of at least one depression in the lowermost surface of one of the voids between the lugs and adapted to receive a tread depth measuring instrument.

3,384,146

## TIRE GROOVING APPARATUS AND METHOD

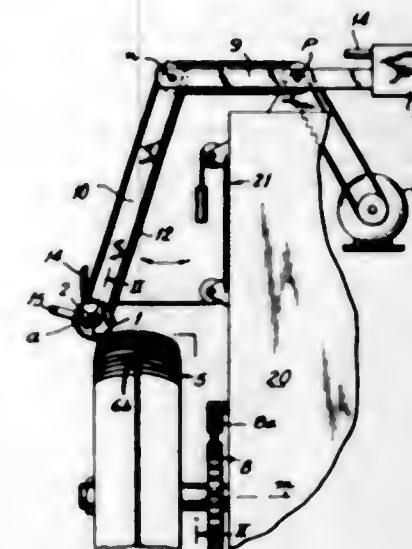
Robert B. Sommer, 46 Laurie Drive,  
Englewood Cliffs, N.J. 07632

Original application Jan. 23, 1967, Ser. No. 686,225.  
Divided and this application Sept. 20, 1965, Ser.  
No. 488,566

12 Claims. (Cl. 157-13)

The present invention is drawn to a modified pneumatic tire having an annular carcass, a tread of uneven thickness circumferentially and axially of the carcass, the tread being provided with spaced transverse grooves wherein the thickness of each groove along the length thereof is proportional to the tread as seen in an axial

plane containing each groove, so that the bottoms of all the grooves are spaced substantially the same distance from the periphery of the carcass with each groove having a constant width and the depth of at least the major part of each groove is substantially greater than its width, and the process and the apparatus for making the same



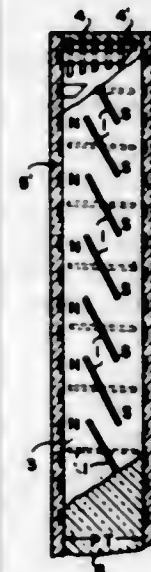
comprising a frame, indexible tire supporting means, cutter means movably supported on the frame into a region adjacent to the tread, the cutter means being movable by hand to cut transverse grooves in the tread. The apparatus may further include guide means having two regulating members for adjusting the maximum depth of penetration of the cutter.

3,384,147

ELECTRICALLY ADJUSTABLE VENETIAN  
BLIND STRUCTURE

Richard D. Smith, 913 N. Liberty St.,  
Arlington, Va. 22205

Filed Apr. 13, 1966, Ser. No. 542,360  
14 Claims. (Cl. 160-107)



1. An electrically adjustable shutter-like structure comprising a plurality of slat elements, substantially rigid means for mounting said elements for movement, and means for applying an electrical force field directly to said elements for selectively positioning said elements, said last named means comprising two orthogonally oriented box-like coil configurations which together completely surround said slat elements and said substantially rigid means.

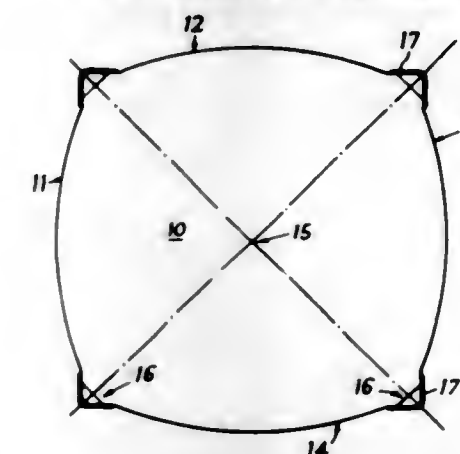
3,384,148

## UPHOLSTERY SUPPORTS

John Francis Sargison, Burton-on-Trent, and Douglas  
Charles Marlow, Etwell, England, assignors to Pirelli  
Limited, London, England, a British company

Filed May 13, 1966, Ser. No. 549,864  
Claims priority, application Great Britain, May 18, 1965,  
20,888/65

11 Claims. (Cl. 160-368)

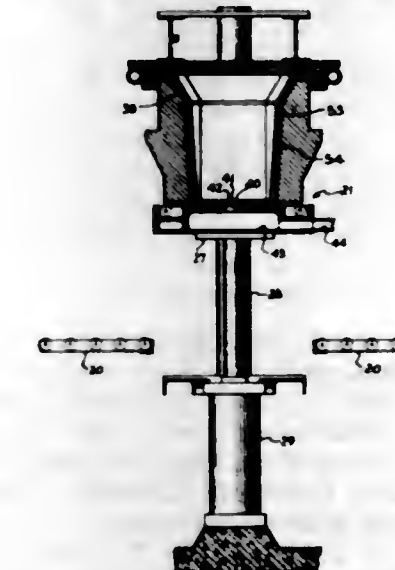


An upholstery support of resilient material having support means attached thereto and with at least two of the side edges being curved outwardly throughout a major portion thereof with respect to one another and to the center point of the support.

3,384,149

METHOD FOR FORMING HOT TOP LINERS  
Fred Eastwood, Fairview Park, Ohio, assignor, by mesne  
assignments, to Fosco Trading A.G., Graubunden,  
Switzerland, a company of Switzerland

Filed Dec. 6, 1965, Ser. No. 511,793  
8 Claims. (Cl. 164-33)



1. The method of forming heat-insulating liners in hot top casings for use on big-end-up ingot molds, which method comprises the steps of continually advancing a plurality of the hot top casings in seriatim to a fixed lining station, inserting a perforated forming tool into each casing arriving at the fixed lining station so as to form an annular cavity between the inner surface of the casing and the outer surface of the forming tool, feeding a slurry comprising a finely divided refractory material, a fibrous material, and a liquid carrier into said cavity and withdrawing the liquid carrier through the interior of the perforated forming tool so as to build up a layer of the fibrous and refractory materials in said cavity, withdrawing the forming tool from the casing and the layer of fibrous and refractory materials so that said layer forms a liner on the inner surface of the casing, continually advancing each casing away from the lining station and drying the liner therein sufficiently to permit the



casting of molten metal in the lined casing, and mounting each casing with its dry liner on a big-end-up ingot mold for the next casting operation.

3,384,150

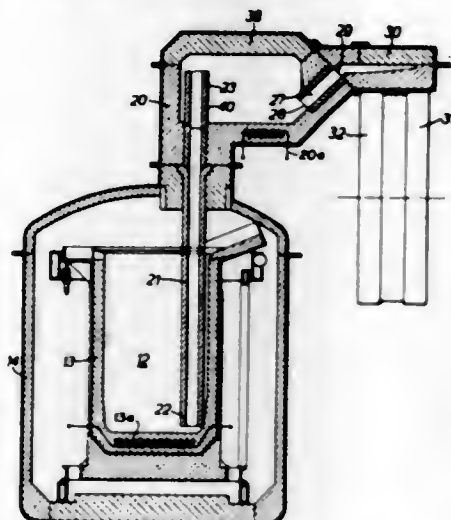
### CONTINUOUS CASTING WITH CONTROLLED FEEDING FROM PREDETERMINED SUPPLY

David Russell Newsome, Sheffield, England, assignor to Davy and United Engineering Company, Limited, Sheffield, Yorkshire, England

Filed Oct. 25, 1965, Ser. No. 506,619

Claims priority, application Great Britain, Oct. 26, 1964, 43,586/64

8 Claims. (Cl. 164—155)



1. Apparatus for continuously feeding flowable material from a container holding a predetermined amount of said material to a device for imparting a shape to said material, said apparatus comprising a reservoir for said material connected by flow passages to said container and said device, means for applying gas under pressure to cause said material to flow continuously from said container into said reservoir, means for applying gas under pressure to said reservoir to cause said material to flow continuously from said reservoir to said device, and means for regulating the gas pressure applied to both said container and reservoir in dependence upon the level of material in said reservoir to maintain said level substantially constant.

3,384,151

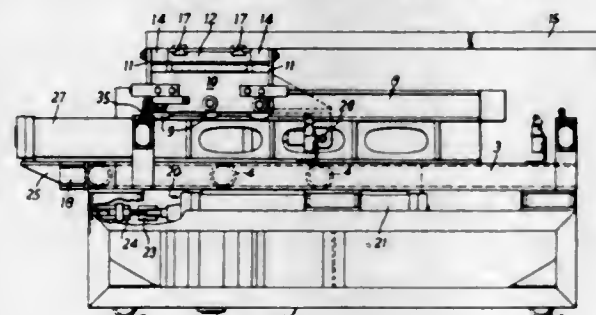
### APPARATUS FOR REMOVING SHELL MOULDS FROM A SHELL MOULDING MACHINE

Peter Reid Kerr, Richmond, Surrey, and Max Alderson, Kings Newton, Derbyshire, England, assignors to Kera-matic Engineering Company Limited, Kingston-upon-Thames, England, a British company

Filed Sept. 22, 1965, Ser. No. 489,172

Claims priority, application Great Britain, Sept. 22, 1964, 38,663/64

10 Claims. (Cl. 164—180)



Apparatus for removing resinated sand shell moulds from a shell moulding machine comprises a base frame supporting a first wheeled carriage movable along the frame, the first carriage supporting a second wheeled carriage movable along the first carriage and carrying a plu-

rality of cantilevered and tiltable fingers; the carriages are movable along the frame to present the fingers below shells produced in the shell moulding machine and to remove the shells from the machine, whereupon tilting of the fingers presents the shells in a position in which they can be readily removed from the fingers.

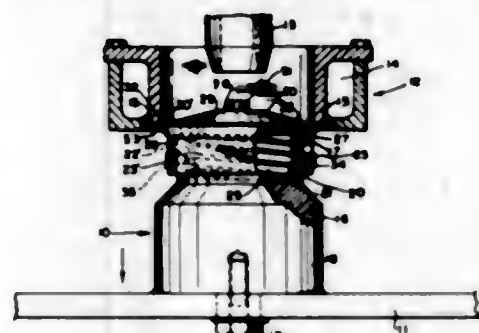
3,384,152

### STARTING BLOCK ASSEMBLY FOR CONTINUOUS CASTING APPARATUS

John C. Olsen, Bigfork, and Charles E. Taylor, Columbia Falls, Mont., assignors to Anaconda Aluminum Company, a corporation of Montana

Filed Apr. 1, 1966, Ser. No. 539,412

8 Claims. (Cl. 164—274)



1. In continuous casting apparatus having a mold open at both ends, means for introducing molten metal into one end of the mold, means for cooling the mold, and withdrawal means for continuously withdrawing the cast metal from the outlet end of the mold, the improvement in combination therewith of a starting block assembly comprising:

- a base section of the starting block fixed to the withdrawing means and movable therewith,
- an upper section mounted on the base section and movable therewith,
- axial pressure means positioned between the base section and the upper section for holding the sections normally axially and resiliently spaced from each other,
- an enlarged seating portion of said upper section having a circumference greater than that of the mold opening, and
- a mold outlet seating portion framing the outlet end of the mold for receiving the seating portion of the upper section in sealing contact.

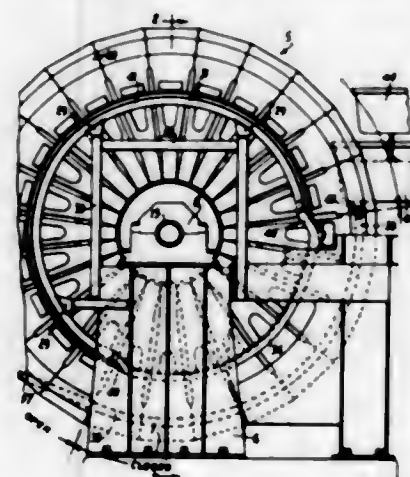
3,384,153

### ROTARY TYPE CONTINUOUS CASTING MACHINE

Arnold H. Boehm, 5629 Rand Ave., Cote St. Luc, Montreal, Quebec, Canada

Filed Apr. 7, 1965, Ser. No. 446,173

13 Claims. (Cl. 164—279)



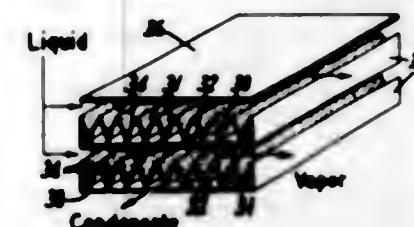
A method and apparatus for continuously casting metal in ingot form in an arcuate channel having open ends.

3,384,154

### HEAT EXCHANGE SYSTEM

Robert M. Milton, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York  
Continuation-in-part of applications Ser. No. 849,608 and Ser. No. 849,665, Oct. 29, 1959, which in turn are a continuation and division, respectively, of Ser. No. 607,233, Aug. 30, 1956. This application May 12, 1964, Ser. No. 366,853

6 Claims. (Cl. 165—1)



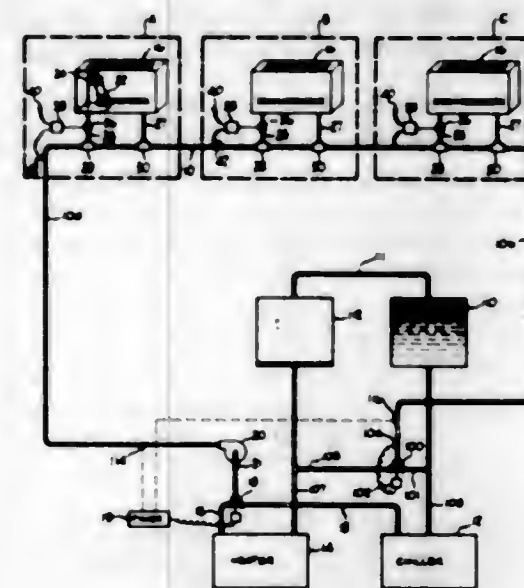
5. A process for transferring heat from a warm fluid to a boiling liquid comprising the steps of providing heat exchange apparatus having a thermally conductive wall with a porous boiling layer bonded to one side of such wall, said porous boiling layer being constructed of thermally conductive particles bonded together to form interconnected pores of capillary size having an equivalent pore radius less than about 4.5 mils; completely covering said porous boiling layer directly with said liquid as at least a liquid film; and contacting the warm fluid with another side of said wall such that vapor bubbles are formed within said porous boiling layer by heat transferred thereto from said warm fluid; and discharging said vapor as bubbles emerging from said porous boiling layer into the liquid film portion covering said porous boiling layer.

3,384,155

### AIR CONDITIONING SYSTEM

Alwin B. Newton, York, Pa., assignor to Borg-Warner Corporation, a corporation of Illinois  
Filed Jan. 24, 1966, Ser. No. 522,588

11 Claims. (Cl. 165—2)



An air conditioning system in which a heated and chilled liquid heat exchange medium is alternately made available to the heat exchange units in various zones. Temperature sensors associated with both the supply conduit and ambient air operate a control which permits the heat exchange medium to be supplied to the heat exchangers only when chilled medium is available and the zones require cooling, or when heated medium is available and the zones require heating.

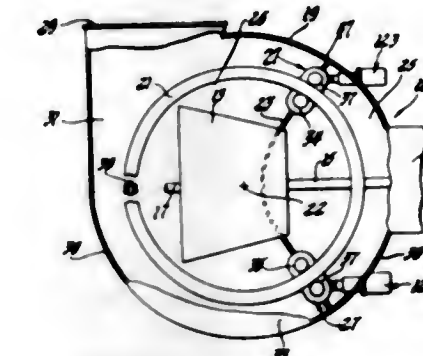
3,384,156

### ROTARY REGENERATOR

Albert N. Addie, La Grange Park, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 9, 1967, Ser. No. 644,860

11 Claims. (Cl. 165—8)



A rotary regenerator of the drum matrix type particularly adapted for use with gas turbines and also suited for a locomotive installation. The regenerator matrix is located and supported by two parallel rollers engaging the matrix rims at the inner or hot face of the matrix adjacent the bulkhead. The main seals are pivoted adjacent the drive rollers so that they can rotate to align with the matrix notwithstanding expansion and distortion. The angular position of the main seals is determined by aligning rollers engaging the outer or cold face of the matrix and mounted on the main seal frame. These are biased into engagement with the matrix by springs. These springs, and also the gas pressures on the matrix when the engine is operating, press the matrix against the hot side rollers, one of which drives the matrix by friction against the rims. A pressure-responsive device reduces the spring loading on the aligning rollers as the pressure rises on the engine. Bumpers or dampers prevent sudden loosening movement of the aligning rollers in response to shock loads. The support rollers and the main seal assemblies are supported on the case and bulkhead of the regenerator and the matrix is located radially and axially at these points and is additionally located axially by rollers engaging the rims of the matrix at a circumferential point remote from the main seals.

3,384,157

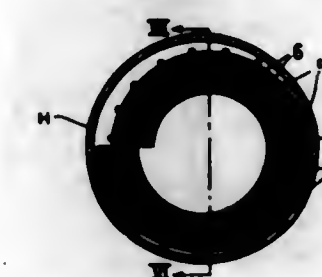
### REGENERATOR

Gerben Vonk and Hermen Zwagerman, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 26, 1965, Ser. No. 482,872

Claims priority, application Netherlands, Sept. 11, 1964, 64—10,575

2 Claims. (Cl. 165—10)



A regenerator filling mass particularly suitable for operation in extremely low temperature regions. The regenerator mass takes the form of band of poor thermal conductivity covered with preferably flattened lead pellets which are adhered to an adhesive backing on the band. The present arrangement results in a large surface area for heat exchanging contact between the gas and the regenerative material.



3,384,158

**RADIANT HEATING AND COOLING DEVICE**  
Ernst Rothenbach, Küssnacht, Zurich, Switzerland, assignor to Stramax Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland

Filed Sept. 3, 1965, Ser. No. 484,972  
Claims priority, application Switzerland, Sept. 4, 1964, 11,569/64  
5 Claims. (Cl. 165-49)

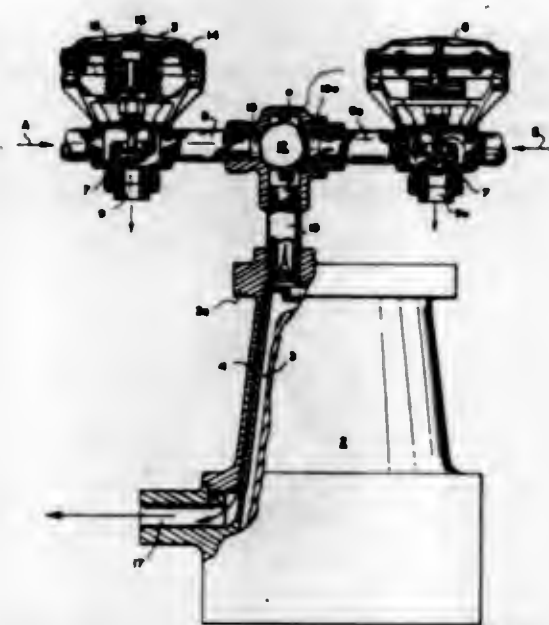


A thermal radiation device includes a plate distributor element having flat side portions which are disposed in a common plane and separated by intermediate bent portions. A tubular energy carrier is disposed within the bent portions and it is held therein by resilient engagement on opposite sides thereof by a resilient securing strap. A feature of the construction is that the intermediate portion is provided with a hole on each side through which one leg of the resilient securing strap may be directed and an opposite leg may be engaged around the curved portion of either the distributor element or the tubular energy carrier in order to resiliently hold the tubular energy carrier against the intermediate bent portion of the distributor element. In one embodiment the tubular carrier is carried within the recess formed by the intermediate bent portion and the securing strap includes a portion which extends around the exterior wall of the distributor element. In another embodiment, the tubular energy carrier is retained on the exterior of the bent portion in a concavely formed recess and it is held in position thereon with the interposition of a cover by the resilient securing strap acting on opposite sides of the tubular energy carrier.

3,384,159

**PLASTIC MOLDING APPARATUS**  
Jess Czetti, Sr., West Pikeland Township, Chester County, Pa., assignor to The Alan I W Frank Corporation, O'Hara Township, Allegheny County, Pa., a corporation of Pennsylvania

Filed Dec. 21, 1966, Ser. No. 603,644  
9 Claims. (Cl. 165-61)



Plastic molding apparatus of the type in which heating and cooling media flow successively through a passage in the mold during a molding cycle with provision for obviating passage of the heating and cooling media through a common supply line of substantial length before reaching the passage. A selector/directional check valve

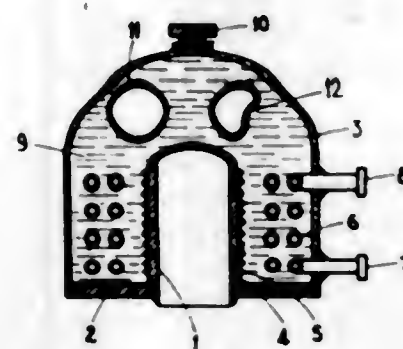
with connections to the sources of heating and cooling media is disposed immediately adjacent the mold casing, preferably mounted on the casing. Several molds may be manifolded.

3,384,160

**NON-ISOTHERMAL EVAPORATION TYPE HEAT TRANSFER APPARATUS**

Charles A. Beurthelet, Saint-Germain-en-Laye, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France

Filed June 28, 1966, Ser. No. 561,131  
Claims priority, application France, July 7, 1965, 23,832  
19 Claims. (Cl. 165-74)



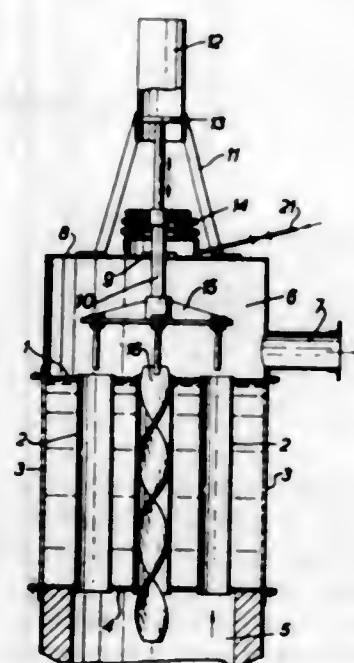
Heat exchange apparatus having an enclosure containing a body of a vaporizable liquid subcooled by liquid circulation, a wall of heat conductive material having one side exposed to a source of heat and one side provided with a set of heat dissipating extensions projecting into said liquid and operating non-isothermally whereby liquid will vaporize adjacent said extensions and recondense in the liquid body, and resilient shock pressure damping bodies, substantially compressed under normal pressure and able to balance by an increase of their volume a drop of pressure caused by vapor condensation.

3,384,161

**COOLERS FOR MIXTURES OF GASES AND SOLID PARTICLES**

Lennart Hugo Malmstrom and Carl Olof Malmstrom, Norrkoping, Sweden, assignors to Svenska Carbon Black Aktiebolag, Sjtullagatan, Norrkoping, Sweden, a Swedish company

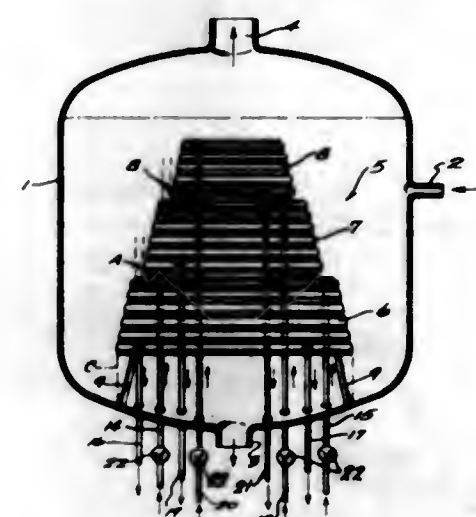
Filed Feb. 8, 1966, Ser. No. 525,988  
7 Claims. (Cl. 165-94)



A tubular cooler for a mixture of gas and carbon black particles is provided, which comprises a bank of

vertical tubes through which the mixture passes, means for cooling the outsides of the tubes, chambers above and below the bank for the inflow and outflow of the mixture, a scraper fitting inside each tube contacting the tube wall at a number of equally spaced co-planar points but allowing free passage of gas and particles through the tubes, a plate located within the upper chamber from which the scrapers are suspended, a vertical rod, fixed to the plate, passing through a gas tight aperture in the roof of the upper chamber, and means for reciprocating the assembly of rod, plate, and scrapers, the stroke of reciprocation being equal to the distance between the equally spaced co-planar points at which the scrapers contact the tube walls.

tion so that an annular passage is provided between the sections. The wort being heated flows upwardly along the inner surface of each lower section, passes upwardly

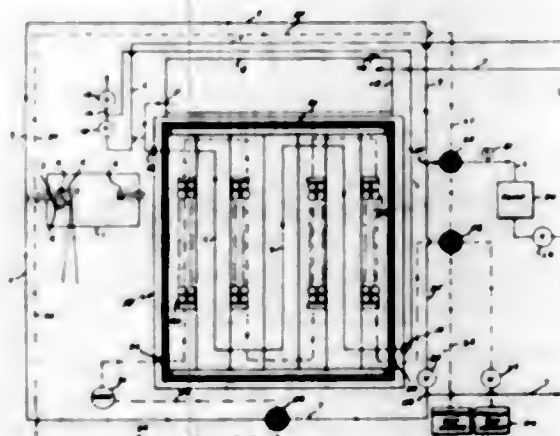


3,384,162

**WATER OR AIR COOLED HEAT EXCHANGER FOR X-RAY GENERATING APPARATUS**

Frank L. Chan, 3228 Ravenwood, Fairborn, Ohio 45324

Filed Aug. 12, 1966, Ser. No. 572,162  
3 Claims. (Cl. 165-107)



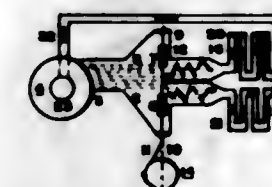
through the annular passage and then flows along the outer surface of the next upper heating section in the series.

3,384,164

**FLUID SUPPLY SYSTEM WITH PUMP OPERATED FORCED TURBULENCE**  
Herman Wald, 97-11 Horace Harding Expressway, Queens, N.Y. 11368

Continuation-in-part of application Ser. No. 33,237, June 1, 1960. This application Jan. 26, 1965, Ser. No. 432,059

5 Claims. (Cl. 165-109)



The invention employs distilled water for cooling the anode of an X-ray tube. The distilled water is conveyed under pressure in a closed pipe system which includes an improved heat exchanger. The distilled water is maintained cool by the use of tap water. The heat exchanger is of rectangular shape having a number of partitions to form compartments which are physically separate except for interconnecting pipes between alternate compartments. The distilled water is caused, due to the position of these pipes, to flow serially through alternate compartments in one direction and the tap water is caused to flow serially through the remaining compartments in the opposite direction in order to increase the transference of heat. The tap water compartments are also provided with an array of parallelly positioned open-ended pipes through which cool air from a fan can be blown in the event that the tap water fails.

3,384,163

**HEATING UNIT FOR A BREW KETTLE**

William G. Paglia and John E. Laydon III, Milwaukee, Wis., assignors to J. Schlotz Brewing Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 23, 1966, Ser. No. 581,477  
12 Claims. (Cl. 165-108)

The invention relates to a heating unit for a brew kettle which provides improved circulation of the wort and produces independently controlled evaporation and violence of boil. The heating unit comprises a series of tapered, vertically disposed heating sections which are located concentrically of the axis of the kettle. The upper end of each section has a greater cross sectional area than the lower end of the next succeeding upper heating sec-

1. A fluid supply system with forced turbulence for improving heat transfer rates comprising, a fluid supply source under pressure, a chamber having a fluid receiving portion and a fluid discharging portion, a heat transfer apparatus having a heat transfer surface divided into two equal areas, said fluid discharging portion divided into two equal areas communicating with respective areas of the divided areas of the heat transfer surface, said fluid receiving portion communicating with said fluid source, means comprising in part slideable valves positioned in the divided areas of the discharging portion of the chamber, said means causing one of the areas of the discharging portion to have a flow area proportional to a sinusoidally varying time function and the other area of the discharging portion to have a flow area proportional to the co-function (cosine) of the sinusoidally varying time function, thereby to cause a total flow through said discharging portion of said chamber which remains constant and also to subject each of the divided areas of the heat transfer surface to an oscillating fluid flow to substantially reduce the thickness of any stagnant film layer at said surface.

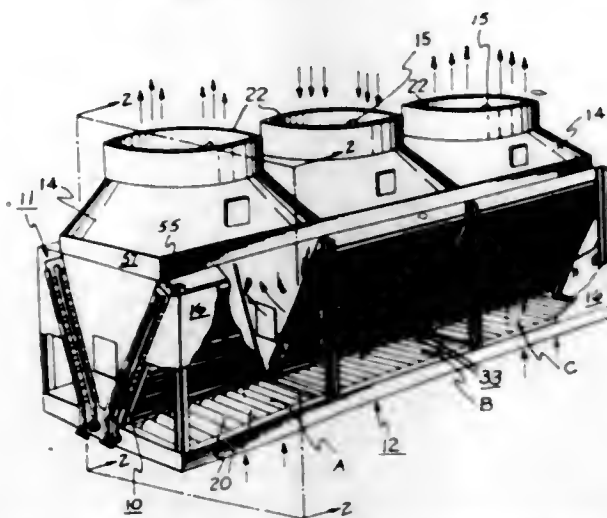


3,384,165

## HEAT EXCHANGER

Ralph T. Mathews, Wallingford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 3, 1966, Ser. No. 524,712  
5 Claims. (Cl. 165—122)



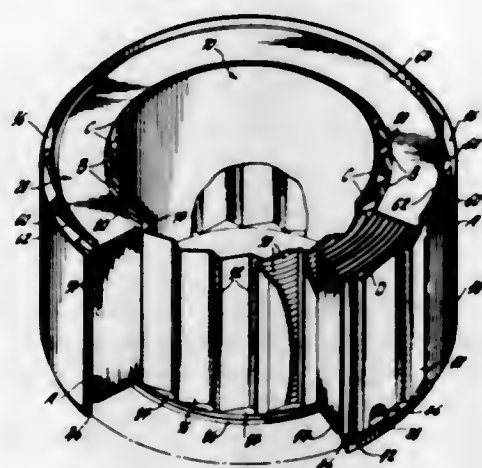
An air type, finned tube heat exchanger having pairs of tube bundles disposed in upright V arrangement, in which the tubes have a length-to-diameter ratio above about 200 and are supported in generally horizontal planes, provided with means producing air flow generally transverse the tube bundles.

3,384,166

## MULTI-TUBE ANNULAR HEAT EXCHANGER

John R. Hayden, Lockport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 7, 1966, Ser. No. 563,590  
4 Claims. (Cl. 165—164)



A fluid heater to preheat combustion air by using hot gases such as engine combustion gases. The heater comprises inner and outer casing cylinders joined to coaxially arranged cylinders having stepped walls with the stepped walls being connected by arcuate tubes and the latter being separated by arcuate places in such a way that the fluids, such as air and gas, may flow countercurrently through the cylinders or tubes for optimum heat exchange efficiency accompanied by a minimum of structural expansion difficulties despite subjection to a wide variance in temperature.

3,384,167

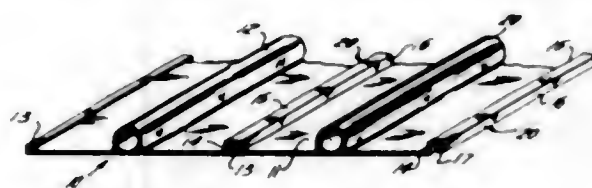
## BAND FOR HEAT EXCHANGE

Simon Javkin, 160 West End Ave., New York, N.Y. 10023

Filed Apr. 3, 1967, Ser. No. 628,044  
3 Claims. (Cl. 165—171)

A wall forming band for heat exchange formed of an extruded elongated body having an integrally formed

tabular conduit and having flanges on the ends thereof. The band is wound in a spiral fashion on a suitable mold with the flanges of adjacent sections interlocking to form



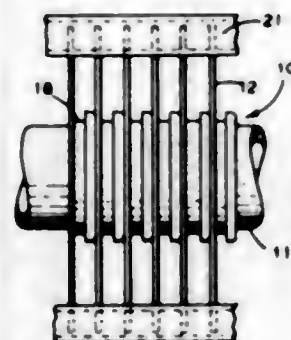
a heat interchange with an integrally formed conduit. The mold is removed after the bending therearound and the flanges are flattened together.

3,384,168

## FIN TUBE UNIT WITH CURLED COLLAR

Walter Richter, Syosset, N.Y., assignor to Hudson Machine & Tool Corporation, Farmingdale, N.Y.

Filed Oct. 21, 1965, Ser. No. 500,129  
2 Claims. (Cl. 165—182)



This invention is directed to a fin tube unit having an improved fin construction which is provided with a cylindrical collar portion circumscribing the opening formed in the fin for receiving the tube. The collar portion is specifically formed so as to function as a means for varying the spacing between adjacent fins depending upon particular design considerations. This is attained by providing the free end of the cylindrical collar portion with a curled end which is integrally formed with the collar portion about the entire periphery thereof, whereby the angular degree of the curl is utilized to vary the overall height of the collar to vary the spacings between adjacent fins accordingly. The curled collar is then secured in heat transfer relationship to the tube by an expanded frictional fit therebetween. To minimize the noise resulting from expansion and contraction of the fin tube unit during operation the fins are further provided with a track member secured to the aligned corner portions of the fins whereby the track element is specifically formed and constructed so as to define a line contact between the fins and their supporting brackets.

3,384,169

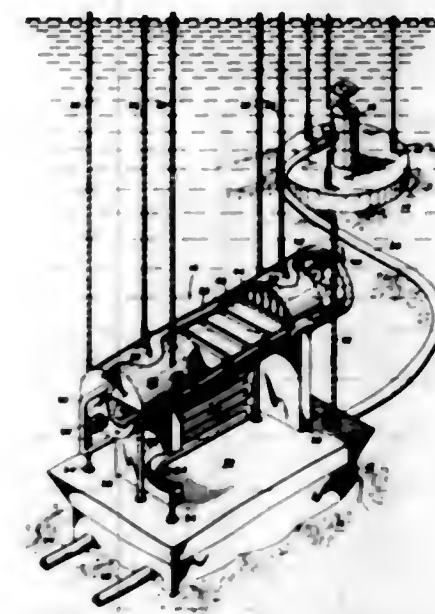
## UNDERWATER LOW TEMPERATURE SEPARATION UNIT

John R. Leonard, Houston, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed May 17, 1966, Ser. No. 550,705  
10 Claims. (Cl. 166—5)

1. A separator unit adapted to be mounted beneath the surface of a body of water, said separator unit comprising: an expansion chamber; a first conduit means for directing a high pressure natural gas into said expansion chamber; a second conduit means for drawing off cold expanded, and separated, gas from said chamber; and a heat exchange means in series with said second conduit means, said heat exchange means being a tortuous path for said cold expanded gas substantially adjacent said expansion chamber, said tortuous path being arranged

so that the surrounding water of the body of water in which said separator will be submerged can flow freely in close proximity to said expanded gas whereby said



cold expanded gas is warmed by the relatively warm water of said body of water to prevent the formation lines connecting said separator unit with central facilities.

3,384,170

## WELL-BORE SAMPLING DEVICE AND PROCESS FOR ITS USE

Hendrik K. van Poolen, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

Filed Aug. 3, 1966, Ser. No. 575,914  
9 Claims. (Cl. 166—3)



1. A fluid sampling device for simultaneously sampling fluids from a plurality of levels within a well-bore having a perforated well casing which preventing substantial mixing of fluids from different elevations in the well-bore and additionally preventing such mixing within the sample device, said device comprising in combination: a sampling device having a plurality of fluid-tight compartments for retaining fluid samples, each said compartment having at least one closeable aperture, said apertures being so positioned as to correspond with perforations in the well casing and being fitted with sealing means for sealing said apertures in communication with the perforations in the well casing; means for sealing the perforations in the well casing to prevent substantial flow through said perforations into said well-bore at times when said sampling device is not positioned for sampling said fluids; means for displacing said perforation sealing means at times when said sampling device is positioned for sampling.

8. A process for simultaneously sampling fluids from a plurality of levels within a well-bore while preventing substantial mixing of fluids from different elevations in said well-bore and additionally permitting such mixing within the sampling device, said process comprising, in combination, the steps of perforating said well-bore casing at a plurality of elevations, sealing said perforations with perforation sealing means, allowing sufficient time to elapse to permit the fluids within said formation to come to substantial equilibrium, positioning said sampling device for said sampling of said fluids, after or immediately before said positioning of said sampling device, deflecting said perforation sealing means so as to unseal said perforations, thereafter withdrawing samples through said perforations into said sampling device while preventing mixing of said samples within the bore-hole and within the sampling device.

3,384,171

## AQUEOUS FLUID DRIVE OIL RECOVERY PROCESS

Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,055  
6 Claims. (Cl. 166—9)

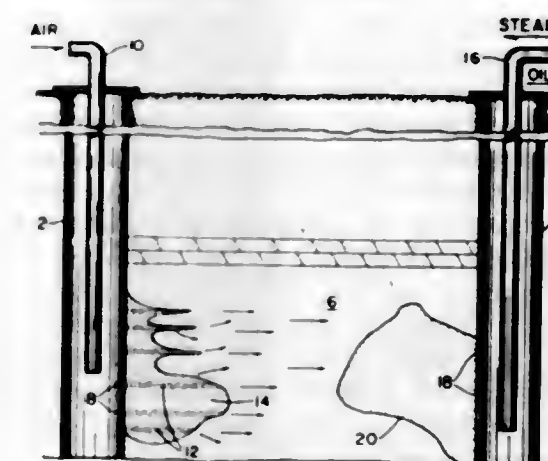
A method of producing oil utilizing an aqueous slug of surfactant and surfactant-carrier injected into an oil-bearing stratum in which an aqueous slug containing a clay-coating material is injected into the stratum ahead of the surfactant-carrier and surfactant.

3,384,172

## PRODUCING PETROLEUM BY FORWARD COMBUSTION AND CYCLIC STEAM INJECTION

Karol L. Hulsak, Howard Grekel, and Richard Mungen, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Nov. 19, 1965, Ser. No. 508,790  
12 Claims. (Cl. 166—11)



For producing tar sands or other heavy oil reservoirs, a forward combustion drive is used, and wells around injection well are produced by cyclic steam injection.

3,384,173

## CONSOLIDATION OF SUBTERRANEAN FORMATIONS

Paul G. Nahin, Brea, and George P. Maly, Newport Beach, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Sept. 21, 1966, Ser. No. 580,895  
16 Claims. (Cl. 166—33)

11. In the method of consolidating incompetent clay-containing earth formations with a resin-forming material wherein the hardening of the resin is promoted by a polymerization catalyst subject to adsorption from the resin-forming mixture by the clay, the improvement which



comprises contacting said formation with a solution of secondary polyhydric alcohol prior to contacting said formation with said resin-forming material so as to coat said clay particles with said secondary polyhydric alcohol thereby inhibiting the adsorption of catalyst by said clay.

3,384,174

### CONSOLIDATION OF SUBTERRANEAN FORMATIONS

Gerould H. Smith, Santa Ana, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Sept. 26, 1966, Ser. No. 581,767  
18 Claims. (Cl. 166—33)

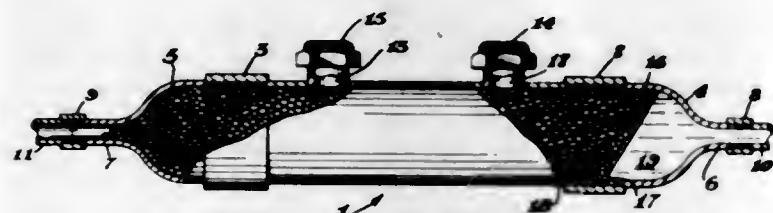
1. A method for consolidating incompetent earth formations containing clayey constituents, which comprises: contacting said earth formation with a solution of an alkylphenoxy polyethoxy ethanol; subsequently contacting said earth formation with a hardenable, resin-forming material; and curing said resin-forming material to obtain a consolidated mass of earth particles.

3,384,175

### METHOD OF PLUGGING WELLBORE CASING PERFORATIONS

Joseph P. Pavlich and Jacques L. Elbel, Houston, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed June 9, 1966, Ser. No. 556,369  
3 Claims. (Cl. 166—42)



A mass of solid pieces, e.g. pea gravel, of selected size for temporary plugging of perforations in a geologic formation, are injected down a wellbore penetrating the formation and emplaced in the perforations desired to be plugged by putting said pieces in a confined elongated substantially horizontal passageway adapted to receive a fluid at high pressure at an entrance end and to exit the fluid at the opposite end leading to the wellbore, and locating a fixed baffle in the path of said fluid prior to its contacting said particles, at an angle transverse to the flow of said fluid, said baffle closing the flow of fluid except for a relatively narrow distance near the bottom thereof, and thereupon injecting a fluid stream under high pressure, thereby imparting high turbulence to at least some of said particles and causing them to swirl along in said stream, out the exit of said passageway down the wellbore, and at least a portion thereof to be forced into plugging position in the perforations.

3,384,176

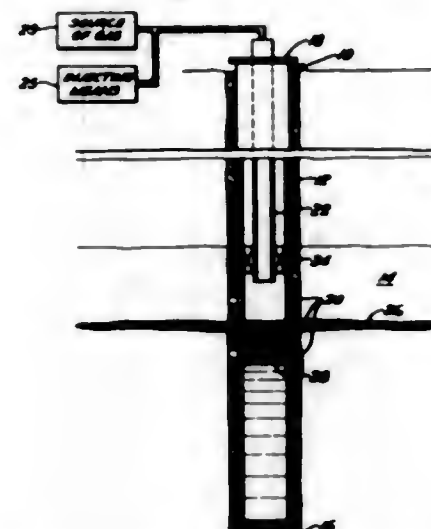
### METHOD OF FRACTURING USING DENSE LIQUID TO DIRECT PROPPING AGENT INTO THE FRACTURE

Jimmie L. Hultt, Glenshaw, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Oct. 3, 1966, Ser. No. 583,581  
4 Claims. (Cl. 166—42)

1. A method of increasing the productivity of a well having casing extending downwardly into a fluid-bearing formation comprising cutting an opening in the casing at the level of the desired fracture to provide communication with the fluid-bearing formation, filling the casing at

least to the level of the opening with a liquid having a density higher than the density of a propping agent to be used to prop the fracture open, initiating a fracture in the formation through the opening, displacing a gas with the



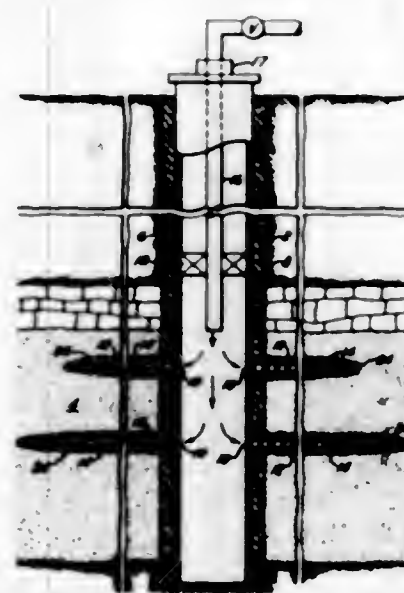
propping agent suspended therein downwardly in the well and outwardly into the fracture, and reducing the pressure within the well to deposit the propping agent within the fracture.

3,384,177

### TREATING RESERVOIR MATRIX

Johnny J. Day, Pittsburgh, Jimmie L. Hultt, Glenshaw, and Bruce B. McGlothlin, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed July 21, 1966, Ser. No. 566,957  
12 Claims. (Cl. 166—42)



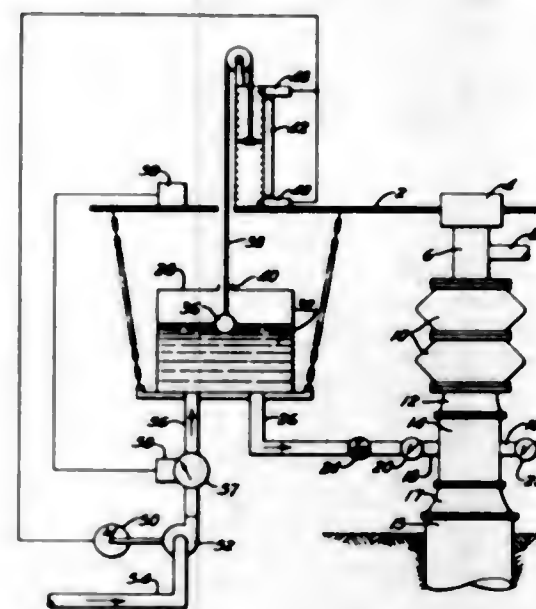
10. A method for altering, to decrease further fracture proppant embedment, a reservoir matrix penetrated by a well bore extending from the surface of the earth downward through said reservoir matrix, said matrix having a fracture extending through the matrix from the well and propping agents contained within the fracture, maintaining the fracture in an open position, comprising mixing an aqueous treating fluid with at least one milliequivalent of ammonia per milliequivalent of montmorillonite which would be synthesized by hydrothermal to produce an ammonia mixture having a pH of at least 11.0, heating the ammonia mixture, injecting the heated ammonia mixture down the well bore and into the formation, continuing injection until the formation matrix adjacent the fracture is heated to a temperature higher than 300° F. to a desired radial distance from the well bore, and maintaining this temperature for a duration longer than two days.

3,384,178

### AUTOMATIC HOLE FILLER AND INDICATOR

James W. Agnew, Morris E. Henderson, Bernie B. Metcalf, and Fred A. Westmoreland, Crane, Tex., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 14, 1966, Ser. No. 579,261  
6 Claims. (Cl. 166—75)



Apparatus for maintaining the liquid level in the borehole of a well in which a mud tank containing liquid is positioned below the level of a mud return line through which drilling mud is discharged from the well. A mud line extending from the mud tank opens into the well at a position below the level of the mud tank. A check valve in the mud line permits flow only in the direction from the mud tank to the well.

3,384,179

### COMBINED ANCHOR AND PUMP SHOE

Marcus W. Haines, Long Beach, Calif.  
(21902 Goshute Ave., Apple Valley, Calif. 92307)  
Filed Mar. 16, 1966, Ser. No. 534,885  
8 Claims. (Cl. 166—212)



1. A combined anchor and pump shoe for use in a well to anchor well tubing against working with a pump relative to the well casing, comprising: a tubular anchor body adapted to be connected in the well tubing; a pump shoe connected to said body; means defining a production fluid passage through said body to said pump shoe and a chamber in said body separated from said passage and

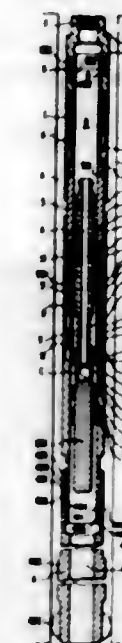
opening between said body and said shoe for communication with the well tubing above said shoe; and anchor means carried by said body and operable responsive to fluid pressure in said chamber to be forced outwardly into anchoring engagement with the well casing.

3,384,180

### PRESSURE BALANCED TESTING TOOL

Lee E. Perkins, Houma, La., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Mar. 30, 1966, Ser. No. 538,812  
6 Claims. (Cl. 166—226)



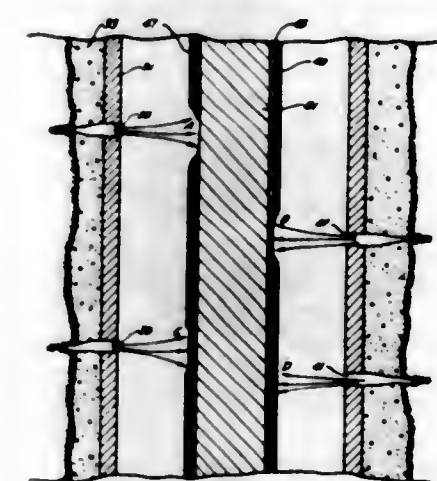
A well tool including a fluid reservoir and a member movable through the reservoir. This movable member has passage means extending longitudinally of the reservoir and operable to receive fluid metering, i.e., flow restricting, pins. An annular circumferentially extending groove supports an annular seal for axial movement within fixed axial limits. The seal defines a closure for one reservoir end. Port means provide fluid communication between the seal and well fluid external of the tool.

3,384,181

### APPARATUS FOR DETECTING SAND ENTRAINMENT

George P. Maly, Newport Beach, Calif., and George M. Harper, Jr., Abbeville, La., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Jan. 25, 1966, Ser. No. 522,901  
14 Claims. (Cl. 166—241)

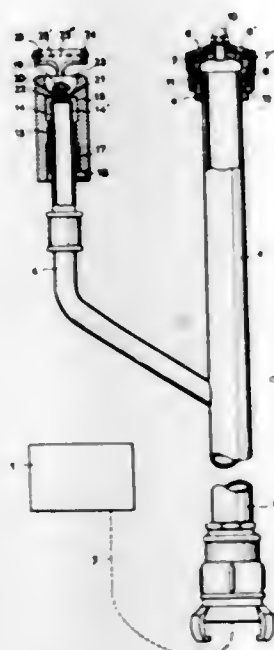


A device for detecting the entrainment of sand in fluid flowing into a well from a surrounding fluid-producing



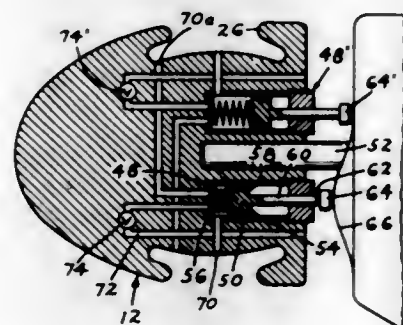
earth formation that comprises an elongated member having a polygon-shaped cross-section and which is covered with one or more coats of distinguishable abrasible materials. The device is positioned in the well adjacent the fluid producing zones and the well produced in conventional manner for a period of time sufficient to effect at least partial erosion of said abrasible material by the produced fluids.

**3,384,182**  
**METHOD AND APPARATUS FOR EXTINGUISHING FIRES UTILIZING A SINGLE AQUEOUS SOLUTION OF A SALT AND A FOAMING AGENT**  
 Georges Rotvand, Paris, France, assignor to Savas, Puteaux, France, a society  
 Filed Oct. 24, 1966, Ser. No. 589,038  
 Claims priority, application France, June 28, 1966, 67,259  
 6 Claims. (Cl. 169-1)



1. A method of extinguishing a fire, which comprises projecting on to said fire one and the same liquid, consisting of an aqueous solution of an extinguishing salt with an admixture of foaming agent, in the form of an atomized jet and in the form of an air emulsified jet.

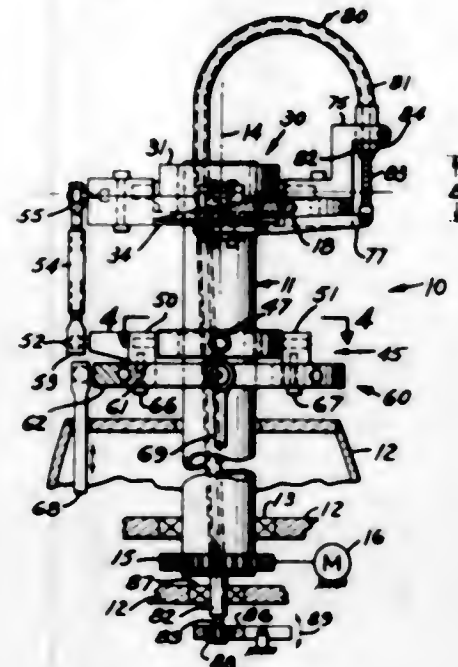
**3,384,183**  
**INFLATABLE VANE**  
 Theodore Stanley Braverman, 27-21 203rd St., Bayside, Queens, N.Y. 11360  
 Filed May 8, 1967, Ser. No. 636,837  
 10 Claims. (Cl. 170-159)



The invention relates to an inflatable propeller which is made of rubber or the like. The propeller comprises an elongated body having a fluid expandable chamber therein and a valve means for introducing fluid into the fluid

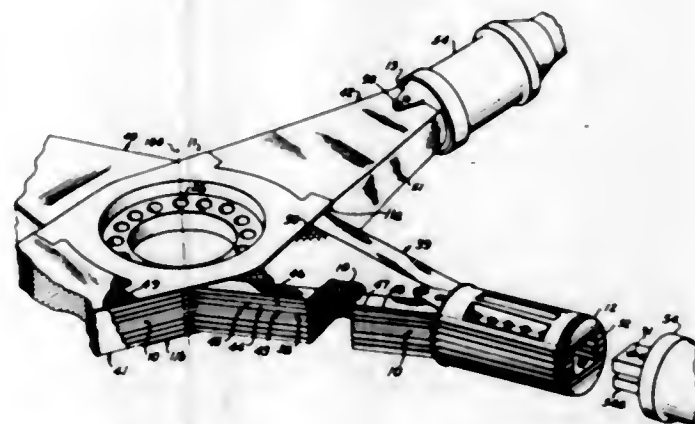
expandable chamber. The propeller also includes a hub, said hub being provided with a pump arrangement therein. A pressure sensitive valve is connected between the pump arrangement and the fluid expandable chamber for maintaining a pressure gradient between the chamber and atmosphere.

**3,384,184**  
**HELICOPTER ROTOR HUB**  
 Buford J. Schramm, 115 N. Primrose, Alhambra, Calif. 91801  
 Filed July 6, 1966, Ser. No. 563,141  
 3 Claims. (Cl. 170-160.26)



This invention relates to helicopters and, in particular, to a helicopter rotor hub of the see-saw type in which the cyclic control is derived from interactions between two axially spaced-apart parallel-running gimbal joints and in which the collective control includes an actuator mounted to a fully universally tiltable driven blade mount and connected to the blades, together with means for operating the said actuator.

**3,384,185**  
**ROTOR HUBS**  
 David Fernandez, Arcadia, Calif., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio  
 Filed June 2, 1967, Ser. No. 643,169  
 20 Claims. (Cl. 170-160.53)



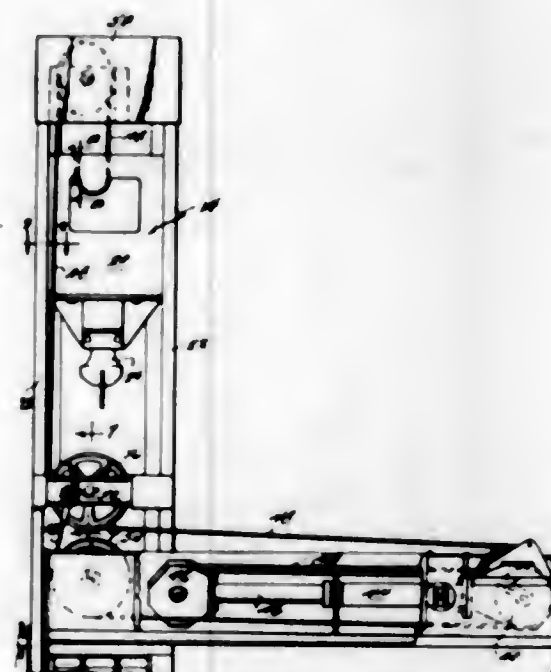
This disclosure relates to rotor hubs, and particularly to interlaminated rotor hubs for use on aircraft, such as helicopters and the like.

An interlaminated rotor hub according to this disclosure includes a hub plate having a plurality of extending arms. A grooved attachment means is provided at the in-board portion of each arm and is adapted to be attached

to a rotatable shaft, such as the shaft of a helicopter motor. A grooved blade cuff is provided at the outboard end of each arm, and a layer of filament rovings is wound through the grooves of both the blade cuff and the attachment means to form the periphery of the rotor hub. This arrangement permits elimination of the drag and flapping bearings, heretofore known in helicopter rotor hubs.

In one embodiment of the disclosure, some layers of filament rovings are separated with an elastomer to permit elimination of the pitch bearing. In another embodiment, the layers of filament rovings are separated with filler layers of filament material, and the area with the periphery defined by the filament rovings is filled with a honeycomb filler.

**3,384,186**  
**MOBILE HYDRAULIC HAMMER**  
 Dean E. Broderson, Kansas City, Mo., and Herbert W. Gronemeyer, Jr., Leawood, and Frank D. Freudenthal, Overland Park, Kans., assignors to R O Products, Inc., Olathe, Kans., a corporation of Kansas  
 Filed Jan. 24, 1966, Ser. No. 522,715  
 11 Claims. (Cl. 173-24)



An improved mobile hydraulic hammer apparatus is described, and the apparatus includes a separately mounted hydraulic actuating and control means which operates a hammer within a tower. Means are provided for traversing the tower and hammer from side to side of the apparatus, and the hydraulic actuating and control means for the hammer is mounted in a housing which can remain fixed relative to traversing movements of the tower so that there is no interference with hydraulic hoses and other devices associated with the actuating and control means. Also, the apparatus includes means for tilting a body of a vehicle relative to the wheels of the vehicle so that the tower and hammer can be tilted relative to the vehicle, and a steering and seating assembly of the apparatus may be rotatable about a vertical axis.

**3,384,187**  
**CABLE FEED FOR ROCK DRILLS**  
 Paul C. O'Leary, Salt Lake City, Utah, assignor to Machinery Center, Inc., Salt Lake City, Utah, a corporation of Utah  
 Filed Feb. 25, 1966, Ser. No. 530,019  
 6 Claims. (Cl. 173-147)

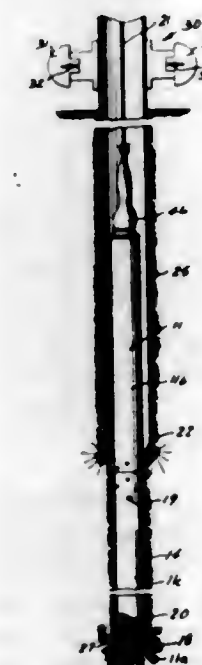
A cable-operated support for advancing and retracting a rock drill relative to work underway. A length of cable

is fastened to a rock drill mount so as to form a closed loop that extends along a guide rail on which the rock drill mount is arranged to travel. The cable is supported adjacent to opposite ends of the guide rail for movement within and along a path defined by the loop formation. A friction wheel is arranged in engagement with the cable and preferably at one end of the loop to drive the cable loop back and forth, thereby moving the rock drill mount back and forth along the rail. Drive means for rotating the friction wheel advantageously includes reversible motive means.



is fastened to a rock drill mount so as to form a closed loop that extends along a guide rail on which the rock drill mount is arranged to travel. The cable is supported adjacent to opposite ends of the guide rail for movement within and along a path defined by the loop formation. A friction wheel is arranged in engagement with the cable and preferably at one end of the loop to drive the cable loop back and forth, thereby moving the rock drill mount back and forth along the rail. Drive means for rotating the friction wheel advantageously includes reversible motive means.

**3,384,188**  
**SONIC METHOD AND APPARATUS FOR DRIVING A CASING UTILIZING REAMING TECHNIQUES**  
 Albert G. Bodine, Jr., 7877 Woodley Ave., Van Nuys, Calif. 91406  
 Filed Sept. 13, 1965, Ser. No. 486,991  
 5 Claims. (Cl. 175-55)



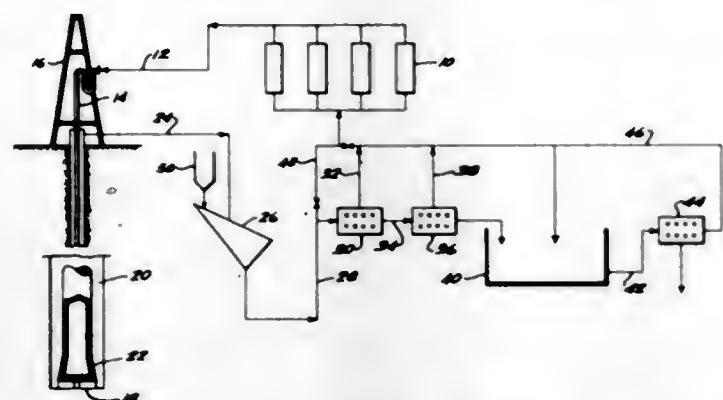
A lead or pilot hole is cored out, and an open ended tube or casing which has a wider diameter than the lead hole is placed on the earthen material which forms a shoulder around the lead hole. The casing is then sonically vibrated to set up a cyclic stress pattern in the earthen shoulder, whereby the earthen material surrounding the shoulder is imploded into the lead hole with the shoulder rapidly giving way, thus facilitating the driving of the casing into the formation.

**3,384,189**  
**DRILLING METHOD AND COMPOSITIONS THEREFOR**  
 Joseph L. Pekarek and Paul W. Schaub, Penn Hills Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
 Filed Dec. 27, 1965, Ser. No. 516,400  
 8 Claims. (Cl. 175-67)

A hydraulic jet method of drilling a well in which high-velocity streams of an abrasive-laden liquid are discharged against the bottom of the borehole of the well to penetrate the formations drilled. A ferrous abrasive



having a Rockwell C hardness of at least 55 is used. Data are presented to show increased drilling rates, reduced pickup from the hole bottom is such that the velocity of the drilling fluid circulating thereunder is greatly in-



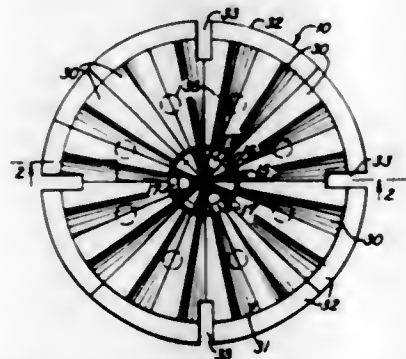
breakup of the abrasive, and increased nozzle life resulting from the ferrous abrasive.

3,384,190

**RECIPROCATING DRILLING TOOL**

John Lynes and John A. Whitacre, Jr., El Paso, Tex., and Woodrow W. Crumbo, 1516 Murchison, El Paso, Tex. 79902; said Lynes and said Whitacre assignors to said Crumbo

Filed Nov. 14, 1966, Ser. No. 593,978  
9 Claims. (Cl. 175-298)



1. In a drilling tool, in combination, a tool housing having means for attachment to a conventional string of drill pipe for use in a rotary earth boring operation of a drill hole; a depending elongated hollow member centrally attached to said housing for rotational movement therewith; a cam member mounted on said hollow member for rotational movement therewith; a plurality of reciprocating drill bits axially mounted with respect to said hollow member in a manner to permit relative non-rotation of said bits with respect to said hollow member, and connecting means between said cam member and said drill bits producing a reciprocating drilling action by said drill bits whenever said bits encounter a resistant formation in said drill hole.

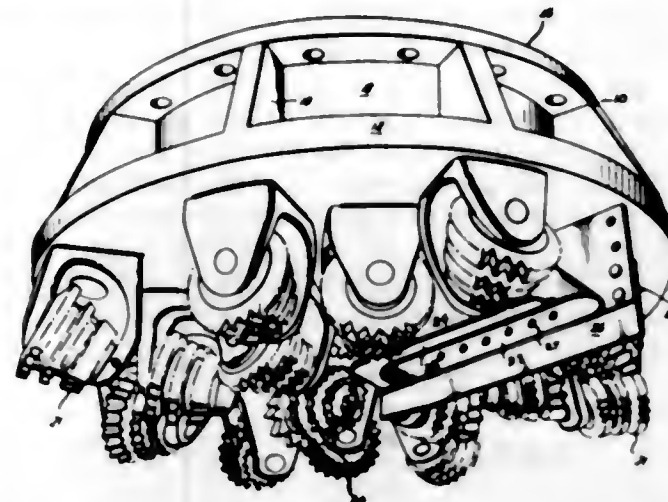
3,384,191

**DRILL BIT**

Percy W. Schumacher, Jr., and Dan B. Justman, Houston, Tex., assignors to Reed Roller Bit Company, Houston, Tex., a corporation of Texas

Filed Aug. 13, 1965, Ser. No. 479,429  
7 Claims. (Cl. 175-340)

The invention relates to a bit head employed in earth boring in which a hollow cuttings pickup on said bit head extends substantially from the center to the periphery of the bit, the bottom of the cuttings pickup being spaced closely adjacent the bottom of the borehole and communicating with a hollow drill stem whereby the drilling fluid may circulate upwardly through the cuttings pickup and drill stem. The spacing of the bottom of the cuttings



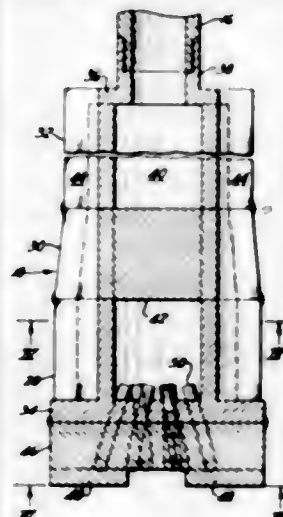
creased to enhance the pickup of cuttings produced by the operation of drilling a borehole.

3,384,192

**HYDRAULIC JET BIT**

Robert J. Goodwin, Oakmont, and Joseph L. Pekarek, Penn Hills Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 27, 1965, Ser. No. 516,493  
8 Claims. (Cl. 175-422)



A drill bit for hydraulic jet drilling comprising an elongated drill bit body having a central opening therein closed at its lower end by a bottom member, the lower surface of which is covered by an abrasion-resistant back-splash plate at least one inch thick. Abrasion-resistant nozzles extend downwardly through the bottom member and the back-splash plate with their outlets substantially flush with the lower surface of the back-splash plate. The upper ends of the nozzles extend at least about 1/2 inch above the bottom member to reduce plugging of the nozzles and improve uniformity of flow through the nozzles. Standoff bars unitary with the back-splash plate maintain the required spacing between the outlets of the nozzles and the bottom of the borehole.

3,384,193

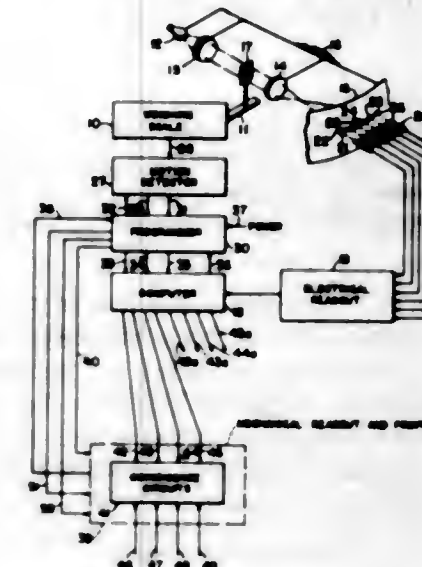
**CONTROL CIRCUITRY**

William C. Susor, Oregon, and Orval J. Martin, Toledo, Ohio, assignors to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio

Filed Feb. 1, 1965, Ser. No. 429,230  
6 Claims. (Cl. 177-3)

The disclosure describes an electronic computing and printing weighing scale having a programmer for scheduling operation of computer, readout and printer means in

the scale. The programmer includes a two-stage flip flop having reset, compute, readout and print positions. In the reset position, the flip flop inhibits operation of the com-



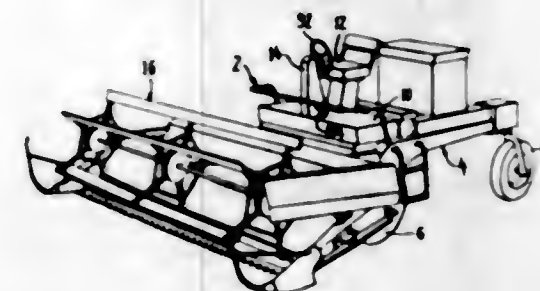
puter, readout and printer means, while in the other positions operation of the computer, readout and printer means are programmed successively.

3,384,194

**STEERING AND SPEED CHANGE CONTROL FOR MOTOR VEHICLES**

Frank J. Newhouse, Toronto, Ontario, Canada, assignor to Massey-Ferguson Industries Limited, Toronto, Ontario, Canada

Filed Oct. 19, 1965, Ser. No. 498,011  
14 Claims. (Cl. 180-6.2)



Speed change mechanism for an agricultural vehicle having a variable transmission operable to simultaneously drive both drive wheels of the vehicle, or producing opposite speed changes in the wheels for turning the vehicle. An actuator in the form of a yoke member is rotatable about an axis transverse to the direction of movement of the machine, and a bell crank control lever has one arm normally received between the yoke side members and its other arm depending therefrom in the neutral position. The depending arm of the steering control lever is connected with the transmission mechanism controlling the speed of the wheels. By rotating the speed change actuator about its transverse axis, the speed of both of the wheels is varied simultaneously for straight line movement, and rotation of the steering control lever relative to the speed change actuator produces opposite speed changes in the wheels for turning the vehicle.

3,384,195

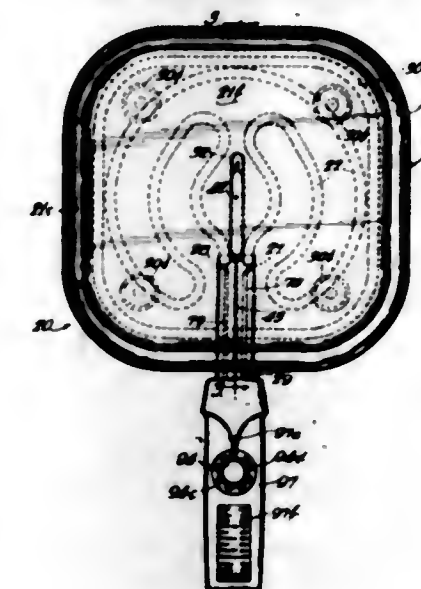
**ELECTRIC FRYING PAN**

Ivar Jepson, Oak Park, and James E. Hill, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Apr. 15, 1955, Ser. No. 501,652  
18 Claims. (Cl. 219-442)

Electric frying pan including a container having an electric heating element in intimate heat exchange rela-

tionship with the bottom of the container. An elongated member defining a hermetically sealed chamber has one end thereof secured to the container and extends laterally therefrom with an insulating member secured to and enclosing a portion of the end of the member remote from the vessel to define a handle. A temperature sensing zone is provided in intimate heat exchange relationship with

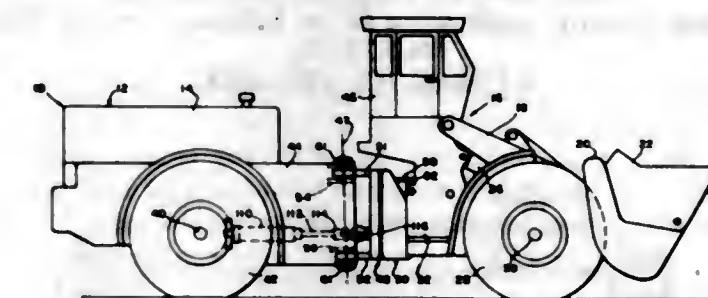


3,384,196

**VEHICLE ARTICULATED ON A CANT**

Harry L. Fielding, Portland, Oreg., assignor to Mixer-Mobile Manufacturers, Inc., Portland, Oreg., a corporation of Oregon

Filed Mar. 14, 1966, Ser. No. 534,186  
4 Claims. (Cl. 180-79.2)



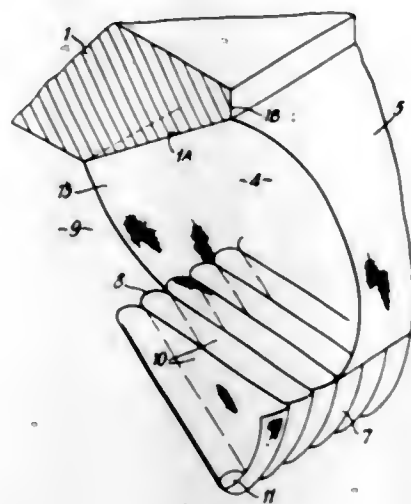
A front frame carried at its front end by an axle is oscillated on a horizontal axis relative to a yoke which is pivotally connected to a rear frame on an axis of articulation sloping upwardly and rearwardly. The rear end of the rear frame is carried by a rear axle. Since the axis of articulation is canted rearwardly and upwardly, turning of the front frame relative to the rear frame tends to raise the yoke against the weight of the frames. Thus, turning is resisted somewhat and the rear frame tends to trail the front frame very well. Aligned horizontal cylinder devices on the yoke engage lugs on the front frame to resist oscillation of the front and rear frames about the horizontal axis.



### 3,384,197 AIR CUSHION-BORNE VEHICLES WITH FLEXIBLE SKIRTS

Alan Edgar Bingham, Swindon, and Gordon Victor Watts, Lydlard Millicent, near Swindon, England, assignors to Vickers-Armstrongs (Engineers) Limited, London, England, a British company

Filed Mar. 9, 1965, Ser. No. 438,187  
Claims priority, application Great Britain, Mar. 11, 1964, 10,395/64  
15 Claims. (Cl. 180—117)



An air cushion vehicle comprising a vehicle body adapted to be supported by an air cushion enclosed within a skirt of flexible material supported from the peripheral portion of the vehicle body. The skirt includes an upper flexible strip having the upper edge attached to the vehicle body and a lower skirt portion attached to the lower edge of the flexible strip, the skirt having inwardly extending webs forming a plurality of side-by-side pockets with the inner portions of the web being connected with the vehicle body.

### 3,384,198 GROUND EFFECT VEHICLES

Richard Stanton Jones, Cowes, Isle of Wight, Brian Joseph Summers, Flabbourne, near Ryde, Isle of Wight, and Lavis Albert Henry Riddle, East Cowes, Isle of Wight, England, assignors to Westland Aircraft Limited, Yeovil, Somerset, England

Filed Nov. 15, 1965, Ser. No. 507,942  
Claims priority, application Great Britain, Nov. 18, 1964, 46,872/64  
9 Claims. (Cl. 180—128)



A vehicle is capable of operation both as a displacement vehicle and as an air cushion vehicle. A pair of flexible air chambers inflatable from an independent source and depending from a base platform define an air cushion space during air cushion operation and form a hull structure during displacement operation. Bow and stern skirting arrangements are inflatable during air cushion operation to complete the boundaries of the air cushion space and are retracted during displacement operation. Pressurized gas flowing through ducts in part formed by the chambers provides a portion of the supporting air cushion.

### 3,384,199 ACOUSTICAL CONTROL APPARATUS

Oliver C. Eckel, 111 Rolling Lane, Carlisle, Mass. 01741  
Filed Aug. 13, 1965, Ser. No. 479,508  
3 Claims. (Cl. 181—33)

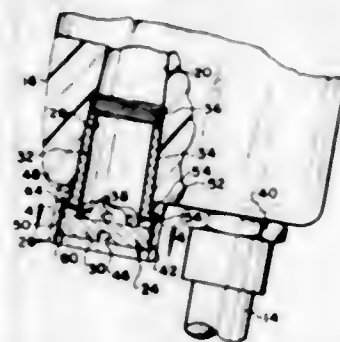


Acoustical control apparatus for use in acoustical test cells to impede the flow of high velocity gases before reaching sound absorbing material. A perforated outer support has relatively long flat portions between which are relatively short projecting ridges which latter are next to the outer member to thereby substantially space said material from the outer member.

### 3,384,200 EXHAUST MUFFLER FOR PNEUMATIC TOOL

William J. Baker, Reed City, and James H. Boeger, Grand Haven, Mich., assignors to Gardner-Denver Company, a corporation of Delaware

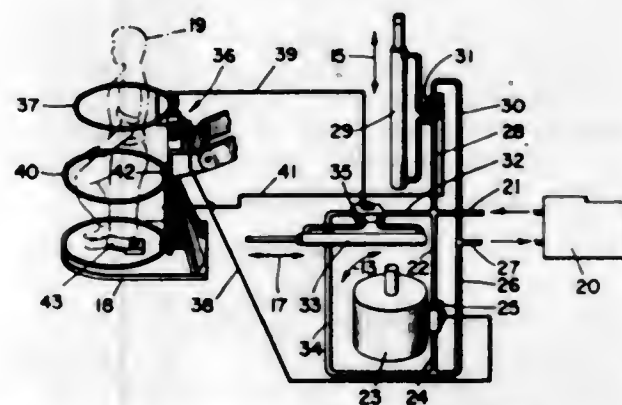
Filed Mar. 16, 1967, Ser. No. 623,591  
7 Claims. (Cl. 181—36)



A noise muffling attachment for the exhaust outlet of an air motor-operated tool comprising a hollow plug having exhaust air flow apertures opening radially from its interior and a tubular sleeve coaxially disposed about the exterior of the plug for collecting and directing the exhaust for final discharge through an annular orifice defined between the plug and the sleeve.

### 3,384,201 TREE CROP HARVESTING APPARATUS

Francis M. Fulton, P.O. Box 632, Santa Paula, Calif. 93060  
Filed Aug. 1, 1966, Ser. No. 569,280  
5 Claims. (Cl. 182—148)



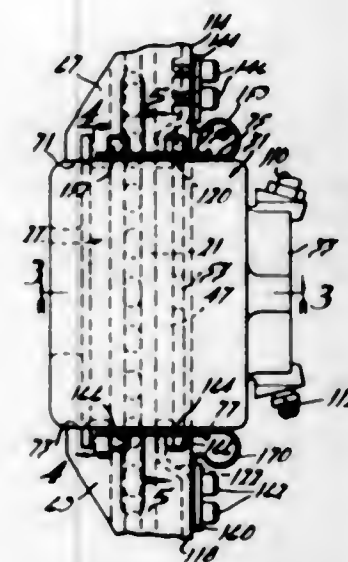
A tree crop harvesting apparatus is provided for positioning a harvester in three dimensions for conveniently harvesting trees. The apparatus includes a vertical boom

rotatable about a vertical axis, a carriage structure adapted to move up and down on the boom and a supporting platform adapted to move in and out from the carriage structure. The supporting platform includes hydraulic control means having a control portion engaging about the chest or torso of the person on the platform such that when the person leans in a left or right direction, a proper control will be energized to rotate the boom and swing the platform in a left or right direction and when the person leans in a forward or rear direction another drive control is actuated to move the platform in and out from the carriage. There is also provided a leg operable means for effecting up and down movement of the carriage. The person's arms are at all times free and the platform will automatically follow the bodily movements of the person.

### 3,384,202 SUPPORT FOR DISK BRAKE CALIPER

Harvey C. Swift, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware

Filed Feb. 23, 1967, Ser. No. 618,064  
7 Claims. (Cl. 188—73)



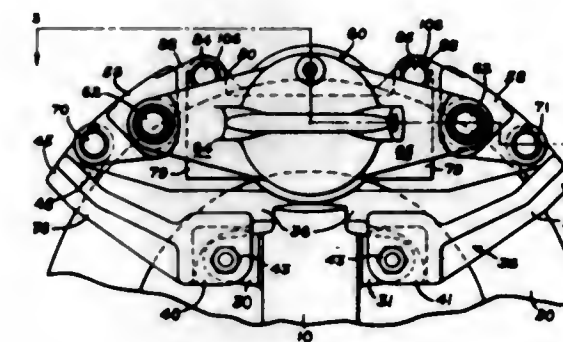
A disk brake in which a caliper having a fluid motor portion and a reaction portion is mounted on a stationary torque plate for movement in a direction generally perpendicular to the plane of rotation of a rotary disk to be braked. The caliper is supported for this movement on a stationary torque plate by yieldable means and the movement of the caliper with respect to the torque plate is brought about by the action of a fluid motor which causes a pair of brake shoes to come into engagement with opposite faces of the disk to be braked thereby providing braking action on the disk.

### 3,384,203 DISK BRAKES

William D. Walther, Dayton, and Carlos P. Afanador, Centerville, Ohio, assignors to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio

Filed Jan. 13, 1966, Ser. No. 520,343  
3 Claims. (Cl. 188—73)

A floating caliper disk brake in which the caliper is open at the top for removal and insertion of brake plates, and which is formed with arcuately-spaced connecting webs forming a sliding connection with spaced torque arms and forming sliding connections with brake plates in which the torque from the brake plates is transmitted to the torque arms through a short chord-wise connection

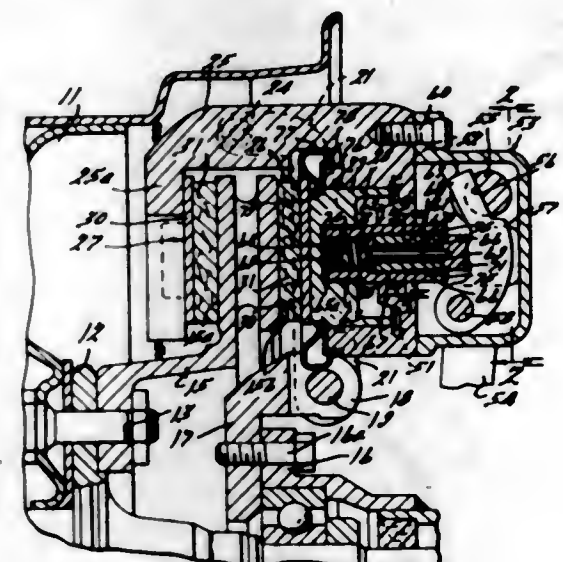


caliper at locations between the plate-supporting connections and the caliper supporting connections.

### 3,384,204 DISK BRAKE

Harvey C. Swift, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware

Filed Mar. 22, 1967, Ser. No. 625,056  
10 Claims. (Cl. 188—73)



A disk brake of the sliding caliper type including means for automatically adjusting for brake lining wear and including means for delaying the adjustment until the temperature of the brake has been decreased to a given selected temperature range after braking operations have been completed.

### 3,384,205 INTERNAL SHOE DRUM BRAKES

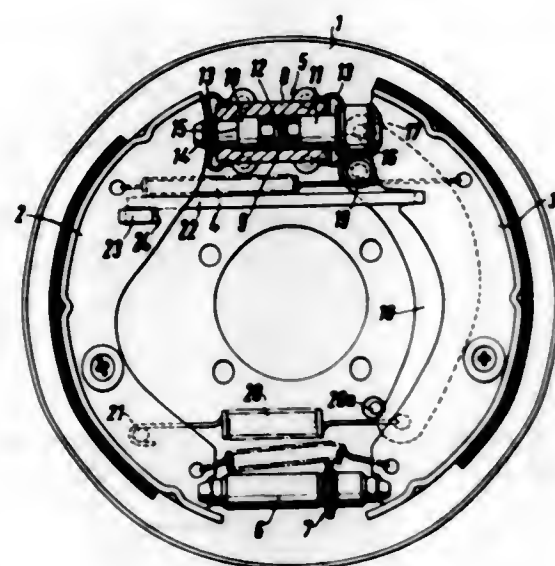
Leslie C. Choulinga, Leamington Spa, England, assignor to Automotive Products Company Limited, Warwickshire, England

Filed July 18, 1966, Ser. No. 566,104  
2 Claims. (Cl. 188—78)

This invention relates to an internal shoe brake drum with opposed primary and secondary brake shoes connected at their opposite ends, and with a cylinder at one of their ends provided with opposed pistons for spreading apart the brake shoes at this end. One piston is provided with a slot and has a pin disposed in it to move back and forth in the slot. The pin is connected to a lever pivotally connected to the brake back plate and is spring loaded at its opposite end to normally urge the secondary brake



shoe away from the primary shoe. The slot and pin arrangement provides a yieldable abutment. Stop means



are provided on the piston connected to the primary brake shoe.

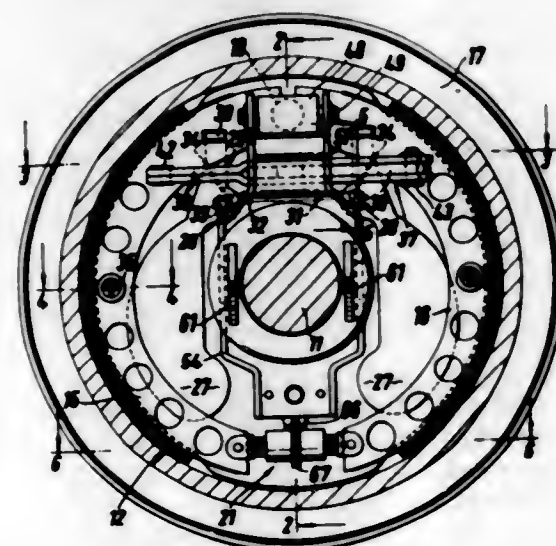
3,384,206

#### INTERNAL SHOE DRUM BRAKES

Leslie C. Chouings, Warwickshire, England, assignor to Automotive Products Company Limited, Warwickshire, England

Filed Aug. 30, 1966, Ser. No. 576,122  
Claims priority, application Great Britain, Sept. 20, 1965, 39,944/65

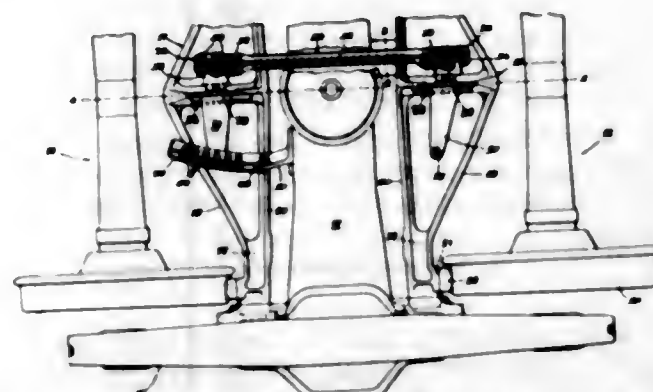
5 Claims. (Cl. 188-80)



The present invention relates to an internal shoe drum brake with a stationary drum and a brake assembly having a rotatable shaft with the brake assembly rotatably disposed on the shaft and axially slidable on the shaft. The brake assembly has a shoe carrier with mounted brake shoes on the carrier and an anchor pin connecting one end of the shoes together and a connecting member connecting the opposite ends of the shoes together. There are shoe expanding means to move the shoes into engagement with the shoe drum including a link extending between the shoes with the opposite ends engaging the shoes and a bell crank lever pivoted to the link for movement in a plane normal to the plane of movement of the shoes. A thrust member is provided to actuate a lever means operatively connected to the bell crank to cause the shoes to expand and effect the braking application.

3,384,207  
**RAILWAY BRAKE SAFETY DEVICE**  
Edward J. Simanek, Homewood, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey

Filed Oct. 27, 1966, Ser. No. 590,027  
6 Claims. (Cl. 188-210)



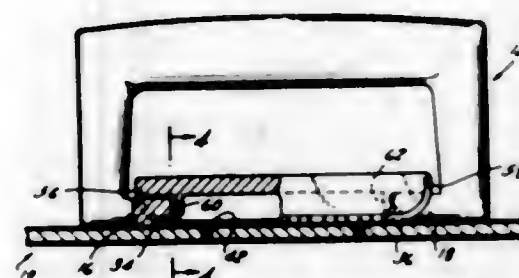
1. In a railway vehicle brake rigging wherein levers are operatively connected, a safety device comprising a hollow rod pivotally connected at each end to a lever and a supporting element threaded through a portion of said rod and connected at each end to a corresponding lever pivotally connected to said rod.

3,384,208

#### HANDLE MOUNTING

Thomas Renner, New York, N.Y., assignor to Merchants' Metal Trimming Company, New York, N.Y., a corporation of New York

Filed Apr. 3, 1967, Ser. No. 628,098  
10 Claims. (Cl. 190-58)



The mounting in accordance with the invention is for use with an article of the type usually carried by a handle which consists of a loop and a pair of coaxial trunnions extending from the loop toward each other. The mounting comprises a base member having a flat bottom wall terminating in a pair of upwardly extending end walls, and having end openings for receiving said trunnions. Endwise retaining means are provided integral with the base member and engageable with the trunnions for limiting the longitudinal movement of the handle loop. The base member takes up the entire load and a non-load bearing cover member is engageable with the base member, which cover member is complementary to the base member and conceals from view the major portion thereof as well as the trunnions.

3,384,209

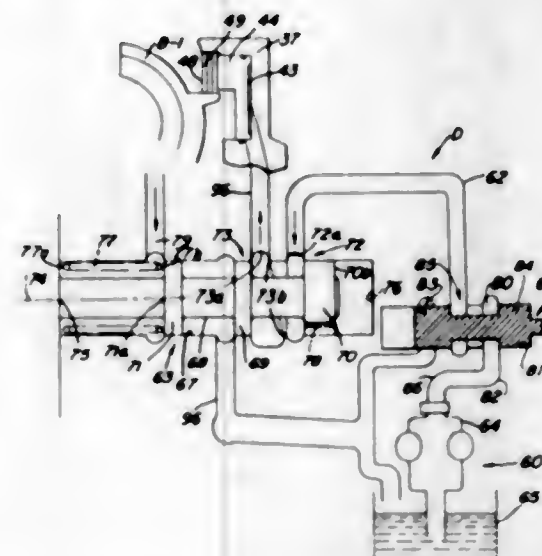
#### MODULATED FLUID CLUTCH IN SERIES WITH FLUID COUPLING

Eugene S. Murphy, Rockford, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Mar. 24, 1966, Ser. No. 537,126  
5 Claims. (Cl. 192-333)

A transmission mechanism includes a rotatable housing connected between a power source and a power take off. The impeller portion of a hydrokinetic torque converter is coupled to the housing in parallel with the power

take off by means of a hydraulically actuated friction shaft member for single cycle rotation with a rotating clutch which may be operated as a slipping clutch, if de-clutch shaft upon completion of a precise degree (X or



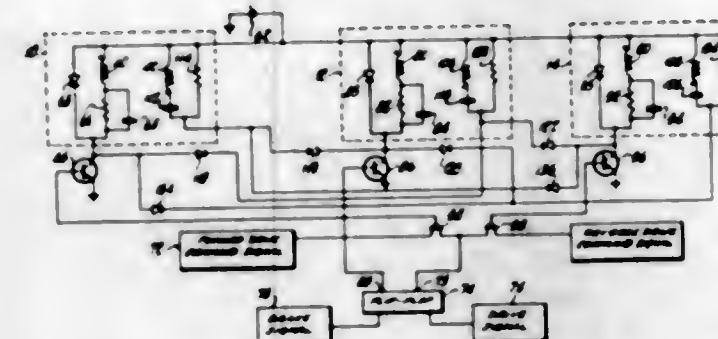
sired, for varying the ratio of power delivered to the torque converter and power take off.

3,384,210

#### CLUTCH DRIVE CIRCUIT

Daniel M. Klang, Huntington Station, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Mar. 4, 1966, Ser. No. 531,844  
4 Claims. (Cl. 192-12)



1. A circuit for operating in unison an electromagnetic clutch and brake of the type in which the clutch and brake each have an operating coil and an auxiliary coil, comprising in combination;

first means for energizing the clutch operating coil, second means for energizing the brake operating coil, means for coupling the clutch auxiliary coil to said second means including a capacitor coupled in series with said clutch auxiliary coil, and means for coupling said brake auxiliary coil to said first means including a capacitor coupled in series with said brake auxiliary coil.

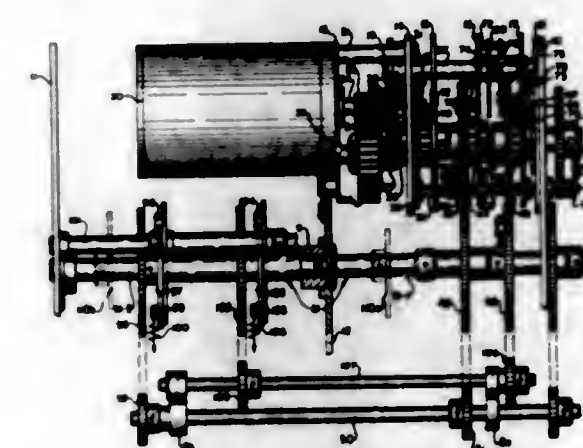
3,384,211

#### CYCLE CONTROL MECHANISM FOR BUSINESS MACHINES

Dale L. Placke, Dayton, and Kenneth C. Flint, West Carrollton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Dec. 12, 1966, Ser. No. 601,147  
21 Claims. (Cl. 192-33)

A mechanism having independently rotatable first and second shaft members of a machine main operating line united in time-spaced single cycle rotations to provide single cycle machine operation of a predetermined cycling time selected between 360 degrees and 720 degrees in duration. A clutch trip mechanism with plural operating controls is preconditioned to connect the second



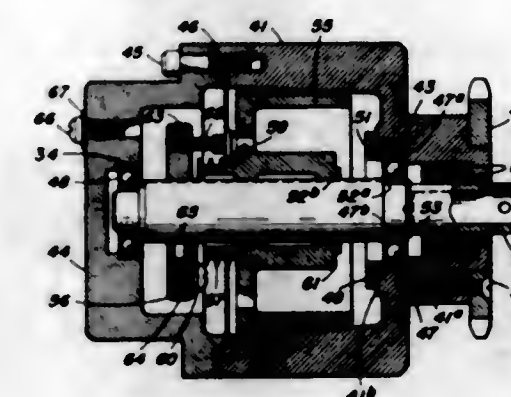
Y) of single cycle rotation of the first shaft member therewith.

3,384,212

#### SELF-ADJUSTING FLUID CLUTCH

Wilbur G. Hill, Binghamton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 21, 1966, Ser. No. 588,585  
3 Claims. (Cl. 192-54)



The invention is concerned with automatically varying the torque capacity of a fluid clutch. Essentially, the fluid clutch is comprised of a conical drive member and a conical driven member, the latter of which is axially moved with respect to the driving member whereby any change in slippage between the members causes the driven member to move axially and thereby change the torque capacity of the clutch.

3,384,213

#### ELECTROMAGNETIC CLUTCH WITH CARBON CORE

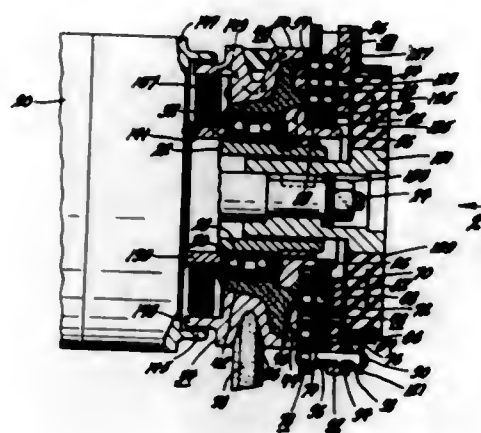
James A. Bernard and Delmer K. Hensel, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 13, 1966, Ser. No. 520,428  
8 Claims. (Cl. 192-84)

In the preferred form, the drive pulley is made of malleable iron which is cast around a carbon or ceramic core which separates the face co-operating with the armature into outer, inner and intermediate substantially annular poles. The drive pulley also supports an axially slidable armature plate having arcuate slots dividing it into four magnetic poles. A similar four pole armature plate is located between this first mentioned armature plate and the pulley. A third armature plate has a single annular series of slots to divide it into two annular poles and is located on the outside of the slidable armature plate. The last two armature plates are slidably pinned to a flange ring bonded to the outer portion of an elastomeric disc.



The inner peripheral portion of this elastomeric disc is an improved passage member is provided and in which a connected to the drive shaft. This disc serves both as a yielding suspension is provided for such a passage mem-

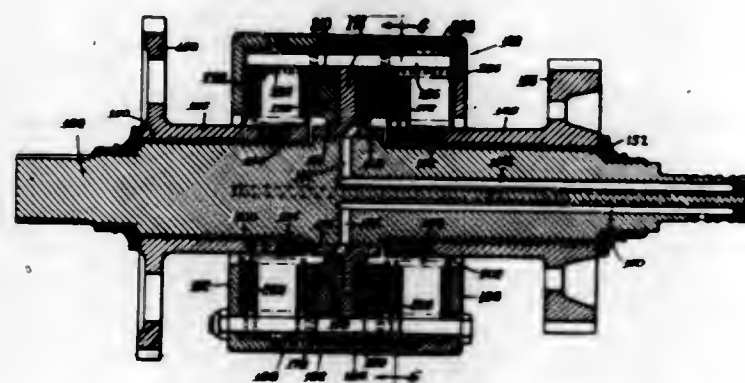


vibration absorber and a resilient axially movable mounting for the armature plates.

3,384,214

**DUAL PISTON CLUTCH**

Harry R. Wilson, Libertyville, Ill., assignor to International Harvester Company, a corporation of Delaware  
Filed Apr. 16, 1965, Ser. No. 448,821  
3 Claims. (Cl. 192-87.11)



1. In a power transmitting clutch having an input shaft, at least one output shaft and a clutch pack operative to hold the output shaft for rotation with the input shaft, the combination including: a housing mounted adjacent the clutch pack, the housing having a first annular fluid chamber axially spaced from the clutch pack; a source of fluid under pressure; means to connect the source of fluid with the chamber; a first annular piston mounted in the first chamber for axial movement to and from the clutch pack; means to resiliently urge the first piston from the clutch pack with a first predetermined force; the first piston having a second annular chamber; a second annular piston mounted in the second chamber for axial movement to and from the clutch pack; means to resiliently urge the second piston from the clutch pack with a second predetermined force less than the first force; means to direct fluid from the first chamber to the second chamber; and, means to create a temporary hydraulic lock in the second chamber responsive to movement of the first piston to the clutch pack.

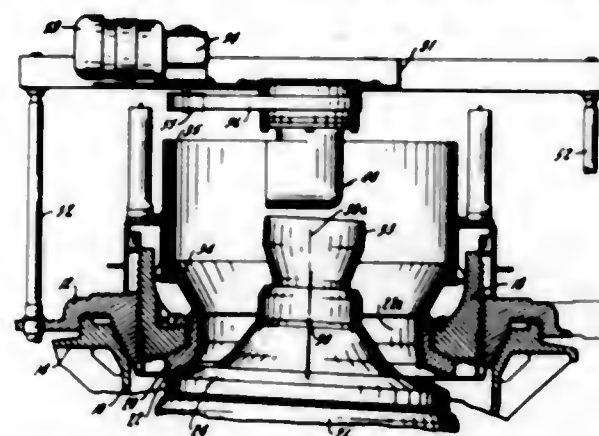
3,384,215

**FEEDERS FOR CRUSHERS AND THE LIKE**

Rudolph J. Gasparac, Milwaukee, and Arnold P. Szaj, Hales Corners, Wis., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Aug. 22, 1966, Ser. No. 574,201  
6 Claims. (Cl. 193-3)

The invention relates to an improvement in centrifugal feed distributors for gyrated head cone crushers in which

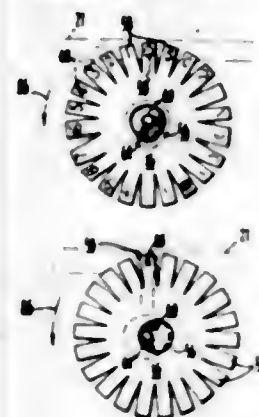


ber, to permit it to recede in response to overload or the impact of large particles, and to its lubrication.

3,384,216

**RESILIENTLY MOUNTED FONT WHEEL**

Louis C. Thayer, San Jose, Calif., assignor to Friden, Inc., a corporation of Delaware  
Filed Dec. 5, 1966, Ser. No. 599,201  
7 Claims. (Cl. 197-18)

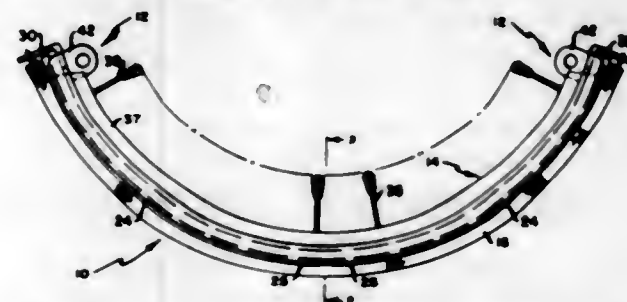


A printer having a platen, a continuously rotatable font wheel, and a print hammer mechanism wherein the font wheel mounting includes a resilient member for permitting the wheel to move laterally a short distance as a type on the periphery of the wheel is momentarily clamped into printing engagement with a sheet of paper or an inked ribbon by actuation of the print hammer.

3,384,217

**TYPE BAR REST SUPPORT**

Carl P. Anderson, Homer, N.Y., assignor to SCM Corporation, New York, N.Y., a corporation of New York  
Filed May 2, 1966, Ser. No. 546,911  
3 Claims. (Cl. 197-42)

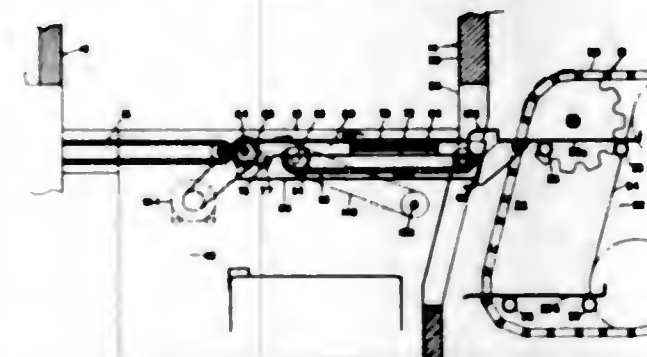


A type bar rest support for powered typewriters having a yieldable structure to absorb the energy of the type bars as they return to the basket after printing. The yieldable structure includes an elastomeric member arcuately shaped to be contacted by all of the type bars, and shaped to be guided for radial movement in a rigid support, a pair of arcuate metal strips cemented to the underside of the elastomeric member, each metal strip extending along approximately one half the length of the support and leaving a slight gap between the center-

most ends of the metal strips substantially at the center of the support, and a coil spring extending the length of the support and positioned under the metal strips to bias the metal strips and elastomeric member against the rigid support.

3,384,218  
**ARTICLE CONVEYING AND TRANSFER APPARATUS**

Gary A. Messerly and Wayne H. Royer, York, Pa., assignors to Read Corporation, a corporation of Delaware  
Filed Feb. 27, 1967, Ser. No. 618,952  
10 Claims. (Cl. 198-23)

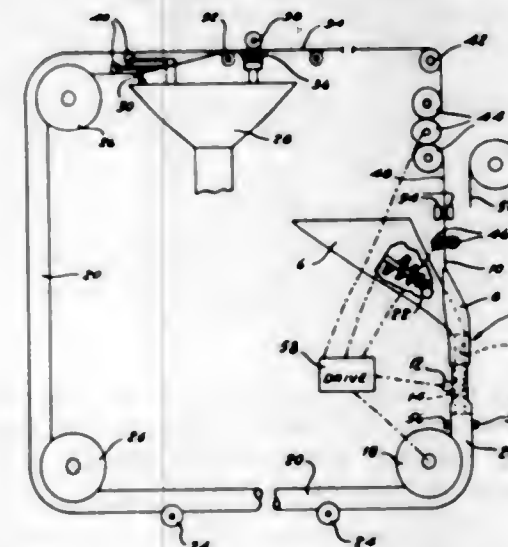


A normally horizontal intermittently operated endless chain conveyor bed transports successive transverse rows of articles along its top run to its forward end adjacent the upright run of a continuously traveling endless tray conveyor. Continuously operated endless chains disposed below the top run of the chain conveyor bed and at opposite sides thereof carry in fixed relation therewith a plurality of laterally spaced pusher fingers extending inwardly of the chain loops. The lower runs of the pusher chains travel toward the tray conveyor and the pusher fingers are of such extent that when traveling along the lower runs of the pusher chains they project between the chains of the chain conveyor bed above the level of the top run of the chain conveyor bed to push successive rows of articles from the forward end of the chain conveyor bed onto successive trays of the tray conveyor. The chain conveyor bed and pusher chains are oscillatably mounted, sloping downwardly to meet successive oncoming trays and moving in coincidence with the tray to horizontal position during which the pusher fingers push the row of articles from the chain bed conveyor onto the tray.

3,384,219

**METHOD OF CONVEYING SUBSTANCES**

John M. Leach, P.O. Box 341, Port Jefferson, N.Y. 11777  
Filed Jan. 9, 1967, Ser. No. 608,087  
10 Claims. (Cl. 198-129)



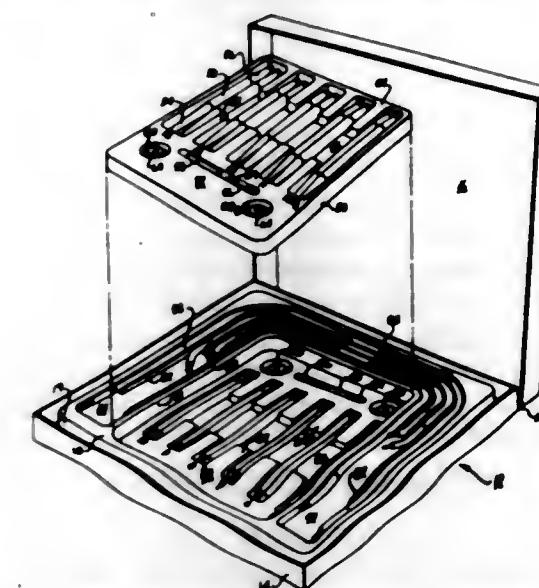
The method comprises continuously forming a sealed tube of plastic material, filling the substance to be con-

veyed into the tube, moving the tube lengthwise while making all such turns as required in any direction until the desired discharge point is reached, and there slitting the sealed tube to discharge the substance. The plastic material from the slit tube usually will be used to reform the tube for again conveying more of the same or other substance.

3,384,220

**HAND KNITTING APPARATUS KIT**

Lorraine A. Linstead, 11934 Ventura Blvd., Loves Park, Ill. 61111  
Original application May 25, 1965, Ser. No. 458,723, now Patent No. 3,280,595, dated Oct. 25, 1966. Divided and this application July 20, 1966, Ser. No. 566,550  
9 Claims. (Cl. 206-16)

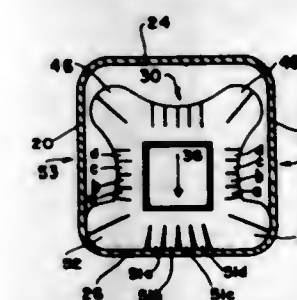


A kit including a case having two trays for holding a plurality of different size knitting needles, flexible cords, stitch holders, coupling members, and tools. The parts may be combined to form stitch holders, or circular or straight needle assemblies in different sizes, tips, and lengths.

3,384,221

**SHOCK ABSORPTIVE PACKAGING CONSTRUCTION**

Cornelius Houtman, Grand Rapids, Mich., assignor to Lear Siegler, Inc.  
Filed Jan. 24, 1966, Ser. No. 522,607  
17 Claims. (Cl. 206-46)



A novel shock absorbing padding material and construction thereof for supporting an article within a container in spaced relation to the container side walls is provided whereby shock transmitted to the article, as a result of the container being dropped or subject to impacts, is greatly reduced. The padding, made of a resilient material, includes a plurality of finger portions extending outwardly toward the side walls of the container. When the container is dropped, the supported article causes the finger portions to be independently compressed against the side walls. This independent compression of the finger portions absorbs shock in an unusual manner to protect the article supported therein.

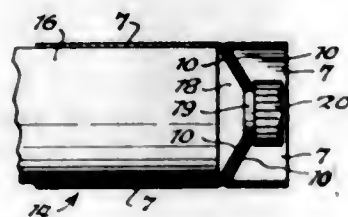


3,384,222

## PAINT TUBE PACKAGE

Alfred M. Franco, Brooklyn, N.Y., assignor to M. Grumbacher, Inc., New York, N.Y., a corporation of New York

Filed Jan. 30, 1967, Ser. No. 612,491  
4 Claims. (Cl. 206-46)



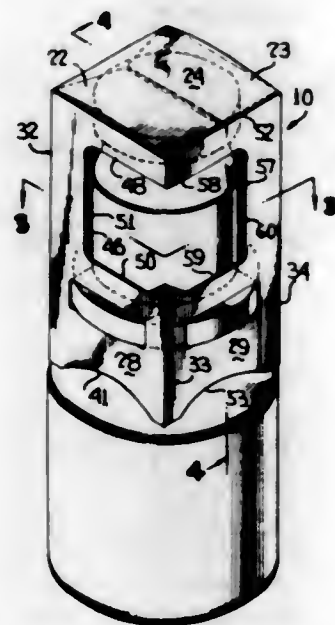
This invention is directed to protective packaging for tubes of artists' paints or other semi-liquid materials in which an axially collapsible outer sleeve or tube of paperboard is provided adjacent one end with inwardly deformable flaps engageable beneath the lip of the paint tube cap to prevent axial movement of the paint tube in one direction and to assist in the prevention of its axial movement in the opposite direction, there being notches at the other end of the sleeve that receive the ends of the flat crimped seal of the paint tube as a further restraint against movement in such opposite direction.

3,384,223

## CARTON FOR STACKED ARTICLES

Guelfo A. Manizza, Blauvelt, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed May 18, 1966, Ser. No. 551,061  
17 Claims. (Cl. 206-47)



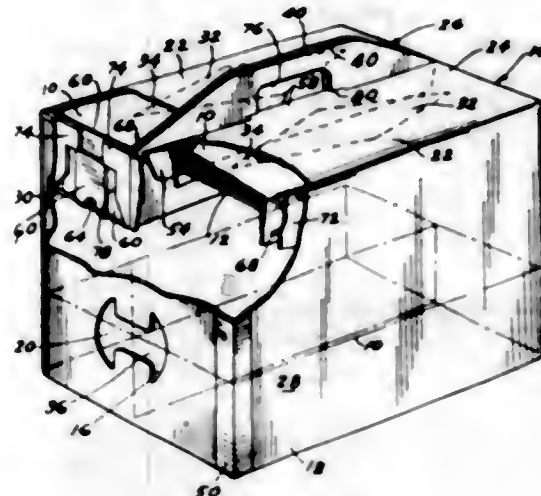
This invention relates to a novel carton for stacked articles, and is particularly directed to a carton which embraces and partially houses two articles, such as containers, of two different sizes. The carton includes a body defining a chamber at least one end of which is closed. A flange portion of the lowermost container is received in an opening of the body defined by a flap thereof directed radially into the chamber, and an uppermost of the containers is housed in the chamber with its bottom surface at least partially overlyingly contacting the flap and being cushioned thereby.

3,384,224

## SANITARY EQUIPMENT

Ernest J. Buckholz, 44 Miller St., Mount Clements, Mich. 48043, and Fred S. Lee, 38325 W. 14 Mile Road, Walled Lake, Mich. 48088

Filed July 13, 1966, Ser. No. 564,841  
5 Claims. (Cl. 206-57)



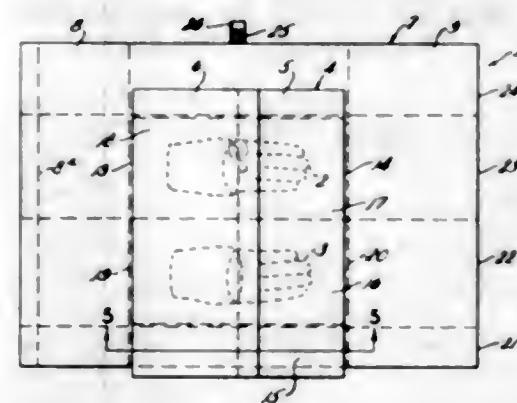
A carrying case type box adapted for use such as a secondary container for primary containers of the type having length, width and depth and from which disposable tissues are dispensed through an opening at the top thereof, the box comprising bottom, side and end walls, a top wall, a carrying handle disposed along one center line of the top wall and a shelf within the box parallel to the top wall, the shelf dividing the box into an upper chamber of sufficient dimensions to store a plurality of the primary containers and a lower chamber of sufficient dimensions to initially store a plurality of additional primary containers and to thereafter use the same as a receptacle for disposing of used tissues from all of the primary containers, the box being formed by folding and interlocking a plurality of pre-cut and creased blanks.

3,384,225

## STERILE PACKAGE WRAP FOR GLOVES

Norman H. Nye, Cuyahoga Falls, Ohio, assignor to Menypac Corporation, Akron, Ohio, a corporation of Ohio  
Continuation-in-part of application Ser. No. 411,781, Nov. 17, 1964. This application Mar. 29, 1965, Ser. No. 443,565

2 Claims. (Cl. 206-63.2)



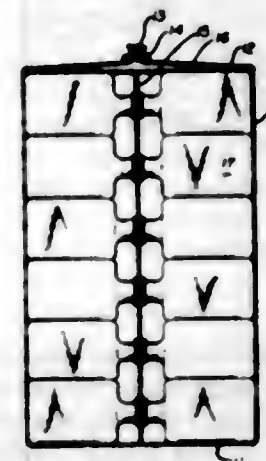
A package for surgical gloves and the like which comprises an inner sheet folded to comprise a package enclosing a pair of surgical gloves which has an opening flap on the top surface thereof to enable opening of the folded sheet to expose the gloves without contaminating the gloves, and an outer sheet slightly larger than the inner sheet folded around the inner sheet when it is in packaged form to hold the sheet in position, where the outer sheet has an opening flap substantially aligned with the opening

flap of the inner sheet, and where the package can be handled and stored without any danger of contaminating the gloves contained therein once they have been properly sterilized.

3,384,226

## PARTITIONED PACKAGE OF STACKED ARTICLES

Harry Crisci, P.O. Box 231, New Castle, Pa. 16103  
Filed May 31, 1966, Ser. No. 554,116  
3 Claims. (Cl. 206-65)

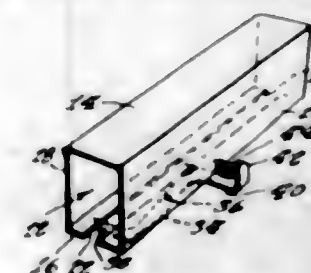


A package wherein the articles being packaged are enclosed with shaped partitions and held in desirable packed arrangement by an enveloping flexible bag.

3,384,227

## CHRISTMAS TREE LIGHTS STORAGE CONTAINER

William L. Spatz, 1543 Cork Lane, Hazelwood, Mo. 63042  
Filed Aug. 29, 1966, Ser. No. 575,744  
1 Claim. (Cl. 206-65)



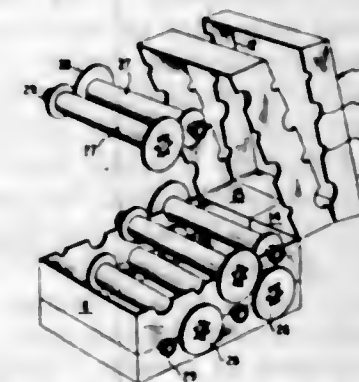
A container for storing strings of Christmas tree lights in such manner that the strings can be easily and quickly stored therein or removed therefrom.

3,384,228

## BOBBIN PACKAGE

Billy Pat Cannon, Greensboro, N.C., assignor to Union Camp Corporation, New York, N.Y., a corporation of Virginia

Filed Oct. 10, 1966, Ser. No. 590,161  
5 Claims. (Cl. 206-65)



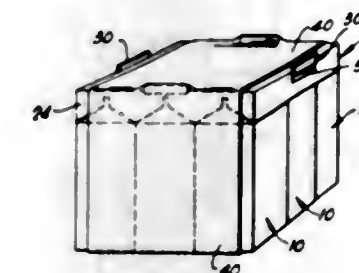
An inner packing designed to support bobbins in fixed position. The packing comprises hinged sections hav-

ing apertures in the side walls thereof which support the bobbins.

3,384,229

## METHOD AND APPARATUS FOR PACKAGING AND SHIPPING GABLE TOPPED CONTAINERS

Roy H. Kaschik, 33555 Quaker Valley Road, Farmington, Mich. 48024, and Lloyd S. Jackman, 31198 Pickwick Lane, Birmingham, Mich. 48009  
Filed May 8, 1967, Ser. No. 636,893  
15 Claims. (Cl. 206-65)

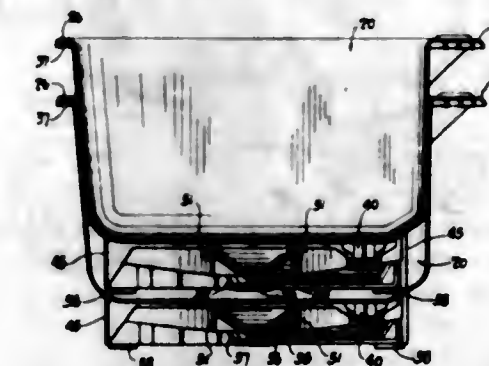


A method and apparatus for incorporating a plurality of gable topped containers in a single, light weight disposable package suitable for shipment or storage, and geometrically configured to facilitate tiered stacking of the packages. A top protector which has a portion thereof contoured to receive and engage the gable tops of a plurality of contiguous containers is first placed in position on the gable tops of the containers. These containers, with the top protector in place, are then wrapped about with a flexible material of sufficient length to surround the containers, so that the containers are retained in juxtaposition to each other in an integrated package. The preferred form of the top protector is such that when it is in position on the gable tops of the containers, a substantially monoplanar, horizontal upper surface of the top protector is exposed and stacking of the packages in tiers is facilitated.

3,384,230

## UTILITY TUBS

Bernard E. Mustee, Cleveland, Ohio, assignor to E. L. Mustee & Sons, Inc.  
Original application Aug. 24, 1964, Ser. No. 391,529, now Patent No. 3,333,282. Divided and this application Feb. 24, 1967, Ser. No. 618,500  
15 Claims. (Cl. 206-65)

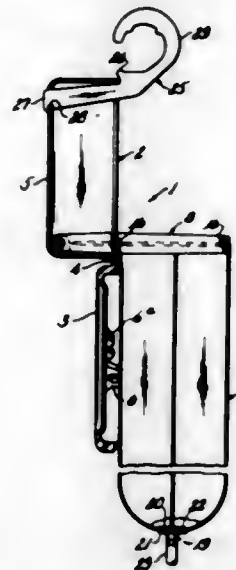


An assembly of one or more laundry tubs and a plurality of supporting legs arranged for shipment with the legs for a tub extending across the undersurface of its bottom wall and being held in place adjacent structure projecting from the bottom wall. A plurality of tubs are nested one within another and each nested tub may be maintained out of contact with the bottoms of adjacent tubs.



3,384,231

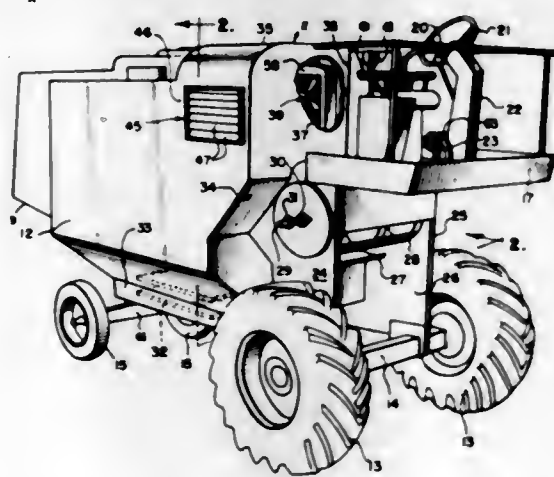
**FOLDING SYRINGE CASE AND CONTAINER**  
Alvon R. Cox and William F. Grimes, Ashland, Ohio, assignors, by mesne assignments, to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois  
Filed Sept. 13, 1966, Ser. No. 579,143  
7 Claims. (Cl. 206-69)



A folding syringe case and container assembly including a cover hingedly secured to the case and which case is substantially vertically positioned when operative. An open center frame is pivotally positioned in a portion of the case and adapted to extend therefrom horizontally when the case is opened and frame and case are operative. A flexible container is secured to the frame and is suspended therefrom when the case and frame are operatively positioned. The frame and container are adapted to be swung into the case and the container to be collapsed therein for storage.

3,384,232

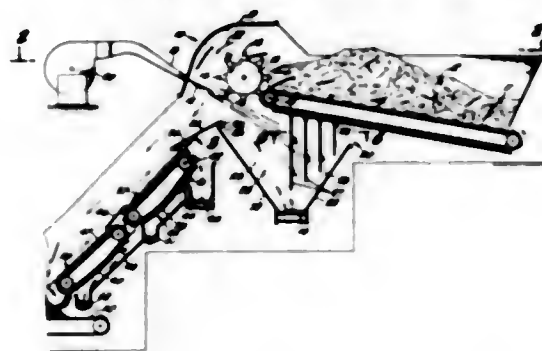
**HARVESTING MACHINE OR COMBINE**  
Glen O. Turnbull, Rock Island, Ill., and Clarence C. Evers, Davenport, Iowa, assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey  
Filed Dec. 13, 1965, Ser. No. 513,441  
5 Claims. (Cl. 209-11)



An air intake for the cleaning system of a harvesting machine having a plenum chamber located along the bottom of the harvesting machine, a vertical duct communicating with said plenum chamber, and fan means provided at the upper end of said vertical duct for creating an air stream that flows through the duct and into the plenum chamber. The air stream is discharged from the plenum chamber in a wide stream directed toward the harvester cleaning system.

3,384,233

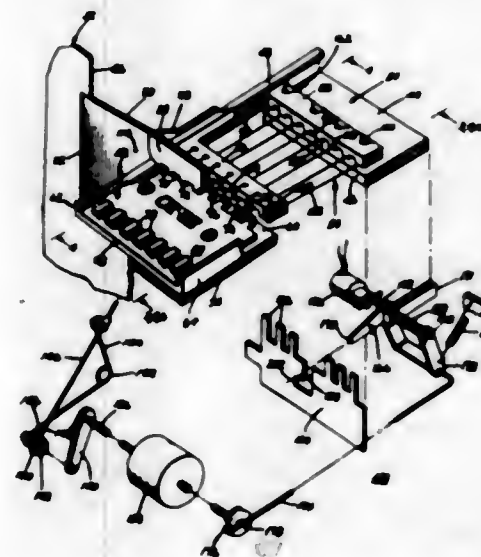
**PROCESS AND APPARATUS FOR DRYCLEANING SUGARCANE**  
Elmer Richard Bolles, Honolulu, Hawaii, assignor to Hawaiian Development Company, Ltd., Honolulu, Hawaii, a corporation of Hawaii  
Filed Oct. 8, 1965, Ser. No. 494,114  
13 Claims. (Cl. 209-12)



A process and apparatus for separating leafy trash and heavy trash from sugarcane stalks after harvesting includes the steps of and means for directing a jet of air laterally through a free-falling stream of intermingled cane stalks and trash to separate the leafy trash from the stream and then to remove additional trash by passing the stream downward in counter-flow relation with inclined upward moving reaches of endless conveyors, the sugarcane stalks cascading downward over the upper reaches.

3,384,234

**DOCUMENT INSPECTION APPARATUS**  
Owen E. Elmore, Indianapolis, Ind., assignor to Vendit, Inc., Tipton, Ind., a corporation of Indiana  
Filed Oct. 15, 1965, Ser. No. 496,313  
17 Claims. (Cl. 209-73)

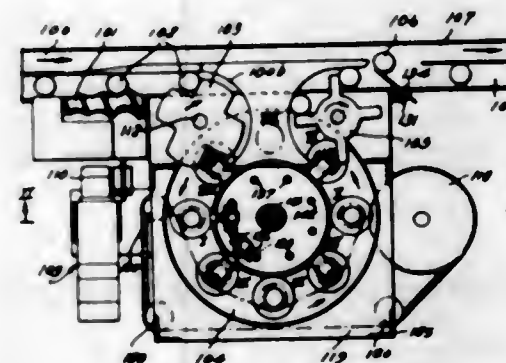


A tray assembly for document inspection apparatus for receiving a document, presenting it for inspection and removing an accepted document or returning a rejected document. A generally rectangular tray is provided having spaced, parallel, longitudinally extending projections formed on its upper side respectively adjacent its front and rear edges and defining a recess therebetween for receiving a document to be inspected, the rear edge having slots extending forwardly between the projections. The tray is longitudinally movable in a frame between a forward loading position and a rear inspection position. A wall extends upwardly between the two tray positions and has a bottom edge defining an opening through which the tray moves, the wall having a plurality of spaced cut-out portions defining projections with the tray projections being in longitudinal alignment with the wall cut-out portions.

tions and proportioned to pass therethrough so that the rear tray projections close the wall cut-out portions when the tray is in its forward position and the front tray projections close the wall cut-out portions when the tray is in its rear position. A plurality of spaced, parallel wires are provided normally closely spaced above the upper surface of the tray in its rear position and in longitudinal alignment with the wall projections. A gripping member is provided having a plurality of spaced upstanding projections respectively in alignment with the slots in the rear edge of the tray when it is in its rear position, the gripping member being movable between a lower position and an upper position in which the projections thereof extend upwardly through the slots of the tray in its rear position respectively engaging the wires thereby to grip a document in the tray against the wires, the gripping member projections elevating the wires above the upper surface of the tray so that a document is removed from the tray recess as the tray is returned to its forward position.

3,384,235

**METHOD OF AND APPARATUS FOR THE CONTINUOUS EXAMINATION OF A TRAIN OF GLASS ARTICLES**  
Ernst Schulze, Harzewinkel 14, Gladbeck, Germany; Gustav Becker, Am Bockler Baum 21, Essen-Kray, Germany; and Friedhelm Seibt, Eduardstrasse 11, Essen, Germany  
Filed Dec. 16, 1965, Ser. No. 524,660  
Claims priority, application Germany, Dec. 17, 1964, 23,098  
12 Claims. (Cl. 209-73)

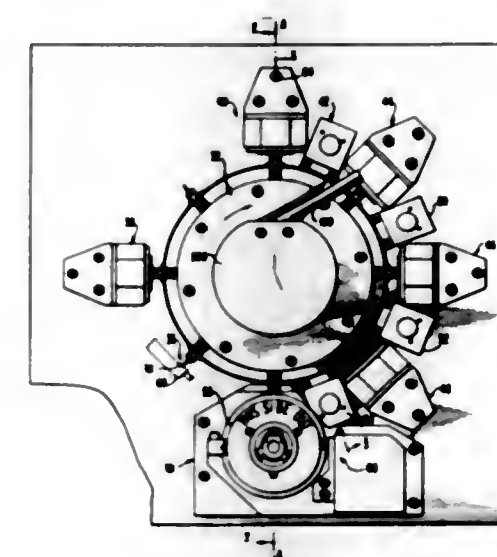


Method of and apparatus for the sorting of individual glass articles having vertical axes in which the articles are successively positioned upon a turntable having angularly spaced measuring stations formed by platforms rotatable about corresponding vertical axes while the measuring means includes a source of radiation insertable in the article by vertical movement, the platforms being lowerable upon rotation of the turntable to form a cup for the article; sorting means are provided downstream of the turntable for selectively shifting the articles to one or another path in accordance with the measurement.

3,384,236

**MACHINE FOR AUTOMATICALLY TESTING AND ORIENTING MINIATURE SEMICONDUCTOR CHIPS**  
Howard S. Best, Raleigh, N.C., and Georg K. Buerger, Plainview, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York  
Filed Aug. 31, 1966, Ser. No. 576,483  
19 Claims. (Cl. 209-81)

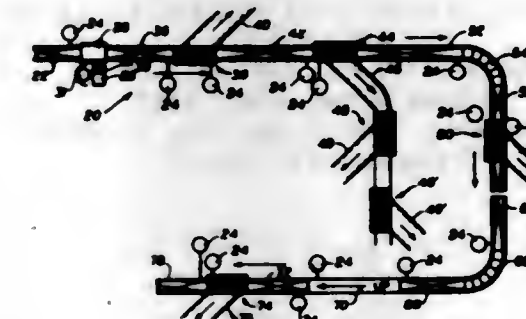
1. A machine for orienting and testing, miniature chips of semiconductors or the like, of the type including a rotatably indexable turret, means for indexably driving the turret, a plurality of hollow needles carried by the indexable turret, means for axially reciprocating the needles carried by the turret, means for applying vacuum to the



ried by the turret for controllably rotating said needles about their own axis for index purposes, the orient test probe station, and electrical test probe station and eject station all positioned adjacent the periphery of the turret, a magazine load station adjacent the periphery of the turret after the eject station in the direction of rotation of the turret, and a magazine at the magazine load station for holding chips loaded therein.

3,384,237

**CONVEYOR DISCHARGE CONTROL SYSTEM**  
Roy F. Leonard, 521 Roosevelt Ave., River Vale, N.J. 07675  
Filed Oct. 6, 1965, Ser. No. 493,398  
13 Claims. (Cl. 209-122)



This specification discloses a conveyor system in which all of the articles travel along a first section and are programmed in sequence into a control system that has memory for controlling switching stations beyond the first section. There are means at each switching station for identifying particular packages as programmed and mechanism responsive to the identifying means and operable while the articles on the conveyor continue in motion to dislodge them onto the switch. An individual switching station includes a frame with conveyor rollers and a push-off means including an element at a fixed location below the plane of the top of the conveyor rollers and including an abutment carried by said element and movable into a position above that plane and while outward beyond the side of an article on the conveyor.



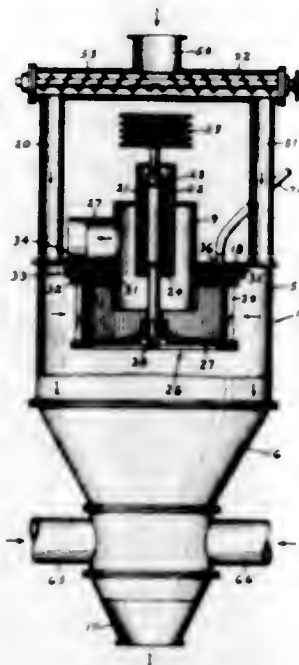
3,384,238

**CLASSIFYING SYSTEM**

Smith Alpha, Berwick, La., assignor to Air Sifters, Incorporated, Greenwich, Conn., a corporation of Connecticut

Filed Feb. 17, 1966, Ser. No. 528,213

4 Claims. (Cl. 209-139)



A centrifugal classifying system including a classifying chamber having a rotary particle rejector in its top and including a fan for drawing air through a pair of diametrically spaced inlets at the bottom of the chamber to develop a rising and rotating column of air in the chamber and draw air through the rejector, the material being classified being introduced directly into the air column by means of a pair of feed conduits to avoid creation of turbulence in the air column, and an outlet centered in the rejector to discharge the air and entrained classified particles through centrifugal separators, the air being recirculated to the inlets from the separators and to a labyrinth seal between the particle rejector and the top of the chamber.

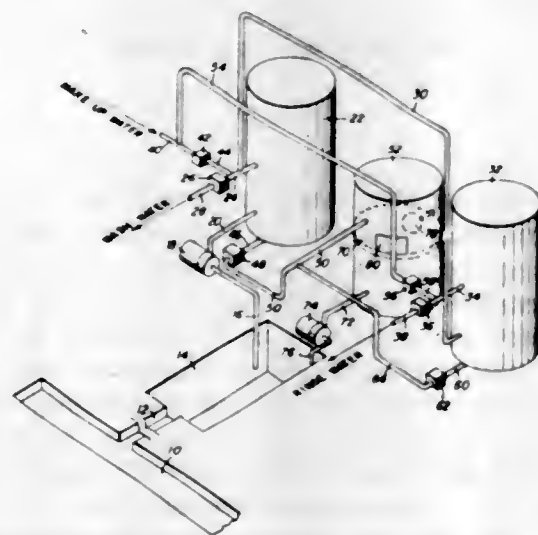
3,384,239

**PURIFICATION AND RECIRCULATION OF LIQUID**

Martin J. Berardi, 149 NE. 98th St., Miami Shores, Fla. 33138

Filed Dec. 7, 1965, Ser. No. 512,054

3 Claims. (Cl. 210-73)



This invention is concerned with a filter system for use in conjunction with washing and rinsing apparatus, such as a car wash. The filter system to be described is of the

closed recirculating type, and it includes a first filter which removes all the impurities from the wash water except detergent, and a second filter which removes the detergent. The water and detergent from the first filter is re-used as wash water, whereas the water from the second filter is used as rinse water.

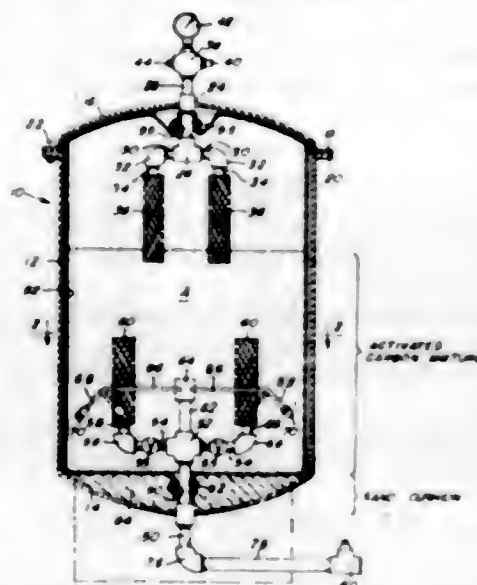
3,384,240

**ACTIVATED CHARCOAL FILTER ASSEMBLY HAVING BACKWASH MEANS**

Martin J. Berardi, 149 NE. 98th St., Miami Shores, Fla. 33138

Continuation of application Ser. No. 354,298, Mar. 24, 1964. This application Nov. 9, 1966, Ser. No. 593,221

3 Claims. (Cl. 210-136)



An improved liquid filtering assembly is described in the following specification which uses activated charcoal, and which includes an effective backwashing unit for periodically cleaning the activated carbon particles in the assembly.

3,384,241

**GRADUATED DUAL DENSITY LIQUID FILTER ELEMENT**

William G. Nostrand, Stoughton, Wis., assignor to Nefco Filter Corporation, Stoughton, Wis., a corporation of Wisconsin

Filed Jan. 12, 1966, Ser. No. 520,179

10 Claims. (Cl. 210-315)



A liquid filter, especially for oil in internal combustion engines, has layers of coarse and fine filtering media, the fine media layer varying in thickness to provide a low flow resistance portion through which temporarily viscous liquid may pass with otherwise normal filtration.

3,384,242

**APPARATUS FOR REMOVING ENTRAPPED AIR IN FILTERS**

Walter J. Kudlaty, Elmhurst, and Forest G. Niccum, Wood Dale, Ill., assignors to Marvel Engineering Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 11, 1965, Ser. No. 494,460

2 Claims. (Cl. 210-436)



An apparatus for removing entrapped gas in filters, said apparatus comprising a housing defining a filter chamber having at least one open end with a cover removably enclosing said open end, a fluid inlet for said chamber and a fluid outlet for said chamber located below the upper portion of the open end of said chamber. The apparatus further includes means to support the filter chamber and passage means extending from the upper portion of said chamber to the fluid outlet, said passage means having an interior cross-section of sufficient area to permit the passage of gas, but of insufficient area to permit the passage of hydraulic fluid under the pressure differential normally existing in the system between the inlet and outlet of said chamber.

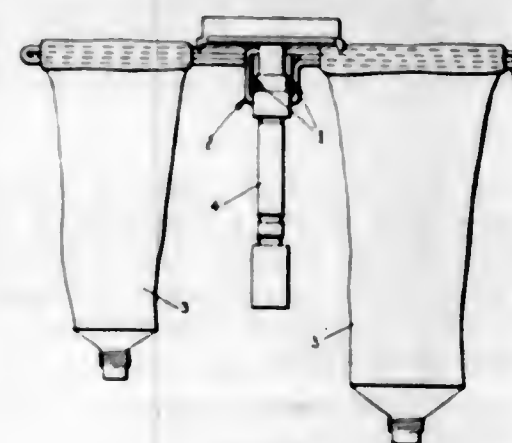
3,384,243

**BRACKET FOR COLLAPSIBLE TUBES, SAFETY RAZOR AND THE LIKE**

Frank Richard Davis, 2095 Grand Blvd., Apt. 9, Montreal, Quebec, Canada

Filed July 26, 1966, Ser. No. 567,980

1 Claim. (Cl. 211-87)



1. An article of manufacture comprising three parts made of metal or other suitable material thereof forming a combination wall unit for the use of dispensing paste or the like from tube containers and of which there are two identical tube holder keys engaged to a wall bracket and the wall bracket is formed as a U shape with a flat bottom section with two holes to attach to a wall with screws or the like and the said wall bracket having two extended parallel arms projecting horizontally from the wall and spaced apart enough to accommodate the handle of a safety razor and also the said two identical tube holder keys which are made of metal wire or other suitable material shaped to form a square opening on each of the handles and the openings made to house and engage to and from the said extended arms of the wall bracket and the tube holder keys when retained in position on the wall bracket extend horizontally in alternate positions flat to the wall and each of the tube holder keys afford a slot in length to affix and support general sizes

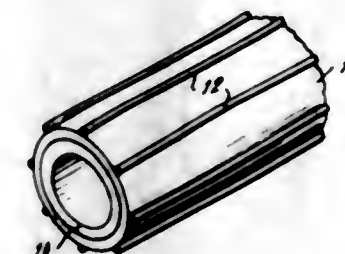
3,384,244

**ANTI-FRICTION SUPPORT BAR**

Seymour C. Falek, 3232 Mickle Ave., Bronx, N.Y. 10469

Filed Mar. 31, 1966, Ser. No. 539,116

6 Claims. (Cl. 211-123)



A support bar for clothes hangers having an elongated tubular core, a covering around the core and spaced elongated bead members formed of anti-friction material and of circular cross-section on the covering to prevent the clothes hangers from scraping the bar covering and to facilitate sliding action along the support bar.

3,384,245

**CONTROL SYSTEM FOR A TRAVELLING BRIDGE OR CRANE**

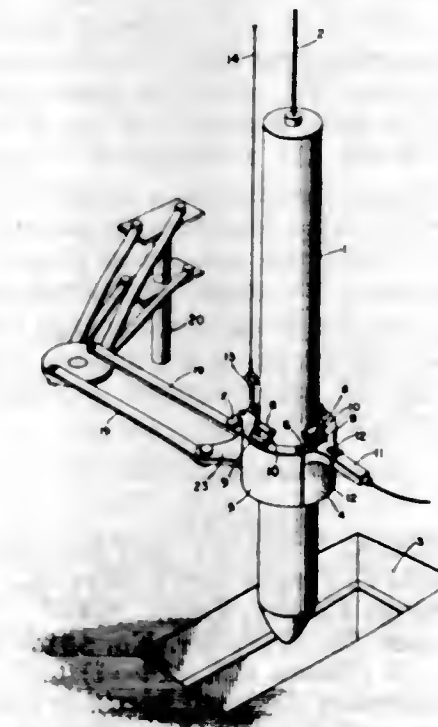
Pierre E. Bonnaure, Ispra, Varese, Italy, assignor to European Atomic Energy Community (Euratom), Brussels, Belgium

Filed Mar. 7, 1966, Ser. No. 532,226

Claims priority, application Belgium, Mar. 11, 1965,

10,091; Dec. 17, 1965, 21,743

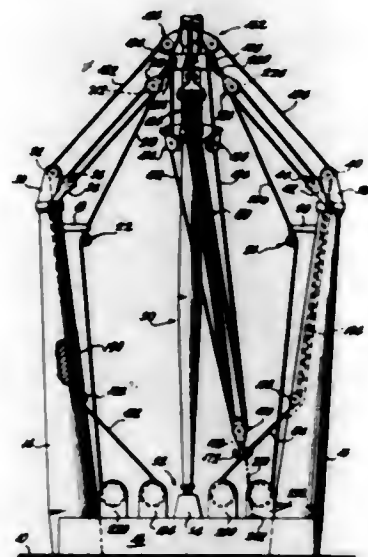
12 Claims. (Cl. 212-1)



A control system for a travelling bridge having a frame adapted to encircle the article to be moved and a plurality of inwardly directed thrust elements fixed around the frame and adapted to emit a signal in response to the reaction of the article against displacement of the frame, so that the article can be moved accordingly by external means. A grip adapted to be held by the operator is fixed externally on the frame and has a pushbutton control for the bridge's vertical movements.



**3,384,246**  
**CARGO HANDLING APPARATUS**  
 Charlie S. Cochran, Newport News, Va., assignor to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia  
 Filed Mar. 9, 1967, Ser. No. 621,957  
 10 Claims. (Cl. 212—3)



A boom including a head portion and a heel portion is mounted for substantially universal movement at the heel portion thereof and is adapted to swing between a pair of spaced kingposts. A cargo fall support means in the form of a sleeve is rotatably mounted at the head portion of the boom and is axially fixed relative thereto. The cargo fall means includes an upper purchase block means pivotally supported by the cargo fall support means and a lower purchase block means. A cargo fall cable is reeved around the upper and lower purchase block means and includes a pair of hoisting leads. A first pair of guide sheaves are swivelly supported above the head portion of the boom and laterally thereof. A second pair of guide sheaves are swivelly supported at the outer ends of a guide support means including portions extending outwardly from the cargo fall support means. The guide support means is secured to the cargo fall support means for turning movement therewith. Each of the hoisting leads of the cargo fall cable are reeved through one of said first pair of guide sheaves and one of said second pair of guide sheaves, the arrangement being such that the hoisting leads and the remaining portions of the cargo fall cable will not become fouled as the boom moves into different operative positions and swings through between the spaced kingposts. Stop means includes a pair of pins fixed with respect to the boom which engage a rib formed on the cargo fall support means for limiting relative rotation of the cargo fall support means in opposite directions with respect to the boom.

**3,384,247**  
**UNIVERSAL MOUNT APPARATUS**  
 Harold C. Teagle, 13471 Olive St., Orange County, Calif. 92667  
 Filed Oct. 22, 1965, Ser. No. 501,876  
 13 Claims. (Cl. 214—1)

The mount apparatus disclosed herein is carried by an extendable boom and is adapted to effect the transportation and relocation of utility pole cross-arms which are normally carried on a utility pole cross-arm. The mount apparatus includes a member pivotally secured on one end to the boom and a turntable rotatably mounted on the pivoting member. A carrier is secured to the turntable and is U-shaped in section having spaced parallel side-walls to form a substantially rectangular cavity of constant cross-section whereby the carrier is adapted to receive the cross-arm from the utility pole within the cavity so as

to support the cross-arm and the power lines carried thereon during transportation. Power means is provided which is operably connected to the member and the turn-

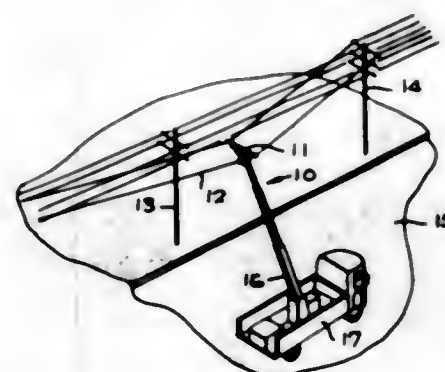


table for effecting rotation and tilting of the carrier with respect to the boom during transportation of the utility power lines.

**3,384,248**  
**UNLOADING SYSTEM AND METHOD**  
 Jack D. Leitch, Toronto, Ontario, Canada, and Nolan H. Williams, Palatine, Ill., assignors to Upper Lakes Shipping, Ltd., Toronto, Ontario, Canada, a corporation of Canada  
 Filed Oct. 27, 1965, Ser. No. 505,368  
 23 Claims. (Cl. 214—2)



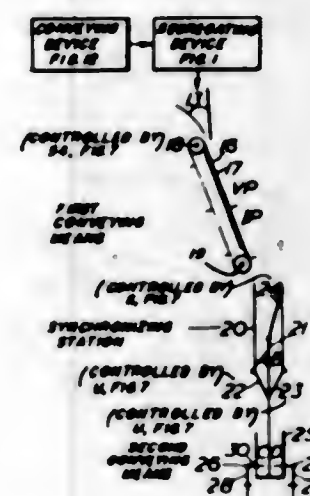
The storage within, and unloading of bulk material from, a compartment having a longitudinally extending conveyor disposed in a channel, gates controlling communication between the compartment and channel, and a reclaimers movable through the compartment to direct material toward the conveyor.

**3,384,249**  
**PILER STACKER APPARATUS**  
 Joseph Irwin Greenberger, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania  
 Filed July 12, 1965, Ser. No. 471,082  
 2 Claims. (Cl. 214—6)



This invention relates to an apparatus for piling or stacking elongated workpieces, such as, slabs, billets, bars and the like and, more particularly, to such an apparatus suitable for use in combination with a rolling mill or continuous casting machine.

**3,384,250**  
**TRANSFER MECHANISM**  
 Josephus Evaristus Firmianus Vanbontemrijck, Mortsel, Eric Henry Edward Dillow, Dourne, and François Lenssen, Wilrijk, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware  
 Filed Jan. 25, 1965, Ser. No. 427,748  
 Claims priority, application Netherlands, Jan. 24, 1964, 64-535  
 16 Claims. (Cl. 214—11)



1. Transfer mechanism for transferring articles from a first conveying means onto a second conveying means, comprising:

- an article conveying device;
- an article segregating device juxtaposed with said conveying device;
- first conveying means disposed adjacent to said segregating device and mounted in an inclined position;
- a synchronizing station having first and second synchronizing positions adjacent to said first conveying means, said positions comprise first and second juxtaposed compartments of a two-compartment chute;
- first and second transfer means coupled to said synchronizing station and constituted by first and second movable bottom flaps of said first and second compartments respectively, said compartments being closed and opened when the associated bottom flap is in its first and second positions respectively;
- second conveying means disposed adjacent to said first and second movable bottom flaps;
- a displaceable diverting means in said synchronizing station comprising a movable two-position deflector plate mounted below the end of said first conveying means which, when in its first position, permits and prevents access to said first and second synchronizing positions, respectively, and which, when in its second position, permits and prevents access to said second and first synchronizing positions, respectively;
- first and second control means, said first control means is coupled to said displaceable diverting means to divert an article to said first or second synchronizing position, and said second control means is coupled to said first and second movable bottom flaps to operate said first and second flaps in an alternating manner;
- said first control means include first timing means which are periodically and alternately operated and released in timed relationship with said second conveyor means with a period equal to 2T, T being the time interval required for an operator to process an article, and the operation and release time intervals being each equal to T;

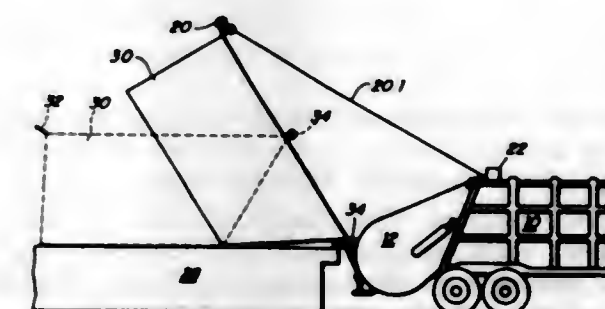
operator controlled first registering means for registering the start of a transfer operation;

second registering means which are operated when said first timing means and said first registering means are simultaneously released and operated respectively, to control the displacement of said deflector plate from said first to said second position and which are released after a time interval  $T_1$  at most equal to T;

displacement means which are operated when said second registering means are released to displace said deflector plate from said second to said first position; and

said first control means including third registering means which are operated when said first timing means and said first registering means are simultaneously operated respectively and which are released after said time interval  $T_1$ .

**3,384,251**  
**TRUCK BODY LOADER**  
 Joseph F. Russell, Lexington, Mass., assignor to Henry B. Russell and Sons, Inc., Cambridge, Mass., a corporation of Massachusetts  
 Filed Oct. 21, 1965, Ser. No. 499,183  
 6 Claims. (Cl. 214—302)



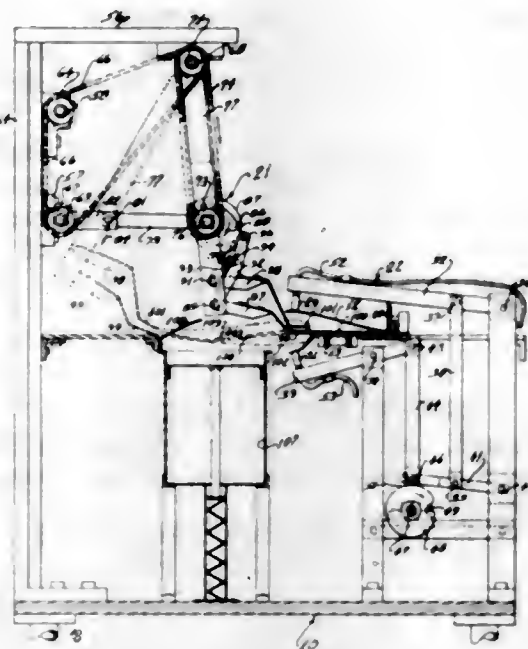
1. An improved refuse compaction unit, the combination comprising:
  - a rear loaded hopper;
  - a substantially rectangular opening having upper and lower edges and a pair of side edges in the rear of the hopper through which refuse is introduced thereto;
  - first support means located at and defining the lower edge of the opening for mating with a refuse container located at ground level;
  - second support means having a pair of substantially vertically disposed bumper members extending vertically and parallel to the side edges of the opening;
  - one end of each bumper member rigidly affixed to the hopper at the lower edge opening, the other end extending toward the upper edge opening; and
  - a pair of horizontally disposed support ledges respectively affixed to and extending between each other end of each bumper member and that portion of the hopper adjacent the vertical side edges of the opening to mate with containers located above ground level.

**3,384,252**  
**APPARATUS FOR EXTRACTING ITEMS FROM ENVELOPES**  
 Horace M. West, 1017 Hagwood Road, Birmingham, Ala. 35235  
 Filed Nov. 22, 1966, Ser. No. 596,254  
 8 Claims. (Cl. 214—305)

An apparatus to sever the edge of an envelope outwardly of the enclosed item to be removed and to feed the envelope sequentially to an extracting station. The

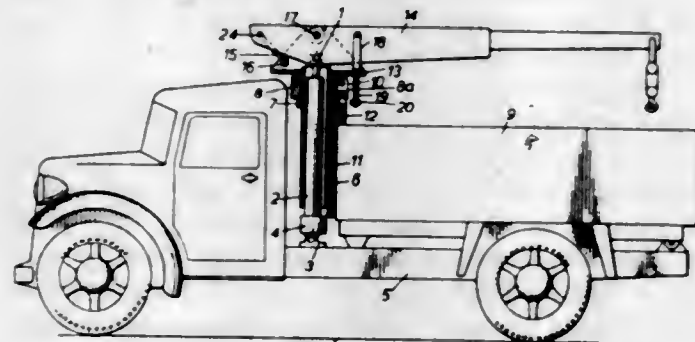


envelope is held against lateral movement while in the extracting location and suction members move into engagement with opposite sides of the envelope adjacent the severed edge thereof and then move outwardly away from each other while the suction members are in engagement with the sides of the envelope whereby the sides of



the envelope are moved outwardly away from each other. Clamping members of an extractor unit are then moved inwardly of the envelope adjacent opposite sides of the item to be removed. The clamping members move into engagement with the item and then the clamping members are removed to thus extract the item from the envelope.

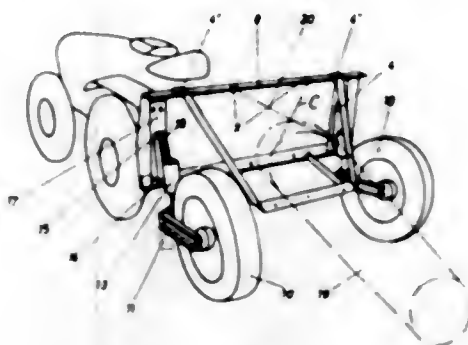
**3,384,253**  
**HYDRAULIC LIFTING DEVICES**  
Robert L. Wood, West Terrace, Richmond,  
Yorkshire, England  
Filed Nov. 7, 1966, Ser. No. 592,521  
10 Claims. (Cl. 214-501)



1. A hydraulic lifting device on a vehicle having a tipping body, including at least one hydraulic ram and cylinder unit, a tubular pillar surrounding and pivotal about the axis of said unit, a head stock on the pillar, said head stock providing a pivotal mounting, a crane beam on said mounting, connection means between said beam and the unit ram for the ram to give the beam angular movement about its pivotal mounting, selection means for locking the beam temporarily at will to the head stock to prevent any angular movement of the beam so that it will only rise and fall with the ram, and attachment means for connecting the pillar to the tipping body of the vehicle for the ram to tilt said body.

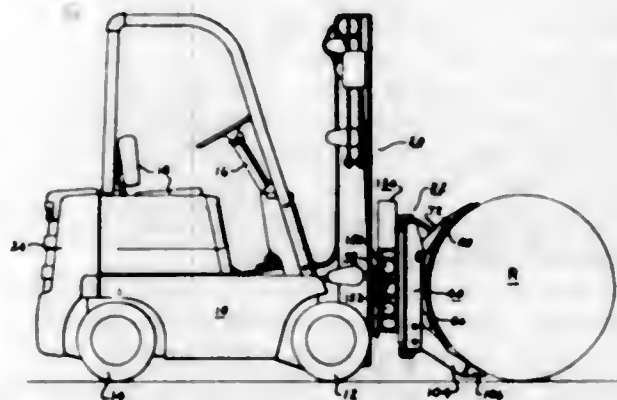
**3,384,254**  
**LOG DRAWING APPARATUS**  
Hubert Helm, Schongauerstrasse 6,  
Peking, Germany  
Filed Jan. 10, 1966, Ser. No. 519,581  
15 Claims. (Cl. 214-512)

A log drawing apparatus including a substantially vertical plate adapted to be connected to the hydraulic lifting and lowering suspension adjacent the rear of a tractor. The plate is provided with connections thereon for permitting attachment thereto of various lifting devices. The plate is further provided with a pair of trailing wheels positioned on opposite ends thereof with said wheels



being positionable in either a raised position when transporting a load or a ground engaging position for partially relieving the weight of the load from the tractor suspension.

**3,384,255**  
**LIFT ATTACHMENT FOR HANDLING CYLINDRICAL OBJECTS**  
Richard B. Hickman, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan  
Filed Oct. 22, 1965, Ser. No. 502,142  
9 Claims. (Cl. 214-652)

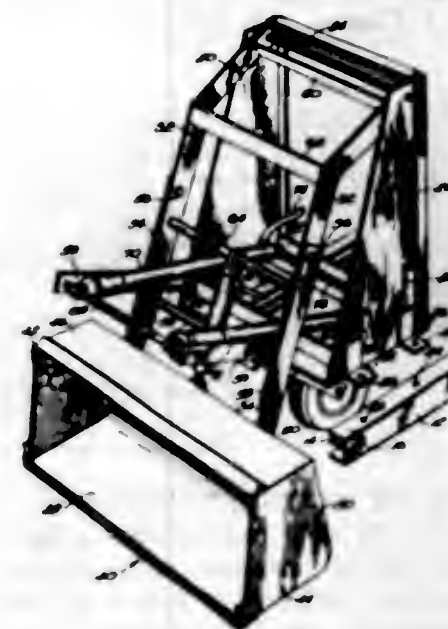


A lift truck attachment having a support plate mounted for rotation about a central horizontal axis, a generally rectangular first frame pivotally mounted from the opposite sides of the rotatable support, a generally H-shaped second frame mounted from the first frame about a vertical axis offset from the horizontal axis, and gripper members, such as vacuum pads, mounted from the second frame for engaging and handling loads.

**3,384,256**  
**HYDRAULICALLY OPERATED SCOOP**  
Kasimir E. Ulaky, Range Road, Windham, N.H. 03087  
Filed Feb. 6, 1967, Ser. No. 614,085  
5 Claims. (Cl. 214-778)

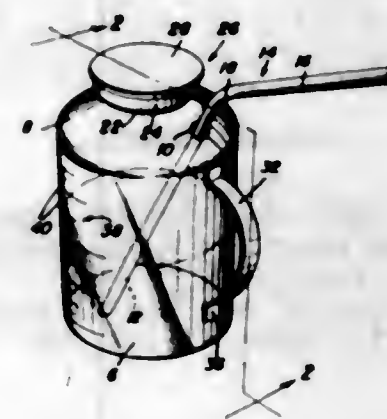
The purpose of the invention is to provide a power scoop which is quickly and easily attachable to and detachable from an automotive vehicle which is equipped

to supply fluid under pressure for hydraulic operation of the scoop. The apparatus comprises a simple frame to be pinned to a pair of brackets projecting out from the



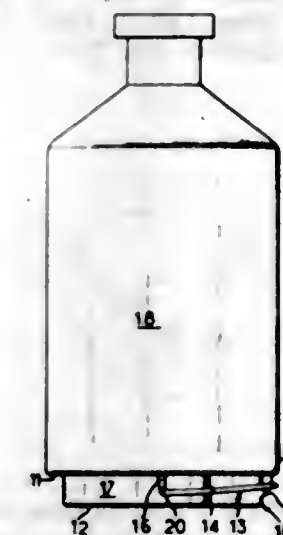
front of the vehicle, a linkage connecting the scoop to the frame, cylinders and pistons for elevating and tilting the scoop, and flexible tubes communicating with the cylinders.

**3,384,257**  
**DRINK CONTAINER**  
Neil S. Fourqurean, 1701 E. 9th St.,  
Hopkinsville, Ky. 42240  
Filed Aug. 31, 1966, Ser. No. 576,362  
5 Claims. (Cl. 215-1)



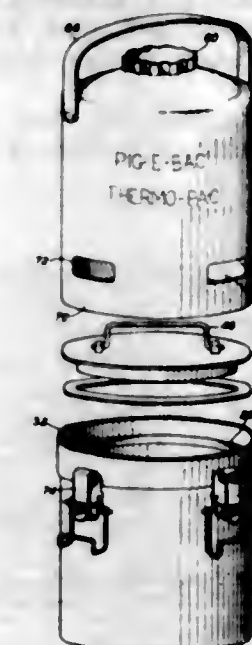
The unspillable container disclosed lends itself to practical use as a sick room aid and is made of glass or other acceptable material. It has a stable flat bottom, is self-standing and will rarely capsize. The upper portion embodies a nicely rounded shoulder merging into an up-standing filler neck provided with a disposable dust cap. An easy-to-hold handle is fixed on a vertical side of the container body. That portion of the shoulder directly above and aligned with the upper end of the handle is provided with an orifice which serves as an air vent but primarily serves to accommodate an insertable and removable straw or drinking tube. The drinking tube can vary in length depending on the needs of the patient and whether lying down or sitting up. A suitably graduated contents indicating scale is provided on one easily-viewable side. This unique container well serves the purposes for which it is adapted for use.

**3,384,258**  
**FLASKS OF FLEXIBLE MATERIAL WITH A SUPPORTING BASE**  
Jacques Louis Gregoire Singler, Sceaux, France, assignor to Societe Francaise des Laboratoires Labaz, a corporation of France  
Filed July 19, 1966, Ser. No. 566,363  
Claims priority, application France, Aug. 11, 1965, 27,964  
14 Claims. (Cl. 215-100)



A one-piece molded plastic bottle has a body portion, a supporting base, and a suspension device. The suspension device is in the form of a bail that fits in a peripheral recess or rebate about the base of the body.

**3,384,259**  
**DUAL THERMAL CARRIER**  
Ronald A. Hoffstadt, Springfield, Ill., assignor of one-half to Howard F. Weitecamp, Atwater, Ill.  
Filed June 23, 1966, Ser. No. 559,793  
10 Claims. (Cl. 220-16)



1. A dual thermal carrier comprising: upper and lower thermally insulated containers; cover means for an upper opening in the lower container; the upper container being seated on the cover means and having its bottom portion spaced from the cover to provide a ventilating zone between the containers; at least one of the containers having a plurality of apertures spaced about the periphery and providing ventilating communication between the zone and ambient air to maintain the zone dry and at ambient temperature responsive to movement of the carrier and convection air currents;



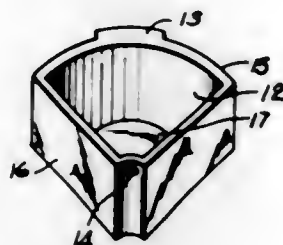
releasable clamp means between the containers being operable to and from a first locked condition effective to hold the containers together as a unitary carrier while concurrently pressing the cover means onto the lower container.

3,384,260

## SECTIONAL TRAY

Larry J. Buffington, Rte. 1, Box 338,  
Bauxite, Ark. 72011

Continuation of application Ser. No. 312,030, Sept. 27,  
1963. This application Apr. 6, 1966, Ser. No. 540,535  
3 Claims. (Cl. 220-17)



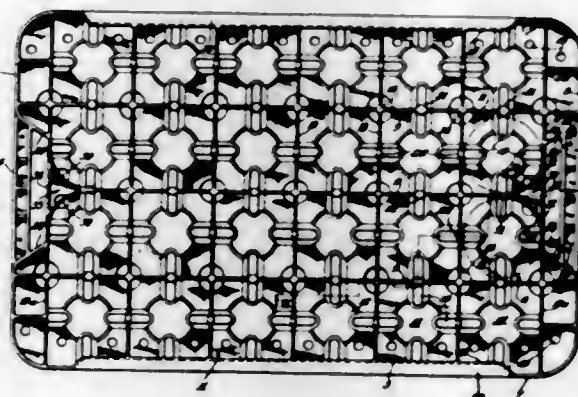
A multi-compartment food serving tray with an outer circular main container or tray base, which is upwardly open and forms a chamber for the reception of a number of sector shaped bowls which are removably positioned within the main container or tray. Each sector shaped bowl has an outwardly extending lifting lip on its outer end, and the inner ends of all bowls converge to terminate at their arcuate shaped inner ends so that a space is formed between all bowl inner ends, and they all have a recess at their inner ends to allow insertion of a finger to lift them individually with the aid of the lifting lip at their outer ends.

3,384,261

## BOTTLE CARRIER

Forrest L. Austin, Brooklyn Center, Minn., assignor to  
The Cornelius Company, Anoka, Minn., a corporation of  
Minnesota

Filed Sept. 1, 1965, Ser. No. 484,296  
12 Claims. (Cl. 220-21)

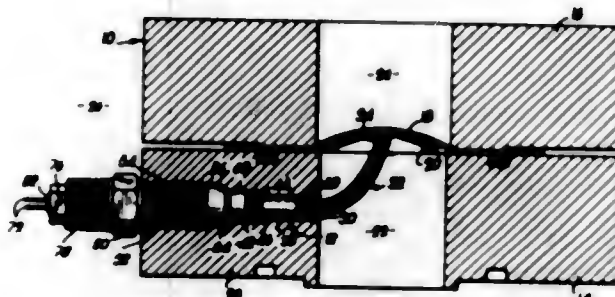


A molded plastic bottle carrier has an integral handle bar on an upper portion of an outer wall adjacent to a pair of bottle-receiving cells. The handle bar is adapted to have the thumb of one carrying hand hooked thereunder while the fingers of such hand grasp a bottle in one of the cells as an auxiliary handle, thrustingly canting the bottle toward the handle, and an arcuate saddle formation located at substantially the same height as the handle is engaged in retaining anti-slip cradling engagement with the perimeter of the bottle thrusting thereagainst.

### 3,384,262 DETONATOR ASSEMBLY FOR RUPTURE DISC HAVING EXPLOSIVE STRIPS THEREON

Donald E. Fritzsche, Blue Springs, Mo., assignor to Fike  
Metal Products Corporation, Blue Springs, Mo., a corporation of Missouri

Filed July 25, 1966, Ser. No. 567,490  
6 Claims. (Cl. 220-47)



1. In a rupture disc structure provided with a frangible member adapted to be disposed between zones of differing pressures, an explosive charge on the member, a base mounting the member and having a wall with an opening therethrough separating the high pressure zone from an exterior zone, and an elongated explosive train operably connected to the charge and having an end extending into said opening, the combination with said explosive train and said base of a detonator assembly comprising:

collar means attached to said explosive train adjacent said end thereof, there being shoulder means on said wall within said opening engageable with said collar means for maintaining the latter and thereby said end of the explosive train in a fixed position within the opening;

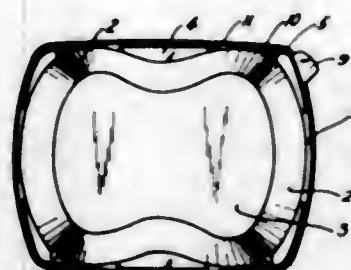
an elongated housing carried by said wall and having an extremity disposed within said opening adjacent said end of the explosive train, said housing having a central longitudinally extending bore therein; rupturable means on said extremity of the housing disposed in full spanning and pressure sealing relationship with respect to said bore and in engagement with said one end of the explosive train; and a detonator assembly in said bore engaging said rupturable means.

3,384,263

## CONTAINER AND COVER ASSEMBLY

Daniel Bernstein, 2 Horizon House,  
Fort Lee, N.J. 07024

Filed Dec. 22, 1966, Ser. No. 603,903  
13 Claims. (Cl. 220-60)



A container assembly which includes a container and the cover therefor. The container is provided with arcuate ends and sidewalls convex in the horizontal plane, at least one concave indentation extending throughout the height of the container on each side, and a flange generally rectangular rim extending outwardly from the upper perimeter of the container. The outer perimeter of the rim depends downwardly thereby forming a lip with which

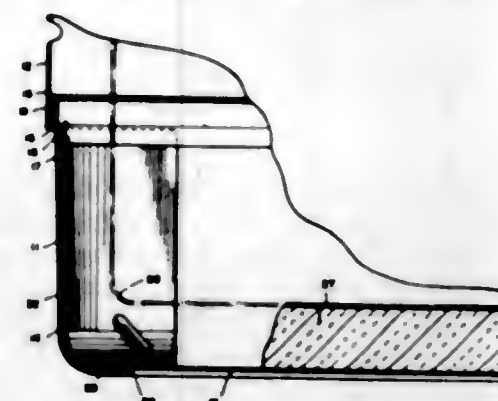
portions of the cover engage to seal the container. A plurality of spaced fillets integral with the underside of the rim are disposed about the container and extend between and join the depending lip of the rim and the container body thereby imparting strength and rigidity to the rim portion of the container.

3,384,264

## IMPACT DISTRIBUTION ASSEMBLY FOR PICNIC COOLER BOTTOMS

Joseph D. Wallace, Donald V. Berchtold, and Eliwood E. Little, Wichita, Kans., assignors to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas

Filed Sept. 2, 1966, Ser. No. 576,911  
4 Claims. (Cl. 220-71)



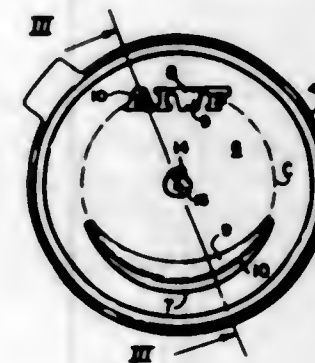
1. In a chest-type picnic cooler, an outer protective shell comprising a plastic lower portion having a generally rectangular bottom surface and upwardly extending sides, an upper metal casing, said casing being generally rectangular in horizontal cross-section, and being secured to the top edge portions of the sides of said lower portion, said casing including adjacent its lower edge an inwardly extending shoulder at each of its corners, said bottom surface having an upstanding projection adjacent each of the corners of said lower portion, a relatively rigid reinforcer fitted in each of said lower portion corners, the upper edge of said reinforcer abutting said casing shoulder and the lower edge of said reinforcer abutting said upstanding projection.

3,384,265

## CONTAINER LID

Alan I W Frank, Pittsburgh, Pa., assignor to The Alan I W Frank Corporation, O'Hara Township, Allegheny County, Pa., a corporation of Pennsylvania

Filed Dec. 12, 1966, Ser. No. 601,061  
13 Claims. (Cl. 220-97)



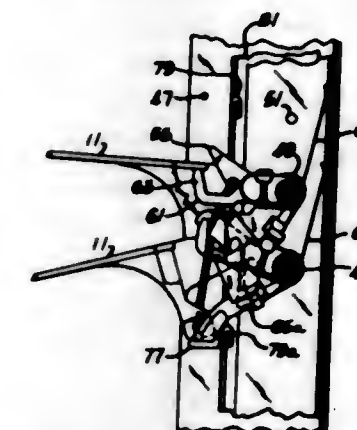
A container lid having an arcuate projection of at least about 60° with other projections in the same circle to position the bottom of a container stacked atop it. The lid has a central upward projection containing a vent hole. The structure is such that the vent hole is not closed by a stacked container.

3,384,266

## DROP SHELF ARTICLE DISPENSING APPARATUS

James T. Schuller, St. Ann, Mo., assignor to UMC Industries, Inc., St. Louis, Mo., a corporation of Delaware

Filed Jan. 11, 1967, Ser. No. 608,623  
8 Claims. (Cl. 221-90)



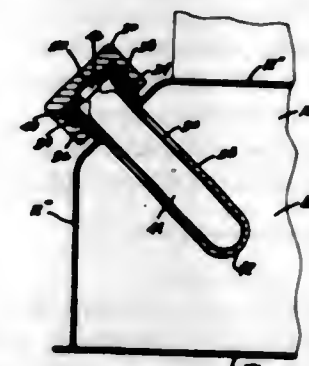
An article dispensing apparatus of the drop-shelf type, having a series of pivoted shelves located one above another, and mechanism for latching the shelves in a generally horizontal article-carrying position and for successively releasing the shelves, starting with the bottom shelf, on successive vend cycles, for successively vending articles from the bottom shelf on up.

3,384,267

## PUNCTURABLE GAS CARTRIDGE ASSEMBLY FOR A PRESSURIZED TANK

John G. Trumble, R.R. 2, Big Rapids, Mich. 49307

Filed Aug. 12, 1966, Ser. No. 572,112  
4 Claims. (Cl. 222-5)



A fuel tank assembly for portable vaporized fuel combination devices, obtained by combining with a fuel tank vessel with its chamber and threaded filler spout, cartridge puncture means, gas cartridge alignment and positioning means, and a threaded filler spout cap with compressible annular seal means, all arranged and associated to create a seal at said spout and then a puncture of the cartridge for pressurizing the vessel chamber.

3,384,268

## MIXING AND DISPENSING UNIT

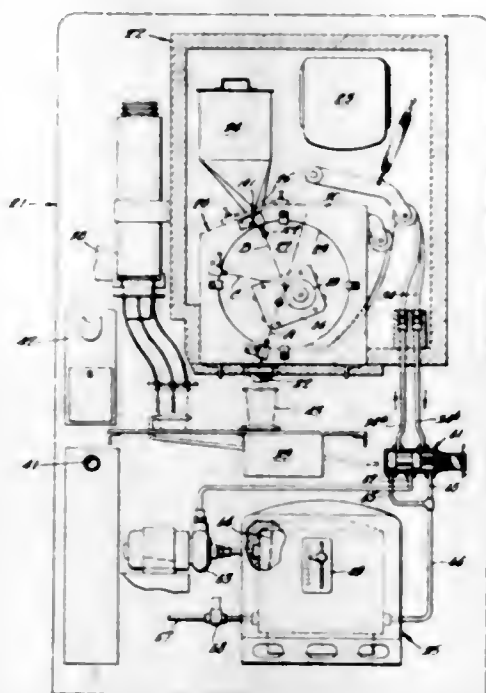
Walter Warren Egee, Wallingford, Pa., Wolf A. von Lersner, Cherry Hill, N.J., and William J. Feebery, Jr., Collingdale, Pa., assignors to Campbell Soup Company, Camden, N.J., a corporation of New Jersey

Filed July 22, 1966, Ser. No. 567,255  
15 Claims. (Cl. 222-1)

A coin-operated mixing and dispensing unit to combine and mix metered quantities of two liquid ingredients and dispense the mixed ingredients into a container. The mixing and dispensing unit include a rotor positioned within a cylindrical casing. A radial bore extends into the rotor from its periphery and a piston is mounted for reciprocating movement within the bore. The rotor is

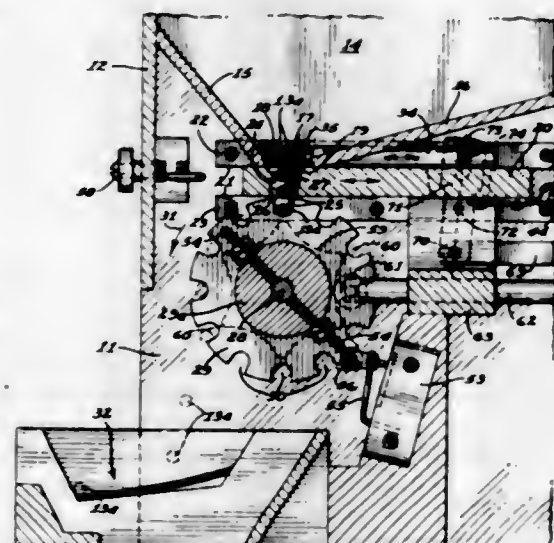


adapted to be rotated within the casing to position the bore successively at three different positions relative to the casing. When the bore is at the first position, the piston is caused to partially retract within the bore to draw a measured quantity of the first ingredient into the bore. When the rotor is positioned at the second position within the casing, the piston is caused to further retract within the bore to draw a measured quantity of the second ingredient into the bore and cause the second ingredient to



be mixed with the first ingredient. The third position of the rotor within the casing is the discharge position and when the rotor is in this position, the piston is advanced relative to the bore to discharge the two ingredients from the bore. Simultaneously with the advancement of the piston within the bore at the discharge position, an additional measured quantity of the second ingredient is added to the mixture to further mix the two ingredients and to aid in flushing the two ingredients out of the bore.

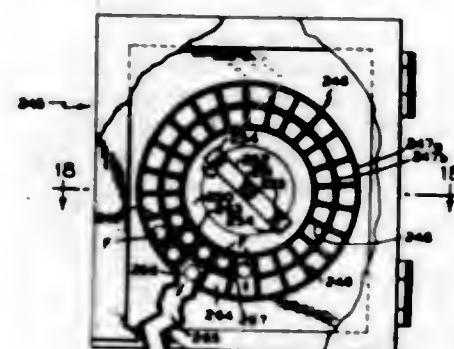
**3,384,269**  
**ARTICLE COUNTING MACHINE WITH AUTOMATIC CONTROL OF DISCHARGE ASSISTANT**  
William C. Garrett, 5223 N. 28th Drive,  
Phoenix, Ariz. 85017  
Filed May 22, 1967, Ser. No. 640,270  
6 Claims. (Cl. 221-201)



A machine for automatically counting and delivering counted groups of elongated cylindrical pieces to a discharge station for removal by hand for packaging.

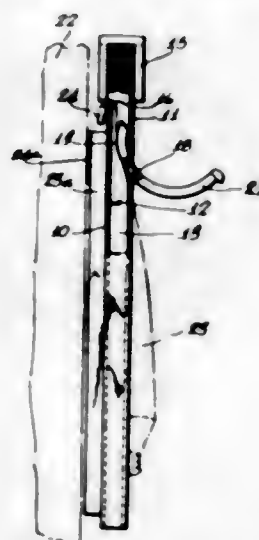
**3,384,270**  
**ARTICLE DISPENSER HAVING A CELLULAR MAGAZINE WITH GRAVITY DISCHARGE FROM THE CELLS**  
Dermot Holden, Westport, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Apr. 6, 1965, Ser. No. 445,893  
1 Claim. (Cl. 221-86)



In an automatic frankfurter storage cooking and dispensing apparatus, the improvement in refrigerated storage chambers for said apparatus comprising a magazine forming a plurality of discrete radially disposed frankfurter compartments to individually store frankfurters, said magazine comprising a circular unit provided with a stationary shroud to form said compartments in combination with a compartment divider element rotatably mounted on a horizontal axis, drive means to intermittently rotate said axis wherein said stored frankfurters are cycled en masse in said compartments in a substantially circular direction and wherein individual frankfurters, by an external on-demand dispense signal to said drive means, are fed externally from an opening in said shroud through a delivery chute to a receiver for said frankfurters, and means effecting registration of said rotatable divider element so that successive compartments are in registration with said opening, wherein said rotatable compartment divider element is provided with an inner mounting flange and said axis is provided with a relatively fixed securing bar equipped at its ends with movable securing element to removably lock said mounting flange on said bar.

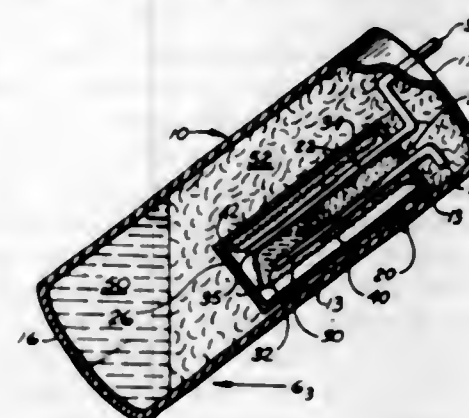
**3,384,271**  
**DISPENSING DEVICE FOR COLLAPSIBLE CONTAINERS**  
Walter F. Gronwald, 7680 7th Ave., Apt. 2, Ville St. Michael, Montreal, Quebec, Canada  
Filed Nov. 14, 1966, Ser. No. 594,120  
1 Claim. (Cl. 222-101)



This invention relates to a dispensing device for collapsible containers, such as tubes of toothpaste, shaving

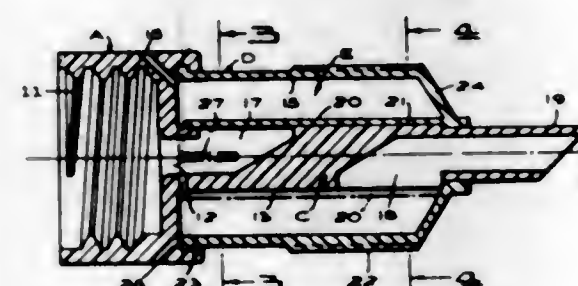
cream, and the like. The device comprises a base plate having a surface on which a collapsible container is adapted to be mounted. A member engageable with the container has a sliding path of movement along said surface, the plate having means guiding the member along such path. The member has an arcuate surface engageable with the container and is rockable with respect to the plate to apply collapsing action against the container. The member is movable outwardly from the plate surface a predetermined distance sufficient to permit passage between said surfaces of the collapsed portion of the container.

**3,384,272**  
**LIQUID EXPULSION DEVICE**  
Jerome P. Federer, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware  
Filed Sept. 30, 1966, Ser. No. 583,373  
7 Claims. (Cl. 222-189)



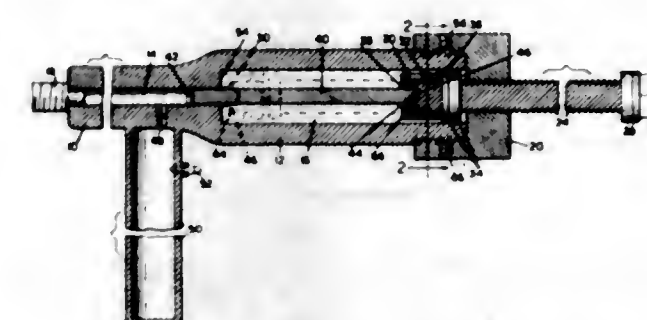
An expulsion device for expelling gas-free liquid, the system including a smaller tank positioned within a larger tank containing fluid to be expelled and gas for pressurizing the fluid. Adjacent the interior wall of the smaller tank is a screen which when contacted by liquid forms a surface tension barrier for blocking bubbles of the pressurant gas from penetrating through the barrier. The head holding capacity of the surface tension barrier is independent of and uninfluenced by the volume contained within the larger tank.

**3,384,273**  
**MEASURING DISPENSER WITH OSCILLATING TRAP CHAMBER**  
John B. Benedetti, 929 Azalea Ave., and Stanley Grymes, 832 Linden Ave., both of Burlingame, Calif. 94010  
Filed Jan. 26, 1967, Ser. No. 611,989  
2 Claims. (Cl. 222-332)



A measuring dispenser securable to the pouring neck of a container and having a spindle projecting from the cap, with a metering chamber housing rotatably mounted on the spindle, and this housing having a valve plate movable into a chamber-filling position, when the housing is turned in one direction, and the valve plate being movable into a chamber-emptying position, when the housing is turned in the opposite direction.

**3,384,274**  
**ULTRAHIGH PRESSURE GREASE GUN**  
Kenneth W. Lundvall, R.R. 1, Box 352A, Bates St., Mendon, Mass. 01756  
Filed June 7, 1966, Ser. No. 555,811  
1 Claim. (Cl. 222-383)

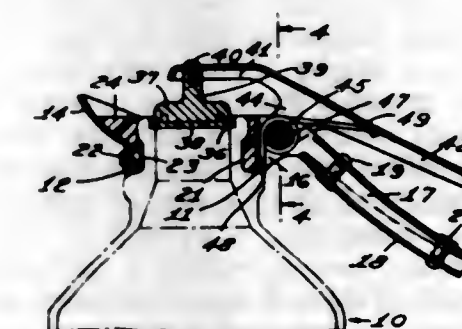


1. An ultrahigh pressure grease gun comprising a barrel, means forming two axially aligned cylindrical chambers therein of unequal diameters, a reciprocatory plunger in the chamber of smaller diameter, said plunger having a portion extending into the chamber of larger diameter, the chambers having opposite open ends and the plunger expressing grease from the smaller chamber upon reciprocatory motion toward the opening thereof,

said chamber of smaller diameter having a relatively great length, a passage therein adjacent the chamber of greater diameter, a grease holder on the barrel in position to supply grease through the passage to the portion of the smaller chamber in advance of the plunger when the latter is retracted.

internal threads associated with the chamber of larger diameter at its open end, a threaded rod in mesh therewith, a relatively rotatable connection between the rod and the plunger, and a turning head on the rod external of the chamber, the diameter of the rod being in excess of the diameter of the plunger, the plunger being actuated only by the threaded rod and the internal threads for advancing substantially the entire length of the cylindrical chamber of smaller diameter, the plunger having a close fit with the chamber of smaller diameter in the nature of a piston, said connection including a concave tip and a mating convex head between the threaded rod and the plunger, and means for holding the same together in generally loosely mating relationship.

**3,384,275**  
**DETACHABLE COMBINATION BOTTLE HANDLE AND POURING SPOUT**  
James B. Simms, 8441 Birch Road, Taylor, Mich. 48180  
Filed June 14, 1967, Ser. No. 646,040  
5 Claims. (Cl. 222-474)

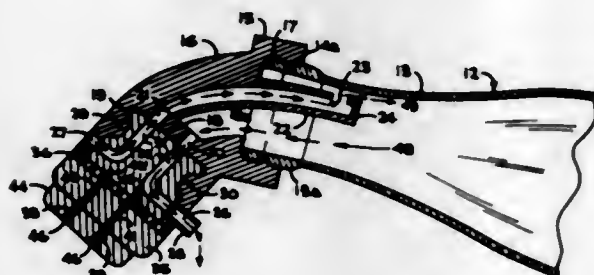


A combination bottle handle and pouring spout apparatus for use on large milk bottles and the like, and which



includes a semi-circular rear housing portion and a semi-circular front housing portion hingedly connected to said rear housing portion, whereby the housing may be opened for mounting the handle on a bottle. The handle and spout apparatus also includes a releasable locking means for securing the rear housing portion to said front housing portion after these portions have been mounted on a bottle. The front housing portion has a pouring spout formed thereon. A handle is attached to the rear housing portion, a cover is hingedly connected to said rear housing portion, a spring normally biases said cover to a closed position, and a cover handle is provided for opening said cover when the bottle is lifted by said handle.

**3,384,276**  
**VALVED DISPENSER IN COMBINATION WITH AN AERATING DEVICE FOR A BOTTLED LIQUID**  
Robert F. Henningfield, P.O. Box 216,  
Waterford, Wis. 53185  
Filed May 29, 1967, Ser. No. 642,011  
5 Claims. (Cl. 222-479)



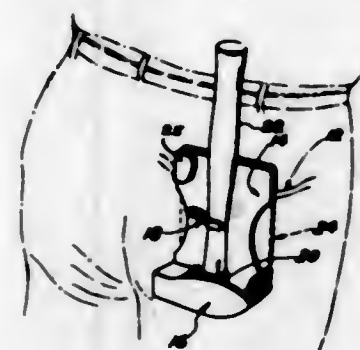
1. The combination of a liquid aerating device having a cylindrical and tubular lower body member formed sector in shape, a collar depending integrally from the said body member adapted to secure said body member in superposed and telescopic relation with the upper portion of a narrow necked conventional liqueur bottle surrounding the open mouth thereof, a closure member integral with the inner surface of the said body member disposed adjacent the radial rim thereof, said closure having a diametric axis inclined to the central and longitudinal axis extending exteriorly the said bottle, said closure member provided with both a liquid outlet and an air inlet pair of respective ports disposed concentrically on the said diametric axis, said air inlet port aligned intermediate the upper plane of the said closure member, a conduit having one closed end disposed eccentrically within the bottle neck portion, said end portion having a side opening in proximity with the wall of the said neck portion, said conduit having the upper end thereof secured in sealing engagement with the said air inlet port; of an upper cylindrical and tubular body member provided with a uniform opening interiorly thereof carried integrally by the said lower upper body member, said upper body member constituting a valve body having a dispensing tube projecting laterally the lower inclined wall and adjacent the radial rim thereof, said dispensing tube having its central and longitudinal axis aligned diametrically with an auxiliary air inlet port provided through the opposite wall of the said upper body member, said diametric axis being disposed in parallelism with the said axis bisecting both the liquid dispensing and air inlet pair of respective ports, a valve member comprising a cylindrical core having a peripheral surface complementing a contiguous fit with the inner surface of the said upper body member, said core having the lower wall thereof in bearing and sealing relation with the upper face of the said closure member, and the upper wall thereof in planar relation with the radial rim of the said upper body member, means to rotatably secure said core member interiorly the said valve

body member relative to longitudinal movement therefrom, communicating means provided through the said valve core, said communicating means interposing both the liquid outlet and the interior opening of the said dispensing tube, a second communicating means provided through the said valve core spaced diametrically from the first said communicating means, said second communicating means interposing both the air inlet and auxiliary air inlet pair of respective ports, whereby rotational movement of the said valve core synchronizes both the opening and closing of the liquid outlet and air inlet pairs of respective ports selectively, a head member complementing the exterior periphery of the said valve body, said head member surmounting in spaced relation both the upper wall of the valve core and the radial rim of the valve body, a winged lever carried diametrically by the said head member, said lever having the longitudinal and central axis thereof aligned in vertical relation relative to the central and longitudinal axis extending from the said dispensing tube, a resilient circular gasket interposing the said head member and both the upper wall of the said valve core and the said radial rim of the valve body, said gasket compressed therebetween as when the lever is detachably secured to the upper body portion of the said valve core through the said head member and the said gasket whereby effecting an impervious seal for the contiguous relation of the said valve core and the inner surface of the said valve body, stop means interposing the lower wall of the said valve core and the upper face of the said closure member adapted to limit the rotational movement of the said valve core relative to the wholly open or closed position of the said communicating means for making or breaking continuity with both the air inlet and liquid outlet pairs of respective ports, indexing means co-operating with the limits of the said stop means whereby the selective rotational movement applied upon the valve core through manual manipulation of the lever will visually indicate either the open or closed positioning of the valve member.

#### ERRATUM

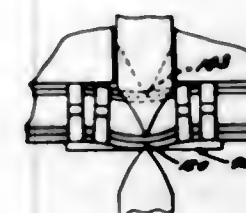
For Class 223-57 see:  
Patent No. 3,384,337

**3,384,277**  
**HAMMER HOLSTER**  
Joseph J. Hodelka, Rte. 4, Box 160,  
Fort Myers, Fla. 33905  
Filed July 14, 1966, Ser. No. 565,220  
2 Claims. (Cl. 224-5)



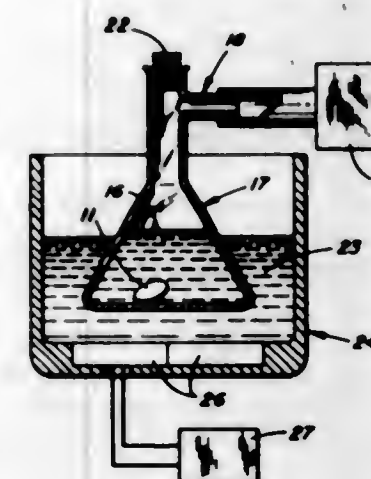
A holster for supporting a hammer, handle upward, from the rear pocket of a workman's trousers. A sheath which receives the head of the hammer is affixed to the lower end of a rigid backing plate. A spring steel, handle retaining clip is attached to the backing plate above the sheath. A second rigid plate, which is inserted into the rear pocket, is attached to the upper edge of the backing plate.

**3,384,278**  
**METHOD AND APPARATUS FOR SEPARATING THE SEGMENTS OF SCORED PISTON RINGS**  
Kenneth J. Nisper, Spring Lake, and Douglas W. Hamm, Muskegon, Mich., assignors to Muskegon Piston Ring Company, Muskegon, Mich., a corporation of Michigan  
Filed Oct. 21, 1965, Ser. No. 500,042  
9 Claims. (Cl. 225-2)



Apparatus for separating the segments of coiled piston ring stock having spaced straps along the inside diameter thereof and having the faces scored at predetermined intervals. A number of embodiments are illustrated including, basically, the contacting of the segment by a gear tooth, punch or the like which is operative to deform it sufficiently to cause a cracking at the score line. Other embodiments illustrate the forcing of the ring stock along an undulating path and the flexing of the diameter thereof both inwardly and outwardly to cause the ring stock to crack along the score lines. If necessary in the particular embodiment, the stock position is indexed via the spaced inside-diameter straps by means such as gears, pilot members or the like. It is understood that this abstract is not to be utilized to limit the scope of this invention.

**3,384,279**  
**METHODS OF SEVERING BRITTLE MATERIAL ALONG PRESCRIBED LINES**  
Garland K. Grechus, Kansas City, Mo., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York  
Filed Aug. 23, 1966, Ser. No. 574,381  
6 Claims. (Cl. 225-2)



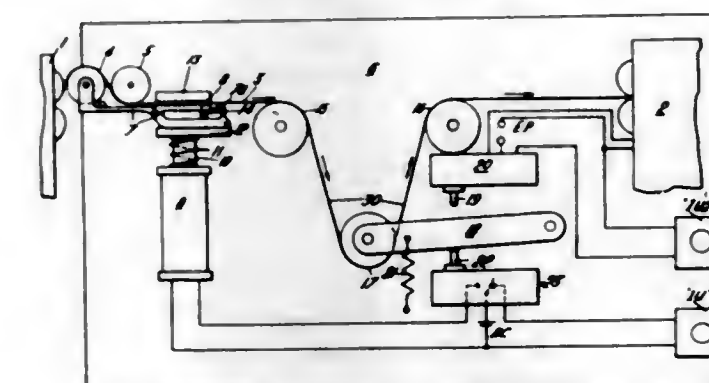
1. A method of severing a substrate of brittle material which comprises:  
forming a groove running completely across said substrate,  
submerging said substrate in a liquid,  
reducing the pressure acting on the surface of said liquid, and  
subjecting said liquid and substrate to ultrasonic vibrations to sever said substrate along said groove.

**3,384,280**  
**DISPENSING APPARATUS**  
Ernest John Summersby, Lawndale, Calif., assignor to Mirra-Cote Company, Inc., Segundo, Calif., a corporation of California  
Filed July 18, 1966, Ser. No. 565,888  
10 Claims. (Cl. 225-23)



1. Apparatus for dispensing a roll of sheet material, comprising:  
a housing enclosing said roll and having a dispensing opening therein,  
a door movably mounted on said housing for opening and closing said dispensing opening,  
a drive roll rotatably mounted within said housing adjacent said dispensing opening,  
an idler roll rotatably mounted on the inner surface of said door and adapted to engage the leading portion of said sheet material and press it into engagement with said drive roll when said door is in closed and partially open positions,  
power means mounted within said housing for rotating said drive roll in a material dispensing direction,  
means for moving said door on said housing, and  
manually operable control means operatively associated with said power means and said door moving means, said control means being adapted to partially open said door and to energize said power means for rotating said drive roll and advancing said sheet material when manually operated in a predetermined manner.

**3,384,281**  
**INTERMITTENT TAPE FEED**  
Ralph A. Mason, Brighton, England, assignor to Creed & Company Limited, Hollingbury, Brighton, England, a British company  
Filed Oct. 4, 1965, Ser. No. 492,576  
Claims priority, application Great Britain, Nov. 6, 1964, 45,305/64  
6 Claims. (Cl. 226-25)



Apparatus for arresting and releasing the tape in the supply thereof to a loop, including an electro-magnetically operated brake, a number of loop forming rollers engaging the tape and one of which is operative to cause a sensing member to move in one or the other of two directions dependent on respectively an increase or decrease in the

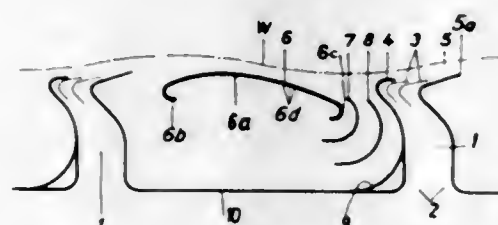


amount of tape in the loop, and electric switching means operative by the sensing member to generate pulses when and only when the tape is moving, and to act on the brake to alternately arrest and release the tape in the supply thereof to the member.

3,384,282

### PNEUMATIC CONVEYOR FOR STRIP MATERIALS

Hilmar Vits, Langenfeld, Germany, assignor to Maschinenfabrik VITS G.m.b.H., Langenfeld, Rhineland, Germany, a corporation of Germany  
Filed Aug. 23, 1965, Ser. No. 481,703  
Claims priority, application Germany, Sept. 3, 1964, M 62,302, M 62,303  
11 Claims. (Cl. 226-97)

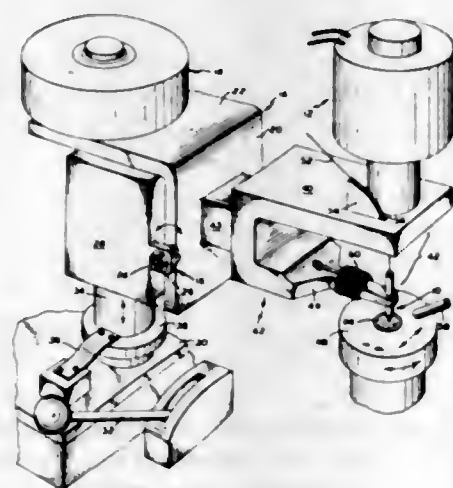


This is an apparatus for floating conveyance of strips of contact-sensitive materials. It is of the type having air nozzles disposed opposite one or both faces of a workpiece strip for directing an airstream that is flatly inclined in relation to the plane of the workpiece. Each nozzle has a downstream wall and an upstream wall, with an aperture in between, and the downstream nozzle wall extends a distance of at least twice the minimum width of the free nozzle aperture as measured in the longitudinal plane perpendicular to the workpiece. Between each succeeding pair of nozzles is a surface which is convex in relation to the workpiece, substantially filling the space between two successive nozzles, and having two edges, one edge facing against the direction of air flow lying outside the undisturbed air jet, the other edge facing in the direction of air flow and (together with the succeeding nozzle) forming an escape channel. The convex surface is preferably perforated. Each nozzle comprises a plurality of slits arranged in series, formed by flow-smoothing separating walls within the nozzle.

3,384,283

### VIBRATORY WIRE BONDING METHOD AND APPARATUS

Bruce L. Mims, Danbury, Conn., assignor to Axion Corporation, Danbury, Conn., a corporation of Connecticut  
Filed Oct. 16, 1964, Ser. No. 404,440  
2 Claims. (Cl. 228-1)



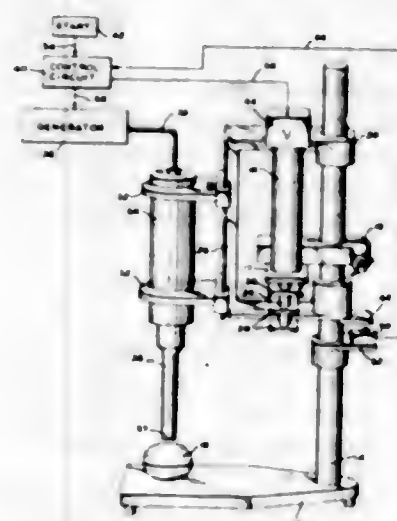
1. Bonding apparatus for joining a connector wire to a workpiece, comprising in combination:

- (A) a welding tip;
- (B) a workpiece-supporting chuck;
- (C) maneuverable means for bringing each of a plurality of different selected target portions of a workpiece supported on the chuck into successive juxtaposition with the welding tip, to create a predetermined small clamping force successively between the welding tip and each workpiece target portion;
- (D) a wire-supply source positioned to introduce a length of connector wire between welding tip and workpiece target portion;
- (E) and a source of vibratory energy coupled to vibrate the welding tip in a direction substantially parallel to the line of action of the clamping force by a bifurcated tuning fork member provided with opposed tines respectively supporting the vibratory energy source and the welding tip.

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### CONTROL CIRCUIT FOR TOOL DRIVEN BY SONIC ENERGY

Edward G. Obeda, Brookfield, Conn., assignor to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware  
Filed June 8, 1966, Ser. No. 556,092  
16 Claims. (Cl. 228-1)



1. A control circuit for a tool adapted to be driven by sonic energy, the combination of:
  - a tool adapted to engage a workpiece and transfer sonic energy thereto;
  - an actuator movable responsive to fluid pressure coupled to provide relative motion between the tool and a workpiece;
  - a power means for energizing said tool with sonic energy for causing said tool when in engagement with the workpiece to operate upon the workpiece, and
  - a control means responsive to fluid pressure coupled to said actuator and said power means for sensing responsive to fluid pressure the condition when said tool is in engagement with the workpiece and controlling said power means responsive to said condition.

3,384,285

### COORDINATED SYSTEM FOR LAYING PARALLEL PIPES

Gordon C. Thomas, Westfield, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware  
Filed Nov. 9, 1965, Ser. No. 507,006  
6 Claims. (Cl. 228-6)

A coordinated system for laying parallel pipes, particularly below ground, including a portable pipe preparation rack, welding rack, welding shed, rollers and winch,

all located in the trench, if the pipe is to be laid below ground. In employing this system, fifteen hundred feet

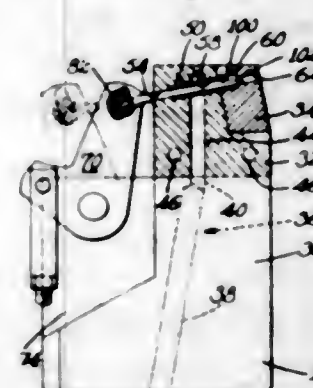


and more of pipe can be laid with the equipment in one position thereby minimizing field welding.

3,384,286

### SOLDER APPLICATORS

Frederick S. Sillars, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey  
Filed Oct. 20, 1965, Ser. No. 498,481  
4 Claims. (Cl. 228-11)

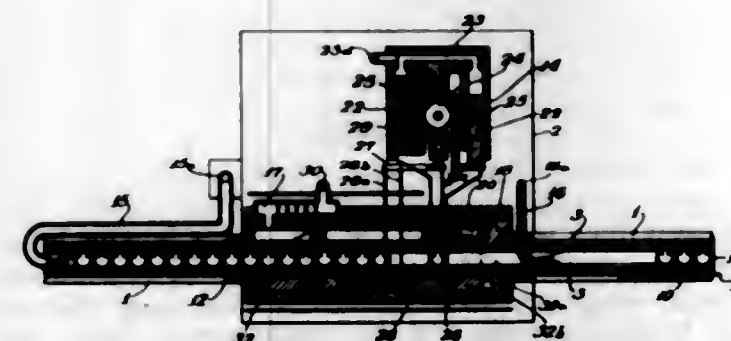


Apparatus for controlling the flow of solder in a can body side seam soldering machine through which bodies are moved by a plurality of feed dogs each engageable with the trailing edge of a can body. For directing a stream of solder into the side seam of the can bodies a nozzle having probing means is provided for intermittently interrupting the flow of solder from the nozzle each time a feed dog is in position above the nozzle.

3,384,287

### JET CONVEYING SYSTEM

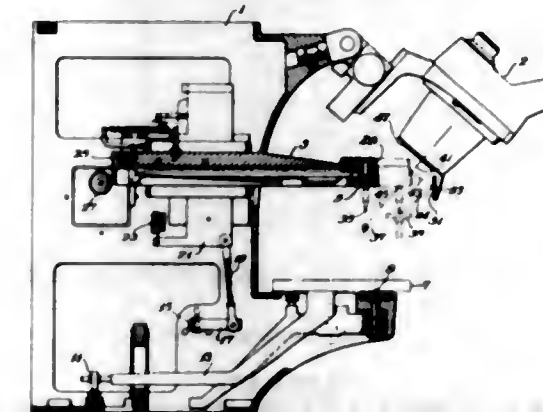
Charles Fredrick Miller, Anaheim, Calif., assignor to Basic Products Corporation, a corporation of Wisconsin  
Filed Dec. 13, 1965, Ser. No. 513,207  
5 Claims. (Cl. 228-49)



A conveying apparatus for moving semi-conductor components during component fabrication. Carriers having internal channels in which the components are inserted are attached to a work station while pressurized air drives the components along the channel and an escapement mechanism insures that the components are delivered one at a time to the work station. Heaters are provided in the carrier and work station to maintain operating temperatures during fabrication.

3,384,288

**BONDING MACHINE SIGHTING MEANS**  
C. Fredrick Miller, Anaheim, Calif., assignor to Basic Products Corporation, a corporation of Wisconsin.  
Filed Mar. 14, 1966, Ser. No. 534,245  
3 Claims. (Cl. 228-56.5)

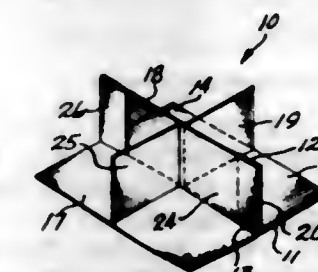


1. Apparatus for performing die and wire bonding operations on partially completed semi-conductor devices comprising a frame, first and second work stations, a microscope sighting means secured to said frame and focused on said first work station, a bonding needle supported by means movably secured to said frame for selective positioning of said needle at said first and second work stations, a first mirror secured to said bonding needle support means, a second mirror, said first and second mirrors being out of the line of sight of said microscopic sighting means when said bonding needle is positioned at said first work station, said first and second mirrors intercepting and directing said line of sight to said second work station when said needle is positioned at said second work station.

3,384,289

### COMBINED PAD AND PARTITION FOR CONTAINERS

Fred G. Grant, Gorham, Maine, assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington  
Filed Aug. 18, 1967, Ser. No. 661,602  
4 Claims. (Cl. 229-15)



Containers for produce are usually divided vertically by pads and horizontally by partitions. A combined pad and partition formed from a one piece blank which is scored longitudinally to divide it into two outer sections forming the pad member and a central fold back section forming the longitudinal partition member. Each section of a longitudinal partition member is cut to form a transverse partition member which is folded outwardly from the longitudinal partition member.

3,384,290

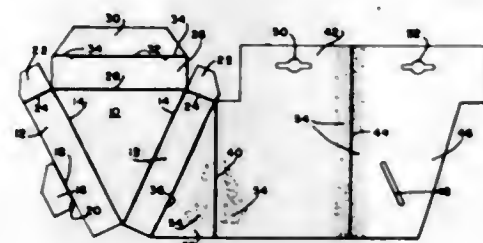
### PAPER BOX

William D. Glover, Fairfield, Conn. (% Write Incorporated, 420 Lexington Ave., New York, N.Y. 10017)  
Filed Sept. 30, 1966, Ser. No. 583,196  
8 Claims. (Cl. 229-22)

The disclosure relates to a paper box having a generally triangular configuration in front elevation whose rear panel extends beyond the sides of the triangular



portion of the container. The box consists of a unitary blank folded in a manner to expose portions of the rear

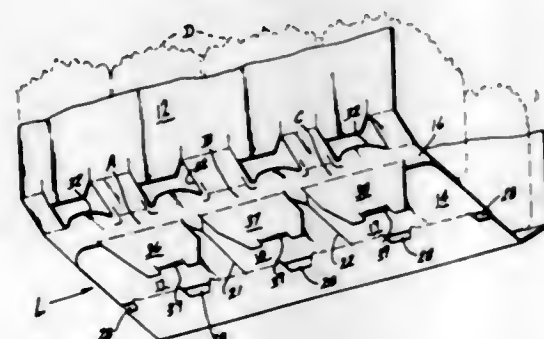


panel to the sides of the triangularly configured front panel.

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**WRAPAROUND CARTON BLANK WITH SPLIT MARGINS AND TENSION TEAR STRIPS**  
Earl J. Graser, Monroe, La., assignor, by mesne assignments, to Olin Kraft, Inc., West Monroe, La., a corporation of Delaware

Filed Dec. 13, 1966, Ser. No. 601,518  
5 Claims. (Cl. 229-40)



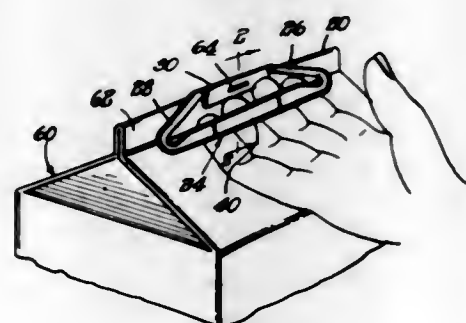
A blank for a wraparound article carrier which is provided with narrow tension or tear strips adjacent blank openings operative to effect limited and controlled localized tearing to generate additional access for distinct portions of a wrapped article in the event the blank is drawn about the articles packaged with excessive tension.

3,384,292

**CARRYING DEVICE FOR GABLED CARTON**

Walter E. Hidding, 505 Banbury Road,  
Addison, Ill. 60101

Filed Oct. 14, 1966, Ser. No. 586,850  
9 Claims. (Cl. 229-52)



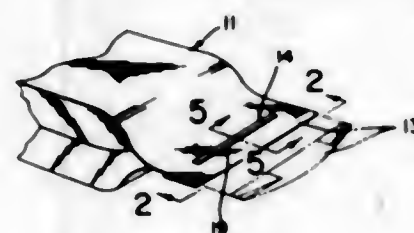
A carrying device for gabled cartons having a plate member which is adapted to be affixed to the container ridgepiece, a generally rectangular pad aligned with the plate member, and flexible arms connecting each end of the plate member to the pad. According to the features

of the invention, the grippable pad has a first edge adjacent the mounting plate and a second edge generally remote therefrom, the flexible arms being connected to the pad at the remote edge and away from the adjacent edge to situate the connections between the pads and the arms away from the longitudinal mid-line of the pad. In addition, the mounting plate is longitudinally slotted and carries spaced ribs to develop a strong and efficient attachment to the container. Furthermore, the carrying device is selectively ribbed and thickened to promote strength and a controlled degree of inelasticity.

3,384,293

**FASTENER AND HANDLE FOR PACKAGES**  
Theodore William Welles, Shaker Heights, Ohio, (%  
Moser Bag & Paper Co., 3049 E. 55th St., Cleve-  
land, Ohio 44127)

Filed May 9, 1966, Ser. No. 548,600  
2 Claims. (Cl. 229-54)

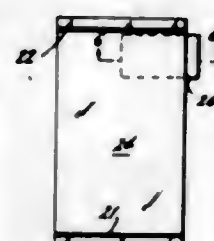


There is disclosed herein a device for fastening and carrying small packages having a wrapping formed of flexible sheet material. This device utilizes plastic coated wire whose ends are placed through openings in the thin, flexible material, such as, paper, cellophane, or other plastic film formed into a package or a bag, and then bent inward so as to form a handle for carrying light-weight articles, such as loaves of bread.

3,384,294

**PLASTIC BAG WITH TUCK-IN VALVE**  
Thomas W. Astle, Orange, Conn., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Apr. 7, 1967, Ser. No. 629,271  
2 Claims. (Cl. 229-62.5)



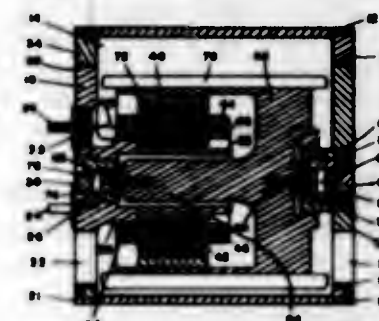
A plastic tube is extruded and cut to bag lengths by a combination sealing and cutting bar in which two spaced heat seals are placed along spaced parallel lines perpendicular to the tube axis, and the lengths are cut from one another by a cut extending between the seals. At the same time, a slit is made along an upper portion of one of the bags. A flexible tube of laminated material is inserted partially into this slit, with its axis perpendicular to the axis of the main tube. The laminate has an interior body which does not readily heat seal to itself, while the outer layer is of material which easily heat seals to itself. The tuck-in valve tube is then secured to the bag by a heat seal extending along the edge of the bag containing the slit.

3,384,295

**MINIATURE ELECTRICAL BLOWER**

Paul F. Hayner, Lexington, Mass., and Richard B. Henderson and Loren Dean Lisle, Nashua, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Continuation of application Ser. No. 507,305, Nov. 12, 1965. This application Mar. 6, 1967, Ser. No. 638,676  
20 Claims. (Cl. 230-117)



The present invention pertains to an electrical blower and, more particularly, to a blower which is small and compact, which is capable of causing a relatively large air flow, and which employs a fan having an umbrella-type configuration and bearing assemblies, particularly of the ring-jewel type, within which the fan is journaled.

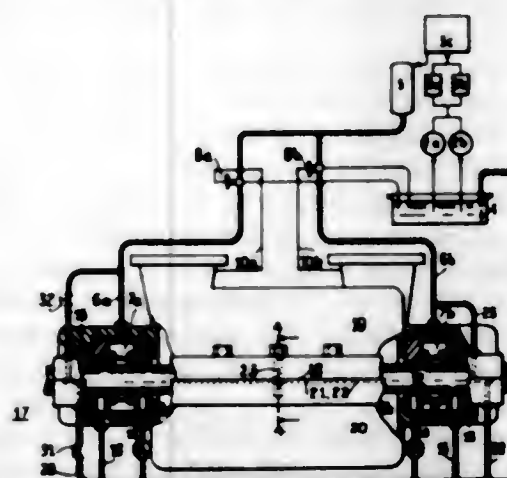
3,384,296

**SEALING OF HORIZONTALLY-SPLIT CENTRIFUGAL COMPRESSORS**

Wilhelm Kahane, The Franconia, 20 W. 72nd St.,  
New York, N.Y. 10023

Continuation-in-part of application Ser. No. 630,933,  
Apr. 14, 1967. This application May 19, 1967, Ser.  
No. 639,764

1 Claim. (Cl. 230-133)



A sealing is described for horizontally-split casings of centrifugal compressors. The interface of the flanged joint of the casing contains injection grooves into which a seal-liquid is injected under a pressure higher than that of the compressed gas. Said interface also contains drain grooves running between said injection grooves and its outer contour to prevent losses of the seal-liquid across the joint. Both sets of grooves are connected to the hydraulic-type shaft-sealing system of the compressor. The injection grooves communicate with the high pressure end of the shaft-sealing system and, being filled with seal liquid under a pressure in excess of that of the compressor pressure chamber, constitute a positive barrier against gas leakage. The drain grooves communicate with the low pressure end of that shaft-sealing system and prevent escape of seal-liquid from the interface into the atmosphere around the casing.

Horizontally-split casings, provided with this sealing, can be allowed the same maximum working pressure in the compression of highly hazardous hydrogen-rich gases as in the compression of air.

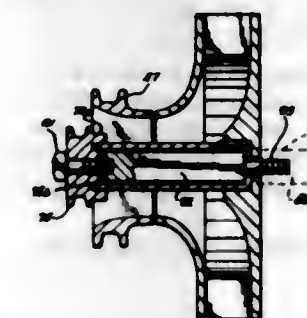
3,384,297

**AUTOMOBILE AIR CONDITIONING SYSTEM**

Don P. Dixon, 2011 Sable Lane,  
San Antonio, Tex. 78209

Original application Sept. 6, 1966, Ser. No. 580,106.  
Divided and this application Aug. 21, 1967, Ser.  
No. 662,106

1 Claim. (Cl. 230-135)



An adaptor for connecting the compressor of an automobile air-conditioning system to the power take-off of the automobile crankshaft is disclosed. The crankshaft has a tapped opening in its end, and the power take-off includes a fan having a central hub with a recessed portion therein, an outer wall extending transversely of the axis of the hub, a hole through the outer wall for alignment with the tapped opening in the crankshaft when the outer wall abuts with the end of the crankshaft, a first pulley having a hollow axle with an extension fittable closely within the recessed portion of the fan hub, an inwardly turned flange on the end of the extension to abut with the inner face of the outer wall of the fan when the axle extension is moved fully into the recessed portion of the fan hub, the inner periphery of said flange defining a hole aligned with the hole in the outer wall of the fan and the tapped opening in the end of the crankshaft, and means connecting the hub and first pulley for rotation together. The adaptor includes a second pulley having a rod extending from one side of it and of a length substantially equal to the axle and the extension of the first pulley and having outer dimensions for disposal relatively closely therein. A threaded pin on the end of the rod extends through the holes in the flange and outer wall of the fan for making up with the tapped opening in the end of the crankshaft so as to tightly engage the flange and outer wall between the ends of the rod and crankshaft.

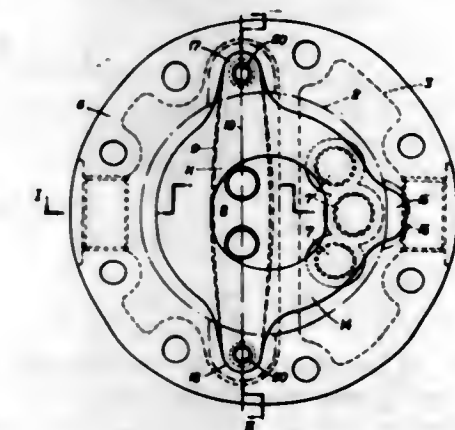
3,384,298

**VALVE ASSEMBLY FOR RECIPROCATING COMPRESSORS**

Erwin Röntgen, Schongau (Lech), Upper Bavaria, Germany, assignor to Hoorbiger Ventilwerke, Aktiengesellschaft, Vienna, Austria

Filed July 1, 1966, Ser. No. 562,258  
Claims priority, application Austria, July 2, 1965,  
A 6,008/65

6 Claims. (Cl. 230-231)



A valve assembly for compressors having a valve seat plate located between a cylinder and a cylinder head of



a compressor and provided with suction and discharge ports of which the control of the discharge ports includes a valve lamina on the upper side of the valve seat plate and a further valve lamina on the under side of the valve seat plate for control of the suction ports.

3,384,299

# APPARATUS FOR RECORDING CASE SHIFT COMMANDS

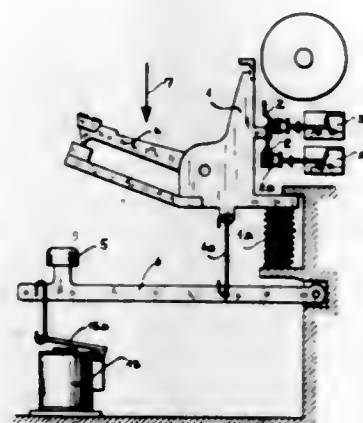
Franz Spiroch, Eichborn, and Dieter Krause, Offenbach (Main), Germany, assignors to Eichner Organisation GmbH, Frankfurt am Main, Germany

Filed Oct. 17, 1966, Ser. No. 587,120

Claims priority, application Germany, Oct. 23, 1965,

E 30,355

10 Claims. (Cl. 234-23)



1. In combination with a typewriter mechanism, and with a recording device operated by said mechanism; apparatus for recording case shift commands, comprising a type bar support; means mounting said type bar support for movement between first and second end positions; and first and second sensing means positioned for sensing, respectively, said type bar support in said first and second end positions; said recording device including recording means connected with and actuated by said first and second sensing means to record on said record carrier recordings by which the shifting of a type bar support is to be controlled so that a recording is only made if said first mentioned type bar support actually assumes one of said end positions.

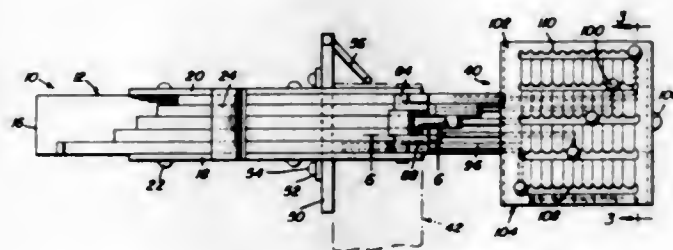
3,384,300

# CARD PUNCHING MACHINE

Wilmer H. Willauer, Rte. 3, Box 262, Quakertown, Pa. 18951

Filed Aug. 31, 1965, Ser. No. 483,981

6 Claims. (Cl. 234-94)



A plurality of relatively thin punch and die blocks stacked between guides for sliding movement to selected positions to punch data on a card positioned within transverse slots formed in the blocks, when a common actuator is operated. The blocks are positioned by means of rods having selector knobs more widely spaced apart than

the rods. The portions of the rods extending from the knobs are received in detent notches formed in a guide plate. The rods are angularly displaceable about their longitudinal axes by the knobs for release from the notches to move the blocks to other selected positions by movement of the knobs along guide slots in the plate within which the notches are formed.

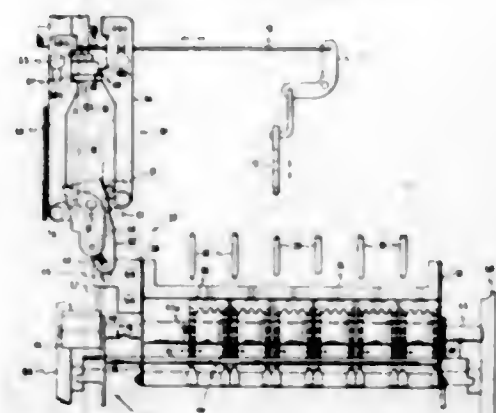
3,384,301

# PLUS AND MINUS ACCUMULATOR

John W. Berkman, Oronoco, and Charles G. De Serre and Thomas L. Johnson, Rochester, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 23, 1966, Ser. No. 604,275

7 Claims. (Cl. 235-60)



A mechanical plus and minus accumulator for a cash register, desk calculator, etc., is described. The accumulator employs a pair of complementarily rotatable digit wheels in each digit position and is laterally shiftable with respect to a common set of differential actuators for the purpose of aligning either the plus or minus set of digit wheels therewith. The mechanism for accomplishing the lateral shift operation includes a portion cooperating with the control keys of the machine to shift the proper set of wheels into alignment with the actuators in accordance with the sign of the number to be added in. Another portion of the shifting mechanism is automatically operable near the end of each add-in machine cycle to shift the accumulator to align with the actuators that set of wheels which corresponds to the sign of the true total stored in the accumulator. Two versions of this shifting mechanism are described. The first employs a single cam and follower and generates the initial shifting movement when the follower is driven in a first direction and generates the final shifting movement when the follower is driven in the reverse direction. The second version employs a pair of cams and cam followers, a first of the cams generating the initial shifting movement and the other cam generating the final shifting movement. Also described in detail are the carry transfer mechanism, the differential actuators and the mechanism for driving the digit wheels of the accumulator into and out of engagement with the differential actuators.

3,384,302

# CARRIAGE RESTORING MECHANISM

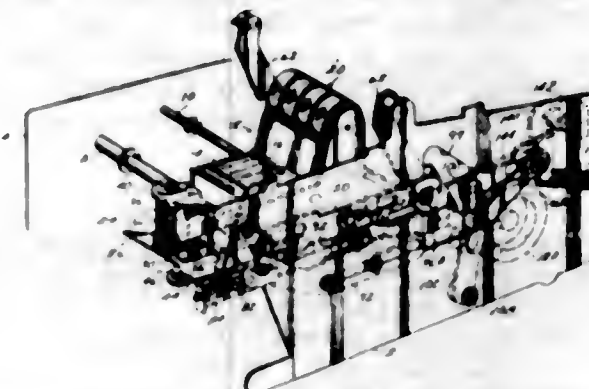
Gilbert N. Riley, Norwalk, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed Feb. 16, 1966, Ser. No. 527,848

28 Claims. (Cl. 235-60.41)

27. In combination, a carriage adapted to be indexed under biasing force and to be returned, a driving means, means adapted to return said carriage under the influence of said driving means, said last-mentioned means includ-

ing a resilient coupling prestressed to a load equivalent to the maximum permissible force to be imparted by said



last-mentioned means, said resilient coupling having a substantially constant spring rate.

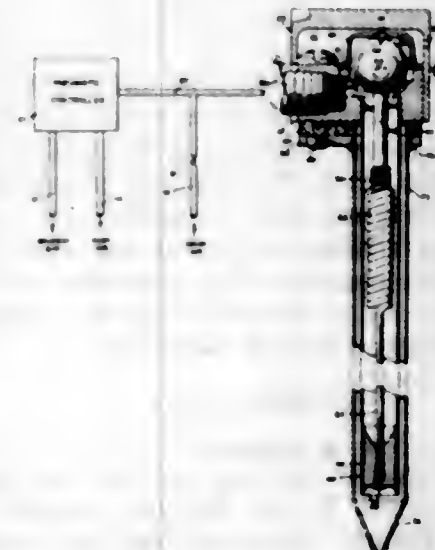
3,384,303

# PNEUMATIC TEMPERATURE TRANSMITTER

James W. Phillips, South Bend, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed June 6, 1966, Ser. No. 555,384

5 Claims. (Cl. 236-87)



1. In a single pipe pneumatic temperature transmitter, the combination comprising, pneumatic signal conduit means having three intercommunicating portions, the first portion adapted to receive a pneumatic signal pressure, the second portion adapted to deliver the pneumatic signal pressure to controller means, and the third portion adapted to vary the pneumatic signal pressure by venting to the atmosphere, a valve body having inlet means communicating with said third portion and outlet means communicating with the atmosphere, valve means in said body controlling the venting of the pneumatic signal pressure from said inlet means to said outlet means whereby the pneumatic signal pressure therein is varied by said valve means, said valve means including a ball valve having a valve stem and adjustable means thereon, temperature responsive means carried by said valve body including a first element of thermally responsive material in the form of a tube surrounding a second element of thermally non-responsive material in the form of a rod, plug connection means connecting adjacent ends of said rod and tube whereby thermal expansion and contraction of the tube effects a corresponding movement of rod element, and spring means integrally formed on said rod and operatively connected to said valve stem adjustable means whereby said ball

valve varies the pneumatic signal pressure to said outlet means in response to temperature variations causing a corresponding variation of the pneumatic signal pressure in said conduit means.

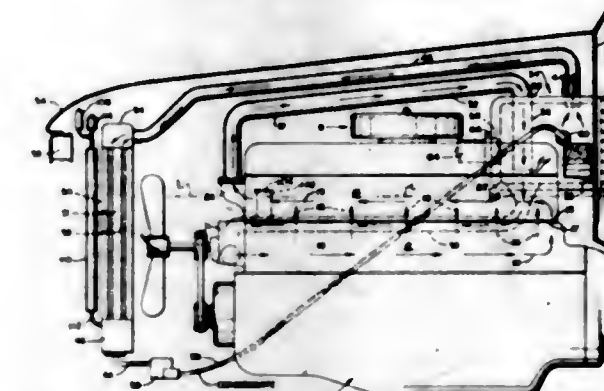
3,384,304

# EBULLIENT COOLING SYSTEM FOR AUTOMOTIVE GASOLINE ENGINES WITH CONSTANT TEMPERATURE PASSENGER SPACE HEATER

Lester P. Barlow, Stamford, Conn., assignor to The Barlow Vapor Cooling Company, Stamford, Conn., a corporation of Connecticut

Continuation-in-part of application Ser. No. 568,684, July 28, 1966. This application Apr. 3, 1967, Ser. No. 627,945

6 Claims. (Cl. 237-8)



An ebullient cooling system for automotive gasoline engines circulates a mixture of coolant vapor and coolant liquid at its boiling temperature from the engine cooling jacket into a chamber in a passenger space heater. The vapor separates from the liquid in the heater chamber and this vapor passes into a condenser, while the liquid in the heater chamber is returned to the circulation path through the engine cooling jacket. In one embodiment the mixture of coolant vapor and coolant liquid at its boiling temperature enters another chamber for initial separation of liquid and vapor prior to entering the heater chamber. In another embodiment the mixture of coolant vapor and liquid passes from the jacket outlet through a conduit directly into the heater chamber. In both embodiments of the system the passenger heater itself remains at substantially constant temperature, namely the boiling temperature of the coolant, during operation of the engine over an extremely wide range of different conditions, and thus the passenger compartment is readily maintained at a uniform temperature without complex controls. The heater chamber provides the dual functions of the compensating chamber and the heater, thus conserving space beneath the hood.

3,384,305

# ANGULARLY ADJUSTABLE OUTLET MEMBERS FOR AGRICULTURAL SPRAYING APPARATUS

Arnold H. Bent, Penticton, British Columbia, Canada, assignor to Okanagan Turbo Sprayers Ltd., Penticton, British Columbia, Canada

Filed June 6, 1966, Ser. No. 555,428

1 Claim. (Cl. 239-77)



An agricultural sprayer having a fan arranged to discharge air axially into a housing formed of a pair of



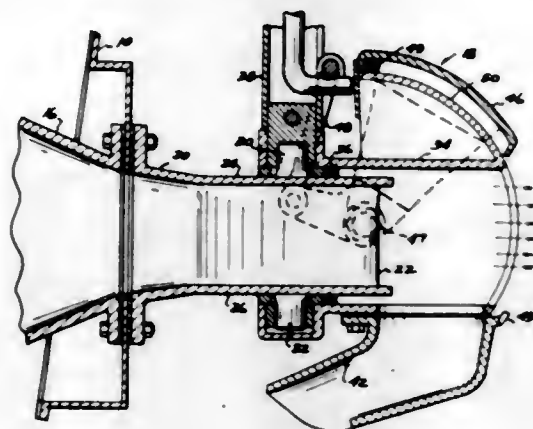
angularly adjustable annular parts. The housing is closed at one end by an end wall shaped to deflect the air radially outwardly through the openings in the housing.

3,384,306

**HYDRAULIC JET CONTROL**

Keenan Hanley, deceased, late of Prospect, Ohio, by Mildred J. Hanley, administratrix, Prospect, Ohio, assignor to Hanley Hydrojet, Inc., a corporation of Ohio

Filed Mar. 28, 1966, Ser. No. 538,108  
4 Claims. (Cl. 239—265.27)



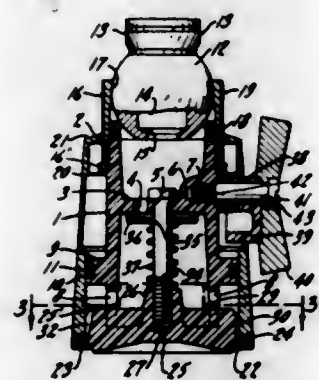
A nozzle carried on the end of a rearwardly directed, stern-mounted conduit is arranged to provide a controlled hydraulic thrust on a boat. The nozzle has both rearward and bottom exhaust openings. A gate is supported for movement between a raised position over the rearward exhaust opening so that pressurized water from the conduit is discharged rearwardly to develop a generally forward thrust on the boat, and a lowered position for either partially or fully restricting the flow of water through the rearward exhaust opening and for deflecting the water through the bottom opening to develop a rearwardly directed thrust.

3,384,307

**ADJUSTABLE SHOWER HEAD**

Alfred M. Moen, 25 Lakeview Drive, Grafton, Ohio 44044

Filed Apr. 8, 1966, Ser. No. 541,169  
6 Claims. (Cl. 239—460)



An adjustable shower head having a ball retainer, a hollow tubular body which connects to the ball retainer, a body shell which fits around the hollow tubular body and slides in engagement with the ball retainer, and a water former positioned at the lower end of the hollow tubular body. The water former is connected to a partition formed in the hollow tubular body by a fastener which is removable only through the upper or inlet end of the shower head. The spray former and the body shell cooperate to form a series of outlet passages for the discharge of the water from the hollow tubular body.

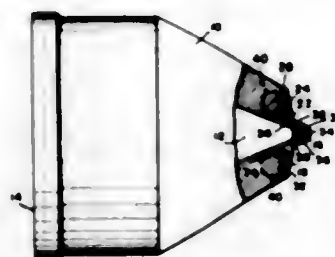
An eccentric is rotatably mounted on the hollow body by means of a handle to raise and lower the body shell relative to the spray former to vary the number of rings of water jets discharging from the shower head. An air check valve is provided in the hollow tubular body to limit the back flow of air through the shower head when the water is not discharging from the shower head.

3,384,308

**COMPOSITE FLUID NOZZLE HAVING ITS VARIOUS SECTIONS JOINED TOGETHER BY AN AUTOGENOUS BEAM WELD**

John A. Capler II, 10 Capler Drive, La Vale, Md. 21502

Filed Nov. 22, 1965, Ser. No. 508,936  
19 Claims. (Cl. 239—600)



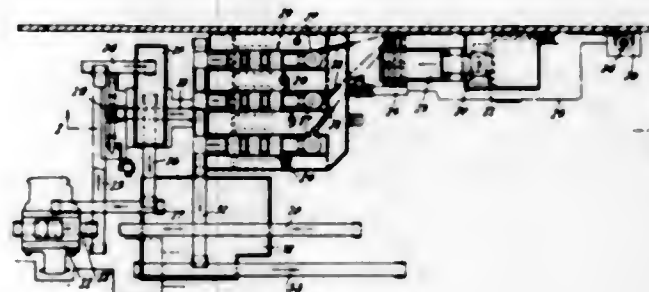
The disclosure is directed to fluid nozzles that consist of a plurality of component parts which are joined together by an autogenous beam weld. The weld so formed does not adversely affect the physical properties of the component materials and is so controlled as to depth of penetration as to terminate short of the inner passages formed within the nozzles. The disclosure further describes a plurality of mating component configurations from which the nozzles may be fabricated.

3,384,309

**SEPARATION OF METAL FROM RUBBER**

James E. F. Marshall, Truro, England, assignor to The North British Rubber Company Limited, Castle Mills, Edinburgh, Scotland, a corporation of Scotland

Filed Dec. 27, 1965, Ser. No. 516,647  
4 Claims. (Cl. 241—14)



1. A process for the separation of metal from rubber including the steps of granulating the rubber into a crumb, classifying the granulated rubber into an oversize crumb which is returned to the granulator and an undersize crumb which is subjected to a low intensity magnetic field which separates wire, and crumb having large wire inclusion, from the remainder of the crumb having small wire inclusion, sizing said remainder to two fractions, subjecting the larger fraction to a high intensity magnetic field which removes the crumb having small wire inclusion and discharging the clean, metal-free crumb.

3,384,310

**METHOD OF TREATING METALLIFEROUS ORES**

William R. Van Slyke, Taconite, Minn., and Louis J. Erck, Ishpeming, Mich., assignors to The Cleveland-Cliffs Iron Company

Filed Feb. 16, 1966, Ser. No. 527,806  
5 Claims. (Cl. 241—20)



1. The method of treating ores which comprises the steps of:

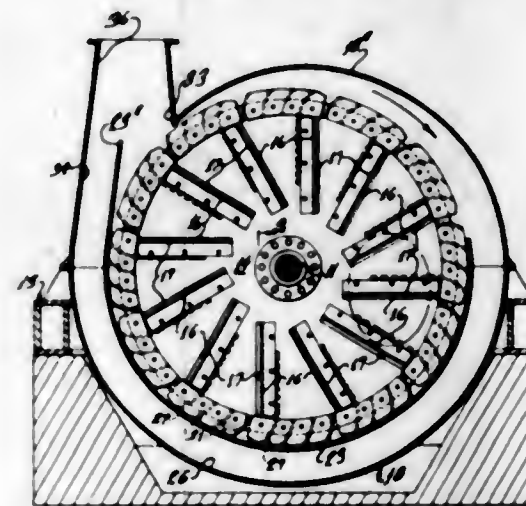
- screening a metalliferous ore and separating it into a portion of large pieces and a portion of smaller pieces,
- crushing the portion of smaller pieces to about  $-2''$ ,
- separating the combined crushed and naturally occurring portions to form at least a fraction of  $-2'' + \frac{1}{2}''$  and another fraction of  $-\frac{1}{2}''$ ,
- concentrating the metal values of the  $-\frac{1}{2}''$  fraction in a low gravity heavy media separator,
- concentrating the metal values of the  $-2'' + \frac{1}{2}''$  fraction in a higher gravity heavy media separator,
- crushing the metal values from said higher gravity heavy media separator to about  $-\frac{3}{4}''$  and screening the crushed material and recycling it through the higher and lower gravity heavy media separators.

3,384,311

**WOOD CHIPPER**

Henrik J. Eklund, Pittsfield, Mass., and Dean W. Shields, Birmingham, Ala., assignors to Beloit Corporation, a corporation of Wisconsin

Filed July 26, 1966, Ser. No. 568,002  
7 Claims. (Cl. 241—56)



1. In a wood chipper embodying rotary disc having angularly spaced knives and angularly spaced passage ways therethrough together with means to feed wood to one side of the disc whereby the wood is cut into chips which pass through the passageways to the other side of the disc,

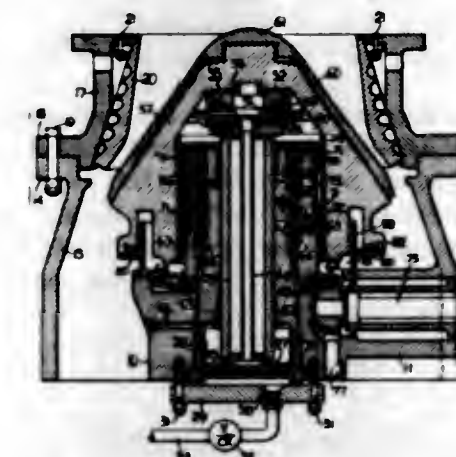
- an outer housing surrounding said other side of the disc and spaced radially and outwardly from the periphery of the disc,
- an arcuate wall section surrounding a portion of said other side of the disc inwardly of said outer housing to define a chip receiving chamber inwardly of said arcuate wall section and a plenum chamber between said arcuate wall section and said outer housing,
- angularly spaced blades carried by said other side of the disc and disposed to rotate within said arcuate wall section with a relatively close fit to convey chips through said chip receiving chamber,
- a tangential outlet for said chip receiving chamber for discharging chips therefrom,
- a circumferential outlet for said plenum chamber adjacent and alongside said tangential outlet for discharging air therefrom,
- said arcuate wall section extending from a point adjacent said tangential outlet and said circumferential outlet to the point that wood is fed to the disc so that the chips pass through said chip receiving chamber while air is forced through said plenum chamber, and
- a discharge conduit communicating with said tangential outlet and said circumferential outlet to receive chips discharged through said tangential outlet and air discharged through said circumferential outlet whereby the air discharged through said circumferential outlet aids in conveying the chips through said discharge conduit.

3,384,312

**SPIDERLESS GYRATORY CRUSHER HAVING FRICTIONLESS BEARINGS**

Warren R. Patterson, Brookfield, and James D. Torrence, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed July 25, 1966, Ser. No. 567,603  
7 Claims. (Cl. 241—208)



1. In a spiderless gyratory crusher having a frame, a vertical crusher mainshaft slidably supported by said frame, an overhanging concave ring horizontally supported in a fixed position within the upper portion of said frame concentrically above said crusher mainshaft, a crusher head mounted on top of said crusher mainshaft with a step bearing assembly therebetween and disposed within the space defined by the concave ring, a hydraulically operated piston assembly supporting the lower end of said crusher mainshaft to vary the opening defined between said concave ring and said crusher head, a relief device for releasing the hydraulic support from said piston assembly upon a sudden increase in pressure, an eccentric sleeve member rotatably supported on said frame concentrically around said crusher mainshaft, a skirt member rigidly supported to said crusher head and extending



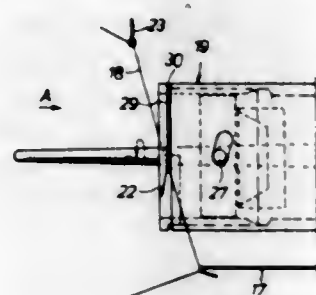
downward to engage the eccentric circumference of said eccentric member, and a means for rotating said eccentric sleeve member, in combination therewith, the improvement comprising: an annular frictionless bearing assembly mounted between said eccentric member and said skirt member, said bearing assembly comprising a plurality of rolling elements rollably mounted between two concentrically disposed races, the first of said races being fixed vertically with respect to the rolling elements, and the second of said races having a vertical dimension sufficient to permit said second race to slide vertically with respect to the first race and rolling elements.

3,384,313

### THREAD CATCH FOR WINDING MACHINES

Kaspar Laager, Kunsnacht, Zurich, Switzerland, assignor to Maschinenfabrik Scharer, Erlenbach, Zurich, Switzerland  
Filed Jan. 4, 1966, Ser. No. 518,698  
Claims priority, application Switzerland, Feb. 18, 1965, 2,218/65

10 Claims. (Cl. 242-27)



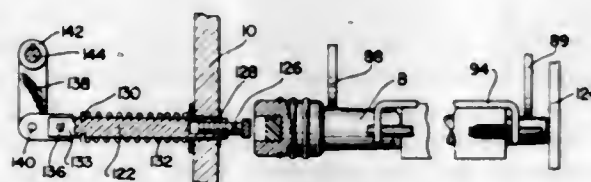
A spindle winding machine is disclosed as including a spindle head fixed to rotate with a spindle about the spindle axis and having a substantially cylindrical surface coaxial with the spindle axis. A substantially cylindrical clamping sleeve is coaxially telescoped with the head and movable axially and rotationally relative to the head, with the head and the sleeve having a close fit such that the sleeve normally is rotated by the head. The head and the sleeve have facing end clamping surfaces, in the form of peripheral flanges, operable to clamp a thread therebetween.

The head is formed with the slot extending obliquely of its axis, and the sleeve has a pin engaged in this slot. Upon rapid angular acceleration of the head, the pin and the slot cooperate to move the sleeve axially inwardly of the head to interengage the clamping surfaces to clamp therebetween a thread caught by a thread catching formation on the sleeve.

3,384,314

### WINDING MACHINE

Joseph E. Di Meglio, Johnston, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation, of Massachusetts  
Filed July 26, 1966, Ser. No. 567,903  
14 Claims. (Cl. 242-27)



Apparatus for presenting on signal one of a variety of different yarns for winding on a rotating bobbin. The signal is derived by automatically sensing an indicator on the bobbin onto which the yarn is to be wound.

### 3,384,315 APPARATUS FOR DRIVING FILAMENTARY MATERIAL COLLECTORS

Frederick G. Heumann, Anderson, S.C., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware  
Filed June 21, 1965, Ser. No. 465,625  
3 Claims. (Cl. 242-46.6)



The disclosure embraces an adapter construction for use on a spindle of a bobbin winder or twister machine, the adapter comprising a member molded of resinous material having a slotted skirt portion providing deflectable sections which, when engaged with a bobbin, are stressed to provide a nonslipping drive for the bobbin.

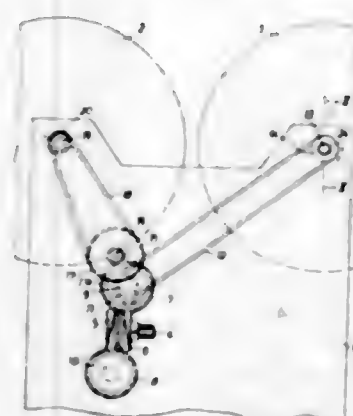
3,384,316

### TAPE TRANSPORT APPARATUS

Heinz Kroebe, also known as Heinz Kroebe, Unterbachling, near Munich, Alfred Winkler, Munich, and Herbert Wilsch, Unterbachling, near Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

Filed July 22, 1965, Ser. No. 479,363  
Claims priority, application Germany, July 25, 1964, A 22,161

20 Claims. (Cl. 242-55.12)



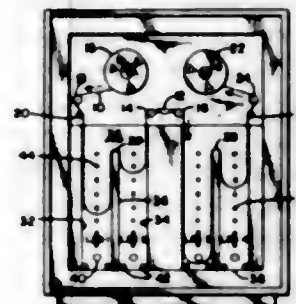
Each spindle of a film projector or tape recorder carries a clutch element which can rotate with reference thereto and is drivingly connected with a reel. The spindles are driven and each thereof carries a motion transmitting member which rotates with the respective spindle and is movable into and from engagement with the associated clutch element to thereby provide a direct driving connection between the spindle and the corresponding reel.

3,384,317

### TAPE HANDLER APPARATUS

George D. Bukovich, Minneapolis, Minn., and David W. Olsen, St. Paul, Minn. (both of Univac Park, St. Paul, Minn. 55116)

Filed Jan. 3, 1966, Ser. No. 518,169  
7 Claims. (Cl. 242-55.12)



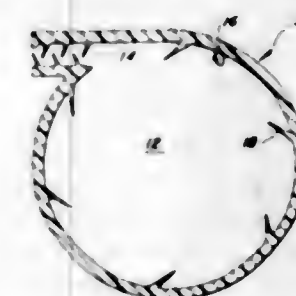
A magnetic tape transport utilizing a plurality of vacuum exhaust ports at the bottom of each tape loop box, said ports being dimensioned and positioned to prevent tape collapse or flutter.

3,384,318

### INTEGRALLY MOLDED FINS FOR STRIP MATERIAL CARTRIDGE

Hubert Nerwin and Donald M. Harvey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 23, 1966, Ser. No. 559,962  
14 Claims. (Cl. 242-71.1)



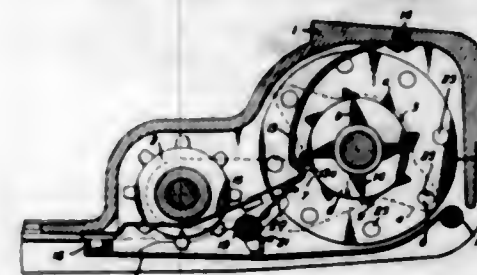
Flexible fins are integrally molded with and project inwardly away from the interior wall of a film cartridge to resiliently engage and space the film from the interior wall. The fins of the interior wall within the supply chamber portion of the cartridge restrict the clockspring action of the film supply coil so as to minimize the torque required to initially withdraw film from the supply chamber. The fins of the interior wall within the gate portion of the cartridge engage and conform to the top and bottom surfaces of the film within the gate to form a light-tight seal.

3,384,319

### FILM WINDING DEVICE

Kaneo Saito and Hideo Kokubo, Tokyo, Japan, assignors to Konishiroku Photo Industry Co., Ltd., Tokyo, Japan

Filed Aug. 9, 1966, Ser. No. 571,324  
10 Claims. (Cl. 242-71.1)



A film winding device comprising a sprocket wheel in meshing engagement with a winding shaft and also engaging the film to be wound, a reel made up of an outer and an inner cylindrical member, the members having

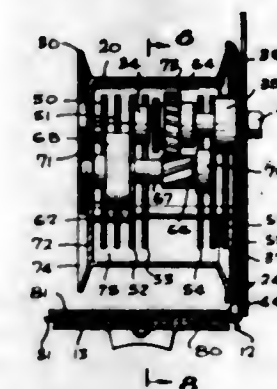
slots on their perimeters so that the leading edge of the film advances therethrough, means for preventing free rotation of the outer member, means coupling the inner member with the winding shaft so that the inner member is rotated after the film has entered into the slots and is pinched therein.

3,384,320

### FISHING REEL

Cortez Hawk, Van Nuys, Calif., assignor to Panto Enterprises Incorporated, Sepulveda, Calif., a corporation of California

Filed Aug. 11, 1966, Ser. No. 571,923  
9 Claims. (Cl. 242-84.2)



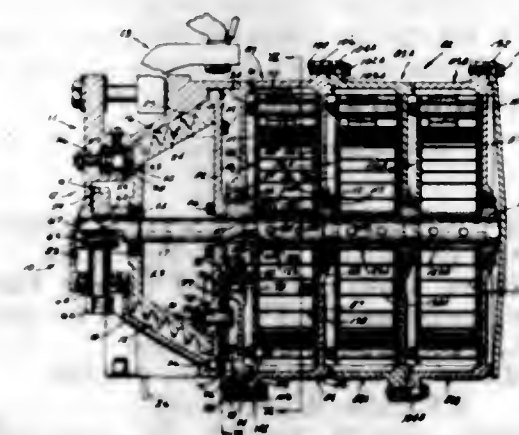
A fishing reel mounted on a rod to be selectively pivotable between a spin casting position with its axis parallel to the axis of the rod and a winding position transverse the rod with the reel being releasably retained in position by a spring biased, lever controlled ball and notch latch. The reel supporting plate includes a series of rods carrying discs which form a cage to support the spool and its drive mechanism.

3,384,321

### ROTARY DEVICE

Roger T. Becker, Kalamazoo, and William K. Becker, Ross Township, Kalamazoo County, Mich., assignors to Aero-Motive Manufacturing Company, Kalamazoo, Mich., a corporation of Michigan

Filed Jan. 19, 1966, Ser. No. 521,729  
22 Claims. (Cl. 242-107.5)

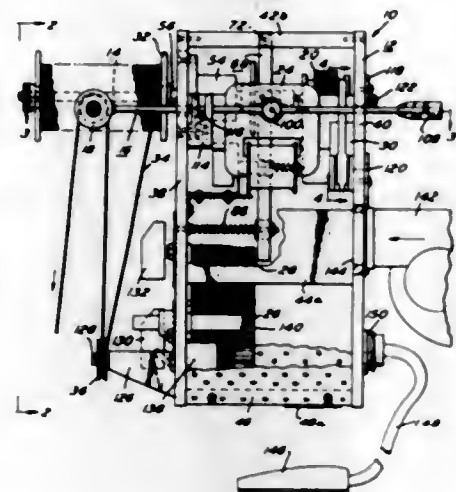


A rotary device, such as a balance reel, which is capable of opposing a torque applied thereto and which is comprised of a frame structure and a torque-receiving means, such as a drum, rotatably supported upon the frame structure. One or more spring motor means are mounted on the frame structure and coupling means are provided for connecting one end of the spring means to the frame structure and the other end of the spring means to the torque-receiving means. Additional spring motor means may be connected in parallel between the torque-receiving means and the frame structure.



### 3,384,322 TENSIONER

Carl G. Reed, Boone, N.C., assignor to  
IRC, Inc., Philadelphia, Pa.  
Filed June 15, 1966, Ser. No. 557,807  
5 Claims. (Cl. 242-156.2)



A tensioner for controlling the tension applied to a continuous filament, such as a thread or wire, as it is dereeled from a spool, comprising a support having a filament supply spool arbor rotatably mounted thereon. An electrical motor is mounted on the support and drivingly connected to the arbor. The motor is rotatable in a direction to rotate the arbor in a direction opposite to the direction the filament tends to rotate the arbor as the filament is dereeled from the supply spool so as to apply a tension on the filament. A dancer arm is mounted on the support for pivotal movement about a point on the dancer arm intermediate its ends. A filament guide is provided on one end of the dancer arm over which the filament passes as the filament is dereeled from the supply spool. Another electrical motor is mounted on the support and is drivingly connected to the dancer arm at the point of pivotation of the dancer arm. The dancer arm motor is rotatable in a direction to pivot the dancer arm in a direction opposite to the direction the filament tends to pivot the dancer arm as the filament passes over the filament guide so as to apply a tension on the filament. Brake means is provided for stopping the rotation of the arbor. The brake means is actuated by the dancer arm when slack appears in the filament for applying the brake means for rotation of the arbor. Each of the motors includes means for varying the torque of the motor so as to control the tension applied to the filament.

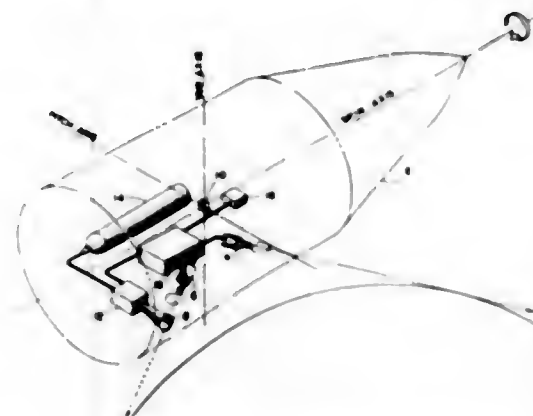
### 3,384,323 ATTITUDE AND CONING CONTROL SYSTEM FOR SPIN-STABILIZED VEHICLES

Harold D. Gilbert, Dallas, Tex., and Eugene Harrison, Atlanta, Ga., assignors to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware  
Filed Sept. 27, 1965, Ser. No. 490,286  
4 Claims. (Cl. 244-1)

1. An attitude control system for spin-stabilized vehicles comprising:

- a pair of reference sensors mounted in said vehicle in co-planar relationship,
- a radially directed reaction device mounted in said vehicle at a point displaced longitudinally from the center of gravity of said vehicle and displaced in roll from the plane of said sensors for effecting changes in the attitude of said vehicle,
- firing means for controlling firing of said reaction device to occur when said reaction device is in a pre-determined rotational position,
- a rate gyroscope, and

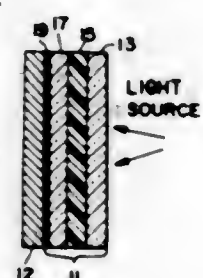
a logic circuit connected to receive signals from each of said sensors and from said gyroscope and supply-



ing signals to said firing means to regulate firing of said reaction device to occur only during intervals which will serve to decrease coning of said vehicle.

### 3,384,324 THERMAL CONTROL WALL PANEL

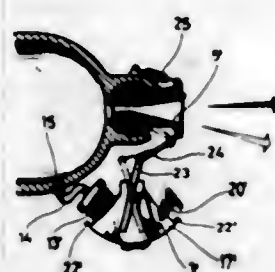
William J. O'Sullivan, Jr., 6 Everett Drive,  
Newport News, Va. 23602  
Filed Mar. 28, 1966, Ser. No. 538,911  
6 Claims. (Cl. 244-1)



A thermosensitive wall panel completely enclosing and adapted to establish a design temperature for a structure when subjected to a variable electromagnetic radiation environment.

### 3,384,325 MISSILE WITH THRUST VECTOR CONTROL

Joachim Hermann, Munich, Germany, assignor to Bolkow Gesellschaft mit beschränkter Haftung, Ottobrunn, near Munich, Germany  
Filed Dec. 5, 1966, Ser. No. 599,305  
Claims priority, application Germany, Dec. 10, 1965, B 84,921  
10 Claims. (Cl. 244-3.22)



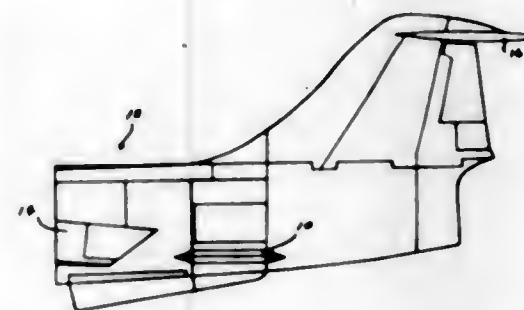
Lateral guidance of a jet propelled missile is effected by controlling the effective thrust vector of the jet relative to the longitudinal axis of the missile. Such control may be effected either by dipping a jet spoiler into the jet

cross section of the engine, or by angularly deflecting a jet discharge nozzle. Variation of the thrust vector is under the control of guiding signals from a control station. However, control of the thrust vector must take into consideration the pressure in the combustion chamber producing the propulsion jet, or, stated another way, the thrust of the propulsion jet.

The present invention is directed to a thrust vector control whereby the degree to which a spoiler is dipped into the jet, or the angular displacement of a jet nozzle, are controlled or compensated in accordance with the thrust of the jet as measured by the pressure in the combustion chamber, and particularly with respect to whether the missile is accelerating or is cruising at a substantially constant velocity following acceleration.

### 3,384,326 AERODYNAMIC STRAKE

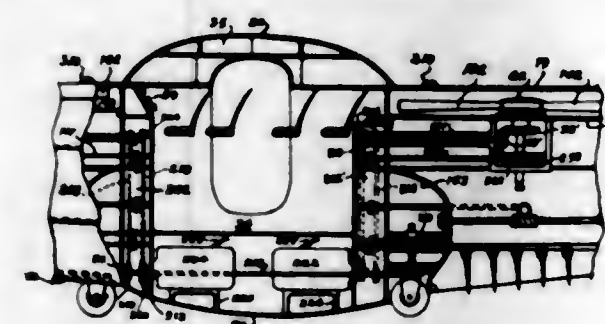
Francis G. Neuback, Eglin Air Force Base, Fla.  
(9467 Somerset Lane, Cypress, Calif. 90630)  
Filed Aug. 24, 1965, Ser. No. 482,304  
1 Claim. (Cl. 244-13)



An elongated aerodynamic strake for use on an airplane, and being in the form of a pentahedral prominence in plan and joined to and extending from each lower quarter aft section of the fuselage between the trailing edge of the wing and the leading edge of the horizontal stabilizer to be in the upwash area for improving overall stability and flight characteristics of the airplane.

### 3,384,327 FLYING PLATFORM-AUTOMOBILE-BOAT AND AIR SUSPENSION CAR COMBINATION

Steven Postelco-Apostoloscu, 419 W. 35th St.,  
New York, N.Y. 10001  
Original application Aug. 27, 1963, Ser. No. 304,926, now  
Patent No. 3,265,329, dated Aug. 9, 1966. Divided and  
this application Oct. 21, 1965, Ser. No. 499,729  
2 Claims. (Cl. 244-23)

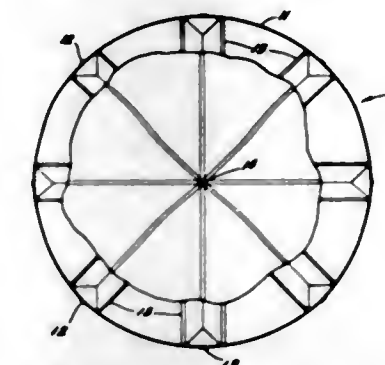


Aircraft in the form of a combined flying platform-automobile-boat and air suspension car having a rotor assembly, the assembly including a hollow housing having a hub portion and spaced lateral openings. Blades are supported in the lateral openings and radiate from the housing. Means is provided for changing the pitch of the blades, said means including a tubular member, a roll cam plate mounted on the tubular member, arms carried

by the blades turnable on said cam plate and means to raise the tubular member with the roll cam plate to raise the blade arms that tilt the blades at any desired angle to control the flight of the aircraft in the air.

### 3,384,328 SELF-EXPANDING RIB

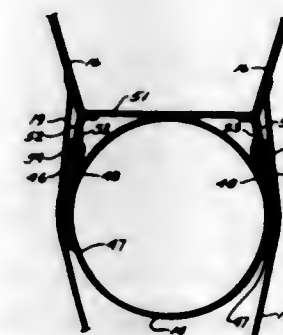
Donovan McGee, Northfield, Minn., assignor to G. F. Schjeldahl Co., Northfield, Minn., a corporation of Minnesota  
Filed Apr. 15, 1966, Ser. No. 542,966  
4 Claims. (Cl. 244-31)



A thin walled inflatable enclosure comprising a shell adapted for super pressure inflation and having at least one semi-rigid rib disposed along a surface thereof and extending along a substantial portion of the periphery, the rib comprising a structure formed from a pair of legs intersecting at an apex and secured at their respective bases to a surface of the super pressure inflatable enclosure, the distance between the bond lines being substantially less than the sum of the height dimensions of the legs so as to form a rib structure disposed in protruding relationship from the surface upon application of tension stresses to the enclosure along the area between the bond lines, the ribs being free of any inflation means.

### 3,384,329 FLEXIBLE WING VEHICLE

Horace L. Woodlief, Jr., Alhambra, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware  
Filed July 1, 1966, Ser. No. 562,137  
13 Claims. (Cl. 244-45)



Construction features of a flexible wing gliding vehicle comprising three inflatable flexible booms forming a rigidifiable trifurcated frame and a fabric sail between the booms are described. The booms are substantially identical fabric tubes connected to the sail by compliant lacings. A payload is suspended below the wing by a plurality of riser lines which are each connected directly to the sail via triangular fabric gussets. The payload is thus suspended from the sail and application of localized bending loads on the booms is minimized.

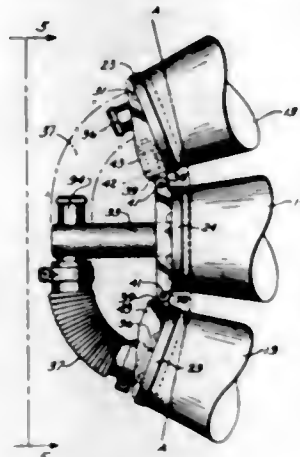


3,384,330

**FLEXIBLE WING VEHICLE APEX**

Harry E. Rollins, Fullerton, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed July 1, 1966, Ser. No. 562,138  
11 Claims. (Cl. 244-46)



An apex for a flexible wing gliding vehicle comprising three inflatable flexible booms forming a rigidifiable trifurcated frame and a fabric sail between the booms is described. The end of each boom is closed with a rigid piece and these are interconnected at the vehicle apex for universal relative angular motion. Clevis and pivot pin linkages are arranged between pairs of booms to provide pivotal freedom about two axes. A gas manifold also communicates with the interior of the three booms for inflation thereof.

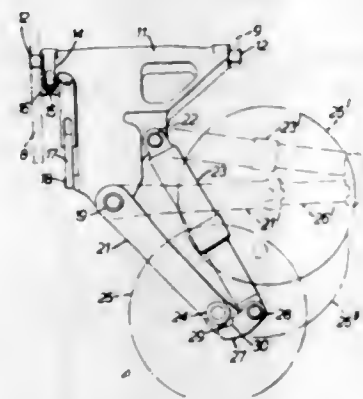
3,384,331

**AIRCRAFT RETRACTABLE UNDERCARRIAGE**

John Raymond Palmer, Cheltenham, England, assignor to Dowty Rotol Limited, Gloucester, England, a British company

Filed Aug. 29, 1966, Ser. No. 575,782  
Claims priority, application Great Britain, Sept. 3, 1965, 37,749/65

5 Claims. (Cl. 244-102)

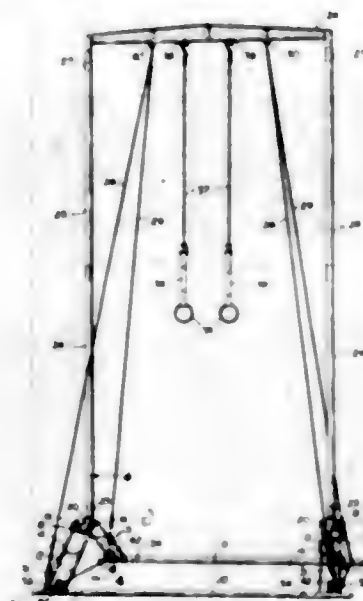


1. A retractable undercarriage comprising a lever pivotally mounted at one end of an axis which is transverse to the longitudinal direction of the aircraft, a landing wheel mounted near the other end of the lever, a movable member mounted telescopically with respect to the lever, a telescopic shock absorber which is pivotally mounted at one end on an axis parallel to the pivotal axis of the lever and which is pivotally connected at its other end to the telescopic member, the movable member being extendable from the lever during retraction movement of the lever and the shock absorber about their respective pivotal mountings and being conversely retractable towards the lever during extension movement,

and a locking device operable between the lever and the telescopic member to hold the latter contracted with respect to the former in the extended condition of the undercarriage, the locking device being releasable to enable the undercarriage to be retracted.

**PORTABLE STILL RING STANDS FOR GYMNASTS**

Robert M. Fenner and Donald E. Hamilton, both of 3200 S. Zuni St., Englewood, Colo. 80110  
Filed Feb. 18, 1966, Ser. No. 528,560  
6 Claims. (Cl. 248-165)



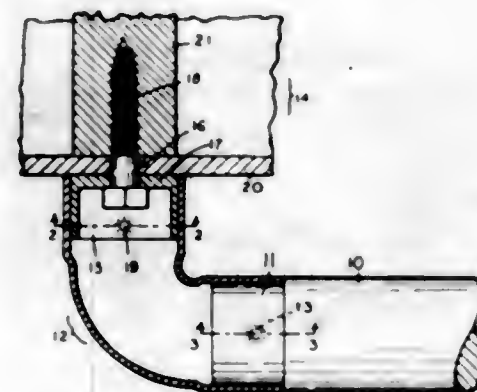
Two elongated parallel floor engaging bars having a collapsible A-frame extending therebetween at each extremity thereof with a tension element resisting collapse of each of said A-frames and a mast arising from each A-frame and supporting an equipment mounting truss thereover with tension cables extending from said truss to the outer extremities of said A-frames.

3,384,333

**HANDRAIL MOUNTING MEANS**

Ivan C. Bohlman, 208 N. 2nd Ave., and Vernon O. Bohlman, 214 Antlers St., both of Walla Walla, Wash. 99362

Filed Mar. 1, 1966, Ser. No. 530,969  
1 Claim. (Cl. 248-251)



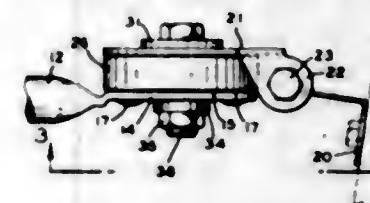
Cup shaped cylindrical fittings are attached to a wall by concealed lag screws which extend through the ends of the fittings and into wall studding and support the fittings from the studding. The fittings are spaced apart and tubular elbows fit over and are secured on them and the handrail fits into and is supported by the elbows.

3,384,334

**MIRROR SUPPORT**

Handry J. Malachowski, Wilton, Conn., assignor to Yankee Metal Products Corp., Norwalk, Conn., a corporation of New York

Filed Jan. 20, 1966, Ser. No. 521,908  
4 Claims. (Cl. 248-478)



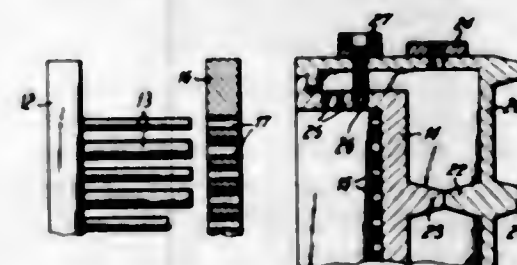
An adjustable mirror support for an automobile comprising two hinge members mounted for rotation about a shaft with means on the shaft holding said members in the same fixed spaced relation in all rotated positions, together with detent means on each of said members coacting for yieldingly holding said members in a predetermined rotated position.

3,384,335

**MOLD FOR MAKING SYNTHETIC RESIN FOAM PLATES**

Theodor Schwarz, Espenweg 22, Hagen-Vorhalle, Germany

Filed Apr. 28, 1965, Ser. No. 451,500  
Claims priority, application Germany, Mar. 31, 1965, Sch 36,814  
6 Claims. (Cl. 249-67)



A mold useful for the manufacture of plastic foam plates, comprising a first mold part, a second mold part and an ejection plate therebetween. The second mold part has a recess wherein the plates are molded, and steam is let into this recess to expand the plastic therein.

3,384,336

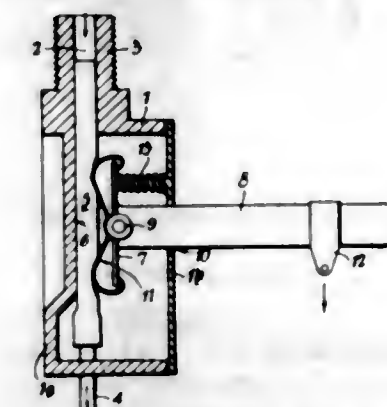
**SHUTOFF DEVICES FOR FLEXIBLE DELIVERY TUBES**

Procter Thomas Fulman, Norfolk, England, assignor to Rainbow Valve Company Limited, Norfolk, England, a British company

Filed Mar. 6, 1963, Ser. No. 263,161  
Claims priority, application Great Britain, Mar. 26, 1962, 1,476/62  
2 Claims. (Cl. 251-9)

1. A shutoff device for use with a flexible delivery tube, said device comprising a box-like outer casing having a back wall forming an anvil surface disposed on one side of said tube, a preloaded spring surface disposed in facing relationship with said anvil surface on the opposite side of said tube, means for relatively displacing said surfaces between a neutral position in which free flow can take place through said tube, and a shutoff position in which said tube is squeezed under a reactive force exerted by said preloaded spring surface, and an operating member for effecting relative displacement of said surfaces, said operating member being in the form of a fulcrumed lever which is arranged for displacement about the fulcrum in one direction by an applied load and in the opposite direction by counterbalance

ing means, said operating lever being T-shaped and being fulcrumed at the head end within said box-like outer casing, said operating lever having a stem part projecting between upper and lower stops to support the load, the permitted angular displacement of said lever about its fulcrum being limited by said stops, said preloaded spring surface being associated with each arm of the lever cross

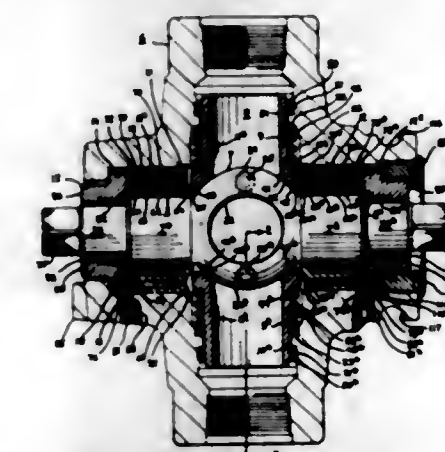


member, said spring surfaces being arranged to cooperate alternatively with said anvil surface depending upon the direction of angular displacement of said operating lever and said flexible tube being extended lengthwise of the cross member at the head end of the lever and between the said cross member and said back wall of the casing to connect supply and delivery openings provided respectively in the top and bottom of the casing.

3,384,337

**LOW FRICTION SEALED AND LOW TORQUE ACTUATED TRUNNION MOUNTED VALVE**

Norman F. Brown, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware  
Filed Oct. 22, 1964, Ser. No. 405,744  
9 Claims. (Cl. 251-172)



A plug valve having seat means provided with limited minimum interface engagement of seat means with valve plug means, and low friction sealed trunnion mounts assuring low torque actuation under high pressure conditions and long service intervals.

3,384,338

**VARIABLE ORIFICE DEVICE**

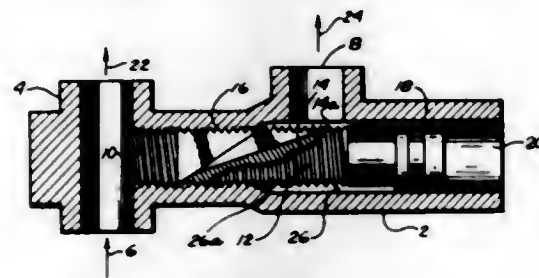
Dennis J. Dermody, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Apr. 6, 1965, Ser. No. 445,986  
11 Claims. (Cl. 251-205)

A variable orifice device including a housing formed with a fluid passageway and an axially moveable elongated valve that is threadably interengaged with wall portions of the housing that define the fluid passageway.

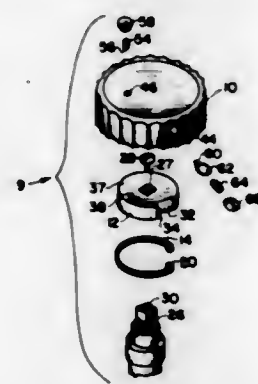


Plural slots inclined to the valve axis are formed in the valve and cooperate with the adjacent passageway wall to



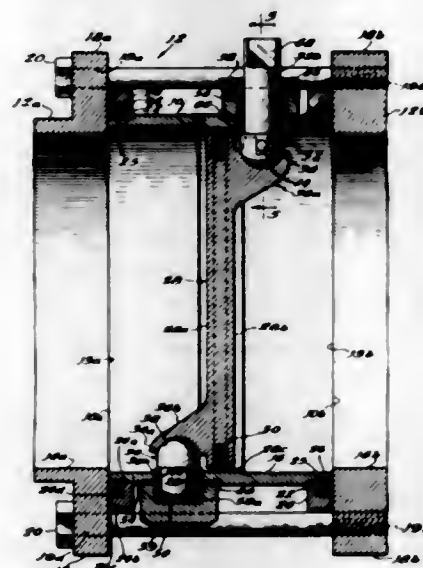
define a variable orifice through which fluid flow is substantially linear.

**3,384,339**  
**TAMPERPROOF VALVE HANDLE**  
William E. Cornell III, 533 Coral Way,  
Coral Gables, Fla. 33134  
Filed Sept. 10, 1965, Ser. No. 486,293  
4 Claims. (Cl. 251-291)



A valve operating handle provided with a one-way drive clutch having a removable disabling drive connection to prevent unauthorized operation of the valve from either a preset open or closed position and pilfering of fluid commodity dispensed on a credit or prepaid basis.

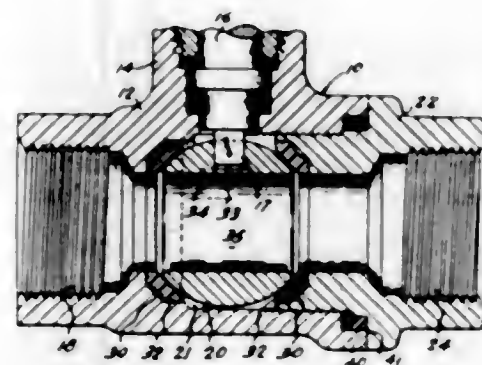
**3,384,340**  
**BUTTERFLY VALVE FOR HIGH VACUUM SERVICE**  
Donald G. Fawkes, Chicago, Ill., assignor to Henry Pratt Company, a corporation of Illinois  
Filed June 25, 1965, Ser. No. 466,930  
12 Claims. (Cl. 251-307)



A butterfly valve for vacuum service characterized in that the valve disc carries a sealing ring in the periphery

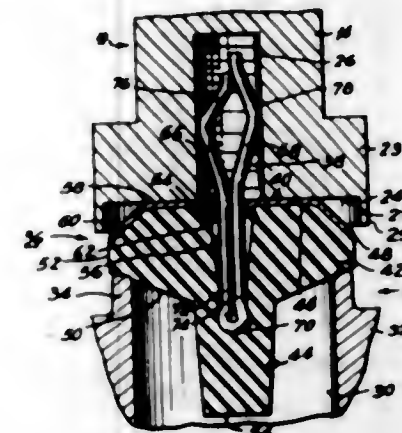
thereof and is mounted by a means of a universal joint to laterally offset parallel mounting shafts. The valve body has resilient sealing rings in axially outwardly facing cavities for sealing the connection of the body into a pipeline. The universal mounting of the valve disc is afforded by stub shafts received in sockets in the disc. A sleeve bearing is telescoped over a stub shaft, abutting a shoulder on the stub shaft. The sleeve bearing is threaded in an opening in the valve body and a cap is threaded over the sleeve, the interior of the cap carrying a seal which seals against leakage along the stub shaft. A gasket is interposed between the bottom of the cap and the area about the threaded opening in the valve body to seal against leakage.

**3,384,341**  
**BALL VALVE SEAT**  
Roger Louis Ripert, Roxboro, Quebec, Canada, assignor to Velan Engineering Ltd., Montreal, Quebec, Canada  
Filed July 27, 1964, Ser. No. 385,119  
4 Claims. (Cl. 251-315)



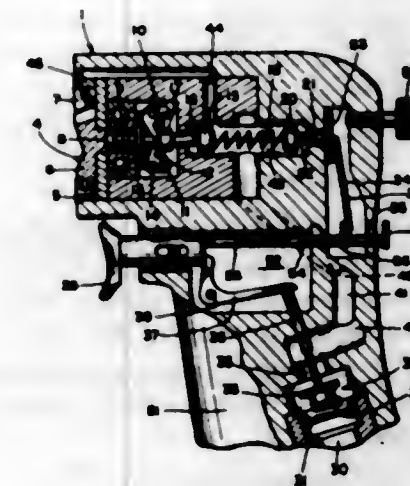
1. In a ball valve construction having opposed valve seats surrounding an inlet opening with sealing ring accommodating grooves having at least two transversely opposed substantially flat seating surfaces and a connecting surface, a sealing ring received in said accommodating grooves, a valve member being at least partially spherical and having rounded sealing ring contacting surfaces and adapted for rotation between said valve seats, the improvement comprising said sealing ring comprising an annular body of resilient material having (a) an exterior portion, and (b) an interior portion, the latter defining a fluid-communicating passage, said exterior portion having, in cross-section, a first substantially flat peripheral shoulder facing substantially transversely of the fluid passage and said exterior portion having a further substantially flat peripheral shoulder disposed transversely of said first peripheral shoulder in spaced relationship therewith, said shoulders being adapted to meet in sealing contact the said transversely opposed seating surfaces of said sealing ring accommodating grooves, said annular body having a substantially convex surface extending between said shoulders for engagement by said rounded sealing ring contacting surfaces of said valve member, and a substantially concave surface spaced from said connecting surface and opposed to said substantially convex surface and disposed between said shoulders whereby pressure applied to said substantially convex surface by engagement with said rounded sealing ring contacting surfaces of said valve member flexes said substantially convex surface outwardly to conform at least in part to said rounded sealing ring contacting surfaces of said valve member thereby establishing seating contact and maintaining the desired sealing contacts between said sealing ring and the corresponding seating surfaces of said sealing ring accommodating grooves.

**3,384,342**  
**REPLACEMENT FAUCET WASHER**  
La Roy B. Passer, Port Jefferson, N.Y., assignor to Passer Fastener Corporation, Patchogue, N.Y., a corporation of New York  
Filed Oct. 23, 1965, Ser. No. 502,922  
14 Claims. (Cl. 251-357)



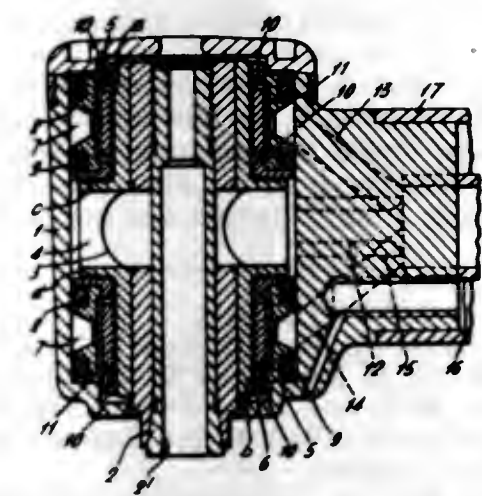
A replacement faucet washer comprising a circular rubber-like washer body with a dependent stem, the top surface of the body being flat at the center and being downwardly flaring frustoconical around the flat center, the under surface of the body being upwardly flaring and frustoconical, a stiff cap fitting over the upper surface of the washer body, the cap being shaped to match the flat center and flaring frustoconical portion of the washer body, the cap having an opening through which a spring clip extends. The upwardly extending part of the spring clip constitutes a pair of arms with knuckles for frictionally engaging a threaded bore in the lower end of a faucet stem. The tips of the arms are longitudinally offset and the tip of one arm is transversely aligned with the knuckle of the other arm.

**3,384,343**  
**AIR TOOL SPEED CONTROL**  
Kenneth R. Bangerter, Ithaca, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New York  
Filed Feb. 13, 1967, Ser. No. 615,797  
11 Claims. (Cl. 253-2)



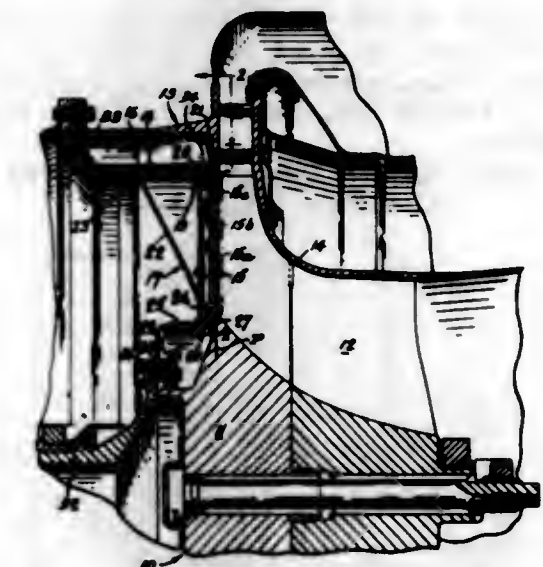
A speed control for air driven power tools such as grinders, saws, hoists and the like. There is a governor controlled valve which limits the maximum speed of the motor. A trigger operated valve is placed in the supply line. A control piston may be either connected to the trigger or independently controlled to control the governor valve to thereby vary the speed of the motor.

**3,384,344**  
**GAS BEARING DEVICE FOR DENTAL HANDPIECES**  
Sedayasu Ota, 19 Momoyama Tsutsui,  
Fushimi-ku, Kyoto, Japan  
Filed May 5, 1967, Ser. No. 636,518  
Claims priority, application Japan, Jan. 25, 1967,  
42/4,967  
1 Claim. (Cl. 253-2)



This disclosure relates to a gas bearing device, sometimes referred to as a pneumatic bearing or air bearing device, for dental handpieces incorporating an air turbine driven by compressed air entering the device through a supply passage and being jetted against turbine blades coupled to the shaft and directed through additional passages to provide an air cushion in spaces around the shaft before entering exhaust passages. The disclosed device includes an arrangement of two, three-way electromagnetic valves interposed between the compressed air source and the supply and exhaust passages and operable to connect the compressed air source to the exhaust passage for a predetermined period of time following switching of the supply passage from the compressed air source, so as to supply compressed air to the reverse side of the turbine blades and cause rapid termination of shaft rotation.

**3,384,345**  
**RADIAL TURBINE SHROUD CONSTRUCTION**  
Norman Neath, Longueuil, Quebec, Allan Burrell Newland, Lambert, Quebec, and Arthur David Strelshik, Montreal, Quebec, Canada, assignors to United Aircraft of Canada Limited, Longueuil, Quebec, Canada  
Filed Aug. 15, 1966, Ser. No. 572,338  
14 Claims. (Cl. 253-39)



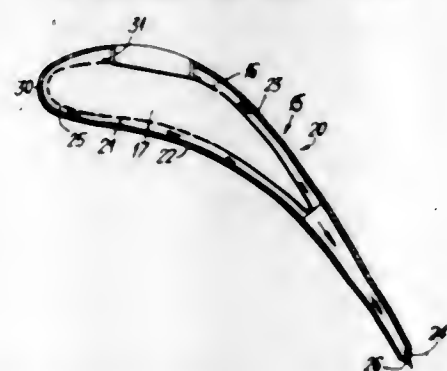
1. In a centripetal turbine having:  
a stationary framework,  
a rotor,  
a rotor base,



a shroud including a section spaced from the rotor so as to cover at least the portion of said base exterior to the hub, and support means mounting said section to said framework, the improvement wherein said shroud section comprises a plurality of separate concentric annular components arranged in mutual abutment to present a substantially continuous surface on the side adjacent said rotor, said components having dividing edge areas which overlap in radial and axial directions so that when inner and outer rims of said section are under axial tension, the components are substantially rigidly interlocked and sealed against escape therebetween the high pressure gas from the rotor side, said support means being arranged to maintain such axial tension.

**3,384,346**  
**AEROFOIL SHAPED BLADE FOR A FLUID FLOW MACHINE SUCH AS A GAS TURBINE ENGINE**  
Gordon Allan Halls and Glyn Twiston Davies, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company

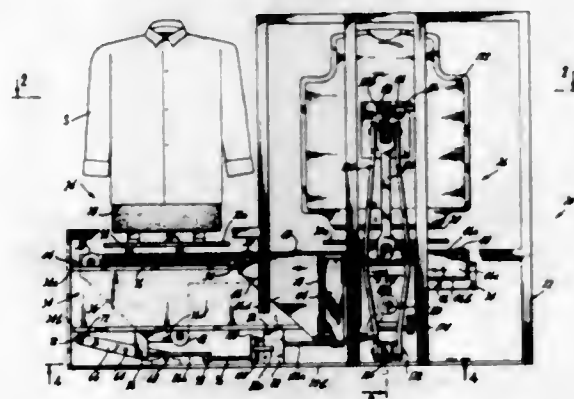
Filed Jan. 19, 1967, Ser. No. 610,416  
Claims priority, application Great Britain, Feb. 1, 1966, 4,498/66  
8 Claims. (Cl. 253—39.1)



An aerofoil-shaped blade having internal and external walls separated from each other by a space. The interior of the internal wall is adapted to receive cooling fluid and part of this cooling fluid passes through a multiplicity of holes in the internal wall and impinges on the interior of the external wall. The remainder of the cooling fluid passes across the space between the two walls of the blade directly to the exterior of the blade without mixing with the cooling fluid in the space.

**3,384,347**  
**SHIRT BODY PRESSING MACHINE**  
Frank C. Lornitzo, deceased, late of Portland, Maine, by J. Russell Blease, administrator, c.t.a., Lincoln, R.I., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware

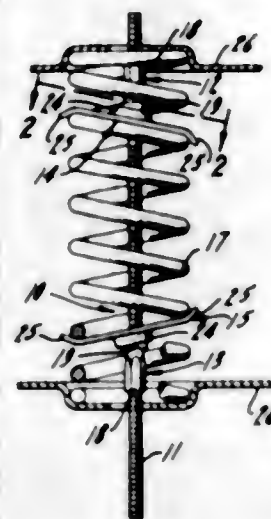
Filed Apr. 27, 1966, Ser. No. 551,489  
12 Claims. (Cl. 223—57)



A double buck shirt-pressing machine. The loading and pressing stations are at opposite ends of a line paral-

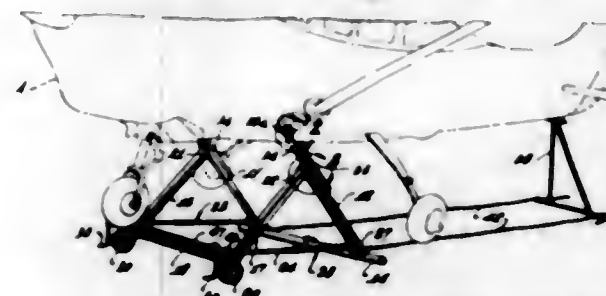
lel with the machine. The two bucks are moved to alternate stations along substantially symmetrical oppositely-disposed paths on the two sides of said line.

**3,384,348**  
**SPRING COMPRESSING DEVICES**  
James A. Wicker, 8995 N. Kennedy Drive, Des Plaines, Ill. 60016  
Filed Oct. 13, 1966, Ser. No. 586,415  
4 Claims. (Cl. 254—10.5)



A device for compressing and extending a coil spring including a threaded rod which extends through the loops of a coil spring, a pair of coil engaging plates each adapted to engage a loop of a coil spring and a pair of removable nuts adapted to thread along the threaded rod. Each nut has a ball portion adapted to fit in a ball socket portion formed in a coil engaging plate. The coil engaging plates each have a slot leading from the periphery thereof to the ball socket to enable the plates to be slipped onto the threaded rod anywhere along its length.

**3,384,349**  
**AIRPLANE JACK**  
Philip L. Johnson, 9710 Ocean Gate Ave., Inglewood, Calif. 90301  
Filed Mar. 2, 1967, Ser. No. 619,990  
10 Claims. (Cl. 254—126)



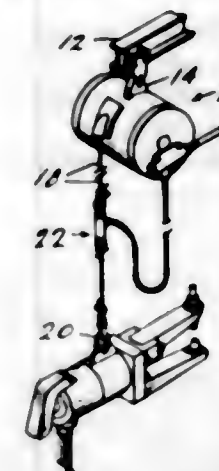
A mechanical jack for lifting airplanes or other objects to permit service work on landing gear is designed to provide a lift at two or three points. Since these lift points are not uniformly spaced on different aircraft, the jack is designed to change the spacing between the lift points. Operation may be manual or by power at one or two locations on the jack.

**3,384,350**  
**PNEUMATICALLY-OPERATED DEVICE FOR MANIPULATING HEAVY LOADS**  
Edgar R. Powell, Birmingham, Mich., assignor to D. W. Zimmerman Mfg., Inc., Toledo, Ohio, a corporation of Ohio

Filed Sept. 22, 1966, Ser. No. 581,326  
10 Claims. (Cl. 254—172)

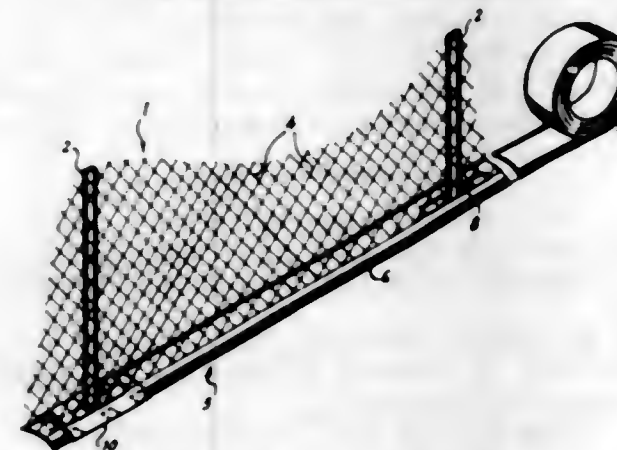
A pneumatically-operated device such as a balancer for aiding in supporting a heavy load includes an air

chamber for causing rotation of a cable drum having a cable connected to the load. Air is supplied to the chamber by an air regulator, the output pressure of which is determined by a pilot air regulator. The pilot air, in turn,



is controlled through a valve connected directly to the cable. When the tension on the cable is increased above a certain amount, the valve is opened and relieves pilot air which causes the pressure in the chamber to be reduced and enables the load to be lowered more easily.

**3,384,351**  
**GRASS GUARD FOR FENCE**  
Arvin William Turner, Jr., 109 Lindenwood Drive, Fort Worth, Tex. 76107  
Filed Nov. 18, 1966, Ser. No. 595,398  
5 Claims. (Cl. 256—32)



A grass curb or barrier for use in association with a fence to prevent the growth of grass and weeds along the fence line. The invention comprises a strip of flexible sheet material, coextensive with the length of a fence, which in use is arranged on the ground, longitudinally of the fence and below it. The material of the strip is arched transversely intermediate its longitudinal edges, and is characterized by its inherent spring tension. The material of the strip is relatively wider than the fence and extends beyond opposite sides thereof, and has openings therein for engagement by the fence posts.

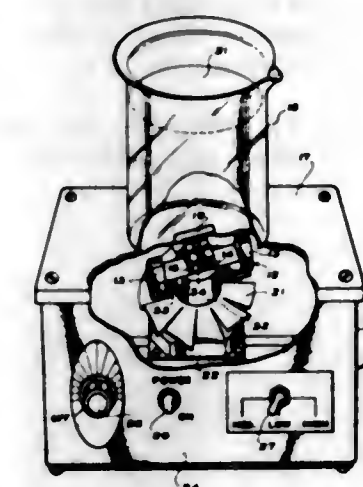
**3,384,352**  
**ANIMAL CROSSING GUARD**  
A. J. Bruner, 2166 Katherine St., Fort Myers, Fla. 33901  
Filed Aug. 11, 1966, Ser. No. 571,742  
4 Claims. (Cl. 256—14)



The present animal crossing guard is for preventing clove-hoofed animals from crossing thereover after the

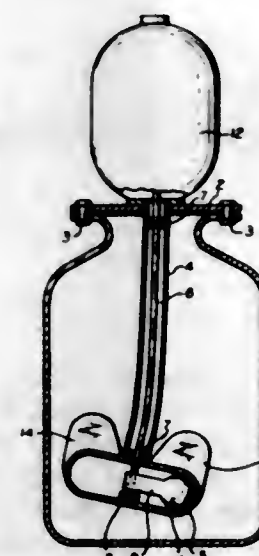
guard has been placed across a path, roadway, railroad tracks or the like so the animals cannot stray thereover.

**3,384,353**  
**MAGNETIC STIRRER**  
Lewis R. Worth, Deerfield, Ill., assignor to Cole-Parmer Instrument & Equipment Company, Chicago, Ill., a corporation of Illinois  
Filed May 31, 1967, Ser. No. 643,317  
7 Claims. (Cl. 259—108)



A magnetic stirrer is described in which a compound magnet comprised of two magnet structures is utilized. Means are provided for supporting a liquid container having a stirring element formed of magnetic material therein within the field established by at least one of the magnet structures of the compound magnet. The rotation of the compound magnet causes a concurrent rotation of the stirring element within the liquid in the container.

**3,384,354**  
**AGITATOR DEVICE**  
Albrecht Migule, Tiengen, and Hans Bürde, Iserlohn, Westphalia, Germany, assignors to Gattys Technische S.A., Fribourg, Switzerland, a corporation of Switzerland  
Filed July 5, 1966, Ser. No. 562,657  
6 Claims. (Cl. 259—99)



An agitator for liquids especially in closed containers, which liquids are preferably maintained at pressure or vacuum conditions, having a flexible hollow shaft ex-



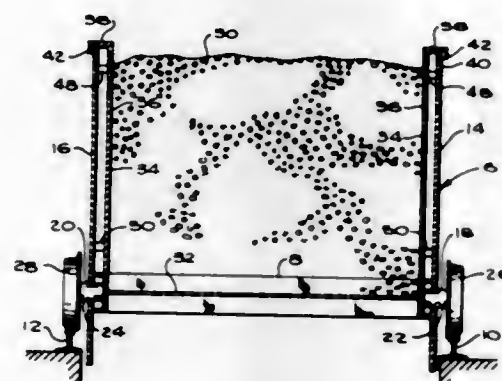
tending through and sealed to the closed container and including an agitator vessel having vanes and a hollow interior, the latter communicating with the hollow shaft. A weight is movably disposed in the interior of the vessel and is adapted for circular or reciprocating movement by electrical or mechanical means passing through the hollow shaft. The movement of the weight causes an imbalance in the vessel causing it to move through the liquid for mixing the liquid.

3,384,355

### HEAT SHIELDS FOR A TRAVELING GRATE MACHINE

Thomas E. Ban, Cleveland Heights, Ohio, assignor to McDowell-Wellman Engineering Co., a corporation of Ohio

Filed July 11, 1966, Ser. No. 564,395  
7 Claims. (Cl. 263-28)



There are provided in a traveling grate machine, means for protecting the sidewalls from heat which comprise a plurality of shields each including a rectangular plate supported over the top of the adjacent sidewall of the moving pallets.

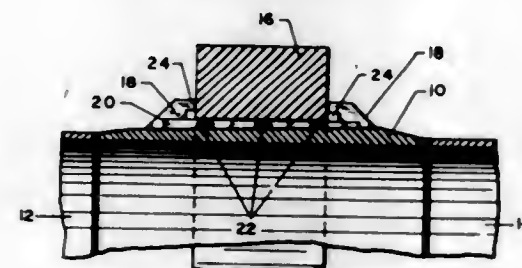
3,384,356

### TIRE FASTENING FOR A ROTARY SHELL

René Durinck, Helemmes, France, assignor to Société Fives Lille-Cail, Paris, France

Filed Mar. 11, 1966, Ser. No. 533,483  
Claims priority, application France, Mar. 11, 1965, 8,769

5 Claims. (Cl. 263-33)



The riding ring of a tubular, rotary kiln has a cylindrical inner face opposite a conically flaring surface section of the kiln shell, and is held to the shell by interposed wedges having outer and inner faces respectively conforming to the inner face of the ring and the conical surface section of the shell, and abuttingly engaging the conforming surfaces of the ring and shell at the operating temperature of the kiln. Abutments on the wedges axially secure the same to the ring which itself is axially secured by abutments on the shell. The conical shell surface section may be formed by wedges fixed to a cylindrical surface.

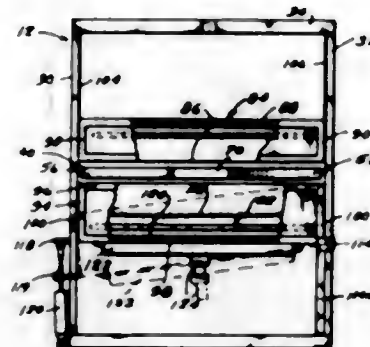
3,384,357

### PLASTIC FORMING APPARATUS

J. Edward Kostur, Sr., deceased, late of Elmhurst, Ill., by Pioneer Trust and Savings Bank, executor, assignor to Comet Industries, Inc., Bensenville, Ill., a corporation of Illinois

Application Sept. 23, 1964, Ser. No. 405,880, which is a division of application Ser. No. 138,220, Sept. 8, 1961, now Patent No. 3,192,800. Divided and this application Oct. 5, 1966, Ser. No. 615,275

2 Claims. (Cl. 263-36)



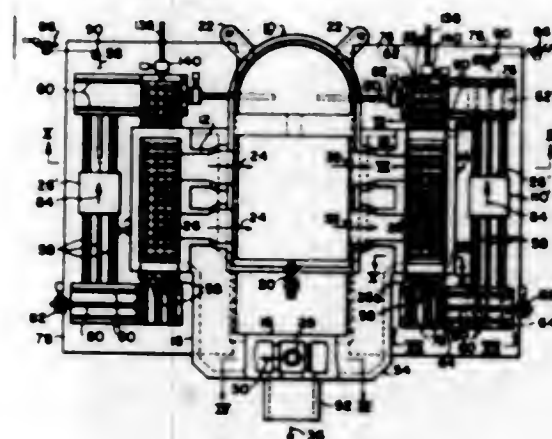
A molding machine includes three operating stations, a loading and unloading station, an oven station, and a molding station. The various stations of the apparatus are located circumferentially about a common center and a drive mechanism is included for automatically and sequentially moving a plurality of sheets of plastic material to be molded between the operating stations of the machine. The oven station includes a device for accommodating the possible sagging of the plastic material by tilting away from the heated plastic material before it is moved to the molding station by the drive mechanism.

3,384,358

### CONTINUOUSLY RENEWABLE CHECKER CHAMBER FOR REGENERATIVE FURNACES AND THE LIKE

William A. Morton, Pittsburgh, Pa., assignor, by mesne assignments, to Sunbeam Engineering Corporation, a corporation of Pennsylvania

Filed Oct. 24, 1965, Ser. No. 504,747  
12 Claims. (Cl. 263-51)



A system is disclosed for continuously but slowly moving checker assemblies through a chamber or chambers for a regenerative furnace. The checker assemblies are moved in a closely spaced array on individual carriage engaging tracks extending through the checker assembly. Transverse tracks and carriages are employed for singly transferring each checker assembly as it exits from one end of the checker assembly to a second set of tracks extending parallel to the chamber and the first

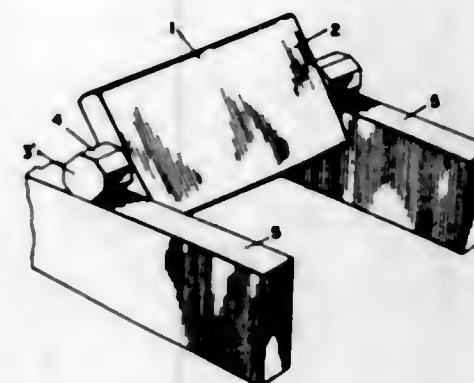
set of tracks. The checker assembly is then cleaned or rebuilt or a new assembly substituted. The renewed checker assembly is then transferred to the entrance of the checker chamber by second transverse track means and carriage.

3,384,359

### LATTICE-WORK BLOCKS FOR REGENERATOR CHAMBERS

Kurt Potocnik, Wiesbaden, Germany, assignor to Ddier-Werke A.G., Wiesbaden, Germany

Filed Apr. 1, 1966, Ser. No. 539,445  
Claims priority, application Germany, Apr. 7, 1965, D 46,981; Apr. 27, 1965, D 31,160  
7 Claims. (Cl. 263-51)



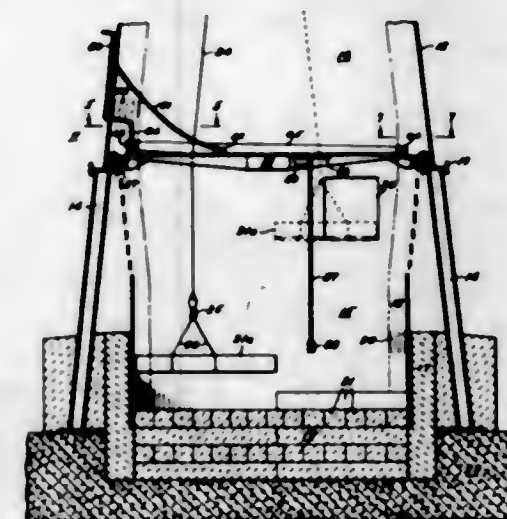
Lattice-work construction of a regenerator chamber for an industrial furnace wherein rectangular blocks are arranged in spaced layers lengthwise of the regenerator chamber. The lattice-work blocks are arranged transversely of said rectangular blocks with supporting heads at the ends supporting the rectangular blocks. A central portion on the lattice-work blocks is positioned between the layers with the supporting heads on the rectangular blocks so that the central portion makes an angle relative to the layers of rectangular blocks corresponding to a desired flow path of the flue gases through the regenerator chamber. The supporting heads are polygonal in cross-section to form a plurality of plane supporting surfaces disposed at a predetermined angle relative to said central portion.

3,384,360

### MATERIAL POSITIONING DEVICE

Vincent F. Pietrzak, Buffalo, N.Y., assignor to Bethlehem Steel Corporation, a corporation of Delaware

Filed Oct. 20, 1965, Ser. No. 500,496  
5 Claims. (Cl. 266-25)



An auxiliary positioning device for tall structures having a central hoisting rig. A power operated positioning assembly mounted upon a track, secured intermediate

3,384,361

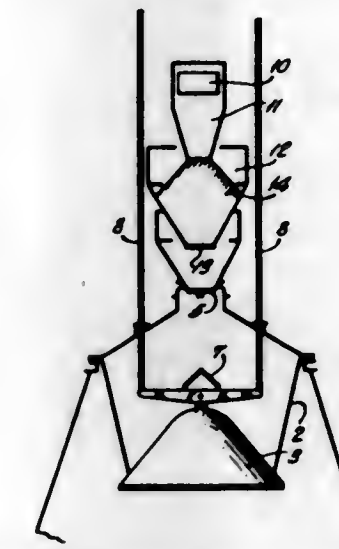
### FURNACE TOP CHARGING EQUIPMENT

Teruo Tsutsumi, Yokohama-shi, and Shoji Furuya, Tokyo-to, Japan, assignors to Ishikawajima-Harima Jukogyo Kabushiki Kaisha, Tokyo-to, Japan, a Japanese company

Filed Jan. 3, 1966, Ser. No. 518,123

Claims priority, application Japan, Jan. 7, 1965, 40/438

3 Claims. (Cl. 266-27)



The bell of a bell hopper at the furnace-top opening is suspended and controlled by rods extending through said bell hopper, aside from the central top inlet of the latter. A stationary seal valve hopper with a swingable seal valve is disposed at this central top inlet to direct charging material upon the center area of said bell. To provide uniform flow, skip cars or conveyor means pour charging material into said seal valve hopper at greater speed than that at which material flows off the open seal valve.

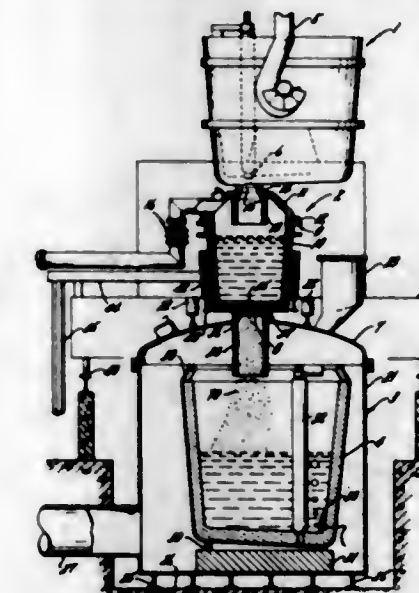
3,384,362

### APPARATUS FOR ADDING HEAT TO FLOWING METAL

Herbert S. Philbrick, Jr., Chicago, Ill., assignor to John Mohr & Sons, Chicago, Ill., a corporation of Illinois

Filed Mar. 4, 1965, Ser. No. 437,132

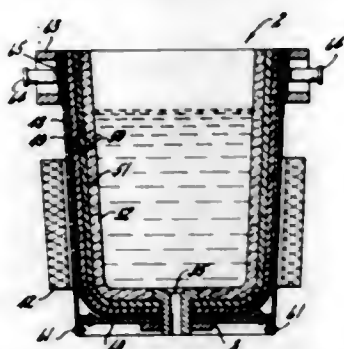
8 Claims. (Cl. 266-39)



An apparatus for stream degassing of molten metal, including a ladle positioned above a receptacle which is, in turn, positioned above a gathering receptacle lo-



cated in a vacuum tank. The receptacle is formed with a bottom and a multi-layer, non-metallic sidewall. An

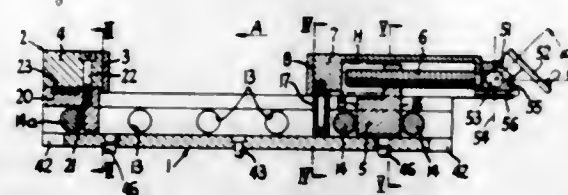


inductive heating element is located adjacent the receptacle sidewall.

### 3,384,363 FIXING MECHANISM

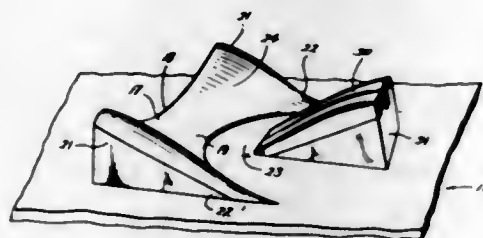
Charles Wermuth, Wangl, and Heinz Wagner, Aadorf, Switzerland, and Franz Arnold, Spatenweg 48, Kempfen, Germany; said Wermuth and said Wagner assignors to said Arnold

Filed Sept. 21, 1964, Ser. No. 397,806  
Claims priority, application Switzerland, Sept. 24, 1963, 11,770/63  
8 Claims. (Cl. 269-146)



1. Mechanical fixing mechanism comprising a screw-threaded spindle, a spindle nut having a front and a back, and a movable slide, for carrying a fixing jaw drivably connected to said spindle, an elongated base plate of U-section with at least two longitudinally spaced holes in the limbs of the U, each hole in one limb being opposite a corresponding hole in the other limb, inwardly projecting guide strips on said limbs, each said strip having an inner vertical guide surface and a lower horizontal guide surface, said nut and said slide being located for being guided by said guide surfaces and the width of said nut in the longitudinal direction of said base plate being such with two pins extending across said base plate and engaged in adjacent pairs of opposed holes the front and back of said nut are in contact with the respective pins.

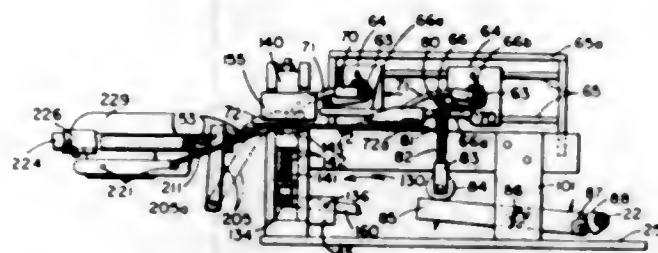
3,384,364  
SACRUM SUPPORT  
Merle E. Johnson, 1417 Carlisle St.,  
Rosenberg, Tex. 77471  
Filed July 19, 1965, Ser. No. 473,083  
2 Claims. (Cl. 269-328)



A sacrum support adapted for use with an adjusting table to support the lower spinal elements of a patient's pelvic region on the adjusting table comprising an up-

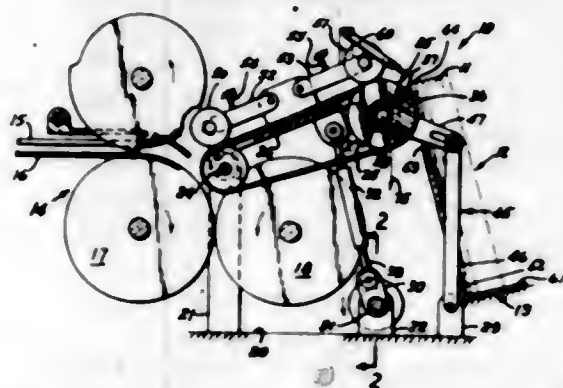
standing U-shaped support member having an inclined curved surface thereon and having a pair of laterally spaced sides with a spinal alignment member disposed therebetween for supporting the sacrum and pelvic girdle of a patient reclining on the adjusting table.

3,384,365  
LABEL FINISHING MACHINE  
Irving M. Bell, 56 Robinson Gardens,  
Lewiston, Maine 04240  
Filed Feb. 19, 1965, Ser. No. 434,021  
2 Claims. (Cl. 270-61)



A label finishing machine is described wherein a strip of woven labels is fed by a pointed push rod to a pivotable cutter which is flexibly connected to its driving arm. The individual cut label is picked up by a pair of blocks which carry the label through folding and pressing and then rise up and return to capturing another label.

3,384,366  
OUTFEED MECHANISM  
Lyle V. Dutro, 1660 Carriage House Road,  
Pasadena, Calif. 91107  
Filed Feb. 7, 1966, Ser. No. 525,715  
11 Claims. (Cl. 271-12)

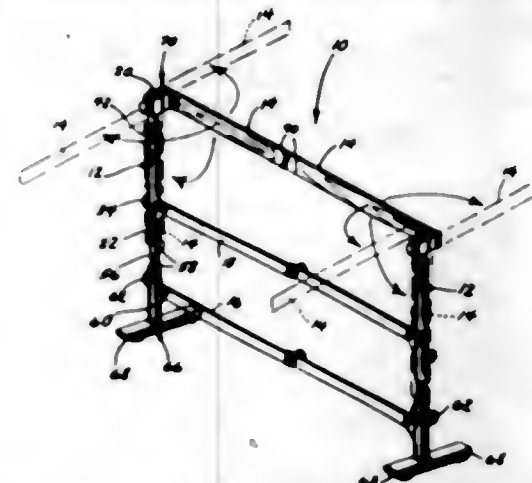


This invention relates to a mechanism for feeding out individual members of a stack of objects. The stack is arrayed with the margin of an end member exposed. A rotatable bending means traverses the margin, wrapping the margin on itself, while bringing a transfer means toward the bent margin to receive it and carry away the end member.

3,384,367  
HURDLE HAVING A DISPLACEABLE  
CROSSBAR  
Wendell E. Baum, 1009 North Court,  
Ottumwa, Iowa 52501  
Filed Jan. 28, 1965, Ser. No. 428,656  
9 Claims. (Cl. 272-59)

A device having a pair of upright standards comprised of telescoping members adapted to rotate relative to each other, a gate member being pivoted to the upward telescopic member and being movable between open and closed position with the free ends of the gate members being closely adjacent each other when in a closed position and spaced apart when in an open position, a spring means interconnecting the telescoping members and cooperating cam means on each of the telescoping members to yieldingly lock the members in either open or

closed positions upon said gate members being moved a predetermined distance, and a second cam means on



each standard for yieldably locking said gate members in vertically disposed open and closed positions.

3,384,368  
GYMNASTIC HORIZONTAL BARS  
Robert M. Fenner and Donald E. Hamilton, both of  
3200 S. Zuni St., Englewood, Colo. 80110  
Filed May 13, 1966, Ser. No. 549,932  
10 Claims. (Cl. 272-62)



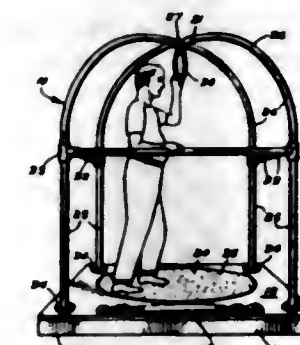
1. A gymnastic horizontal bar structure comprising:
  - (a) two upright tubular masts;
  - (b) a flexible extension tube mounted in and projecting upwardly from each of said masts, said tubes being free to flex laterally relative to the axes of said masts;
  - (c) an elbow fitting provided with a horizontal bar socket fixedly mounted on the upper extremity of each extension tube;
  - (d) a performing bar extending from the bar socket of one elbow fitting into the bar socket of the other elbow fitting;
  - (e) means for preventing withdrawal of said performing bar from the bar sockets of said elbow fittings; and
  - (f) brace means attached to and extending downwardly and outwardly from adjacent the upper extremities of said masts and acting to resist lateral movement of the upper extremities of said masts, the upwardly projecting extremities of said extension tubes being free to flex laterally relative to the fixed upper extremities of said masts.

3,384,369  
EXERCISER COMPRISING FREELY ROTATABLE  
TURNTABLE

Dick P. Russell, Minneapolis, Minn.  
(P.O. Box 3672, St. Paul, Minn. 55101)  
Filed July 2, 1965, Ser. No. 469,229  
5 Claims. (Cl. 272-69)

1. An exercising device comprising a base member, a turntable comprising a substantially horizontal disc like member rotatably mounted on said base member about

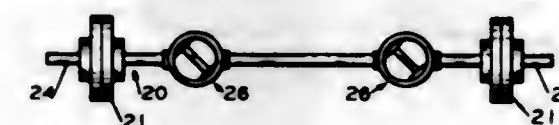
a substantially vertical axis, a support frame on said base member comprising a plurality of upright posts positioned adjacent said turntable and having at least one substantially horizontal bar joining two of said posts, said bars being positioned so as to permit a person on



said turntable to grasp the bars, said posts having extensions forming support framework above said turntable, and a swivel ring mounted on said framework about an axis substantially coincidental with the axis of rotation of said turntable.

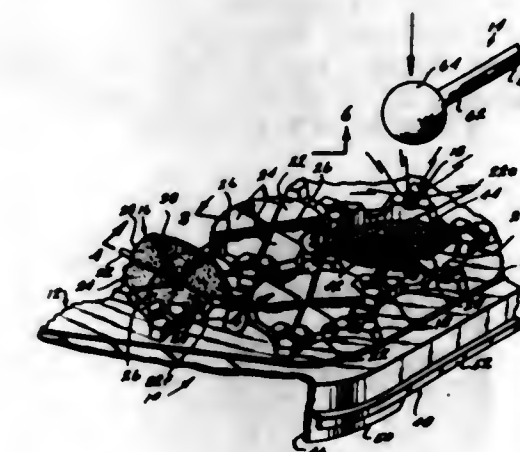
3,384,370  
WEIGHTLIFTING APPARATUS  
Eugene Bailey, 2528 Home Road, Grove City, Ohio 43123, and Ernest L. Nelson, Rte. 1, Orient, Ohio 43146

Filed Mar. 29, 1966, Ser. No. 538,362  
2 Claims. (Cl. 272-84)



1. A weightlifting apparatus comprising, in combination, rod means having outer ends providing means adapted for attachment to weights; a pair of rings rigidly fastened to said rod means intermediate said outer ends, said rings being spaced from one another; and handle means positioned within and rotatably connected to each of said rings.

3,384,371  
VIBRATILE GAME BOARD AND PIVOTED  
GAME DISCS  
John W. Ryan, Bel Air, and Charles Richard Zimmerman, Los Angeles, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California  
Filed Nov. 26, 1965, Ser. No. 510,024  
5 Claims. (Cl. 273-1)



A vibratile plate has discs pivotally mounted thereon. A mallet means is included for striking the plate to vibrate it so that some of the discs flip over by swinging about their pivots.



3,384,372

**FOOTBALL DUMMY WITH PROTECTIVE HANDGRIPS**

William P. Dickens, Bloomington, Ind., assignor to Indiana University Foundation, Indiana Memorial Union, Bloomington, Ind., a not for profit organization of Indiana

Filed Aug. 24, 1965, Ser. No. 482,158  
5 Claims. (Cl. 273—55)



A new and unique football dummy comprises a pre-formed, generally cylindrical resilient foam core, a semi-flexible outer sheath and semi-flexible inner sheath, both sheaths being formed of vinyl-coated fabric, with at least two fully padded, protective handgrips being attached to the outer sheath.

3,384,373

**DARTS FORMED OF PLANAR MATERIAL**

Lawrence D. Stegler, 2965 Randy, Farmers Branch, Tex. 75234

Filed Apr. 22, 1966, Ser. No. 544,502  
14 Claims. (Cl. 273—106.5)



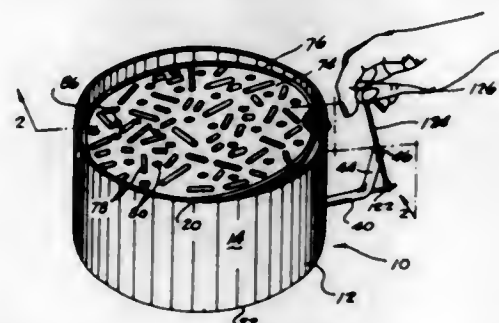
1. A dart including: a vertical planar body piece; a point secured to said body piece at its front end and projecting forwardly therefrom; and a horizontal planar wing piece, said pieces having cooperable slot and locking means comprising: in one of said pieces, a pair of longitudinally extending and spaced slots, a slit between and connecting the upper ends of said spaced slots, and a rearwardly opening slit extending from the bottom end of the rearmost of said spaced slots to permit lateral displacement of the upper and lower portions of said one of said pieces; and in the other of said pieces, a front forwardly opening slot, a middle slot, and a rearwardly opening rear slot, whereby upon lateral displacement of the upper and lower portions of said first named piece, said second piece may be assembled thereon.

3,384,374

**GAME DEVICE**

Malcolm M. Boothe, Rte. 2, Elba, Ala. 36323

Filed Apr. 23, 1965, Ser. No. 450,424  
2 Claims. (Cl. 273—110)



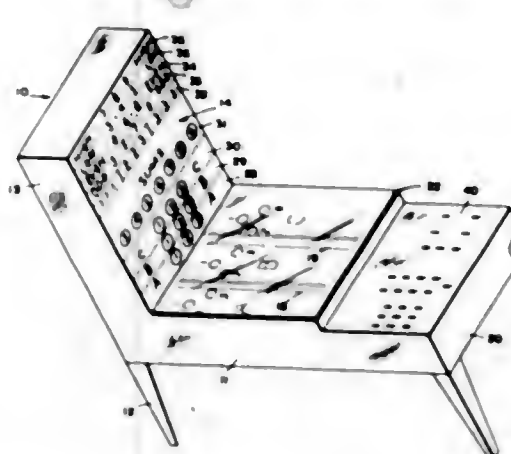
An amusement device having a casing and a plate mounted thereon for tilting about two axes, the tilting of the plate being controlled by a single lever.

3,384,375

**GAME BOARD WITH PROJECTILE RECEIVERS, SELECTIVELY OPERATED SWITCHES, AND INDICATORS**

Murray Zifferblatt, Apt. 302, Brighton Towers, Atlantic City, N.J. 08401

Filed Jan. 4, 1966, Ser. No. 518,641  
3 Claims. (Cl. 273—123)



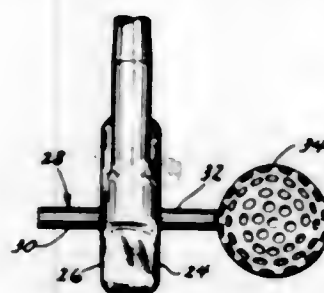
This invention relates particularly to a surface-projectile-type game wherein a play area is provided with a plurality of lanes each of which includes a plurality of receivers at one end of the respective lane for receiving a projectile projected from the other lane end. Associated with each receiver is actuating-switch means for operation upon reception of a projectile, while selector-switch means is located for selective operation by a player, and circuit means connect the actuating- and selector-switch means, as well as signal means for indicating the occurrence of a selected combination of actuating switches being operated.

3,384,376

**PRACTICE GOLF PUTTER**

Andrew M. Greenlee, 605 Hammond, Red Oak, Iowa 51566

Filed Jan. 12, 1965, Ser. No. 424,994  
7 Claims. (Cl. 273—164)



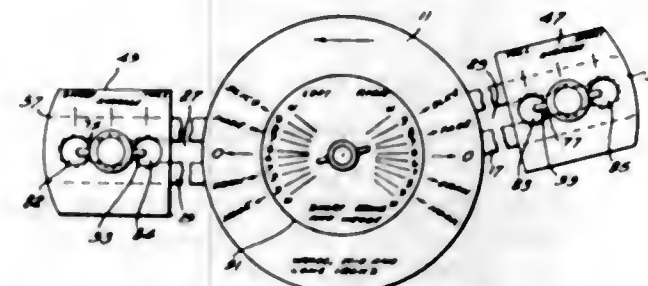
A practice golf putter having a striking pin extending from the striking face of the putter head, the pin being blunt on its outer end and having a striking surface substantially smaller in area than the head of the striking face and a substantially smaller cross-sectional dimension than both the length and the height of the head striking face. A guide member may be detachably secured to each end of the head by the head being received in a notch in the bottom side of the guide member, the guide members being in parallel relationship to each other and to the pin thereby defining between the guide members a portion of a track over which the golf ball moves upon being hit by the pin on the striking face of the club head. A pin may extend from the rear face of the head in axial alignment with the striking pin and thereby provide a line of sight through the golf ball to the putting hole.

3,384,377

**GOLF STANCE GUIDE**

Robert L. Stipp, 1561 Pegasus, Santa Ana, Calif. 92705

Filed Jan. 14, 1966, Ser. No. 520,700  
7 Claims. (Cl. 273—187)



1. A golf stance guide adapted for use to assist a golfer in determining a club swing-path for addressing and striking a ball comprising a central base adapted for resting upon the ground, a pair of slidably mounted aligned arm members extending outwardly from the base in generally opposite directions, means for moving each arm member inward and outward relative to the base to change its effective length and means for changing the angular position of each arm relative to the base and to the other arm, a foot-positioning unit supported approximately at the outer end of each arm, and means for adjusting the angular position of each foot-positioning unit relative to its associated arm so that with a user's foot positioned adjacent to said unit and the unit between the feet the club swing-path will be governed by the foot-positioning generally to determine the ball flight-path.

3,384,378

**AIR TURBINE PROPELLED TOY PHONOGRAPH**

William R. Allen, 2029 N. Kenmore Ave., Los Angeles, Calif. 90027

Filed Feb. 15, 1967, Ser. No. 616,398  
10 Claims. (Cl. 274—1)



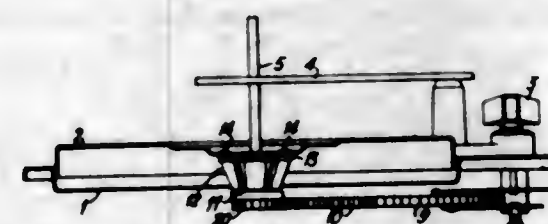
A toy phonograph including a breath propelled, turbine driven, record supporting and playing unit capable of being installed in casings of varying exterior configuration.

3,384,379

**AUTOMATIC RECORD CHANGER**

Thomas Douglas Williams, Billerica, England, assignor to The Magnavox Electronics Company Limited, Barking, Essex, England, a British company

Filed Feb. 13, 1967, Ser. No. 615,560  
Claims priority, application Great Britain, July 25, 1966, 33,376/66  
5 Claims. (Cl. 274—10)



An automatic record changer has a turntable and a change-cycle mechanism which is driven by the turn-

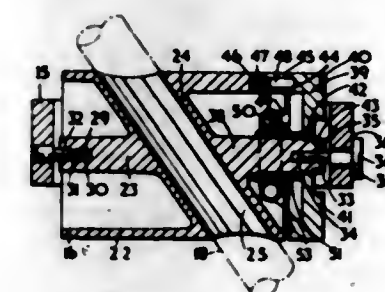
table through a one-way clutch comprising a central boss projecting downwards from the turntable with a coiled spring wrapped around it and engaging it frictionally. The end of the spring is fixed to a driven member in the form of an annular gear wheel which surrounds the spring and drives the change-cycle mechanism. The direction of winding of the spring on the boss is such that when the turntable is rotated in its normal direction by a driving motor of the record changer, the frictional force of the boss on the spring tends to wind up the spring so that it is clamped firmly around the boss and the rotation of the boss is transmitted through the spring to the annular gear wheel and thence to the change-cycle mechanism, but if the turntable is inadvertently rotated by hand in an opposite direction, the turns of the spring are loosened so that the boss slips within the spring and the rotation is not transmitted.

3,384,380

**RECORD PLAYER PICKUP ARMS**

Norman Lane, Halesowen, England, assignor to BSR Limited, Old Hill, England, a British company

Filed Dec. 29, 1966, Ser. No. 605,734  
Claims priority, application Great Britain, Dec. 31, 1965, 55,330  
10 Claims. (Cl. 274—23)



A pickup arm for a record player which carries a stylus at one end and is pivotally mounted, on a support post of the record player, about an axis transverse to the pickup arm and intermediate the ends thereof and which is provided with counter-balancing means so that the pickup arm is balanced about said axis of pivot. There being a spring connected between the pickup arm and the support post to pivot the arm in the direction to urge the stylus into contact with a record, and means being provided to adjust the force exerted by the spring on the arm. This means may comprise an arrangement whereby the distance through which the spring is stretched is varied.

3,384,381

**RAILWAY JOURNAL BOX LID SEAL**

James J. Hennessy, Jr., Chambersburg, Pa., assignor to Hennessy Lubricator Co., Inc., Chambersburg, Pa., a corporation of Delaware

Filed Aug. 4, 1966, Ser. No. 570,201  
6 Claims. (Cl. 277—10)



1. In combination a railway journal box lid seal of rubber-like material, comprising four wide relatively thin side members forming an open rectangular frame, having an outer contour corresponding to the contour of the lid to which it is to be applied,



there being a C-shaped attaching clip of stiff spring material opening inwardly of the frame and including a jaw secured to one side member of the frame and an opposing jaw urged toward the first mentioned jaw and movable away from the latter to receive the marginal portion of the box lid between the jaws, a similar attaching clip similarly secured to the opposite side member of the frame, and a lever member pivoted on said second mentioned jaw and adapted to engage with the outer edge of the lid and to rotate about the latter as a fulcrum to spread said jaws apart to receive the marginal portion of the lid between them.

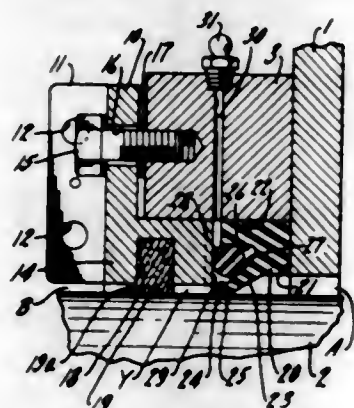
3,384,382

# **FLEXIBLE AND CIRCUMFERENTIAL SEAL FOR ROTATING SHAFTS AND THE LIKE**

Robert J. Rink, West Allis, Wis., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 21, 1965, Ser. No. 488,865

4 Claims. (Cl. 277-59)



The present invention relates to a seal particularly adapted for rotating shafts which rotate in areas where outside dirt or dust are present. It has for a primary purpose to provide a flexible, circumferential lip which is flexed into sealing contact with a rotated shaft by the employment of a circumferential ring subjected to fluid pressure.

3,384,383

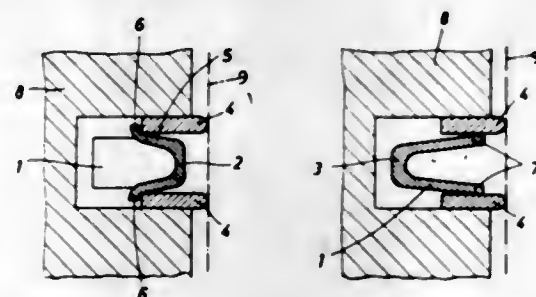
# **SPRING RING FOR OIL STRIPPING PISTON RINGS**

Lothar Wiemann, Burscheid, and Werner Engel, Opladen, Germany, assignors to Goetzwerke Friedrich Goetze Aktiengesellschaft, Dusseldorf, Germany

Filed Apr. 30, 1965, Ser. No. 452,157

Claims priority, application Germany, Aug. 25, 1964, G 41,385

2 Claims. (Cl. 277-140)



A spring member for urging oil stripping rings in the radially outward and the axial direction of a piston groove in which they are mounted, in which the spring member comprises an undulating bend having radially outwardly extending projections from the inner bends engaging the inner faces of the stripping rings to urge them axially away from each other, while the spring member has radially inwardly extending projections on the outer bends

with lugs on the inner ends thereof that engage the inner periphery of the stripping rings and urge them radially outwardly in the groove, said spring member being tangentially, radially and axially resilient.

## **ERRATUM**

For Class 279-89 see:  
Patent No. 3,384,386

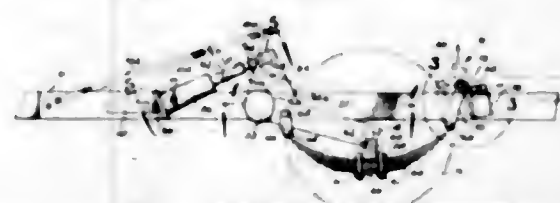
3,384,384

# **TRAILER SUSPENSION ASSEMBLY**

Alan V. Diehl, 11144 Wystone Ave.,  
Northridge, Calif. 91324

Filed Dec. 2, 1966, Ser. No. 598,796

12 Claims. (Cl. 280-43.18)



1. A suspension assembly for a trailer to be secured to towing means and having a frame and two wheels rotatably mounted on axles on opposite sides of said frame, the suspension assembly comprising:

longitudinally-extending spring means for each of said wheels;

means for releasably securing one end of each of said spring means to said frame;

torque transmitting means extending transversely across said frame and rotatably supported in said frame on opposite sides thereof;

a pair of first linkage means located on opposite sides of said frame;

said pair of first linkage means having first ends respectively supporting said axles and also rotatably supporting said spring means substantially at mid-points of said spring means;

said pair of first linkage means having second ends rotatably connected to opposite ends of said torque transmitting means;

a pair of second linkage means having first ends respectively pivotally connected to second ends of said spring means and having second ends respectively pivotally connected to said pair of first linkage means intermediate said first and second ends of said first linkage means;

lift arm means secured to said torque transmitting means and engageable with at least one of said first linkage means; and

extendible means secured at one end to said frame and pivotally connected at a second end to said lift arm means to rotate said torque transmitting means and raise and lower a first end of said frame remote from said towing means to and from ground level.

3,384,385

# **TRASH CAN**

Joel Cohen and Albert Cohen, both of 254-19 61st Ave.,  
Little Neck, N.Y. 11362

Filed May 31, 1966, Ser. No. 554,008

9 Claims. (Cl. 280-79.2)

Disclosed herein is a trash can having an articulated lid assembly, and a wheel assembly for mobility. The wheel assembly consists of various groupings of wheels or wheels and legs affixed to the bottom end of the trash can. Caster wheels which are pivotable within the periphery of the bottom end are used so that the cans may be stacked for storage shipment or display. The lid assembly includes a

lid supported by a pair of articulated linkage arms connected slidably or pivotably to reinforcing bars on the trash can sidewall. Additional reinforcing bars may be



used for added strength. The upper ends of a pair of reinforcing bars are bent and joined together to produce a U-shaped pushbar.

3,384,386

# **SURGICAL KNIFE WITH REMOVABLE BLADE**

Abraham W. Ward, 1037 Polk St., San Francisco, Calif. 94109, and Raymond T. Whipple, 673 Bille Road, Paradise, Calif. 95969

Filed Aug. 4, 1965, Ser. No. 477,135

15 Claims. (Cl. 279-89)



A novel coupling or chuck is disclosed including a first element formed with recess means having a lateral wedging surface, a second element connectable to the first element and having a shank insertable into the recess means, and with the shank having an end portion including a lateral wedging surface increasing in width toward the end of the shank, the recess means and shank having interengageable surface portions restraining the elements against relative rotation upon insertion of the shank into the recess means, and the wedging surfaces being in laterally spaced facing relation when the shank is so inserted into the recess means, and a third element rotatably engaged within the first element and operable to effect relative lateral movement of the wedging surface, to interengage the wedging surfaces to releasably lock the shank in the recess means.

The two wedging surfaces are substantially planar oblique surfaces of facing notches in the interfitting ends of a circular or cylindrical shank and a circular or cylindrical stem disposed in a sleeve.

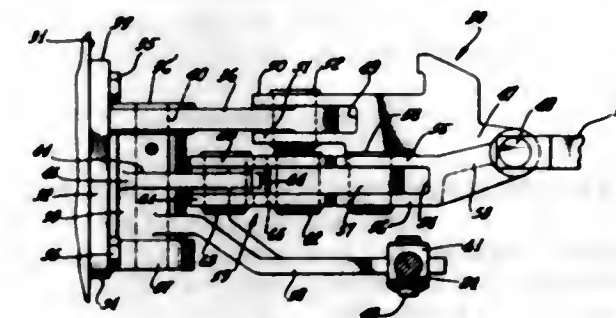
3,384,387

# **TOW BAR ATTACHMENT**

Vigvar Ahmed, Los Angeles, Calif., assignor to Aerol Co., Inc., Los Angeles, Calif., a corporation of California

Filed Aug. 29, 1966, Ser. No. 575,668

7 Claims. (Cl. 280-103)



1. A draw bar attachment for a vehicle having steerable front wheel assemblies equipped with tie rods, said attachment comprising a bracket having a base adapted for attachment to a towed vehicle, a draw bar plate and a steering mount plate in parallel spaced relationship on said base, a link assembly between said plates, a rear pivot pin extending between said plates, and a steering mount pivotally mounted at the rear end on said pivot pin and adapted to swing between opposite limits of movement of a steering arc, the forward end of said steering mount being adapted to have said rods connected thereto, a stop means in engagement with said rear pivot pin adjacent said steering mount, a draw bar bracket having a pivotal attachment to the forward end of said draw bar plate, a pair of forward links located one on each side of the draw bar bracket, the forward end of each link having a pivotal attachment to said draw bar bracket, a pair of rear links located one on each side, the rear end of each rear link having a pivotal attachment to said stop means, said forward and rear links on each side having a pivotal connection therebetween, and complementary stop means respectively on the forward and rear links on each side, said complementary stop means on the side away from the direction of swing being in engagement with said draw bar bracket and said steering mount while said draw bar bracket and said steering mount are swinging through a steering movement between said opposite limits of movement of the steering mount, said complementary stop means on the side away from the direction of swing being out of engagement when the draw bar bracket is swung in an arc which exceeds the limit of movement of the steering mount.

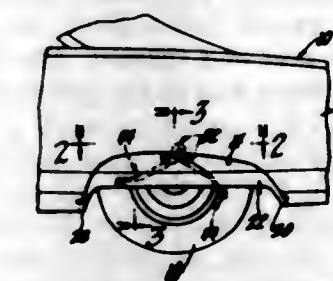
3,384,388

# **FENDER SKIRT**

Peter M. Kobrehel, Warren, and Akira Tanaka, Southfield, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 10, 1966, Ser. No. 526,478

3 Claims. (Cl. 280-153)



A fender skirt includes a latch mounting bracket having an elongated slot. A hook-shaped latch member



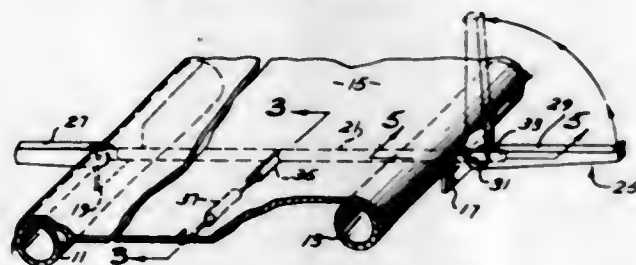
mounts a pin received in the slot to pivotally mount the latch member on the skirt and to also permit shifting movement of the latch member. A leaf spring is secured at one end to the latch member to one side of the pivot thereof and the other end of the latch member engages a lateral tab of the mounting bracket when the latch member is in latched position to exert a bias on the latch member shifting it downwardly relative to the skirt to hold the hook-shaped end in tight engagement with the body flange which defines the wheel opening receiving the skirt.

3,384,389

### COMBINATION KICKSTAND AND FOOTREST FOR MOTORCYCLES

Edward J. Polley, Jr., Inglewood, Calif., assignor to Nova Products of California, Inc., Gardena, Calif., a corporation of California

Filed Nov. 1, 1967, Ser. No. 679,679  
10 Claims. (Cl. 280-295)



A combination footrest and kickstand for motorcycles, motorbikes and the like, which will extend from the base of the cycle in the conventional position for a footrest. In the footrest position the device extends parallel to the ground. When used as a kickstand, it is rotated to an upward vertical position and then rotated 180° pointing downwardly. In rotating the device downwardly such that it points directly at the ground, it places a spring in tension with the drag of the ground resisting the return movement of the device to its upward position. Releasing the drag force of the ground relative to the device permits it to return to a vertical upward position so that it can once again be used as a footrest.

3,384,390

### HEAVY DUTY TRAILER AND TRACTOR HITCH

Maurice Molrat, Montreal, Quebec, and Albert Trehout, City Jacques Cartier, Quebec, Canada, assignors to Gaymor Trailers Limited, Chemin Chambly, St-Hubert, Quebec, Canada

Filed Aug. 22, 1966, Ser. No. 574,042

Claims priority, application Canada, Aug. 24, 1965, 939,036

8 Claims. (Cl. 280-423)



A hitch for connecting a forward tractor and a rearward trailer. The tractor has a hitch member including a gooseneck at the rear end thereof. The forward end of the trailer and the lower end of the gooseneck are coupled together by means of a complementary coupling means. The complementary coupling means comprises a longitudinal projection at the forward end of the trailer and an open-bottom guiding channel at the lower end of the gooseneck for the purpose of guiding the trailer projection during the operation of hitching the gooseneck and the trailer. In addition, the coupling means comprises complementary interlocking and pivoting means at the lower end of the gooseneck and at the front end of the trailer

for allowing interlocking when raising the gooseneck and the trailer and for allowing relative pivoting of the gooseneck and the trailer, when interlocked, about a transverse axis across the rear of the channel and of the projections. The projections have supporting members mounted on the gooseneck. These supporting members are movable in and out of position across the open-bottoms of the guiding channel. Moreover, the coupling means is provided with power operated ground engaging hoist means mounted to lift and lower the gooseneck.

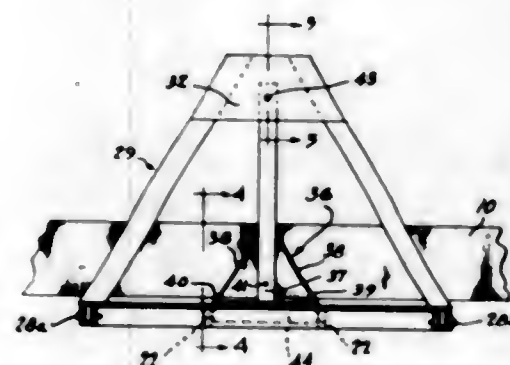
3,384,391

### TOWING BAR

Edwin E. Batke, Netherhill, Saskatchewan, Canada, assignor to Belline Manufacturing Company Limited, Kindersley, Saskatchewan, Canada

Filed July 18, 1966, Ser. No. 565,851

6 Claims. (Cl. 280-478)



This is a towing bar for attachment to trucks or the like to enable same to be pulled by a tractor or any other towing device and comprises a pivoted A-frame having an extending and retractable towing member slidable therein and including means to lock the tow bar in the vertical position against the front grill without any danger of same becoming disengaged.

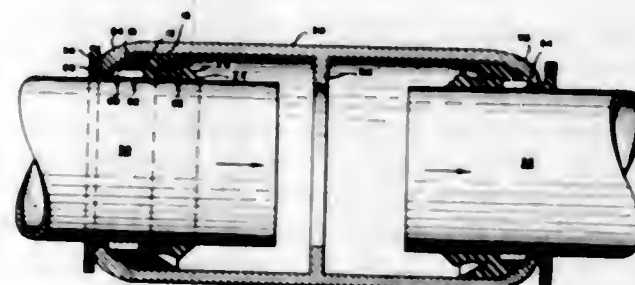
3,384,392

### LOCK COUPLING FOR PIPE

Robert Fowler Gilchrist, Wichita Falls, Tex., assignor to Vega Manufacturing Corporation, Wichita Falls, Tex., a corporation of Texas

Continuation-in-part of application Ser. No. 415,987, Dec. 4, 1964, This application Feb. 15, 1965, Ser. No. 432,467

6 Claims. (Cl. 285-105)



1. A fluid-seal pipe coupling assembly of the type engaging two or more pipe ends in fluid seal relationship, comprising in combination:

(A) an outer coupling, having inwardly tapered shoulders at either end;

(B) two or more inner pipe members communicably supported within said coupling, said pipe members and coupling defining an annular space between them communicating with pressure fluid flowing through said pipe members; and

(C) a pressure-fluid sealing gasket for the annular space between an inner pipe member and an outer coupling member to seal the joint space while the forward end of the gasket is exposed to fluid pressure and the back end is urged against a supporting surface in the coupling, said gasket being of the type having an axially elongated body defining a bore increasingly tapered from its back to its front end and including:

- (i) a radially, outwardly extending back rim adapted to abut the exterior ends of a pipe coupling;
- (ii) an intermediate elongated portion extending forwardly from said back rim and of sufficient length to permit longitudinal play of said gasket within said coupling;
- (iii) a middle circumferential face extending radially outwardly from the forward end of said elongated portion and adapted to engage a corresponding radially inwardly extending shoulder surface in a pipe coupling upon outward longitudinal play of said gasket within said coupling;
- (iv) at least one toothed, lug radially inset within said middle circumferential face with teeth extending rearwardly into said bore so as to grip a pipe supported therein;
- (v) an outer wedge-shaped sealing lip adjacent to said middle circumferential face and adapted to engage the inner surface of a pipe coupling; and
- (vi) an inner sealing lip presented forwardly of said wedge-shaped sealing lip and defined at its front rim by a radially converging feather lip, said inner sealing lip being pre-tensioned to a diameter smaller than the diameter of pipe to be supported in said gasket.

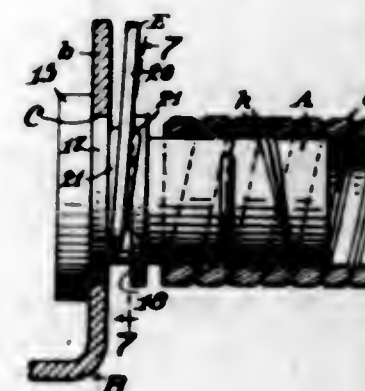
3,384,393

### CONDUIT CONNECTOR FOR JUNCTION BOXES

Richard J. Horton and Helen F. Horton, Burns, Oreg., assignors to Myers Electric Products, Inc., Montebello, Calif., a corporation of California

Filed Apr. 19, 1965, Ser. No. 449,149

1 Claim. (Cl. 285-158)



The invention generally considered comprises the combination with a junction box embodying a wall, having a circular opening therein, of an open ended tubular connector having an end portion inserted through said aperture from the interior of said box and adapted to be interposed between the sheathing of an electric cable and electrical conductors therein with a circumferential flange on the inner end of the tubular connection abutting the inner side of the junction box, and wherein the tubular connector is detachably connected to the junction box wall by a yoke shaped wedge interposed between the outer face of the box wall and a pair of flanges on the tubular connector.

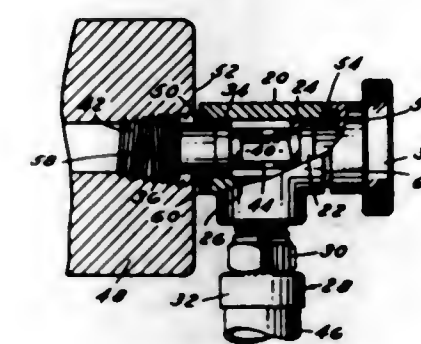
3,384,394

### CONNECTOR FOR A PIPE THREADED PORT

Raymond F. O'Connor, Rochester, Mich., assignor to Kent-Moore Organization, Inc., Warren, Mich., a corporation of Michigan

Filed Feb. 23, 1967, Ser. No. 618,049

3 Claims. (Cl. 285-190)



In general, this disclosure relates to a banjo-type hose connector for a tapered pipe threaded port, in which the connector has a straight threaded rotatable stem of a pipe thread pitch, received within a body member, of a diameter slightly less than the diameter of the tapered port measured at the end of the threaded stem. In the disclosed embodiment, the connector body is generally T-shaped, and has a chamber communicating through each end with a lateral port, and a stem rotatably received in the chamber. The stem is threaded as described at one end, and is provided with a handle at the opposite end. The end of one arm of the T-shaped body has a counterbore adapted to receive a sealing means, while the opposite end is flat, and the body is reversible on the stem such that the body will seal a port having a peripheral spot face, or a port wherein the periphery is flat.

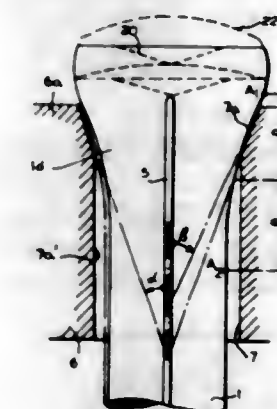
3,384,395

### ANCHORAGE FOR DYNAMICALLY STRESSED STEEL WIRE AND IMPROVED METHOD FOR COLD-UPSETTING AN ANCHOR EMPLOYED IN CONJUNCTION WITH THE AFORESAID ANCHORAGE

Antonio Brandestini, 60 Alte Landstrasse, Kuesnacht, Zurich, Switzerland

Filed May 29, 1964, Ser. No. 371,218

5 Claims. (Cl. 287-20.3)



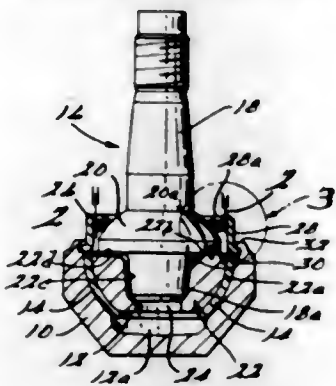
An anchorage for dynamically high stressed steel wire of the type wherein the wire passes through a bore in a support and is supported thereon by means of an upset anchor head. To provide a high-quality anchorage resisting dynamical stress, i.e. variable traction, the anchorage uses a support with a bore which over a portion of its length is widened to form a suitable seat for the upset anchor head, which anchor head partly extends freely into the non-widened portion of the bore of the support.



3,384,396

**BALL AND SOCKET JOINT ASSEMBLY**  
Leslie M. Hamilton, Muncie, Ind., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 518,241  
1 Claim. (Cl. 287-87)

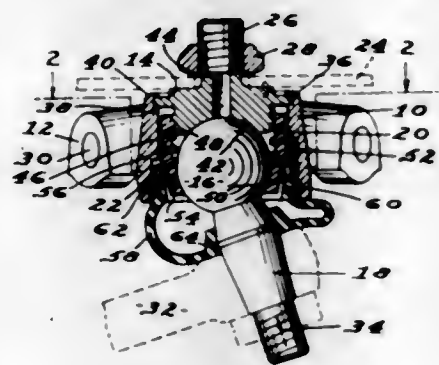


A ball joint wherein a substantially uniform pre-load seating pressure is automatically maintained on the ball and socket components throughout the life of the joint. The preloading is accomplished by means of a ring bearing member which is carried on the ball portion of the joint and in engagement with a cap member which at least partially covers the upper surface of the ball. In order for the stud portion of the joint to unseat, the bearing member must simultaneously undergo a radial expansion generally normal to the movement of the stud. Accordingly, the force required to unseat the stud is much greater than the preload force exerted by the bearing member.

3,384,397  
**BALL JOINT**

William C. Wehner, Detroit, Mich., assignor to Moog Industries, Inc., St. Louis, Mo., a corporation of Missouri

Filed Oct. 18, 1965, Ser. No. 497,391  
2 Claims. (Cl. 287-90)



The invention contemplates the provision of a helical spring substantially in one plane between a flexible depending skirt portion of a bearing member and the surrounding housing wall of a ball joint, with the spring actuating the bearing member to take up wear.

3,384,398

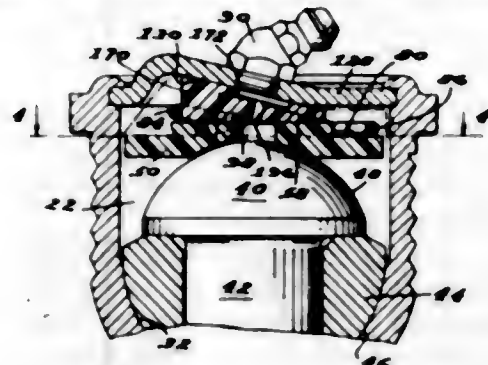
**BALL JOINT**

William C. Wehner, Detroit, Mich., assignor to Moog Industries, Inc., St. Louis, Mo., a corporation of Missouri

Filed Jan. 12, 1966, Ser. No. 535,629  
9 Claims. (Cl. 287-90)

1. A self-adjusting tension loaded ball joint, comprising: a housing defining a socket having an open end and an annular spherically curved bearing surface adjacent said open end, a load transmitting stud provided with an enlarged head means in bearing engagement with said bearing surface and a shank extending out of the socket open end, said enlarged head having at least a partially spheri-

cally curved bearing surface opposite said shank, a laterally floating bearing element disposed within said housing having a spherically concave bearing surface opposed to the socket open end and an opposed planar surface substantially normal to the longitudinal axis of said housing socket, said bearing element shiftable in substantially the axis of said shank for bearing engagement with said enlarged head, a wedge means disposed between said bear-



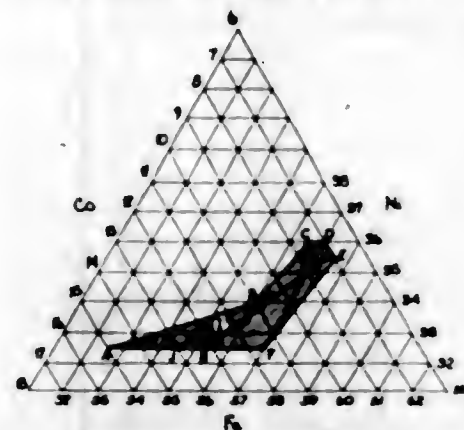
ing element and an opposed wall of the socket in sliding engagement with said planar surface wedgingly shiftable in relation to said bearing element to continuously urge said bearing element into bearing engagement with said enlarged head, and a spring means carried by said floating bearing element shiftable therewith and reactant thereagainst, said spring means tensioned against said wedge means to continuously urge said wedge means in the aforesaid wedging motion.

3,384,399

**METAL-TO-GLASS SEAL**

Terence A. Davies, Walsall, and Thomas Johnson, Liverpool, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 19, 1965, Ser. No. 497,675  
Claims priority, application Great Britain, Oct. 22, 1964, 43,137/64  
3 Claims. (Cl. 287-189.365)



Glass seal comprises a nickel-cobalt-iron alloy characterized by thermal expansion similar to the thermal expansion of borosilicate glass and by an austenitic gamma-phase structure that is resistant to phase transformation at low subzero temperatures.

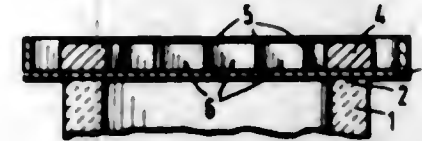
3,384,400

**VACUUM-TIGHT CONNECTION BETWEEN A CERAMIC TUBE AND A DISK-SHAPED METAL PART OF AN ELECTRICAL DISCHARGE VESSEL**  
Max Sandhagen, Ottobrunn, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Mar. 23, 1966, Ser. No. 537,264  
Claims priority, application Germany, Mar. 24, 1965  
S 96,140

12 Claims. (Cl. 287-189.365)  
A vacuum-tight connection for production by butt hard soldering between a ceramic tube forming a part

of the tube wall of an electrical discharge vessel and a metal part of generally plate-like form, extending transversely to and projecting beyond the outer circumference of the ceramic tube, and constructed of a material which is not thermally matched to the ceramic, for example, having a greater coefficient of heat expansion, which metal part is directly connected with the ceramic tube and of a thickness and strength which, standing alone would peel from the tube, and a stiffening structure of ring-like configuration disposed opposite the ceramic tube, in abutting relation to said metal part and secured thereto, which stiffening structure is constructed to provide at least one separation in circumferential direction be-

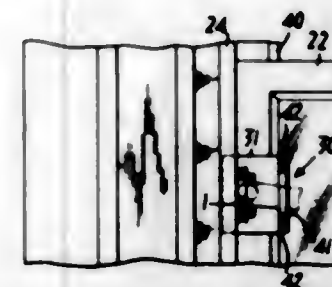


tween portions thereof, preferably at least four such separations over a considerable part of the effective radial cross section of the structure, whereby thermal contraction of the portions thereof so separated can take place relatively independently of each other, the material of said stiffening structure having a thermal expansion coefficient which is at least equal to that of the metal part, and which is produced first placing on the metalized annular end face of the ceramic tube the metal to be soldered thereto, assembled the stiffening structure thereupon, in each case interposing a suitable hard-soldering agent between each pair of surfaces to be soldered, and thereafter simultaneously soldering the assembly into a unitary structure by a single soldering operation.

3,384,401

**WINDOW ATTACHMENT AND ANTI-RATTLER**

Raphael Gross, Brooklyn, N.Y., assignor to Joseph M. Gross, Los Angeles, Calif.  
Continuation of application Ser. No. 406,787, Oct. 27, 1964. This application Mar. 6, 1967, Ser. No. 621,073  
2 Claims. (Cl. 292-76)

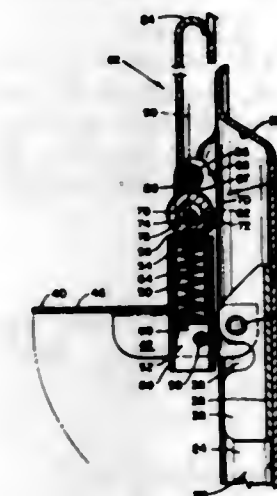


A sash holder comprising a steel spring strip bowed longitudinally and having two toothed free ends embedded either into a surface on a window sash or a confronting window frame surface. The sash holder is applied by an applicator having fingers on a flat part thereof releasably holding the sash holder in a flattened condition for insertion between the sash and the frame. The applicator is inserted between the confronting surfaces with the sash holder thereon and the sash holder is placed in position by sliding it off the applicator from under the fingers. The applicator is shiftable laterally of the major axis of the sash holder in withdrawing it from between the window sash and window frame after the sash holder is released free of the applicator. Upon removal of the applicator the sash holder is free to flex and assume a bowed condition and embed its toothed free ends in one of the two surfaces thereby bearing on the other surface and biasing the sash from the window frame surface. The sash holder thereby functions as an anti-rattler and also will hold

3,384,402

**CATCH UNIT FOR PACKING CASE OR THE LIKE**

Gunnar E. Swanson, Middletown, Conn., assignor to The Nielsen Hardware Corporation, Hartford, Conn., a corporation of Connecticut  
Filed July 5, 1966, Ser. No. 562,556  
14 Claims. (Cl. 292-113)

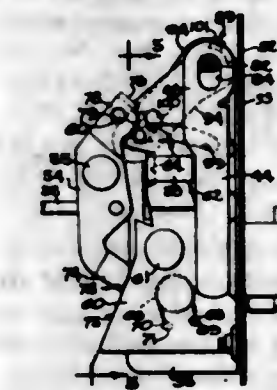


1. In a catch for releasably securing together two separable panels or the like, the combination comprising a base adapted for connection with one of the said panels, a first link, a second link connected with said first link for pivotal movement relative thereto about a first transverse pivot axis, a third link having a strike engaging portion thereon connected with said second link for pivotal movement relative thereto about a second transverse pivot axis spaced from said first axis, said second and third links being pivotally movable relative to said first link and relative each to the other between a first state wherein all of the said links are generally longitudinally aligned and a second state wherein said third link lies generally adjacent and parallel to said first link, an operating lever connected with said base for pivotal movement about a third transverse pivot axis fixed relative to said base between an open position and a closed position, said first link being connected with said lever for pivotal movement relative thereto about a fourth transverse pivot axis spaced from said third axis, and means for releasably retaining said first, second and third links in said first and second states.

3,384,403

**VEHICLE DOOR LATCH**

Harry J. Shay, Rockford, Ill., assignor to L. W. Menzimer, trustee, Rockford, Ill.  
Filed Sept. 29, 1965, Ser. No. 491,095  
1 Claim. (Cl. 292-216)



A latch for a vehicle door includes an elongated actuating rod connected to rotate with an outside push button

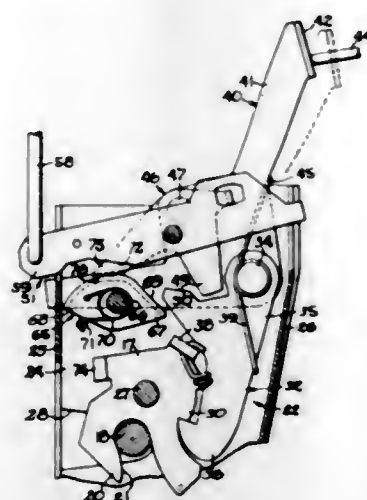


when the latter is turned by a key to lock or unlock the latch, the rod also being connected slidably to the push button so that the button may be depressed to release the latch. In response to rotation of the actuating rod, a transfer member carried on one end of the rod acts through a pivoted arm to move a locking lever to a locked or unlocked position depending upon the direction of rotation of the rod. A lost-motion connection between the transfer member and the arm enables an over-center spring to move the locking lever to the selected position after the transfer element has been turned through only a short arc.

3,384,404

## VEHICLE DOOR LATCH

Robert E. Stattery, Rockford, Ill., assignor to  
L. W. Menzimer, trustee, Rockford, Ill.  
Filed Apr. 21, 1966, Ser. No. 544,178  
4 Claims. (Cl. 292-216)



A free-wheeling, self-canceling and double preset latch for the door of an automobile includes a manually movable operating member which carries and pivotally mounts a transfer member normally positioned to couple the operating member to a pawl for releasing the latch. To lock the latch, the transfer member is pivoted relative to the operating member to a position uncoupling the latter with the pawl so that the operating member, upon being actuated, simply makes an idle motion with respect to the pawl. Unintentional keyless locking of the latch is prevented by a canceling lever which operates in response to closing of the door to swing the transfer member to the coupling position unless two distinct manual operations are performed in proper sequence to disable the action of the canceling lever and to permit keyless locking.

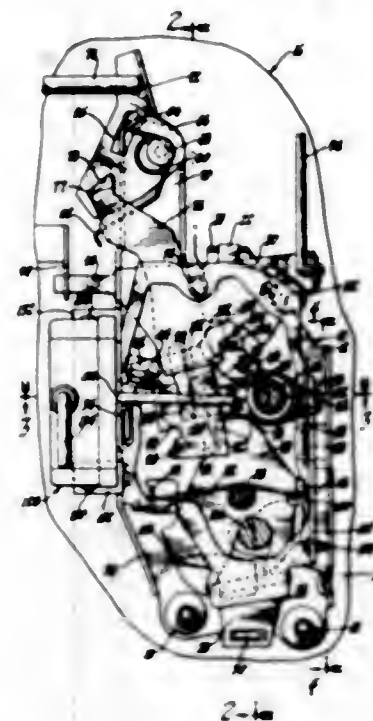
3,384,405

## CLOSURE LATCH

Carl A. Schiele, Geneva, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Aug. 22, 1966, Ser. No. 573,977  
4 Claims. (Cl. 292-216)

A door lock includes a rotatable bolt and a pivoted detent which is spring biased into engagement with the bolt. A detent operating lever is coaxially mounted with the detent and is freely rotatable. The detent includes an L-shaped slot and a detent operating lever includes an elongated slot corresponding in size to one leg of the L-shaped slot. A piston rod of a vacuum motor has a bent end received in the slot of the operating member to couple the operating lever and the detent lever when the bent end is located in the one leg of the L slot in the detent lever and to uncouple the detent lever and the operating lever when it is received in the other leg of the L slot

in the detent lever. A bellcrank is connected to the inside release means and has a leg overlying an arm of the operating lever to release the detent when the operating lever is coupled to the detent. The outside release means include a shiftable intermittent member which is located in one position in the path of the detent to release the

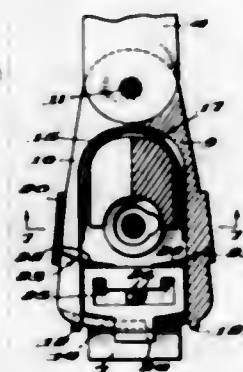


detent. The bellcrank and the intermittent member are located to opposite sides of the pivot of the detent and the operating lever so that the detent and the operating lever move away from one when the other is actuated. The bent end of the piston rod locates the operating lever about the pivot.

3,384,406

## SAFETY LOCKS

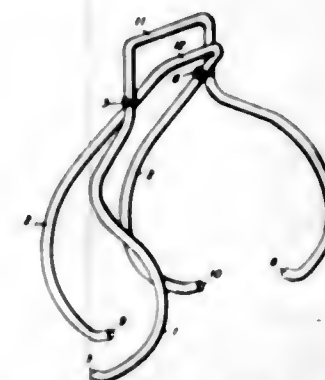
Earl E. Welch, Madison, and Bernard P. Rosser, Covent Station, N.J., assignors to Wel-Kids, Inc., Madison, N.J., a corporation of Delaware  
Filed May 31, 1966, Ser. No. 553,864  
9 Claims. (Cl. 292-248)



A locking device adapted to be secured to a cabinet or other container to prevent children from opening the container. The lock has a pair of arms which are hinged together at one end. The arms are arranged in overlapping relation with each other. Each arm has a hole adjacent the free end of the arm and the holes may be aligned to receive a locking pin by swinging the arms into alignment. The arms are biased away from the aligned position. A clutch or locking member is mounted between the arms to prevent the arms from being moved into alignment. By manipulating the clutch which urges the arms into alignment, the arm holes may be brought into alignment, thereby permitting the arms to be separated from the locking pin. The locking pin is secured on one portion of the container and the arms are mounted on another portion, so that the locking device spans the container closure.

3,384,407

HOME FIREPLACE LOG CARRIER  
James Andrews Thrash, 825 Lynwood Drive,  
Montgomery, Ala. 36111  
Filed Mar. 7, 1966, Ser. No. 535,285  
1 Claim. (Cl. 294-16)



The device is a home fireplace log carrier which may be used in picking up, transporting and discharging one or more home fireplace logs, or splits of logs, from a stack or pile of such logs to the hearth or fireplace.

3,384,408

## HAND TOOLS

Denis Alfred Furzey, 44 Durban Road, Watford,  
Hertfordshire, England  
Filed Apr. 11, 1966, Ser. No. 541,636  
5 Claims. (Cl. 294-65.5)



An extensible magnetic hand tool for retrieving objects from otherwise inaccessible places and which consist of a telescopic rod, of a kind similar to a telescopic radio aerial, and carrying a magnet at each end of the rod, in which one of the magnets is in a larger diameter open end of the rod, and the other surmounts the opposite end of the rod, which is of smaller diameter. The larger diameter open end is surrounded by a non-magnetic shield and the magnet at the smaller opposite end is of a kind having negligible magnetic side field.

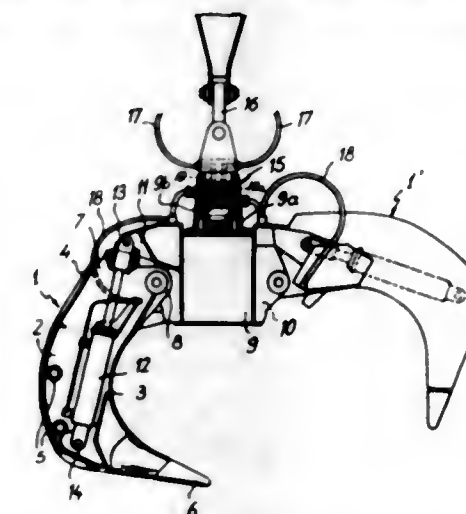
3,384,409

## MECHANICAL GRAB

Gabriel L. Guinot, Le Plessis-Belleville, France, assignor to Societe Anonyme Poclain, Le Plessis-Belleville, France  
Filed Mar. 1, 1966, Ser. No. 530,927  
Claims priority, application France, Apr. 8, 1965,  
12,466  
7 Claims. (Cl. 294-88)

A mechanical grab comprising a central unitary lifting frame, grab claws articulated to the frame, fluid cylin-

ders for operating the claws, means for supplying fluid under pressure to the fluid cylinders, each claw comprising a hollow casing having closed sides and an opening in the upper end thereof, each fluid cylinder being housed

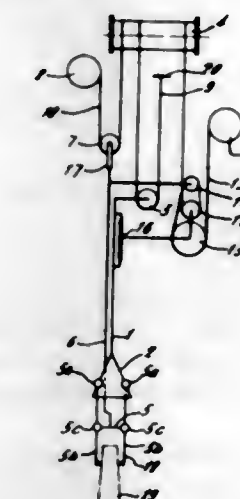


within one of the casings having one end thereof connected to the lower part of the claw and the other end thereof extending through the opening in the casing and being articulated to the central unitary lifting frame.

3,384,410

## TONG GEAR

Adam J. R. Belford, Corby, Northants, England, assignor to Stewarts and Lloyds Limited, Glasgow, Scotland  
Filed June 20, 1966, Ser. No. 558,840  
Claims priority, application Great Britain, June 23, 1965,  
26,680/65  
8 Claims. (Cl. 294-112)



Tong gear having a hoisting mechanism, tongs pivoted on a yoke for gripping an article, inclined guides acting on the tongs and displaceable relative thereto so that the tongs can exert a gravity grip on the article when hoisted, and means for increasing the grip of the tongs after the gravity grip has been effected.

3,384,411

## LAZY TONG PLIERS

Chester A. Zlotnicki, 35 Mayflower Ave.,  
Stamford, Conn. 06902  
Filed Oct. 25, 1966, Ser. No. 589,313  
5 Claims. (Cl. 294-119)

Pliers or tongs for gripping flesh, such as fish and particularly eels, are in the form of a lazy tongs with flat, pivoted elements having at least one pair of handle elements pivoted near their centers and one pair of jaw elements pivoted nearer the jaw end than the other end whereby the jaw ends are stiff enough to prevent sideways bending. The jaw elements have a row of sharp teeth at an angle to the axis of the pivots and the ends of the

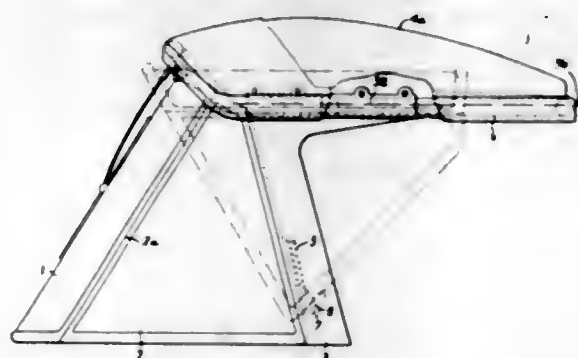


handle elements and each end of a jaw element opposite the jaw is rounded. Preferably finger holes are provided in the handle elements at right angles to the plane of the elements so that single-handed operation is possible, the



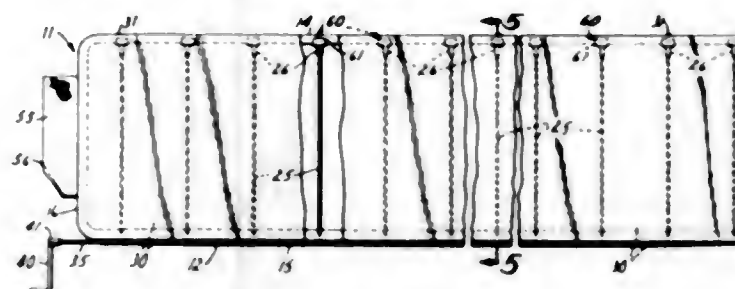
extension of the lazy tongs being sufficiently long so that fish such as eels will not wrap themselves around the fisherman's hand or arm, and the tongs collapse to a compact form suitable for carrying in a pocket without substantial protection of any handle elements.

**3,384,412**  
**ADJUSTABLE PROTECTIVE FRAME HOOD**  
Wilhelm Wingen, Grosshelfendorf, über Munich, Germany, assignor to Georg Fritzmeier, KG, Grosshelfendorf über Munich, Germany, a limited partnership  
Filed June 4, 1965, Ser. No. 461,408  
Claims priority, application Germany, June 5, 1964, F 43,100  
5 Claims. (Cl. 296-84)



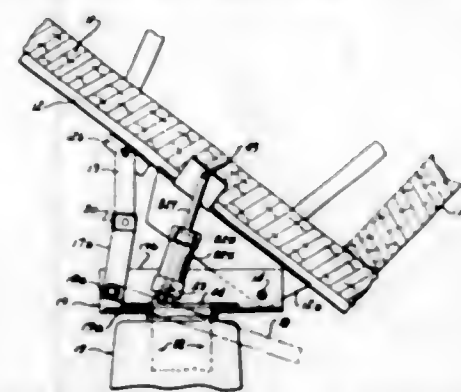
1. A protective and adjustable hood assembly for the cab of a vehicle comprising:  
a roof member (4a)  
a wind screen assembly (1,2)  
two support members (3) adapted to be attached to the side of the vehicle and extending upwardly to support said roof member (4a) and said windscreen assembly (1,2);  
a pivot connection (3a) having a pivot axis (3b) essentially extending longitudinally of said roof member (4a) and mounting said roof member upon the upper ends of said support members (3) so that the support members (3), when detached from the vehicle, can be swung upwards beneath the roof member;  
said windscreen assembly (1,2) comprising a central panel (1) and two side panels (2) hinged to the central panel along a hinge axis (2a)  
a pair of pivot members (6,7), one each pivotally connecting the rear lower extremity of a side panel (2) to a respective support member (3) near the lower end thereof, the pivot axis (7a) of each pivot member being substantially transverse to the respective support member (3) so that the windscreen assembly can be swung about said pivot axis (7a) so that the central panel (1) lies beneath the roof member (4a) and the hinge axes (2a) of the side panels (2) are in a plane parallel to the pivot axis (3b) of the pair of pivot members (3a) and to permit swinging of each support member (3), when detached from the vehicle, inwardly beneath the roof member (4a), together with the side panels (2).

**3,384,413**  
**FLEXIBLE COVER ASSEMBLY**  
Robert J. Sargent, 1947 W. County Road C, St. Paul, Minn. 55113  
Filed Feb. 13, 1967, Ser. No. 615,509  
3 Claims. (Cl. 296-98)



A flexible cover assembly for use with an open topped semi-trailer having removable bows extending transversely thereacross, and including means for rolling the flexible cover into a generally cylindrical rolled up position at the top of the semi-trailer adjacent one side thereof. A plurality of small frames are provided which are adapted to be engaged in one vertical wall of a semi-trailer in longitudinally spaced relationship to each other, and to receive the ends of the bows therein so that there is ample room to store the flexible cover in the rolled position in overlying relation thereto without the flexible cover protruding past the side of the trailer but still allowing the bows to be removed if desired.

**3,384,414**  
**TILTABLE BEAUTICIAN'S CHAIR**  
Carroll A. Billingham, Rockford, and Kenneth W. Daring, Belvidere, Ill., assignors to Belvedere Products, Inc., Belvidere, Ill., a corporation of Illinois  
Original application Nov. 3, 1964, Ser. No. 408,511, now Patent No. 3,326,604, dated June 20, 1967. Divided and this application Feb. 13, 1967, Ser. No. 615,636  
8 Claims. (Cl. 297-328)

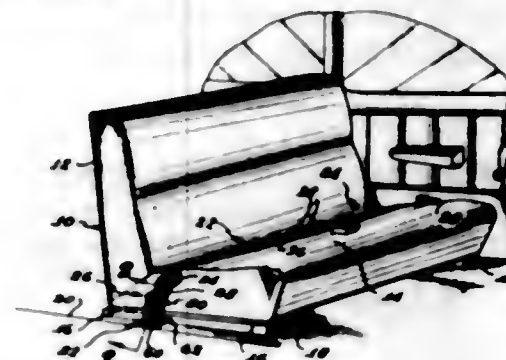


A back and seat mounted on a base and tiltable together about a horizontal pivot axis. A tilting linkage to tilt the apparatus and having an over-center lock to hold the apparatus in tilted position. A hydraulic dampener mounted vertically between the seat and base, and retractable into the base. The dampener arranged to pass fluid faster when returning the apparatus to upright position than when tilting.

**3,384,415**  
**RETRACTABLE SEAT BELT**  
Benjamin F. Monroe, 230 N. Barrington Ave., Los Angeles, Calif. 90049  
Continuation of application Ser. No. 301,016, Aug. 9, 1963. This application July 7, 1965, Ser. No. 473,894  
32 Claims. (Cl. 297-388)

29. A retracting device comprising support means, reel means rotatably mounted in said support means, an elongated flexible element coupled at one end thereof to said reel means and adapted to be wound thereon and unwound therefrom, power means normally, yieldingly, urg-

ing said reel in a winding direction, locking means mounted in said support means and adapted to lockingly engage said reel means when said element is unwound from said



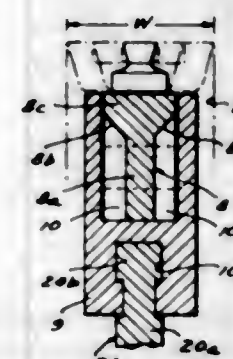
reel means, time delay means operatively connected with said locking means for delaying engagement thereof with said reel means for a predetermined time.

**3,384,416**  
**METHOD OF DEGASSING AND FRACTURING COAL SEAMS**  
Walter Ruchl, 29 Godeffroystrasse, 55 Hamburg, Germany, and Jochen Rolas, 57 Kornblumenweg, 2101 Meckelfeld, Germany  
No Drawing. Filed Mar. 22, 1966, Ser. No. 536,288  
Claims priority, application Germany, Mar. 24, 1965, D 46,875  
4 Claims. (Cl. 299-16)

The fracturing and degassing of coal seams is carried out by pressing a volatile liquid consisting of at least one non-combustible halogenated hydrocarbon having at atmospheric pressure a boiling point of between  $-100^{\circ}\text{C}$ . and  $+50^{\circ}\text{C}$ ., into a mine gas-containing rock zone including a coal seam, at an elevated pressure sufficient to fracture said coal seam, so as to fracture said zone, the latter being at an elevated temperature above the boiling point of the volatile liquid at atmospheric pressure; and releasing said elevated pressure so that said volatile liquid in contact with said fractured zone at said elevated temperature will be volatilized, thereby forming a gaseous mixture of volatilized liquid and mine gas, and withdrawing the thus formed gaseous mixture from the thus fractured zone, thereby relieving the latter of mine gas.

**3,384,417**  
**STONE CUTTING CHAIN WITH MEANS FOR PREVENTING ACCUMULATION OF COMMINUTED MATERIAL**  
Johann Mylowski, Wattenscheid, Germany, assignor to Maschinenfabrik Korfmann G.m.b.H., Witten (Ruhr), Germany  
Filed Jan. 7, 1966, Ser. No. 519,356  
Claims priority, application Germany, Jan. 9, 1965, M 63,732  
10 Claims. (Cl. 299-82)

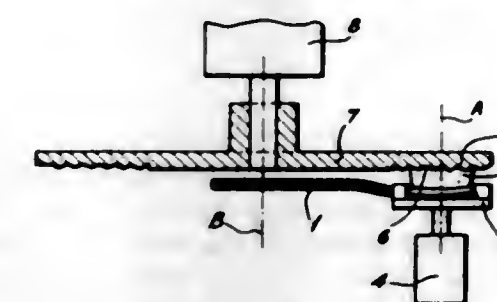
A device for cutting stone or the like comprises an elongated supporting arm. A guide channel is provided on



the supporting arm outwardly facing. A sprocket wheel is provided in the region of one end of the supporting arm.

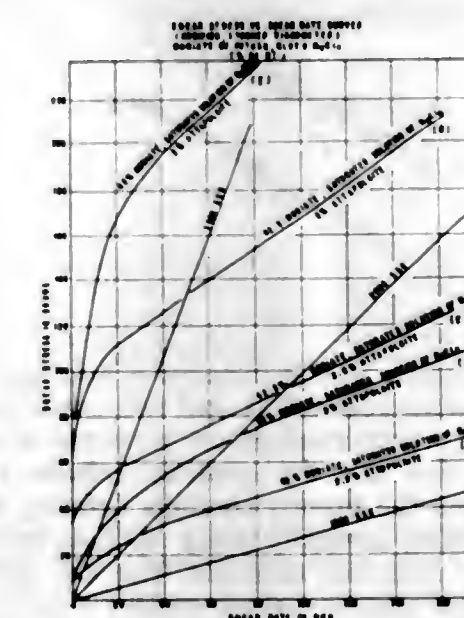
An endless chain is trained about a portion of the sprocket wheel and has stringers which extend into the channel. The chain consists of alternating articulately connected links and cutters and each of the links is provided with a closure portion which restricts the entry of comminuted material into the corresponding part of the channel and from which comminuted material which may have accumulated thereon is expelled by the teeth of the sprocket wheel.

**3,384,418**  
**METHOD AND DEVICE FOR ROUNDING BRUSH BRISTLES**  
Daniel A. Guey and Maurice A. M. Briez, Beauvais, Oise, France, assignors to La Brosse et J. Dupont Reunis, Paris, France, a corporation of France  
Filed Mar. 8, 1966, Ser. No. 532,670  
Claims priority, application France, Mar. 15, 1965, 9,308  
12 Claims. (Cl. 300-21)



A method and device for rounding brush bristles, wherein the bristle ends are machined on a surface which varies constantly relative to the bristle ends at the place where the bristles contact the surface, after which the roughed-out bristle ends are given a polishing treatment by repeated impacts produced in all directions by blunt elements moving at a relatively high velocity in relation to the roughed-out bristle ends.

**3,384,419**  
**TRANSPORTATION OF POTASH BY PIPELINE**  
Donald G. Anderson and Raymond H. Pfrehm, Houston, Tex., assignors to Esso Research and Engineering Company, a corporation of Delaware  
Filed Mar. 31, 1966, Ser. No. 539,061  
6 Claims. (Cl. 302-14)



Granular potash is added to a saturated solution of magnesium chloride in water to form a stable suspension on addition thereto of a specific amount of attapulgite for transportation of the potash by pumping through a pipeline.



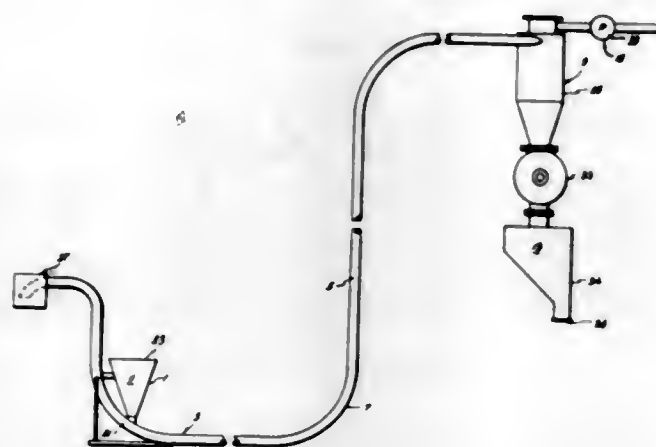
3,384,420

## TRANSFER SYSTEM

Douglas E. Fiscus, Burnsville, Minn., assignor to Cargill, Incorporated, Wilmington, Del., a corporation of Delaware

Filed Aug. 2, 1966, Ser. No. 569,737

1 Claim. (Cl. 302-17)



A transfer system for transferring samples of particulate material from a sampling station to an inspection room. The transfer system is adapted to deliver all of the sample to the inspection room without damaging the sample. The transfer system includes a hopper for receiving the particulate material, an air conveying conduit system and a cyclone separator which separates the particulate material from the air stream. The cyclone separator is designed for the particular air flow conditions and product conveyed so as to insure complete separation of the particulate material from the air stream.

3,384,421

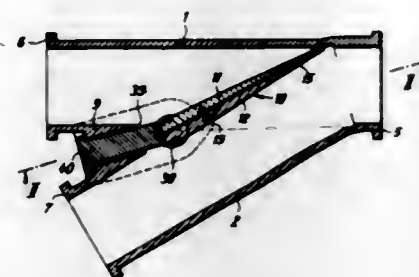
## CONDUIT SHUNTING DEVICE

Werner Flatt, Uzwil, Switzerland, assignor to Gebrüder Buhler AG, Uzwil, Switzerland

Filed Aug. 2, 1966, Ser. No. 569,732

Claims priority, application Switzerland, Aug. 6, 1965, 11,115/65

5 Claims. (Cl. 302-28)



A conduit shunting device includes a housing formed with a main conduit connection and two branch conduit connections. The branch conduits are arranged at an acute angle to each other and the housing includes a gusset formation between the branch conduits defining an elongated slot extending inwardly from an opening defined between the two branched conduits. The slot accommodates a stop valve member which defines a seal for the slot and an inner bearing, sealing and supporting the inner end of a movable flap which controls flow from the main conduit to one or the other of the branched conduits. A feature of the construction is that the stop valve member with the flap valve may be removed through the slot of the gusset and it may be easily replaced therein and sealed

and supported by the gusset in combination with cover members which rotatably engage and support pivot elements carried by the movable valve flap. The stop valve member may be tightly held in a sealing position within the slot defined in the gusset by clamping means which bear against flanges of the adjacent conduits.

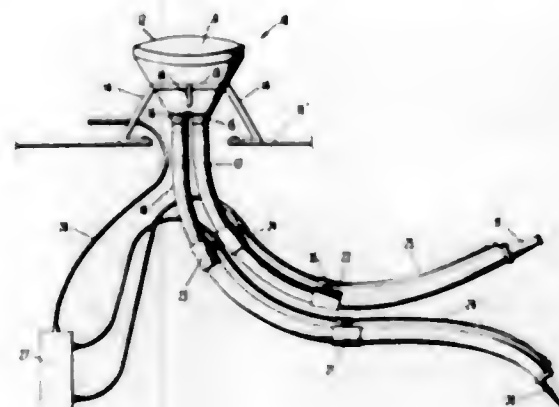
3,384,422

## GRAIN TRIMMING MACHINE

Albert C. Bordon, 534 Honore Drive, and Nelvin F. Luke, 808 Canton St., both of New Orleans, La. 70121

Filed Oct. 4, 1966, Ser. No. 584,199

4 Claims. (Cl. 302-28)



A portable trimming machine for handling bulk grain as in loading grain on ships and other vehicles of transport is provided having a hopper defining outlet means and a support removably mounting the hopper. A plurality of elongated flexible conduits are connected to the outlet means and the conduits have a plurality of venturi means located at spaced intervals therealong. Each of the venturi means of the conduits are connected with a gas pressure supply line to create a forward force on bulk grains passing through the conduits and a compressor is spaced from the hopper and acts to pass gas under pressure into the gas supply lines.

3,384,423

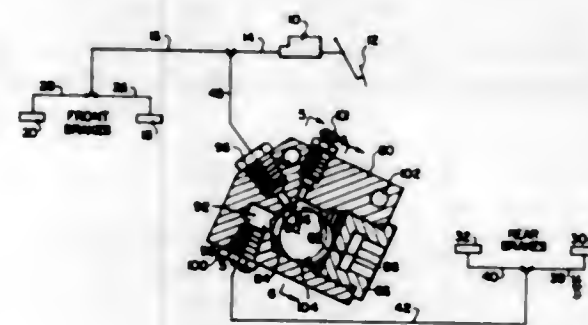
## BRAKE SYSTEMS

James C. Cumming, Pleasant Ridge, Mich., assignor to Rockwell-Standard Corporation, Pittsburgh, Pa., a corporation of Delaware

Continuation-in-part of applications Ser. No. 477,654, July 29, 1965, and Ser. No. 580,490, Sept. 19, 1966.

This application Dec. 30, 1966, Ser. No. 606,360

5 Claims. (Cl. 303-24)



A vehicle braking system which includes an inertia responsive ball valve mounted in the vehicle at an angular position between the brake control and one pair of wheel brakes having an inlet and an outlet connected by a valve chamber which contains a ball adapted to close said out-

let by its own inertia at a predetermined rate of deceleration to thus interrupt communication between said brake control and said pair of wheel brakes.

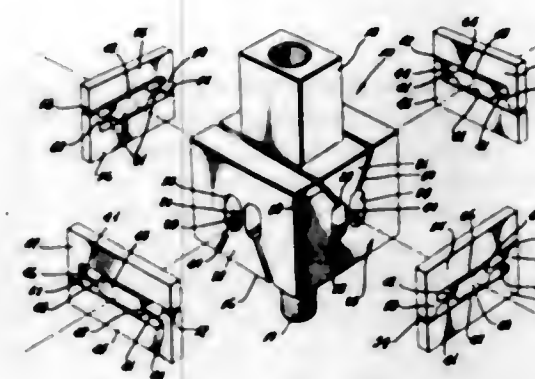
3,384,424

## EXTERNAL CROSS STRAP ELASTIC PIVOT

Donald B. Raines, Fullerton, Calif., assignor to Task Corporation, Anaheim, Calif., a corporation of California

Continuation of application Ser. No. 354,579, Mar. 25, 1964. This application Dec. 29, 1966, Ser. No. 605,936

3 Claims. (Cl. 308-2)



The disclosed elastic pivot incorporates pairs of longitudinal flexure webs defining perpendicular and axial planes within a block, and plates at the block sides defining lateral webs, stiffening mass between the lateral webs, stop shoulders limiting flexing of the longitudinal webs, and stop shoulders limiting deflection of the lateral webs and mass.

3,384,425

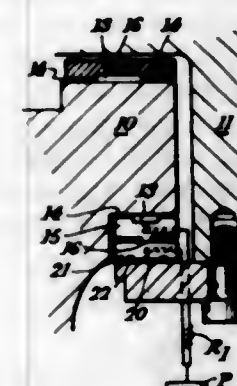
## HYDROSTATIC BEARING

Graham Maurice Brown, Hellingdon, Daventry, England, assignor to Charles Churchill & Company Limited, Birmingham, England, a British company

Filed Nov. 22, 1965, Ser. No. 509,026

Claims priority, application Great Britain, Dec. 7, 1964, 4,975/64

6 Claims. (Cl. 308-5)



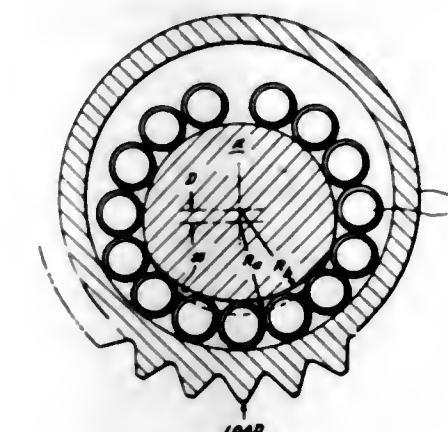
This invention relates to improvements in hydrostatically lubricated slideway bearings of the double acting type wherein one of the relatively sliding members carries hydrostatic thrust pads which are free to rock about axes parallel to the direction of sliding movement and in which the pads at one side of the sliding members are subject to a pre-load towards the other member.

3,384,426

CONTOURED RACE FOR ROLLER BEARINGS  
Percy W. Schumacher, Jr., Houston, Tex., assignor to Reed Roller Bit Company, Houston, Tex., a corporation of Texas

Filed May 14, 1965, Ser. No. 455,881

8 Claims. (Cl. 308-8.2)



In bearing assemblies for roller cutter earth drilling bits, applicant provides a new and improved bearing arrangement for anti-friction bearings whereby the operating loads imposed on the stationary race of a bearing assembly through such anti-friction bearings are better distributed and the arrangement permits a larger number of anti-friction bearings to carry such loads at any given time.

In order to alleviate bearing failures, applicant proposes to contour or shape the load-side of the stationary race (the shaft) so that during operation more anti-friction bearings are in contact therewith at any given time, thereby transmitting the operating loads through more roller bearings and therefore to more area on the shaft to distribute the load thereon, thereby providing a more effective shaft load area whereupon the useful life of the bearing assembly is enhanced. In other words, there is provided a bearing structure wherein the contoured race portion comprises a flattened surface.

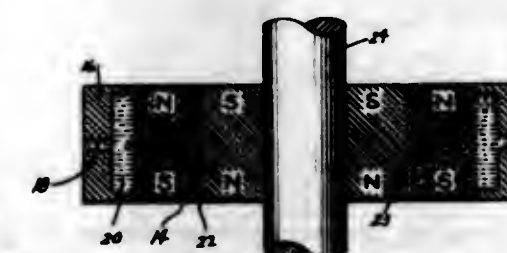
3,384,427

## INTEGRAL FLUID-FILM MAGNETIC BEARING

James D. McHugh, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Aug. 27, 1964, Ser. No. 392,470

9 Claims. (Cl. 308-10)



An integral fluid film magnetic bearing assembly for a rotating shaft having provision for magnetization in the axial direction to oppose a thrust load. A magnetized cylindrical stator surface envelops a cylindrical permanent magnet attached to the shaft, the magnetic poles of the permanent magnet being opposed to the poles in the outer porous magnetized surface and lubricant being admitted to the bearing interface either through the pores or an opening in the outer cylinder.



3,384,428

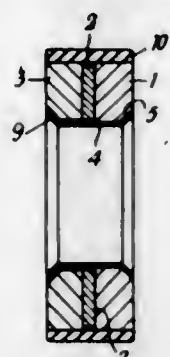
**THRUST WASHER ASSEMBLIES**

John Charles Hodge, Princes Risborough, England, assignor to Railko Limited, Loudwater, High Wycombe, England, a British company

Filed July 13, 1966, Ser. No. 564,999

Claims priority, application Great Britain, July 19, 1965, 30,551/65

8 Claims. (Cl. 308—135)



A thrust bearing assembly, having two relatively rotatable thrust washers separated by a bearing element, is held together by an internal tubular sleeve fitting tightly within one thrust washer and loosely within the other. The sleeve is flanged outwardly into a recess in the free-running washer to hold the assembly together, and a resilient peripheral sealing band is provided to exclude dirt. An additional dirt-excluding seal is optionally provided between the flange of the tube and the recess of the free running washer.

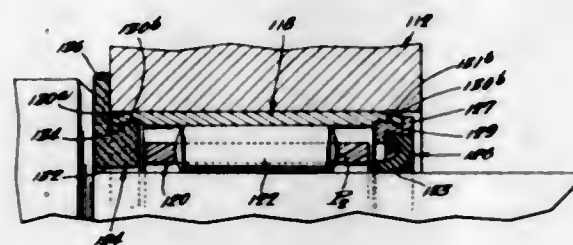
3,384,429

**NEEDLE ROLLER BEARING ASSEMBLY**

Ronald J. Farrell, Bremen, and Fred Lannert, South Bend, Ind., assignors to SKF Industries, Inc., Prussia, Pa., a corporation of Delaware

Filed Sept. 23, 1965, Ser. No. 489,494

5 Claims. (Cl. 308—187.1)

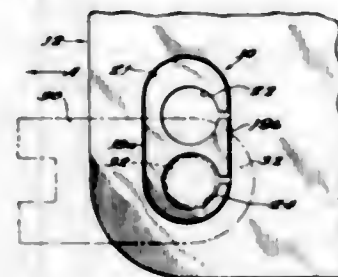


A roller bearing assembly comprising a generally cylindrical hollow shell, a retainer for a plurality of rolling elements disposed interiorly of the shell and at least one thrust ring adapted to be detachably secured to one end of the cylindrical shell. The shell is provided with at least one circumferentially extending rim of relatively thin cross section having a frusto-conical inner face which is outwardly convergent and the thrust ring is provided with a frusto-conical outer surface complementing the inner face of the rim. The face of the rim and surface of the ring are inclined at an angle of no greater than  $7^\circ$  whereby the ring may be snapped into place at one axial end of the shell.

3,384,430

**BUSHING FOR EXCAVATING BUCKET**

Gordon E. Stell, River Forest, Ill., assignor to Page Engineering Company, a corporation of Illinois  
Filed July 23, 1965, Ser. No. 474,245  
9 Claims. (Cl. 308—237)

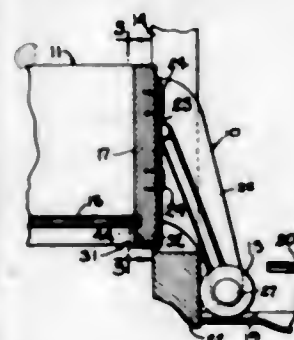


A bearing for use in connecting a pull line to a drag-line excavating bucket comprising a generally oblong body of malleable metal having a pair of openings for receiving a pin-like connection, characterized in that the openings are formed off-center with respect to the length and width of the body to provide a number of connecting points which is a multiple of the number of openings by inverting the position of the bearing in a socket in the drag-line bucket.

3,384,431

**ROLLER BRACKET ASSEMBLY FOR A DRAWER**

Carl J. Dargene, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut  
Filed Nov. 14, 1966, Ser. No. 593,885  
6 Claims. (Cl. 312—343)



For supporting a guide roller on a drawer, a bracket is fastened by staples to the rear frame member of the drawer and is formed with a J-shaped hook which is wrapped around the lower edge of the frame member to prevent loosening of the staples by absorbing shock loads imposed on the staples as a result of the roller engaging a fixed stop. A portion of the hook fits into a downwardly opening notch formed in the lower edge of the frame member and automatically locates the bracket at the center of the drawer to facilitate quick and easy installation of the bracket.

3,384,432

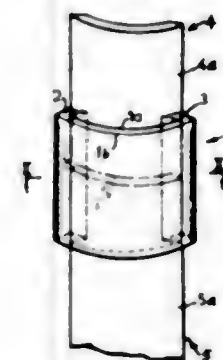
**CURVED SCREENS AND METHOD OF MAKING SAME**

Jules Hourdian, 96 Ave. de Versailles, Paris 16eme, Hauts-de-Seine, France  
Filed June 28, 1965, Ser. No. 467,289  
Claims priority, application France, June 30, 1964, 980,225

5 Claims. (Cl. 350—125)

Projection screen comprising a series of individual panels which are secured together in side-by-side relation. Said panels are provided with a plurality of elongated juxtaposed screen elements, each having a light-

diffusing front face, said front faces together constituting a single curved projection surface and being parallel to a direction perpendicular to the projection axis. Each



screen element comprises a plurality of superposed rigid members disposed end to end and assembled by means of connecting members.

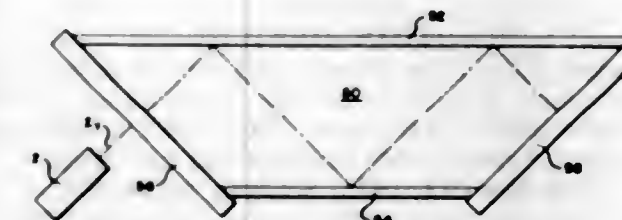
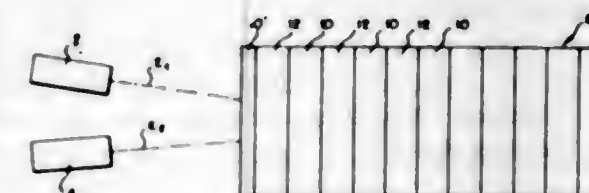
3,384,433

**APPARATUS FOR CONVERTING LIGHT ENERGY FROM ONE FREQUENCY TO ANOTHER**

Nicolas Bloembergen, Lexington, Mass. (% Cruft Laboratory, Harvard University, Cambridge, Mass. 02138)

Filed July 9, 1962, Ser. No. 208,551

8 Claims. (Cl. 350—150)



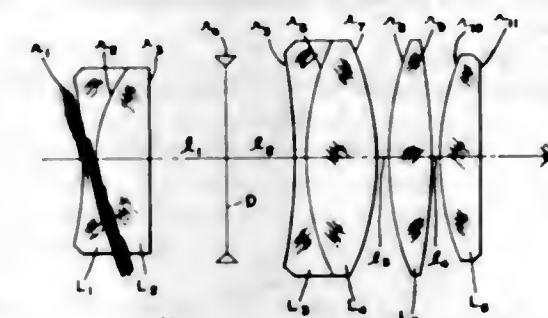
1. Apparatus for generating an electromagnetic wave  $E_2$  of a frequency  $f_2$  from a plurality of electromagnetic waves  $E_1, E_2, \dots$  of frequencies  $f_1, f_2, \dots$  which frequencies  $f_1, f_2, \dots$  may be equal, and which frequency  $f_2$  is a linear combination of the frequencies  $f_1, f_2, \dots$  said apparatus comprising a body of non-linear dielectric material, a plurality of light sources of frequencies  $f_1, f_2, \dots$  respectively, said sources being positioned to illuminate a common region of said body, said sources being of sufficient intensity to generate in the body polarizations varying non-linearly with their intensities, said sources giving rise in said region to a polarization wave of the frequency  $f_2$  and having a wave number vector which is a linear combination of the wave number vectors of the electromagnetic waves in said region from said sources, said body having a plurality of boundaries encountered by said polarization wave being separated by path lengths for said polarization wave over which the difference between the phase change undergone by said polarization wave and the electromagnetic wave of frequency  $f_2$  whose wave number vector is collinear with that of said polarization wave amounts to substantially  $n \pm \frac{1}{2}$  cycles,  $n$  being an integer.

8. Apparatus for generating an electromagnetic wave  $E_2$  of frequency  $2f_1$  from electromagnetic waves of frequency  $f_1$ , said apparatus comprising a body of optically linear material having two opposite plane parallel faces, separate bodies of optically non-linear material disposed in optical contact with each of said faces, and at least one high intensity source of light of frequency  $f_1$  disposed in position to send a beam  $E_1$  into said body for successive reflections at said bodies of non-linear material for generating at each such reflection a polarization wave of frequency  $2f_1$ , said beam being of intensity sufficient to generate in said bodies of non-linear material polarization waves including a component varying according to a power of that intensity higher than the first.

3,384,434

**WIDE ANGLE EYEPIECE WITH LARGE EYE RELIEF**

Wright H. Scidmore, Langhorne, and Mary D. Flanagan, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army  
Filed Apr. 2, 1965, Ser. No. 445,287  
1 Claim. (Cl. 350—208)



A field stop or diaphragm is interposed between a pair of cemented doublet field lenses followed by a singlet center lens and a singlet eyelens to provide a wide angle eyepiece.

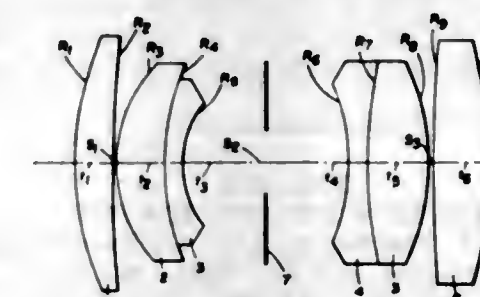
3,384,435

**FOUR COMPONENT PHOTOGRAPHIC OBJECTIVE OF THE GAUSS TYPE**

Willy E. Schade and Myrtle C. Schild, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 25, 1964, Ser. No. 413,935

2 Claims. (Cl. 350—209)



A photographic objective is disclosed comprising a diaphragm, two negative meniscus doublets placed on either side of and concave to the diaphragm, and a single positive element placed on the side away from the diaphragm of each negative meniscus doublet.

3,384,436

**FILM STRIP VIEWER HAVING LIGHT CONCENTRATING MEANS**

Allen Kunnell, 7941 East Drive,

Miami Beach, Fla. 33141

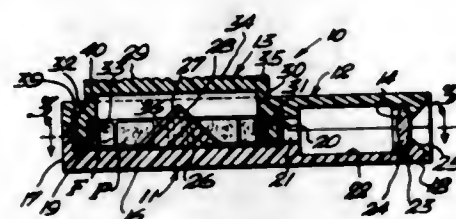
Filed Oct. 24, 1963, Ser. No. 318,619

3 Claims. (Cl. 350—238)

A hand-supported film strip viewer having an optical opening and adapted to be brought up to the eye for view-



ing through the optical opening in ambient light, including a cylindrical recess coaxially rotatably disposed within which is a transparent, drum-shaped carrier member supporting a film strip in face-to-face disposition against



an inner tubular wall portion of the carrier, individual strip image frames of which are positionable by rotation of the carrier into optical alignment with the optical opening for viewing, selectively, against light passing through and being reflected by the carrier member.

3,384,437

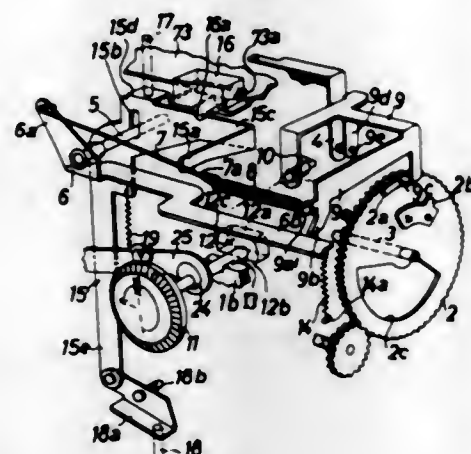
## MOTION PICTURE CAMERA

Friedrich Winkler and Karl Neudecker, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany

Filed May 5, 1965, Ser. No. 453,407

Claims priority, application Germany, June 30, 1964, A 46,454

23 Claims. (Cl. 352-124)



A motion picture camera wherein the devices which control the starter for the motor, the backwind mechanism and the pulldown are mounted on a single manually operable selector. The pulldown is inoperative when the backwind mechanism is ready to rewind the film and vice versa.

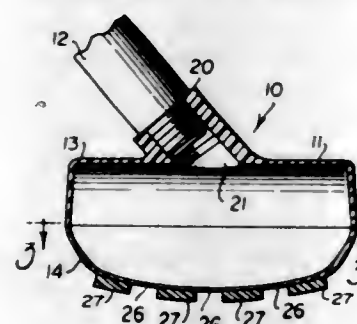
3,384,438

## LIQUID WAX APPLICATOR

William A. Sherbondy, 2517 Guilford Road, Cleveland Heights, Ohio 44118

Filed Oct. 20, 1965, Ser. No. 498,613

10 Claims. (Cl. 401-139)



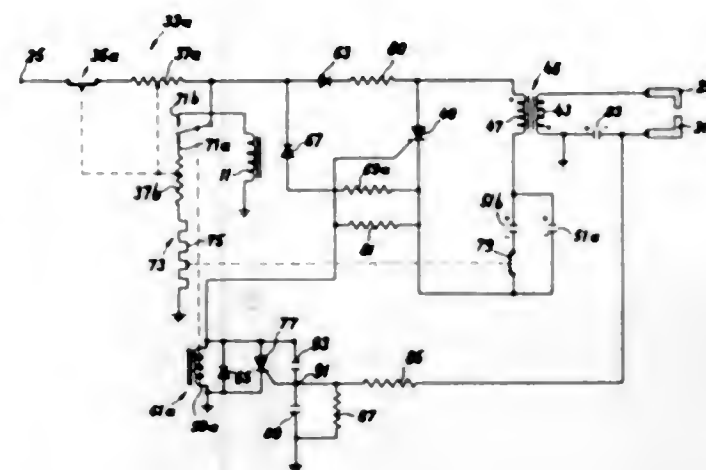
A liquid applicator device having a collapsible reservoir tank with slits in a flexible wall, the slits being openable by applying external pressure to the tank.

### 3,384,439 PULSED SPARK GAS IGNITION AND FLAME MONITORING SYSTEM

Lyman H. Walbridge, Ashland, Mass., assignor to Fenwal Incorporated, Ashland, Mass., a corporation of Massachusetts

Filed Apr. 5, 1966, Ser. No. 540,333

5 Claims. (Cl. 431-24)



An ignition and fuel control system for a gas burner comprising relatively widely spaced ignition electrodes, pulse generating means for applying spaced asymmetric voltage pulses to the electrodes, means for reducing the amplitude of the voltage pulses to a value insufficient to cause sparks in the absence of a flame, a capacitor connected in series with the electrodes to be charged by direct current spark components, and means responsive to a charge on the capacitor to supply fuel to the burner. The full specification should be consulted for an understanding of the invention.

3,384,440

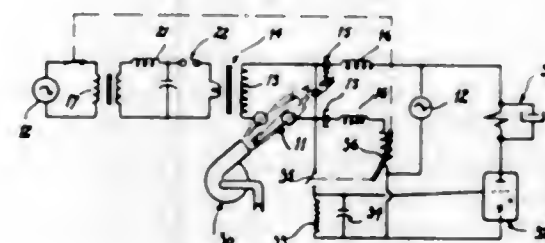
## IGNITION DEVICES

Ferdinand Mayer, Grenoble, France, assignor to Laboratoire d'Electronique et d'Automatique Dauphinoise (LEAD) and Appareillage Thermoflex (Ets. J. M. Dard), Grenoble, Isere, France, both corporations of France

Filed Mar. 22, 1965, Ser. No. 441,450

Claims priority, application France, Mar. 24, 1964, 968,463

10 Claims. (Cl. 431-66)



In a spark discharge ignition device in which a spark-producing element is connected both to an alternating low voltage source and a high voltage pulse generator, high frequency isolating means connected directly between the low voltage source and the spark-producing element for isolating the source from the high-frequency current components of the sparks produced across the element, and current detecting means connected to the element for disconnecting the low voltage source in response to a current flow of predetermined amplitude through the spark-producing element.

### 3,384,441 PHOTOFLASH LAMP

William C. Fink, Williamsport, and Howard S. Palster, Linden, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 29, 1966, Ser. No. 605,841

5 Claims. (Cl. 431-95)



1. A photoflash lamp comprising:  
an hermetically sealed, substantially tubular lamp envelope;  
an ignition system supported in said envelope at one end thereof;  
a strip of combustible foil disposed in said envelope; and a wire frame for supporting said strip, said wire frame being in frictional engagement with the inner wall of the lamp envelope and thus supported thereby.

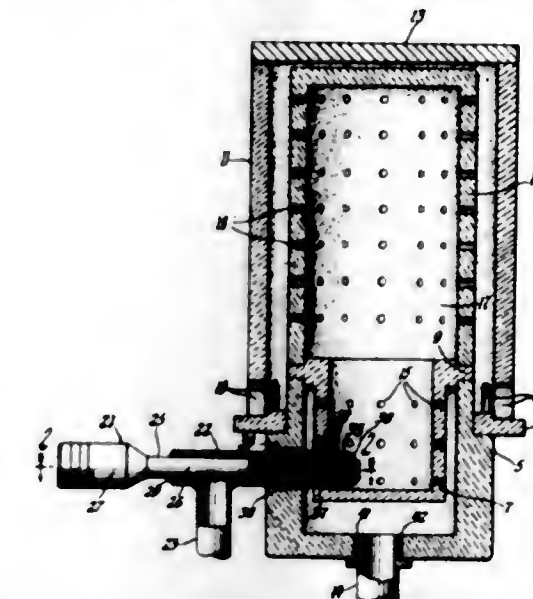
3,384,442

## COMBUSTION APPARATUS

Elmer R. Stewart and Francis J. Verkamp, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 20, 1966, Ser. No. 588,020

1 Claim. (Cl. 431-264)



A miniature combustion apparatus for a radiant energy conversion burner particularly characterized by a fuel injector-igniter having an outer tube through which fuel is delivered into the combustion chamber so as to swirl around the walls and a miniature igniter mounted concentrically within the fuel tube.

## CHEMICAL

3,384,443

### DYEING CELLULOSE AND WOOL FIBERS WITH A POLYETHYLENE GLYCOL ETHER OF A STYRENE-PROPENYLPHENOL COPOLYMER CONTAINING DYE SOLUTION

Joachim Nentwig and Heinrich Krimm, Krefeld-Bockum, Hermann Schnell, Krefeld-Urdingen, and Ludwig Nüssler, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 4, 1963, Ser. No. 256,119

Claims priority, application Germany, Feb. 5, 1962, F 35,934

4 Claims. (Cl. 8-54)

Applicants dye wool and cellulose fibers with a vat dye, an azo dye, a direct dye or metallized azo dyes, each dye being applied to the appropriate type of fiber. The dyes are levelled by polyethylene glycol ether of a propenylphenol and styrene copolymer.

3,384,444

## PRODUCTION OF LIGHTFAST JUTE

Heyward V. Simpson and Lorenz Bogan, Spartanburg, S.C., assignors to Reeves Brothers, Inc., a corporation of New York

No Drawing. Filed June 29, 1964, Ser. No. 378,933

6 Claims. (Cl. 8-111)

Lightfast jute fabrics may be produced by (a) bleaching the jute fabric at a pH below 3.0 and at a temperature from about 60° F. to about 110° F. in an aqueous bleaching solution containing potassium permanganate and phosphoric acid in amounts such that the ratio of potassium permanganate to phosphoric acid is in the range between about 1:0.7 to about 1:1.1, and then (b) scavenging the bleached jute fabric with an aqueous solution of an inorganic reducing agent, such as sodium bisulfite, at a pH below 4.0, after which the fabric is scoured with hot water or steam. Using this process, it is possible to produce lightfast jute fabrics having a colorfastness equal to not less

than 25 Standard Fastness Hours, and in most instances between 30 and 40 Standard Fastness Hours, as determined by AATCC Standard Test Method 16A-1963.

3,384,445

## DRY CLEANING METHOD

Herman S. Gilbert, Angleton, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Apr. 27, 1964, Ser. No. 362,899

6 Claims. (Cl. 8-142)

This invention relates to a method of dry cleaning fabrics wherein vaporized solvent from the cleaning operation is extracted, condensed, and stored for use as a solvent rinse before the final solvent extraction and fabric drying part of the cleaning cycle.

3,384,446

## APPARATUS FOR DISINFECTING GASES

Helmut Ziem, Cologne, and Rudolf Bönicke, Borstel über Bad Oldenloe, Germany, assignors to Elektro-Aerosol Ziem & Co., Cologne, Germany

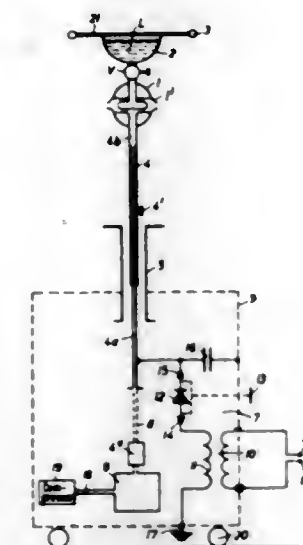
Filed Feb. 24, 1964, Ser. No. 346,659

9 Claims. (Cl. 21-74)

An arrangement for removing suspended particles within a gaseous medium and applying thereto disinfecting effects. The arrangement is especially applicable to purifying and sterilizing air. A disinfecting fluid is atomized into a fine spray by means of a compressor and spray nozzles. A high voltage D.C. supply applies a high potential to the atomized spray so that the particles within the spray are charged to a high potential. As a result of the charged atomized spray, any particles within the air such as dust, are attracted to the atomized spray. Once such dust particles come into contact with the atomized spray, any microorganisms adhering to the dust particles are rendered



ineffective due to the disinfecting properties of the spray. With the removal of the spray and hence the dust particles



attracted to the spray, the air within a particular confined space is purified.

3,384,447

#### METHOD OF PRODUCING MONOCRYSTALLINE BORACITES

Hans Schmid, 18 Rue des Caroubiers,  
Geneva, Switzerland

No Drawing. Filed Oct. 15, 1964, Ser. No. 404,189  
Claims priority, application Switzerland, Oct. 19, 1963,  
12,855/63

11 Claims. (Cl. 23—20)

Monocrystalline boracite having the general formula  $\text{Me}_2\text{B}_7\text{O}_{13}\text{Hal}$ , wherein Me is bivalent metal consisting of at least one bivalent metal element, and Hal is halogen consisting of at least one member of the halogen group, is produced through use of a method wherein halide of the metal Me and oxide of the metal Me, both in gaseous phase, and fluid phase boron oxide are reacted in a vessel, while oxide of the metal Me is transported to the reaction through a reversible equilibrium, and having a monocrystalline boracite thereby form upon a crystallization surface in the vessel.

3,384,448

#### PROCESS FOR RECOVERING VANADIUM VALUES FROM CRUDE RESIDUA

Ralph Burgess Mason, Denham Springs, and Glen Porter Hamner, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 23, 1965, Ser. No. 474,509

12 Claims. (Cl. 23—20)

1. A process for recovering vanadium from  $650^\circ\text{F.}+$  crude residua which comprises (a) heating an intimate blend of said residua with an organic solvent boiling in the range of about  $150$  to  $800^\circ\text{F.}$  at temperatures ranging from about  $650$  to  $900^\circ\text{F.}$  essentially in the absence of oxygen for an average residence time of about 0.1 to about 6 hours to form an insoluble vanadium-containing concentrate containing a substantial portion of the vanadium present in said residua; (b) separating said insoluble vanadium-containing concentrate; (c) contacting said concentrate with a halogen-containing compound under conditions suitable for forming the corresponding vanadium halide; and (d) recovering said vanadium halide.

#### 3,384,449 METHOD OF GROWING SINGLE CRYSTALS

OF  $\text{Ba}_2\text{Zn}_2\text{Fe}_{12}\text{O}_{22}$   
Thomas R. Au Coin, Eatontown, Robert O. Savage, Jr., Neptune City, and Arthur Tauber, Elberon, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed July 7, 1965, Ser. No. 470,301

2 Claims. (Cl. 23—51)

Single crystals of the formula  $\text{Ba}_2\text{Zn}_2\text{Fe}_{12}\text{O}_{22}$  are grown from a charge containing boron oxide, barium carbonate, zinc oxide and iron oxide. The charge is placed in a platinum crucible set in a vertical tube furnace and the furnace heated until the crucible containing charge attains a temperature of approximately  $1150^\circ\text{C.}$  to obtain a melt of the charge. A seed crystal attached to a crystal puller is then lowered until the said crystal makes contact with the melt. Then, the crystal is rotated, and while rotating, the crystal is slowly withdrawn from the melt while cooling the furnace at a constant rate.

3,384,450

#### METHOD FOR SYNTHESIZING CUPROUS IODIDE FROM A CUPRIC SALT

Donald J. Trevo, John W. Henson, and Arthur A. Rasch, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,370

5 Claims. (Cl. 23—97)

Cuprous iodide of high purity is prepared by reacting a cupric salt with an alkali metal sulfite and an alkali metal iodide in an aqueous medium which is maintained at a pH of from about 5 to about 7 during the reaction. Contamination from free iodine is avoided, and high yields are obtained due to the prevention of undesired side reactions.

3,384,451

#### PRODUCTION OF SPHERICAL GRANULES OF ALKALI EARTH PHOSPHATE SALTS

Charles J. A. Volz, Riviera Beach, Md., assignor, by direct and mesne assignments, of one-half to W. R. Grace & Co., Clarksville, Md., and one-half to the United States of America as represented by the Secretary of the Interior

Filed Oct. 22, 1965, Ser. No. 502,700

4 Claims. (Cl. 23—105)

A method for producing dehydrated particles of alkali earth phosphate salts having substantially spherical configurations comprising heating a water slurry of said salts to dehydration temperature and agitating the slurry during dehydration.

3,384,452

#### PROCESS FOR THE MANUFACTURE OF SODIUM TRIPOLYPHOSPHATE HEXAHYDRATE

Gero Heymer, Knapsack, near Cologne, Heinz Harnisch, Lovenich, near Cologne, and Joseph Cremer, Hermulheim, near Cologne, Germany, and Kurt Wilm Harri Kribbe, deceased, late of Knapsack, near Cologne, Germany, by Gertrud Katharina Kribbe, nee Hanhardt, Knapsack, near Cologne, Heinrich Kribbe, Brakel, near Hoxter, and Edith Kribbe, nee Kuhrt, Brakel, near Hoxter, Germany, heirs, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

No Drawing. Filed June 7, 1965, Ser. No. 463,470

Claims priority, application Germany, June 25, 1964,  
K 53,323

12 Claims. (Cl. 23—106)

A process for directly converting Form I and Form II sodium tripolyposphate crystals to the corresponding hexahydrate by spraying the crystals with a stoichiometric excess up to 30% of water at  $0-60^\circ\text{C.}$  and simultaneously passing a substantially inert gas stream over the reaction mixture to maintain a temperature of about  $50-80^\circ\text{C.}$

3,384,453

#### PROCESS FOR PREPARING HIGHLY CRYSTALLINE ALPHA STRONTIUM ACID PHOSPHATE

Herbert J. Kanders, Euclid, Ohio, assignor to General Electric Company, a corporation of New York

No Drawing. Filed May 3, 1965, Ser. No. 452,915

5 Claims. (Cl. 23—109)

Highly crystalline alpha strontium acid phosphate ( $\alpha\text{-SrHPO}_4$ ) can be produced by adding  $\text{H}_3\text{PO}_4$  to an aqueous slurry of  $\text{SrCO}_3$  or  $\text{Sr(OH)}_2$  at a temperature in the range of about  $75^\circ\text{C.}$  to  $100^\circ\text{C.}$  The  $\alpha\text{-SrHPO}_4$  is removed from the slurry, washed to remove residual reactants, and dried. Preferred concentrations are stated.

3,384,454

#### METHOD OF CALCINING ALUMINUM HYDROXIDE BY CROSS-FLOWING THE HEATING GAS

Robert Ross Barrington, Luton, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 24, 1965, Ser. No. 434,870

Claims priority, application Great Britain, Mar. 4, 1964,  
9,052/64

3 Claims. (Cl. 23—142)

An improved method of producing high purity alumina which includes the step of calcining aluminum hydroxide under conditions which cause the gaseous products of calcination to be removed from the vicinity of the solid material immediately after their production by sweeping them away in a cross-flow of combustion gases thereby preventing the gaseous products from contaminating the alumina.

3,384,455

#### METHOD OF PRODUCING NITRIDING AGENTS

Alfons Fuchs, Baderich, near Düsseldorf, Germany, assignor to Gesellschaft für Elektrometallurgie m.b.H., Düsseldorf, Germany

Filed Nov. 22, 1965, Ser. No. 509,090

Claims priority, application Germany, Nov. 23, 1964,  
G 42,078

7 Claims. (Cl. 23—191)

A process for producing a nitrogen-containing metal for use as a nitriding and alloying agent which includes contacting a comminuted metal with the residual gases and the exothermic heat of reaction produced in the reaction of calcium carbide with stoichiometrically excess nitrogen to form calcium cyanamide. Such contact enriches the nitrogen content of the metal. Thereafter the resulting sintered nitrogen-containing metal is crushed to form abraded fines of the nitriding and alloying agent.

3,384,456

#### PROCESS FOR PRODUCING CHLORINE

Paul Metaizeau, Dombasle, France, assignor to

Solvay & Cie, Brussels, Belgium

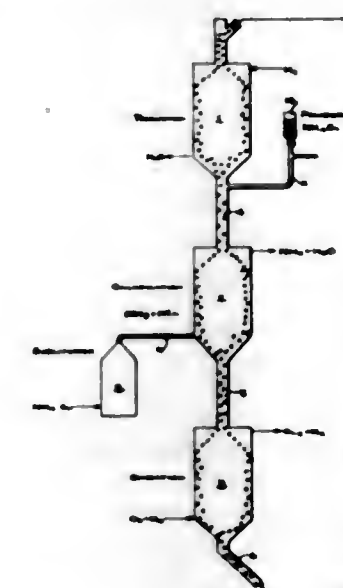
Continuation-in-part of application Ser. No. 325,449,  
Nov. 21, 1963. This application Sept. 19, 1967, Ser.  
No. 671,921

Claims priority, application France, Nov. 30, 1962,  
917,198, Patent 1,348,596

2 Claims. (Cl. 23—219)

The continuous production of chlorine from ammonium chloride by contacting the latter in a chlorination zone with heated contact masses prepared from oxides or chlorides of polyvalent metals and a promoter, moving by gravity flow sequentially through a reduction, a chlorination and an oxidation zone before being recycled, is improved by injecting in a finely divided solid form at least a

part of the ammonium chloride into said moving granular mass at a point before said oxidation zone and at a



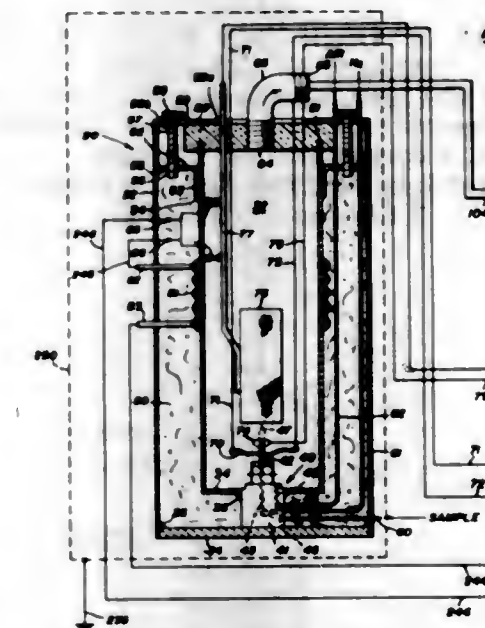
3,384,457

#### IONIZATION DETECTOR AND SAMPLING SYSTEM

Mark W. Norell, Chicago, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 4, 1963, Ser. No. 328,011

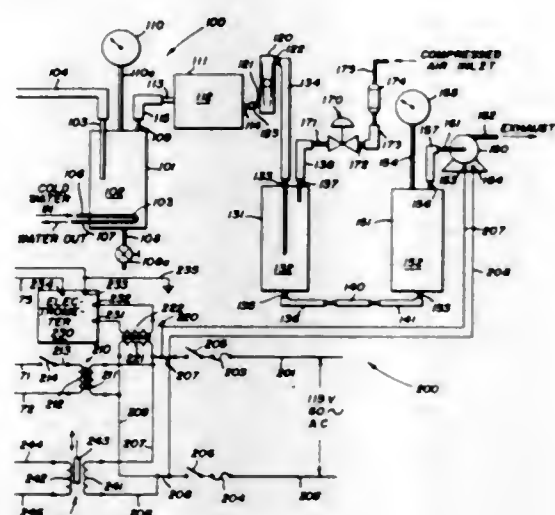
11 Claims. (Cl. 23—254)



There is disclosed a hydrogen flame ionization detector and a sampling system therefor useful in continuously sampling gases or aerosols containing particles less than 10 microns in diameter, and wherein the samples are in minute volumes on the order of 1 to 5 cc. per minute, and wherein the samples contain only micrograms of organic materials or other solids per liter of gas; the detector and sampling system operate at subatmospheric pressure of a few inches of water to provide a more constant supply of hydrogen gas and air to the flame in the detector and a more constant flow of sample thereto so as to provide a minimum noise signal thus utilizing the maximum sensitivity of the detector; a heater is provided to maintain the temperature of the combustion chamber at a constant value; the gas sample to be measured is



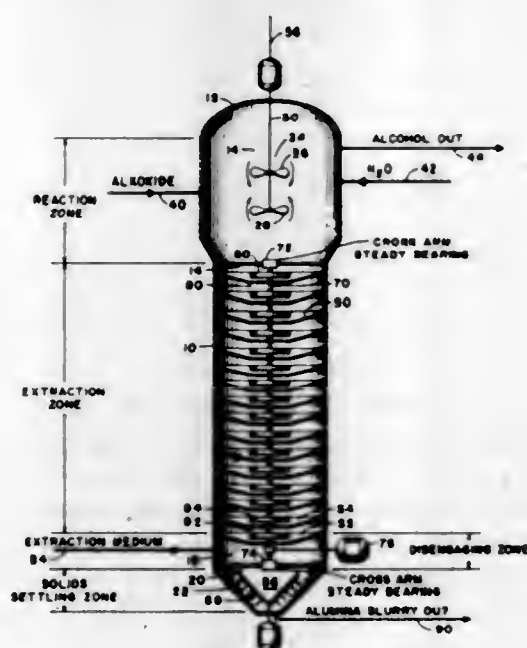
directly introduced into the combustion chamber without the use of a purge gas and all of the operative components of the vacuum system are connected between the flame ionization chamber and the vacuum pump, the vacuum system including connected in series from the outlet of the ionization chamber to the vacuum pump a condensing



chamber of large volume, an isolation or ballast tank of large volume, a flow meter, a low vacuum chamber provided with a constant supply of pressure regulating air under the control of a precision vacuum regulator, a capillary tube and a high vacuum chamber having the outlet connected to a high vacuum pump.

### 3,384,458 WATER HYDROLYSIS REACTOR FOR MAKING ALUMINA

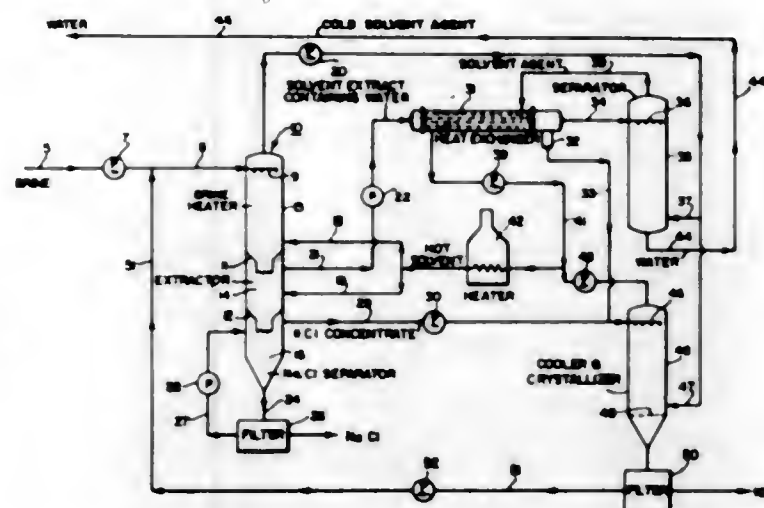
John Walton McCarthy and Sydney V. Stern, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware  
Filed June 16, 1965, Ser. No. 464,347  
7 Claims. (Cl. 23-283)



A combination reaction-extraction-settling vessel is provided, comprising an upper agitated reaction section, a central extraction section containing rotary disperser plates, and a lower settling and solids-removal section.

### 3,384,459 SEPARATION OF SODIUM CHLORIDE FROM POTASSIUM BY SELECTIVE CRYSTALLIZATION

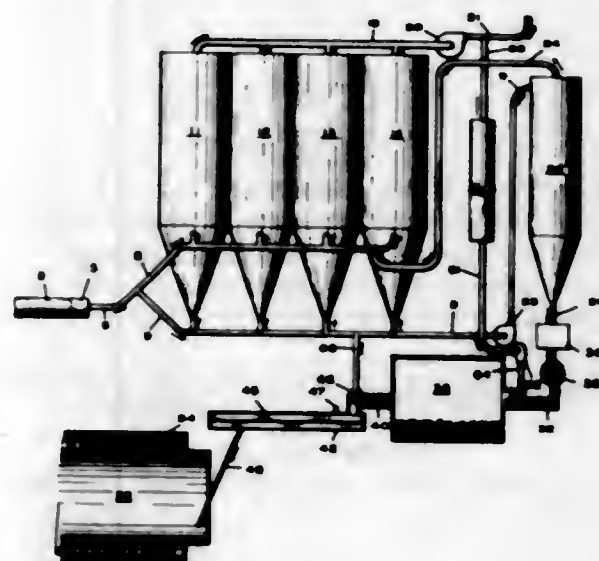
Norman D. Carter, Poughkeepsie, Frank E. Guptill, Jr., Fishkill, and Howard V. Hess, Glenham, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware  
Filed Nov. 19, 1964, Ser. No. 412,466  
6 Claims. (Cl. 23-296)



A process for the recovery of potassium chloride in crystalline form from brines containing a mixture of chlorides of sodium and potassium by selective crystallization in which feed brine is concentrated to precipitate sodium chloride by extraction of water at a temperature above about 500° F. and under sufficient pressure to retain resulting brine concentrate in liquid phase. Feed brine is contacted at said elevated temperature and pressure with an organic liquid capable of extracting more water at elevated temperature than at a lower temperature, e.g. a liquid hydrocarbon, followed by withdrawal of an immiscible extract phase from resulting brine concentrate containing sodium chloride crystals, sodium chloride crystals are removed from resulting concentrated brine, and potassium chloride recovered from the concentrated brine by crystallization.

### 3,384,460 PRODUCTION OF CARBON BLACK

Burton F. Latham, Jr., Houston, Tex., assignor to Continental Carbon Company, Houston, Tex., a corporation of Delaware  
Filed May 27, 1965, Ser. No. 459,311  
9 Claims. (Cl. 23-314)



Apparatus and process for producing a finished carbon black having reduced structure properties. Carbon black

is collected and passed to a grinding mill containing a reducing atmosphere derived as dried reactor effluent gas. The black particles are milled to mechanically reduce the structure of the carbon particles, and the particles are then wet pelletized and dried for conversion to a finished product.

### 3,384,461 PROCESS FOR PREPARING THIOTRITHIAZYL HALIDES

Margot Becke, Heidelberg, Germany, assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia  
No Drawing. Filed Feb. 5, 1964, Ser. No. 342,772  
Claims priority, application Germany, Oct. 25, 1963, B 74,014  
9 Claims. (Cl. 23-357)

Process for the preparation of thiotrithiazyl halides having the formula  $S_2N_2Y$  by passing ammonia gas into a sulfur halide in a diluent inert to sulfur halides, discontinuing the introduction of ammonia when the color of the reaction mixture is gray-green to black and thiotrithiazyl halide has precipitated and separating said thiotrithiazyl halide from said reaction mixture.

### 3,384,462 PROCESS FOR PREPARING TETRAMERIC PHOSPHONITRILIC CHLORIDE

Ekkehard Fluck, Heidelberg, Germany, assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia  
No Drawing. Filed Mar. 18, 1964, Ser. No. 352,964  
Claims priority, application Germany, Aug. 19, 1963, F 40,529  
11 Claims. (Cl. 23-357)

Process for preparing pure tetrameric phosphonitrilic chloride by heating a mixture of an inert organic diluent, an iminodiphosphoric chloride and elementary phosphorus at 30° C. to 200° C. to form a reaction mixture containing by-product phosphorus trichloride, said tetramer and said diluent, fractionally distilling said reaction mixture to separate over-head said phosphorus trichloride, said diluent and finally said tetramer.

### 3,384,463 GRAPHITE METAL BODY COMPOSITE

Franciszek Ostowski, Freeport, and John J. Newport III, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed Mar. 22, 1965, Ser. No. 441,879  
8 Claims. (Cl. 29-180)

This invention relates to metal-expanded graphite composites which have a significantly lower density than the metal employed as the metal phase. Such composites contain from about 0.1 to about 25 weight percent of vermicular expanded graphite having a density of from about 0.2 to about 10 lbs. per cubic foot intimately admixed with the metal phase.

### 3,384,464 TUNGSTEN STRUCTURES

Richard H. Kroch, Peabody, and Edward J. Zdanuk, Lexington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware  
Original application Feb. 16, 1966, Ser. No. 527,902, now Patent No. 3,318,696, dated May 12, 1967. Divided and this application Mar. 6, 1967, Ser. No. 652,381  
10 Claims. (Cl. 29-182.1)

A tungsten body having an impervious composite skin of tungsten and a second metal. The composite skin having a uniform depth and surrounding and integral with a sintered core of tungsten having a controlled porosity.

### 3,384,465 IRON BONDED TUNGSTEN CARBIDE

Michael Humenik, Jr., Allen Park, and David Moskowitz, Oak Park, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Continuation-in-part of application Ser. No. 557,397, June 14, 1966. This application June 22, 1967, Ser. No. 653,293  
1 Claim. (Cl. 29-182.8)

This invention teaches a hard high strength sintered compact which is basically tungsten carbide bonded by an alloy of iron and nickel. The nickel content of the bonding alloy is responsible for transverse rupture strengths as high as 600,000 pounds per square inch.

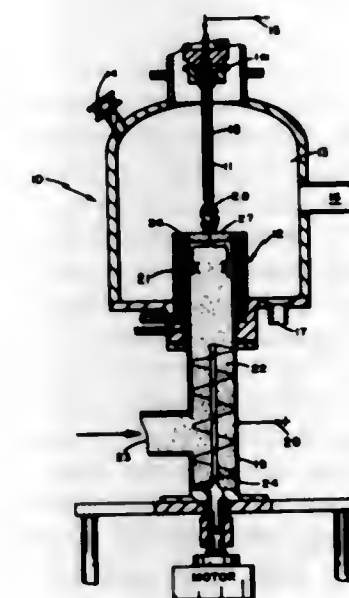
### 3,384,466 AMINE-PHOSPHATES AS MULTI-FUNCTIONAL FUEL ADDITIVES

Alexander H. Popkin, Maplewood, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware  
Continuation of application Ser. No. 209,414, July 12, 1962. This application Feb. 21, 1967, Ser. No. 617,723  
8 Claims. (Cl. 44-72)

Motor fuels boiling in the range of from about 80° to about 420° F. containing novel additives in the amount of between about 2 lbs. and about 80 lbs. of additives per 1,000 barrels of motor fuel, which additives are mono  $C_{12}$ - $C_{20}$  alkyl and di  $C_{12}$ - $C_{20}$  alkyl phosphoric acid esters fully neutralized with primary  $C_1$ - $C_6$  alkyl amines in which the resultant amine salts are treated at a temperature of between about 220° and about 350° F. for from 1 to about 18 hours.

### 3,384,467 METHOD OF AND MEANS FOR CONVERTING COAL

Paul R. Ammann, Watertown, Raymond F. Eddow, Belmont, and Thomas W. Mix, Dover, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware  
Filed Feb. 3, 1964, Ser. No. 342,180  
8 Claims. (Cl. 48-65)



The invention covers a process and means for rapidly decomposing carbonaceous material, coal in particular, into lower molecular weight hydrocarbons. The decomposition is accomplished by causing the carbonaceous material to absorb heat at a rate in the order of several hundred B.t.u.'s/lb.-sec. While the heat could be supplied from any convenient source, an embodiment using an electric arc furnace is preferred and described.

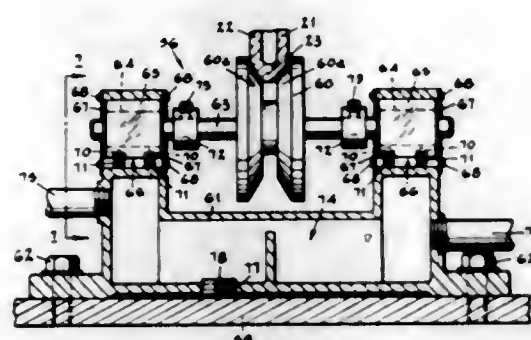


3,384,468

**APPARATUS FOR PRODUCING MULTIPLE SHEET GLAZING UNIT**

Harry N. Dean, Perrysburg, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Feb. 10, 1965, Ser. No. 431,659  
3 Claims. (Cl. 65—152)



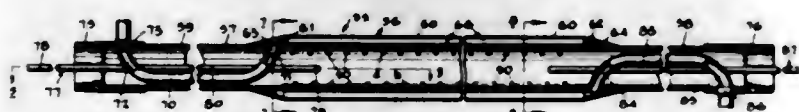
A self-centering edge forming roller for use in the production of all-glass multiple sheet glazing units. The roller is carried by horizontal shaft portions which are slidably mounted in bearing members for free horizontal movement whereby the roller will be centered at all times with respect to the edge portions of the glass sheets which are being fused to one another to form the sealed edge of the unit. Means are also provided for urging the roller toward the glass sheets.

3,384,469

**INTERNALLY COOLED HOT GLASS CONTACTING ROLL**

William E. McCown and Richard E. Warren, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Mar. 5, 1965, Ser. No. 437,380  
14 Claims. (Cl. 65—193)



An internally cooled roll of particular utility for use in contact with hot glass. The roll comprises an elongated hollow body and an elongated conduit mounted concentrically therein in spaced relation thereto to form a longitudinally extending annular passage therebetween, with said conduit having openings communicating with the interior of the body. Extending lengthwise of the conduit are a plurality of spaced longitudinal passageways adjacent said openings. A temperature controlling fluid is circulated through said passageways and a separate temperature controlling fluid is also supplied to the conduit, from which it passes through the openings therein into said body and thence outwardly from the opposite ends thereof, means being provided for exhausting the temperature controlling fluid from said passageways.

3,384,470

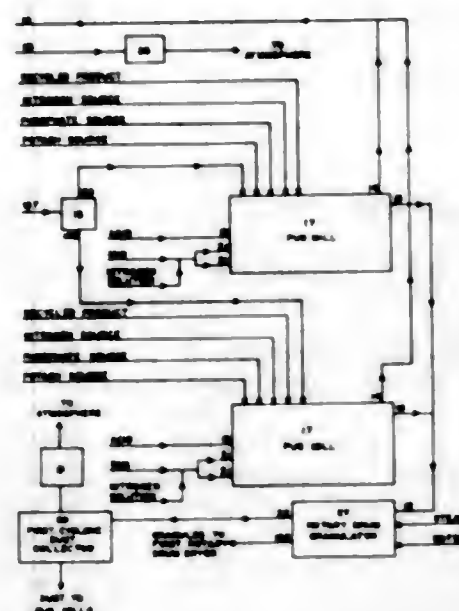
**CONTINUOUS MULTISTEP PROCESS FOR PREPARING GRANULAR MIXED FERTILIZERS**

Joseph E. Reynolds, Jr., Aloysius J. Kelly, and Richard H. Perkins, Towson, Md., and Bert W. Crow, Joplin, Mo., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Nov. 9, 1966, Ser. No. 593,195  
3 Claims. (Cl. 71—35)

In abstract, a process for mixing and granulating fertilizer ingredients. The ingredients are slurried, granulated,

smoothed, dried, and screened in such a way as to continuously produce product granules of uniform particle



size, while concurrently recycling fines and crushed oversize particles.

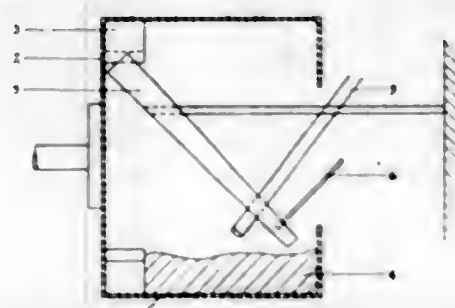
3,384,471

**PROCESS FOR GRANULATING AMMONIUM NITRATE COMPOSITIONS**

Irene Hudson Monks, Alva, and Hubert Charles Oldland and Robert Stewart Stevenson, Edinburgh, Scotland, assignors to Scottish Agricultural Industries Limited, Edinburgh, Scotland, a corporation of Great Britain

Filed Feb. 14, 1966, Ser. No. 527,197  
Claims priority, application Great Britain, Feb. 19, 1965, 7,283/65

8 Claims. (Cl. 71—59)



There is provided an improved process for granulating compositions containing ammonium nitrate wherein the composition is dissolved in a liquid phase, granulated and dried. The improvement comprises using as the liquid phase required for granulation a solution of ammonium nitrate in substantially anhydrous liquid ammonia and effecting the granulation under substantially anhydrous conditions. Most advantageously, the solution of ammonium nitrate contains less than 0.5% by weight of water and at least 60% by weight of ammonium nitrate. The granulation process is advantageously carried out between  $-10^{\circ}\text{C}$ . and  $40^{\circ}\text{C}$ . The composition to be granulated may also contain other materials compatible with ammonium nitrate and liquid ammonia.

3,384,472

**METHOD AND COMPOSITION FOR INHIBITING PLANT GROWTH**

Dorsey R. Russell, Clare, and Theodore W. Holmsen, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 1, 1965, Ser. No. 505,953  
10 Claims. (Cl. 71—104)

A method and composition for the control of plants comprising, as the active ingredient in such method and

composition, a phenyl thiocyanate such as (4-hydroxyphenyl)thiocyanate, (3-bromo-5-chloro-4-(methylcarbamoyloxy)phenyl)thiocyanate or (2-bromo-4-hydroxyphenyl)thiocyanate. The method comprises applying to the above-ground portion of the plant of subdivision Angiospermae, a growth-inhibiting amount of one or more of the phenyl thiocyanate compounds.

3,384,473

**DERIVATIVES OF N-PHENYL-N-BENZOYL UREAS AS HERBICIDES**

Daniel Pilon, Lyon, and Pierre Polignat, Saint-Rambert-l'Île-Barbe, France, assignors to Société d'ite: Pechiney-Progil, Paris, France

No Drawing. Filed Oct. 23, 1964, Ser. No. 406,171  
Claims priority, application France, Oct. 25, 1963, 951,808

9 Claims. (Cl. 71—120)

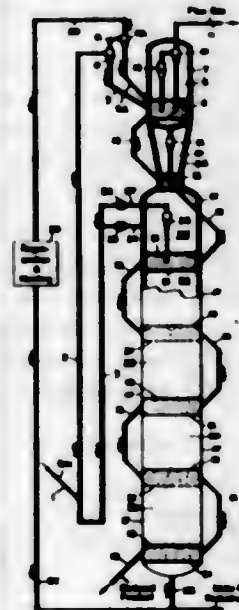
The growth of plants is controlled by using as a herbicidal agent an N-phenyl-N-benzoyl urea in which at least one hydrogen on the second urea nitrogen is replaced by at least one alkyl, alkoxy, alkenyl or alkynyl group containing less than 5 carbon atoms. The benzoyl group can be substituted by lower alkyl or alkoxy groups, halogen, nitro, or nitrile.

3,384,474

**REDUCTION OF IRON ORE**

John E. Idenden, Belleville, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

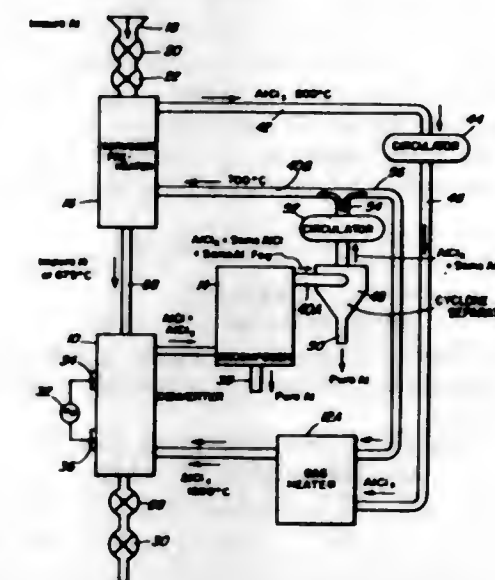
Filed Mar. 3, 1966, Ser. No. 531,407  
9 Claims. (Cl. 75—26)



1. In a process for the production of metallic iron from iron ores wherein a particulate iron ore feed is introduced to a series of fluidized ore beds and progressively reduced, at temperatures ranging from about  $1000^{\circ}\text{F}$ . to about  $1800^{\circ}\text{F}$ ., by passage of the ore from one bed to the next of the series of beds countercurrent to the flow of an ascending reducing gas stream introduced into a lower bed of the series, the improvement which comprises the steps of providing a circulatory stream by passing gas from a high pressure disperse phase zone, located above and contiguous to a bed, to a relatively low pressure zone, introducing iron ore feed into the circulatory stream to form an iron ore gas-solids disperse phase, transporting the iron ore gas-solids disperse phase to said low pressure zone, separating the ore from the gas, forming and passing a dense phase column of ore downwardly into an initial bed of said series of fluidized ore beds wherein the pressures range higher than that of the said low pressure zone.

3,384,475  
**ALUMINUM REFINING**  
Norman W. F. Phillips and Frederick William Southam, Arvida, Quebec, Canada, assignors to Aluminum Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Sept. 8, 1965, Ser. No. 485,862  
14 Claims. (Cl. 75—68)



1. An improved subhalide distillation process for the recovery of aluminum comprising the steps of passing a normal halide of aluminum in preheated gaseous form through divided solid impure aluminum bearing material while supplying heat thereto so that at least a portion of the gaseous halide reacts with the aluminum in the material to produce a gaseous aluminum subhalide, removing the subhalide containing gas and decomposing it at a lower temperature to obtain the reverse reaction in which the subhalide reverts to the normal aluminum halide and releases pure aluminum, and then passing at least a portion of the decomposed gases through a new charge of the solid impure aluminum bearing material for the preheating thereof prior to reaction with the preheated normal halide.

8. In apparatus for subhalide refining of aluminum, in combination, a refining system comprising a preheater arranged to receive aluminum-containing charge material and having gas inlet and outlet means, a converter connected and arranged to receive said charge material after preheating in said preheater and having gas inlet and outlet means for passage of halide gas to react with aluminum of the charge material at high temperature, a decomposer having gas inlet and outlet means with said gas inlet means connected with the gas outlet of the converter and arranged to receive reacted gas therefrom for depositing pure aluminum metal and discharging halide gas, the gas inlet means of said preheater being connected with the gas outlet means of said decomposer to receive at least a portion of the halide gas discharged therefrom, said preheater being operable to circulate said halide gas through the charge material therein to scrub said halide gas and preheat the charge material.

3,384,476

**ALLOY STEEL AND METHOD OF MAKING SAME**

Lennart Oskar Egnell, Sandviken, Sweden, assignor to Sandvikens Jernverk AB, Sandviken, Sweden, a corporation of Sweden

Filed Nov. 19, 1964, Ser. No. 412,441  
Claims priority, application Sweden, Nov. 22, 1963, 12,911/63

12 Claims. (Cl. 75—128)

An austenitic chromium-nickel steel having very high creep strength at high temperatures under prolonged con-



ditions of heavy loading comprises 0.03-0.20% carbon, up to 1.0% silicon, up to 4.0% manganese, 13.0-20.0% chromium, 10.0-35.0% nickel, 0.3-0.8% titanium, 0.2-1.7% molybdenum, at least 0.002 but not more than 0.020% boron, not more than 0.018% nitrogen, not more than a total of 1.0% of metals selected from a first group consisting of vanadium, tungsten, columbium and tantalum, up to 1.0% cobalt, up to 0.5% copper, up to 0.2% of each of a metal selected from a second group consisting of cerium and zirconium, and iron the balance save for insignificant quantities of impurities.

The desired properties of this alloy composition are realized by carrying out a steel-making procedure involving either vacuum melting or vacuum casting or both and subsequent hot working, annealing and cold working steps.

3,384,477

## ALUMINUM ALLOYS

Romeo A. Zuech, Woodland Hills, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

No Drawing. Filed Feb. 24, 1966, Ser. No. 529,654

3 Claims. (Cl. 75-142)

1. An aluminum alloy comprising:

|           | Weight percent |
|-----------|----------------|
| Ni        | 4.0 to 5.0     |
| Mg        | .5 to 1.5      |
| Si        | .4 to 1.4      |
| Be        | .03 to .50     |
| Ti        | .03 to .30     |
| Cu        | .03 to 1.0     |
| Cr        | .03 to .30     |
| Fe, up to | .30            |
| Mn, up to | .10            |
| Zn, up to | .10            |

with the remainder being Al.

3,384,478

## NICKEL-CHROMIUM ALLOYS

Miles S. Firnhaber, Rte. 3, Pewaukee, Wis. 53072

No Drawing. Filed Jan. 17, 1966, Ser. No. 520,888

2 Claims. (Cl. 75-171)

1. An alloy consisting of the following ingredients in percentages by weight:

|    |             |
|----|-------------|
| C  | 0.13-0.17   |
| Mn | 1.00-1.04   |
| Fe | 1.90-2.9    |
| Si | 0.84-1.14   |
| W  | 3.13-4.13   |
| Co | 1.55-2.05   |
| Cr | 32.15-34.15 |
| Ni | 52-55       |
| Mo | 3.46-3.96   |

said alloy being characterized by resistance to corrosive attack by molten glass, having superior creep resistance, having strength at elevated temperatures, and imparting resistance to deformation to articles made therefrom.

3,384,479

## COLUMBIUM-BASE ALLOYS

Winston H. Chang, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

No Drawing. Filed July 8, 1965, Ser. No. 470,560

3 Claims. (Cl. 75-174)

Columbium-base alloys consisting essentially of, by weight, about 30% W, 0.05-0.12% C, 0.5-6.0% of Ti, Zr, or Hf, or combinations thereof have been found to have very high creep and tensile strengths at elevated temperatures and are ductile and fabricable at low temperatures.

### 3,384,480 OXIDATION RESISTANT BRAZING AND COATING MATERIALS AND METHOD OF MAKING THE SAME

Michael H. Snyderman, New York, N.Y., assignor to Curtiss-Wright Corporation, a corporation of Delaware

No Drawing. Filed Nov. 17, 1965, Ser. No. 508,372

8 Claims. (Cl. 75-175.5)

1. A brazing and coating material consisting essentially of the following elements by weight: titanium 45-55%, tantalum 40-50%, silicon 3-8%.

3,384,481

### METHOD OF FORMING COMPOSITES OF THERMALLY UNSTABLE MATERIALS

Irwin Broverman, Chicago, Ill., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed July 6, 1967, Ser. No. 651,617

7 Claims. (Cl. 75-201)

The method includes blending a metal powder with another powder material that is thermally unstable to form a mixture, hermetically canning the powder mixture, and consolidating the hermetically-canned powder mixture into a solid mass by mechanical deformation processing at a temperature below the dissociation temperature of the thermally unstable component.

3,384,482

### METHOD OF MAKING A SINTERED ZINC BATTERY ANODE STRUCTURE

Francis John Kelly, Toronto, Ontario, and Franciszek Przybyla, Port Credit, Ontario, Canada, assignors to Mallory Battery Company of Canada Limited, Sheridan Park, Ontario, Canada

Filed Apr. 27, 1967, Ser. No. 634,227

Claims priority, application Canada, May 20, 1966, 960,875

6 Claims. (Cl. 75-201)

This specification discloses a porous zinc metal body defined by an open three dimensional network of sintered zinc particles formed by mixing the particles with a filler of sublimable ammonium halide and benzoic acid which determines the percentage of voids. A compact is formed with the mixture and is subjected to a sintering temperature less than melting temperature of zinc at less than atmospheric pressure. A two step heating cycle initially at lower temperature during sublimation of the filler followed by a higher sintering temperature is also disclosed.

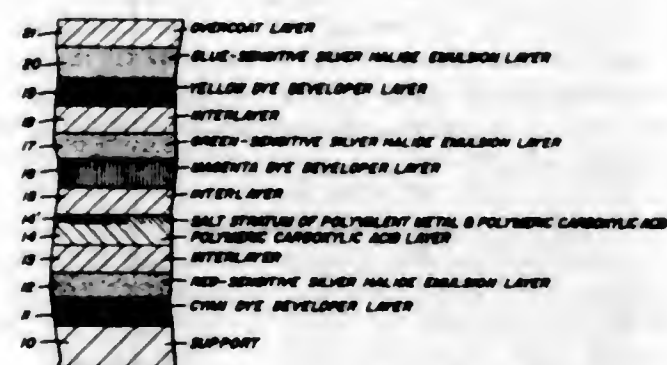
3,384,483

### MULTICOLOR DYE DEVELOPER IMAGE TRANSFER SYSTEMS

Richard W. Becker, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Mar. 23, 1964, Ser. No. 353,706

17 Claims. (Cl. 96-29)



Photographic elements having at least two adjacent dye image forming units, each of which comprise silver halide

emulsion and dye developer contiguous to the silver halide of the emulsion, separated by an alkali-permeable, water-insoluble stratum of a polyvalent metal salt and a film forming, alkali-permeable, water-soluble polymer having free carboxylic acid groups, the stratum being less permeable to dye developer in aqueous alkaline solution than the polymeric carboxylic acid used to prepare the salt stratum.

3,384,484

### SILVER HALIDE PHOTOGRAPHIC MATERIALS CONTAINING ORGANIC HYDRAZONE COMPOUNDS

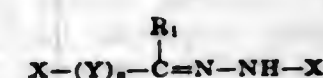
Karl Wilhelm Schranz, Opladen, and Walter Püschel, Cologne-Stammheim, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 17, 1964, Ser. No. 352,649

Claims priority, application Germany, Apr. 11, 1963, A 42,858

4 Claims. (Cl. 96-53)

The preparation of better color images with a relatively stable hydrazone, by improving contrast or color range or providing direct color images of good intensity. The hydrazones have the formula



where X is an organic group capable of mesomerism; Y is  $-C(R_2)_2-$  or  $-CR_2=CR_2-$ ;  $R_2$  is hydrogen, nitrile, alkyl or aryl; n is 1, 2 or 3;  $R_1$  is hydrogen, a kyl aryl, cyclohexyl, aralkyl, styryl or a heterocyclic radical; and X, Y and  $R_1$  can be combined to complete a heterocyclic ring. These hydrazones can be used with either a color developer or a black and white developer.

3,384,485

### SILVER HALIDE EMULSIONS PHOTOSOLUBILIZED WITH OPTICAL SENSITIZING DYES AND SILVER MERCAPTIDES

Ralph Kingsley Blake, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 18, 1964, Ser. No. 390,460

14 Claims. (Cl. 96-64)

1. A photographic silver halide emulsion layer comprising before imagewise exposure to actinic radiation, silver halide crystals having associated therewith

(a) from 0.015 g. to 0.075 g. per mole of silver of an optical sensitizing dye selected from the group consisting of cyanine, carbocyanine and merocyanine dyes, and

(b) a silver mercaptide of an organic mercapto compound, said mercaptide being present in about 90% of the amount, in terms of the ratio of its weight to the surface area of said silver halide crystals, that when admixed in such ratio with an aqueous silver chlorobromide (70/30 mole percent) gelatin dispersion containing 57 g. of gelatin per mole of Ag and .57 mg. of Ag per ml., and said silver chlorobromide dispersion is treated with 10%, by weight, aqueous sodium thiosulfate (so that when the resulting mixture contains 0.29 mg. of silver and 100 mg. of sodium thiosulfate), at least three times the amount of silver chlorobromide remains undissolved as in a similar dispersion successively treated with 5%, by weight, aqueous sodium hypochlorite and 10%, by weight, aqueous sodium thiosulfate (so that the resulting mixture contains 0.29 mg. of silver, 25 mg. of sodium hypochlorite and 100 mg. of sodium thiosulfate), after vigorous agitation of the dispersions for 30 seconds at 25° C.

3,384,486

### MEROCYANINE DYES FOR PHOTOGRAPHIC ELEMENTS CONTAINING AN EXTRACYCLIC TERTIARY AMINO GROUP

Robert C. Taber and Leslie G. S. Brooker, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 4, 1964, Ser. No. 364,808

15 Claims. (Cl. 96-74)

A photographic silver halide emulsion containing incorporated color-forming coupler is advantageously spectrally sensitized with a merocyanine dye containing one basic heterocyclic nucleus and one acidic ketomethylene heterocyclic nucleus in which the ketomethylene nucleus has in its heterocyclic ring at least one nitrogen atom substituted with an extracyclic alkyl group terminating in a tertiary nitrogen atom (extracyclic) because of the ease with which the said dyes are incorporated in the emulsion, and the substantially lower stain left in the immediate emulsions after processing compared to emulsions spectrally sensitized with corresponding merocyanine dyes that do not contain the extracyclic tertiary amino group.

3,384,487

### BUTADIENYL DYES FOR PHOTOGRAPHY

Donald W. Heseltine, Jean E. Jones, and Lewis L. Lincoln, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 1, 1964, Ser. No. 393,684

10 Claims. (Cl. 96-84)

Novel indolebutadienyl dyes prepared by reacting an indolium compound with a cinnamaldehyde compound have valuable light-absorbing characteristics which make them useful in light-sensitive photographic elements and are bleachable. Anhydro-2-(4-p-dimethylaminophenyl)-1,1-dimethyl-1,3-butadienyl-3-(4-sulfobutyl)-1H-benz[e]indolium hydroxide and 3-carboxyethyl-2-(4-p-dimethylaminophenyl)-1,3-butadienyl-1,1-dimethyl-1H-benz[e]indolium iodide, for example, are illustrative of the indolebutadienyl dyes.

3,384,488

### POLYCHROMATIC PHOTOELECTROPHORETIC IMAGING COMPOSITION

Vsevolod Tulagin, Rochester, and Leonard M. Carreira, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 384,737, July 23, 1964. This application July 21, 1967, Ser. No. 655,022

14 Claims. (Cl. 96-88)

An electrophoretic imaging system is described in which a suspension of electrically photosensitive particles in a liquid carrier is placed between a pair of electrodes, one of which is transparent, and the suspension is subjected to an electric field and exposed to an image. A particle image is formed by migration in the suspension on at least one electrode. Where a polychromatic image is desired, the particles have at least two different colors. Each particle comprises a pigment which is both the primary electrically photosensitive ingredient and the primary colorant for the particle.

3,384,489

### SENSITIZED SILVER HALIDE EMULSIONS CONTAINING N,α-ALKYLENE BRIDGED SENSITIZING DYES

Lewis L. Lincoln and Donald W. Heseltine, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 226,757, Sept. 27, 1962, now Patent No. 3,282,932, dated Nov. 1, 1966. This application Feb. 17, 1966, Ser. No. 528,107

13 Claims. (Cl. 96-105)

Merocyanine and styryl dyes derived from a N,α-alkylene oxazolium salt, a N,α-alkylene thioxazolium salt or a



N,α-alkylene selenazolium salt are advantageously used to spectrally sensitize hydrophilic colloid silver halide emulsions and photographic elements containing at least one hydrophilic colloid silver halide emulsion layer.

3,384,490

### VACUUM DEPOSITED SILVER HALIDE PHOTOGRAPHIC ELEMENT

William W. Rees, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,725  
7 Claims. (Cl. 96—110)

Photographic elements, incorporating a binderless layer of vacuum-deposited silver halide as the light-sensitive component, can be chemically sensitized with gold and other metal salts without an increase in fog by including the combination of a thiosulfate salt and a thiocyanate salt as an antifoggant.

3,384,491

### PROCESS FOR PRODUCING HIGH PROTEIN FEED SUPPLEMENTS FROM HYDROCARBONS

Karl R. Guenther, Livonia, Mich., and Michael B. Perkins, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware  
Continuation-in-part of application Ser. No. 281,895, May 21, 1963. This application Apr. 15, 1964, Ser. No. 360,141

11 Claims. (Cl. 99—9)

High protein food is obtained by growing bacteria on hydrocarbons in a reactor wherein the bacteria are in the log phase and are maintained in a concentration at least as great as that for which the exponential increase in population increment is equal to the increment continuously withdrawn, the liquid residence time in said reactor being maintained at 1.5 to 4 times the minimum generation time for the reactor.

3,384,492

### COFFEE BAG

Joseph T. Spencer, Mount Morris, Mich., assignor of twenty-five percent to R. Duncan Tremaine, Flint, Mich.

Filed May 5, 1965, Ser. No. 453,455  
4 Claims. (Cl. 99—77.1)



A disposable beverage brewing package having a brewing granule containing outer bag into which an inwardly extending inner bag extends from the mouth of the outer bag so that a spoon can be inserted into the inner bag enabling vigorous movement of the bag in a brewing liquid and also enabling the lifting of the bag from the liquid so that brewing liquid in the inner bag drains

through the brewing granules to accelerate the beverage brewing time.

3,384,493

### COATED RICE AND METHOD OF PREPARING SAME

Robert E. Ferrel, Richmond, Calif., assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Nov. 4, 1964, Ser. No. 409,028  
10 Claims. (Cl. 99—83)

Coated white rice having a glazed or vitreous appearance is prepared by coating white (milled) rice with corn syrup and an edible agent which provides the required sheen. Examples of this agent are calcium acetate, calcium citrate, calcium lactate, maltose, galactose, sucrose, and lactose.

3,384,494

### PROCESS FOR PREPARING PASTRY CRUST MIXES

Edward E. Colby, Cincinnati, and August Kokal, Jr., Springdale, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio  
Filed Apr. 15, 1965, Ser. No. 448,313

10 Claims. (Cl. 99—94)

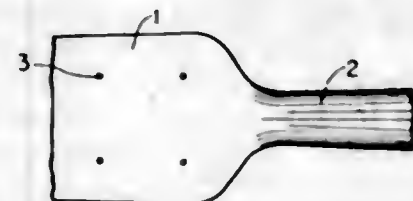
Preparation of a dry-free flowing pastry crust mix wherein a shortening composition having an SCI value of about 12 to 17 at 70° F. is firm to a penetration value of about 50 to 120 mm./10, formed into pieces retaining their crystalline structure, mixed with flour in a high and subsequently low holdup mixer to produce a mix comprising discrete lumps of shortening.

3,384,495

### SNACK FOOD IN THE SHAPE OF A SCOOP HAVING A FLAT BLADE AND A CYLINDRICAL HOLLOW HANDLE

Archibald L. Potter, Jr., Berkeley, Mary L. Belote, Albany, and Horace K. Burr, El Cerrito, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Oct. 16, 1963, Ser. No. 316,779  
6 Claims. (Cl. 99—100)



Preparation of a snack food by rolling dough into a thin sheet, cutting the dough into a blank in the shape of a paddle having a blade and a handle section, perforating the blank solely in the blade section, baking the perforated dough blank to yield a product which has a flat blade section and a puffed handle section.

3,384,496

### APPLE PRODUCT

Radcliffe Franklin Robinson, Highland Park, Ralph Fine, East Brunswick, William Hubert Lehman, New Brunswick, and David R. Davis, Somerville, N.J., assignors to Colgate Palmolive Company, New York, N.Y., a corporation of Delaware

Filed Aug. 19, 1964, Ser. No. 390,609  
2 Claims. (Cl. 99—204)

A process for preparing convoluted, dried apple slices which comprises heating apple slices having a biologically normal moisture content to render said slices pliant and reduce the moisture content thereof, convoluting said

slice to form a three dimensional configuration wherein at least a part of the perimeter and adjacent area of one side of said slices and at least part of the perimeter and



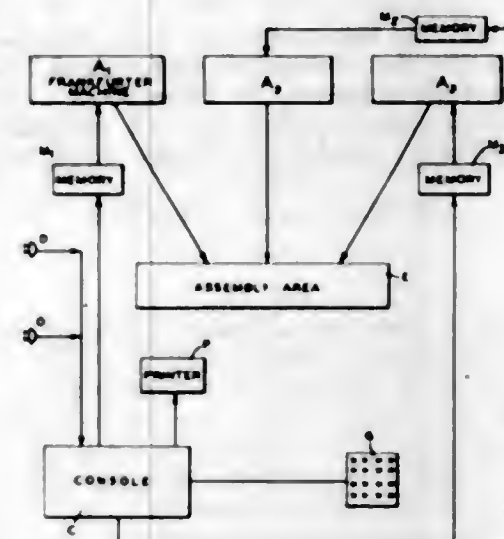
adjacent area of the opposite side of said slices are bent proximate to one another and rapidly cooling said convoluted slices to impart a brittle nature thereto; and the convoluted apple slice produced by the process.

3,384,497

### AUTOMATIC COOKING MACHINE

Albert H. Gassmann, Floral Park, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Apr. 6, 1965, Ser. No. 445,921  
16 Claims. (Cl. 99—334)



A frankfurter machine comprising a pair of parallel spaced conveyors travelling one above the other in the same direction and each having a receiving end; a bread dispenser adjacent the receiving end of the lower one of said conveyors, a meat product dispenser at the receiving end of the upper one of said conveyors; said dispensers being automatically operable, upon demand, to deposit said bread and meat product, respectively, on said upper and lower conveyors; said upper conveyor having a delivery end directly above said lower conveyor at an assembly station and said conveyors being timed to effect transfer of a meat product from said upper conveyor to bread carried by the lower conveyor at said assembly station; and heating means adjacent said conveyors at locations thereof between said receiving ends and said assembly station.

3,384,498

### PLASTIC MODELING COMPOSITION

Robert B. Ahlrich, Lafayette, La., assignor to Oil Center Research, Inc., a corporation of Louisiana

No Drawing. Filed Jan. 4, 1967, Ser. No. 607,160  
10 Claims. (Cl. 106—38.5)

A plastic composition comprising manogalactan gum, alkali metal borate, boric acid, high molecular weight polysaccharide, bacteriostat, fungistat, filler, colorant and perfume.

3,384,499

### CRYSTALLINE BONDED CERAMIC WARE PRESSING MOLD AND METHOD OF MAKING SAME

Andrew R. Blackburn, Westerville, and Virgil D. Kendall, Springfield, Ohio, assignors to The Murray Corporation of America, Pittsburgh, Pa., a corporation of Delaware  
No Drawing. Filed Sept. 18, 1963, Ser. No. 309,870

12 Claims. (Cl. 106—38.9)

1. A porous crystalline bonded ceramic mold comprising at least 70% alumina, up to 15% ball clay and up to 15% talc fired to a point short of the theoretical density for the ceramic to provide substantially uniformly distributed porosity, said mold having characteristics appropriate for use in ware forming operations.

3,384,500

### REFRACTORY

Robert F. Patrick, Louisville, Ky., and Thomas M. Wehrenberg, Buckhannon, W. Va., assignors to Corhart Refractories Company, Inc., Louisville, Ky., a corporation of Delaware

No Drawing. Filed Feb. 24, 1965, Ser. No. 435,083  
9 Claims. (Cl. 106—59)

1. A batch for the production of refractory articles and linings in which the refractory ingredients thereof consist essentially of a mixture of fused cast refractory particles,

(a) said particles analytically consisting essentially of, by weight, at least 40% MgO and at least one other constituent selected from the group consisting of: (1) less than 30% oxide selected from the group consisting of FeO, CaO, BaO, SrO and mixtures thereof, (2) up to 58% Cr<sub>2</sub>O<sub>3</sub>, (3) up to 40% Al<sub>2</sub>O<sub>3</sub>, (4) up to 18% TiO<sub>2</sub>, (5) not more than 5% SiO<sub>2</sub> and (6) up to 7% fluorine, the sum of MgO plus said other constituent or constituents being at least 95% of said particles,

(b) said mixture of particles being composed of, by weight, 40 to 70% of coarse particles, 0 to 20% of medium particles and 20 to 50% of fine particles,

(c) said coarse particles having a cumulative particle size distribution as follows:

| Tyler Mesh No. | Particle Size (microns) | Cumulative percent by weight left on screen |         |
|----------------|-------------------------|---|---------|
|                |                         | Maximum                                     | Minimum |
| 4              | 4,760                   | 0   | 0       |
| 6              | 2,500                   | 16  | 6       |
| 8              | 2,360                   | 52  | 44      |
| 10             | 1,680                   | 84  | 78      |
| 12             | 1,410                   | 94  | 90      |
| 20             | 840                     | 99  | 99      |

(d) said medium particles having a cumulative particle size distribution as follows:

| Tyler Mesh No. | Particle Size (microns) | Cumulative percent by weight left on screen |         |
|----------------|-------------------------|---|---------|
|                |                         | Maximum                                     | Minimum |
| 10             | 1,680                   | 0   | 0       |
| 14             | 1,190                   | 16  | 8       |
| 28             | 580                     | 81  | 75      |
| 35             | 520                     | 95  | 91      |

(e) said fine particles having a cumulative particle size distribution as follows:

| Tyler Mesh No. | Particle Size (microns) | Cumulative percent by weight left on screen |         |
|----------------|-------------------------|---|---------|
|                |                         | Maximum                                     | Minimum |
| 35             | 420                     | 0   | 0       |
| 60             | 250                     | 2   | 0       |
| 65             | 210                     | 3   | 1       |
| 80             | 177                     | 4   | 2       |
| 100            | 149                     | 6   | 3       |
| 150            | 105                     | 12  | 4       |
| 200            | 74                      | 18  | 10      |
| 325            | 44                      | 28  | 20      |



### 3,384,501 STEARATO CHROMIC CHLORIDE PRINTING PROCESS

James S. Crump, Mobile, Ala., assignor to International Paper Company, New York, N.Y., a corporation of New York

No Drawing. Continuation of application Ser. No. 405,844, Oct. 22, 1964. This application June 26, 1967, Ser. No. 649,052

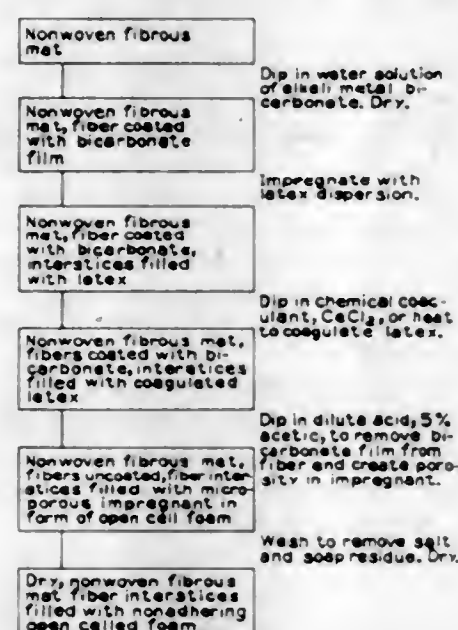
2 Claims. (Cl. 106—287)

A process of printing a stearato chromic chloride formulation at spaced intervals on wrapping paper by means of a printing press for the purpose of having such formulation serve as an adhesive releasing agent where printed.

### 3,384,502 PROCESS FOR MAKING PERMEABLE SHEET MATERIAL

Archie B. Japs, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Nov. 2, 1964, Ser. No. 408,380  
6 Claims. (Cl. 117—5.5)



1. The method of making flexible moisture vapor permeable sheet material which comprises the steps of immersing a fibrous mat in an aqueous solution of a material selected from the group consisting of alkali metal carbonates and bicarbonates to coat the entire surfaces and intersection points of said fibers with a film of said aqueous solution, drying said film to the solid state, impregnating said pretreated mat throughout with a polymeric latex, said latex filling the interstices between said coated fibers, but not adhering to said fibers themselves, coagulating said latex, dipping said mat in a dilute acid to react with the said carbonate solid film, washing said mat with water to remove salt and soap residues, and drying said mat.

### 3,384,503 PROCESS FOR THE FORMATION OF THIN OPAQUE COATINGS

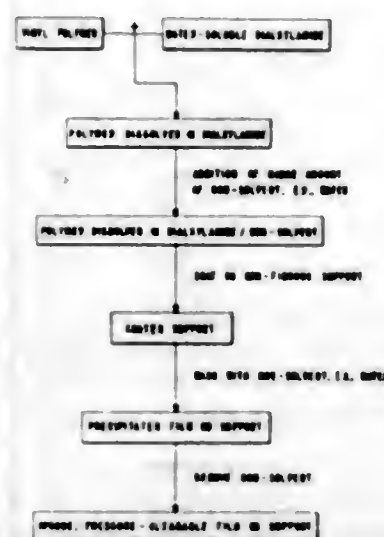
Halsey Bidwell Stevenson, McDaniel Heights, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 176,134, Feb. 27, 1962. This application July 10, 1964, Ser. No. 381,652

11 Claims. (Cl. 117—36.7)

Process for forming thin, opaque pressure-clearable vinyl polymer films (a) by coating a support with a solution of a vinyl addition polymer in a water-soluble di-

alkylamide, the solution containing water or alkanols of 1-4 carbon atoms or mixtures in an amount of 45%-97% of that required to produce a hazy solution, (2) treating



the coating with water or an alkanol to extract said dialkylamide before evaporation of said dialkylamide, and (3) removing said water or alkanol from the coating.

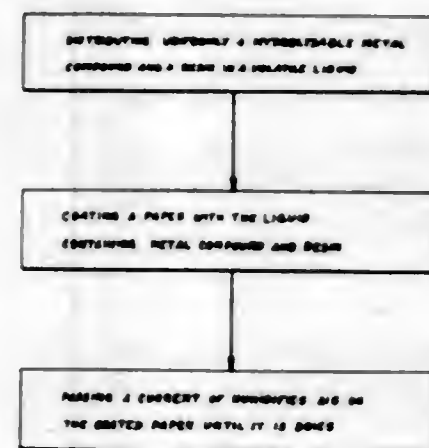
### 3,384,504 COPYING PAPER AND METHOD OF MAKING

Marc Henri Marie Joseph Ernst, Croix, France, assignor to Société dite: Les Petits-Fils de Leonard Danel, Loos, France, a body corporate of France

Filed Sept. 11, 1964, Ser. No. 395,944

Claims priority, application France, Sept. 19, 1963, 948,019

20 Claims. (Cl. 117—36.3)



This invention relates to manufacturing a coated paper by distributing uniformly in a volatile liquid a metal compound and a synthetic resin, said metal compounds being hydrolysable with an evolution of gas in situ, by depositing on a paper some of the liquid containing said resin and metal compound, then by hydrolysing the metal compound contained therein, and finally by drying completely the coated paper.

### 3,384,505 IMPREGNATION AND PARTIAL POLYMERIZATION OF RESIN COATED WOUND GLASS FIBER PACKAGE

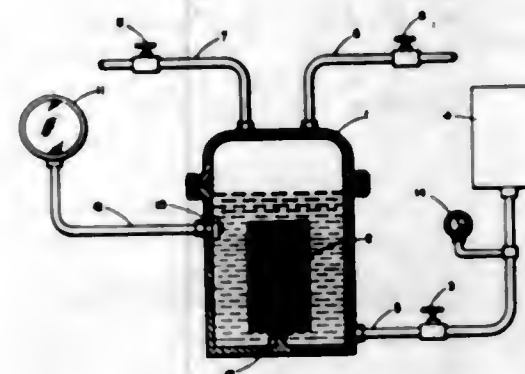
Walter B. Palmer, Duarte, and Robert E. Smith and John P. McNally, Azusa, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

Filed July 12, 1963, Ser. No. 294,521

5 Claims. (Cl. 117—54)

This invention relates to a novel method of performing in-the-package application of a resin coating to fibrous materials, preferably glass fibers, and cloth ma-

terials woven from such fibers. The particular feature of the method is the coating of fibers of a wound package



of fibers with a resin, the fibers remaining in wound package form while thus being resin coated.

### 3,384,506 HYDROPHILIC URETHANE COMPOSITIONS AND PROCESS FOR PREPARATION OF MOISTURE CONTAINING BREATHABLE FABRICS

Harold L. Elkin, Levittown, Pa., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed May 18, 1964, Ser. No. 368,378

10 Claims. (Cl. 117—62)

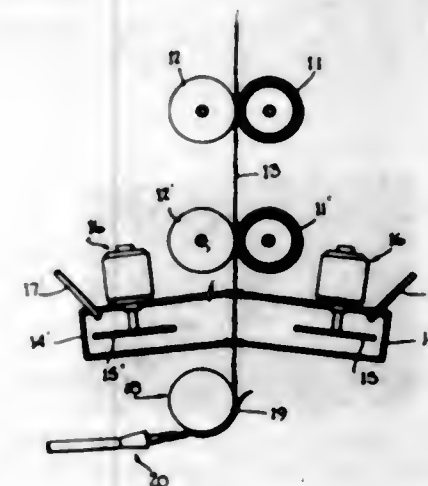
Hydrophilic urethane compositions are provided, with a process for their use, whereby fabrics may be coated and/or impregnated to further provide moisture containing breathable fabrics.

### 3,384,507 DOUBLE DISC LIQUID APPLICATOR FOR TOW AND METHOD OF USING

Joseph R. Godwin and George A. Watson, Charlotte, N.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Filed Apr. 6, 1964, Ser. No. 357,651

15 Claims. (Cl. 117—105.3)



A method and apparatus for the treatment of an elongate fibrous base member, especially a tow comprising several thousand crimped synthetic filaments, with a fluid form material such as a plasticizer for said filaments by centrifugally projecting said fluid form material from at least two disc-like members disposed in upwardly canted transverse planes across a vertical tow path defined, for example, between tow opening and air spreading equipment in a cigarette filter making operation.

### 3,384,508 METHOD OF GLAZING SEMICRYSTALLINE GLASS-CERAMIC ARTICLES AND RESULTANT INTERMEDIATE LAYER CONTAINING COMPOSITE

Harold F. Bopp, John E. Megles, and Joseph W. Morrissey, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 175,904, Feb. 26, 1962. This application Jan. 8, 1964, Ser. No. 339,061

8 Claims. (Cl. 117—123)



This invention relates to the glazing of glass-ceramic articles and, more particularly, to the application of glazes which react with the glass-ceramic article to form a layer therebetween comprising crystals extending into and thereby tightly bonding the glaze to the glass-ceramic article.

### 3,384,509 PAPER COATED WITH REACTION PRODUCT OF ESTER RESIN WITH AMINE-ALDEHYDE RESIN

Daniel Dickerson Rittson, Riverside, and Ralph Earl Layman, Jr., Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,017

10 Claims. (Cl. 117—155)

The invention provides paper which carries a glossy grease-resistant coating and which is suitable for use as restaurant menus and mechanics' instruction manuals. The coating is a reaction product of a toluene-soluble water-insoluble substantially neutral branched chain polyhydroxy phthalic anhydride-dimerized unsaturated higher fatty acid-glycol-polyol ester resin and 40 to 10 parts by weight as anti-blocking agent of a toluene-soluble thermosetting alkylated amino-formaldehyde resin.

### 3,384,510 SHEATHED ELECTRIC HEATING ELEMENTS

Alben C. Bopp, Pittsburgh, Pa., assignor to Edwin L. Wiegand Company, Pittsburgh, Pa.

No Drawing. Filed Jan. 26, 1965, Ser. No. 428,196

2 Claims. (Cl. 117—219)

A fired coating on the metallic sheath of an electric heating element to enhance the surface emissivity thereof, including a first coating of vitreous enamel and a second coating of a water solution of sodium silicate.

### 3,384,511 CATHODE STRUCTURES UTILIZING METAL COATED POWDERS

Dean W. Maurer, Berkeley Heights, and Charles M. Pleas, Bernardsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 310,040, Sept. 19, 1963. This application Jan. 13, 1966, Ser. No. 520,488

4 Claims. (Cl. 117—224)



Coated and matrix type cathode element destined for use in thermionic tubes include a base member bearing

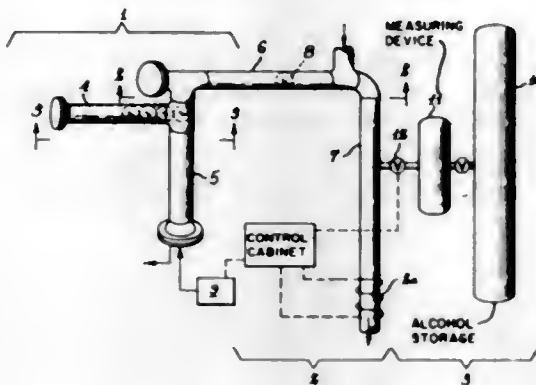


a coating of an emissive material in particulate form, the particles of which have been previously coated with a thin film of a metal.

3,384,512

**PIGGING DEVICE AND DETECTION SYSTEM**  
George A. Frederick, Wheaton, and Leonard E. Burchard, Oak Forest, Ill., assignors to Peoples Development Inc., a corporation of Delaware  
Continuation-in-part of application Ser. No. 505,625, Oct. 29, 1965. This application Oct. 21, 1966, Ser. No. 611,185

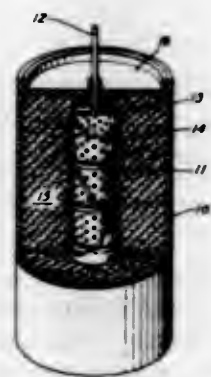
13 Claims. (Cl. 134—8)



A pigging device launching detecting system. Means are provided for launching a pigging device into a carrying line. An electrical sensing means is provided for responding to the passage of a magnet-containing pigging device past a predetermined point in the pipeline. Control means are operable in response to signals from the electrical sensing means and are adapted to regulate the launching means.

3,384,513

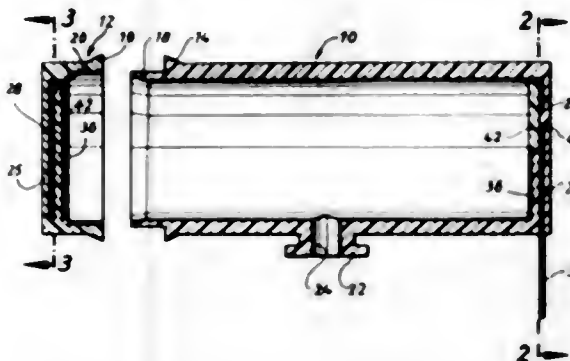
**SEALED NICKEL-CADMIUM CELL**  
Edwin J. McHenry, Millington, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York  
Filed June 28, 1966, Ser. No. 561,246  
1 Claim. (Cl. 136—13)



1. A sealed nickel-cadmium cell comprising a conductive metal outer tube and a tubular positive electrode, said electrode comprising a perforated metal tube containing a mixture of finely divided nickel and nickel hydroxide, said tubular positive electrode being concentrically disposed within said outer tube, a mixture of finely divided cadmium oxide and nickel having a weight ratio of CdO to Ni in the range of 0.1 to 2.0 completely filling the annulus between the tubular positive electrode and the outer tube, means for sealing the cell against the atmosphere and means for making electrical contact external of the cell to the tubular positive electrode and the outer tube.

3,384,514

**CASE FOR ELECTRICAL STORAGE BATTERIES**  
Josef Strobel and Josef Egger, Pforzheim, Germany, assignors to United States Time Corporation, Waterbury, Conn., a corporation of Connecticut  
Filed Jan. 19, 1966, Ser. No. 521,622  
Claims priority, application Germany, Feb. 3, 1965, U 11,414  
2 Claims. (Cl. 136—134)



1. A sealed electrical battery including a two-piece non-conductive plastic resin case whose pieces are joined and sealed together, a metal conductive terminal, said terminal having an interior portion within the said case, said terminal having an intermediate portion which is covered by non-conductive plastic resin that is integral with the non-conductive plastic resin of the case, and said terminal having an exterior portion exterior to the case, an electrolyte within the said case, and a conductive plastic resin seal between the interior portion of the terminal and the electrolyte, said conductive seal being sealed to the non-conductive plastic resin of the case to completely isolate the terminal from the electrolyte, and said conductive plastic seal being entirely within said case.

3,384,515

**PROCESS OF PREPARING IMPROVED CAST IRON ARTICLES**  
Allen D. Ackerman and Roy R. Albertzart, Saginaw, Mich., and Arthur P. Siewert, Defiance, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed June 21, 1965, Ser. No. 465,388  
5 Claims. (Cl. 148—2)



The machinability characteristics of a carbide cast iron article containing at least 10% by weight primary complex iron carbides is substantially improved while maintaining the inherent excellent durability and fatigue resistant properties of the alloy by heating the cast article to an elevated temperature in the temperature range of 300 Fahrenheit degrees immediately below the lower critical temperature of the composition for a time sufficient to produce incipient spheroidization of pearlite and to lower matrix hardness below 30 Rockwell C and subsequently cooling the composition to about normal room temperature.

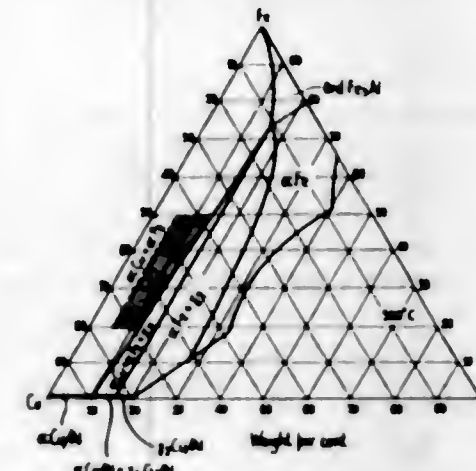
3,384,516

**AUGMENTING IGNITABILITY OF SOLID PROPELLANT GRAINS BY COATING WITH A METALLO-ORGANIC COMPLEX**  
David C. Sayles, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army  
No Drawing. Filed Aug. 11, 1965, Ser. No. 480,250  
4 Claims. (Cl. 149—4)

The ignitability of solid propellants having a polybutadiene-acrylic acid-acrylonitrile polymer binder is augmented by reacting the burning surface of the propellant grain with a metal carbonyl compound. Ignition of the resulting propellant can be achieved with a smaller igniter charge, and heat and pressure requirements are decreased. This treatment also serves to render the burning surface resistant to loss of ignitability upon aging.

3,384,517

**COPPER/IRON/ALUMINUM ALLOYS**  
Sydney Harper, Ross McKenzie Anderson, and Richard John Lane Eborall, London, England, assignors to National Research Development Corporation, London, England, a British corporation  
Filed Dec. 14, 1965, Ser. No. 513,786  
Claims priority, application Great Britain, Dec. 22, 1964, 52,152/64  
7 Claims. (Cl. 148—32)

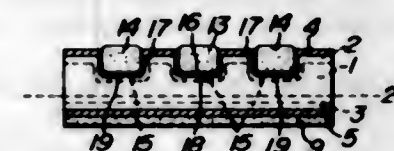


Copper-iron-aluminum alloys comprising a matrix of a copper-rich solid solution phase containing about 5-10 percent by weight of aluminum, said matrix containing in the form of fibre, an iron-rich solid solution phase containing about 10-20 percent by weight of aluminum, have been found to provide unexpectedly high tensile strengths. The desired fibre form of the iron-rich solid solution in the alloy may be obtained by subjecting a casting of the alloy to a hot working process such as an extrusion or a rolling treatment, preferably followed by a cold-working process.

3,384,518

**METHOD FOR MAKING SEMICONDUCTOR DEVICES**

Kotchiro Shoda and Kyoji Moriyama, Suita-shi, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan  
Filed Sept. 30, 1965, Ser. No. 491,535  
Claims priority, application Japan, Oct. 12, 1964, 39/58,417  
8 Claims. (Cl. 148—179)



1. A method for making semiconductor devices comprising the steps of forming a thin layer of inert coating

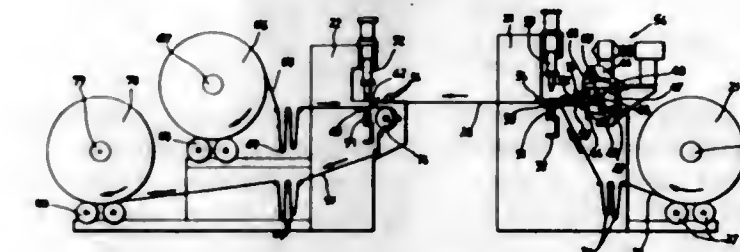
material on the surface of a semiconductor wafer, forming openings of desired contact shape through portions of the said coating layer, and immersing the said semiconductor wafer for a short time in a molten alloy bath, which is prepared by heating to melt an alloying material and to which ultrasonic vibration is continuously imparted, thereby causing those portions of the said semiconductor which are exposed through the openings through said coating layer on the said semiconductor wafer to dissolve into the molten alloying material in the said alloy bath by such an amount as to provide recesses of a certain depth and causing the said alloying material and the said semiconductor to alloy with each other to form a recrystallized layer covering the entire surface of each recess provided by the dissolution of the said semiconductor.

ERRATUM

For Class 149—4 see:  
Patent No. 3,384,516

3,384,519

**METHOD FOR PRODUCING A CONTINUOUS CLOTH AND MACHINE FOR CARRYING OUT THE SAME**  
Pierre Froget, Nemours, France, assignor to "Grieseler AG," Andorf, Thurgovli, Switzerland, a company  
Filed Oct. 23, 1964, Ser. No. 406,072  
Claims priority, application France, Oct. 28, 1963, 952,003  
5 Claims. (Cl. 156—65)

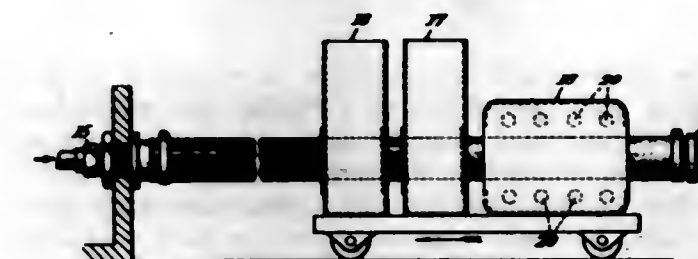


The present invention is directed to a method and machine for producing a composite cloth having two superimposed layers of cloth joined by moveable parallel blades with one marginal edge of the blades attached to a first layer of cloth, a second marginal edge of the blades being attached to a second layer of cloth, said blades extending in the same direction parallel to one another but spaced apart and said layers of cloth and blades being made of yarns of thermoplastic material.

3,384,520

FIRE HOSE

Dennis Hutchinson, Caton, near Lancaster, England, assignor to George Angus & Company Limited, Newcastle-upon-Tyne, Northumberland, England, an English company  
Filed Jan. 15, 1965, Ser. No. 425,851  
Claims priority, application Great Britain, Feb. 4, 1964, 4,684/64  
7 Claims. (Cl. 156—156)



A method is disclosed for making a lined fire hose comprising inserting a lining tube into an open woven textile



jacket, inflating the jacket and lining tube, applying at least one layer of a fluid uncured thermoplastic material and applying heat after each layer has been applied to cure the covering material and cause it to become bonded to the lining tube.

3,384,521

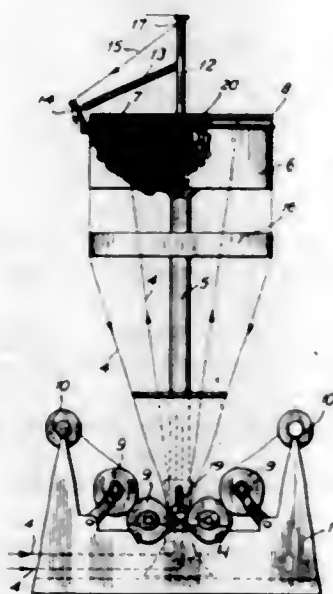
# METHOD AND APPARATUS FOR MAKING NON-WOVEN FABRICS

Gustav William Bilgrav Borup, Tovesvej 8A,  
Naerum, Denmark

Filed Sept. 22, 1964, Ser. No. 398,302

Claims priority, application Denmark, Sept. 23, 1963,  
4,466/63

6 Claims. (Cl. 156—161)



A method and apparatus for forming fabrics of thermoplastic threads with the warp threads passing over an inclined heated surface with the cross-threads applied thereto and sufficient heat applied to form droplets of previously applied adhesive to run down to the intersections of the threads and upon cooling attach the threads at these intersections to form the fabric.

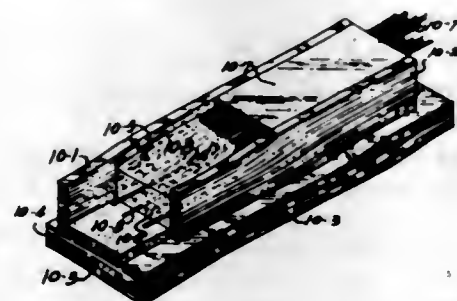
3,384,522

# METHOD OF MAKING COMPOSITE DECORATIVE STRUCTURAL ELEMENTS

David Rubenstein, 2750 2nd Ave.,  
San Diego, Calif. 92103

Continuation-in-part of application Ser. No. 126,427,  
July 11, 1961. This application Dec. 28, 1965, Ser.  
No. 517,160

10 Claims. (Cl. 156—242)



This patent application relates to a system of manufacturing and fabrication of elements and slabs having poured porous and core-like materials having laminated and bonded reinforcing elements, strands, webs and layers. The porous and core-like materials may have a stone-like, ceramic, concrete, clay product, cellular or other porous structural material body having the properties of structure for various embodiments and adapted to combination with other improved materials of the invention comprising organic and inorganic fibers and re-

inforcements, whiskers, mineral fillers and fibers, synthetic fibers, boron nitride fibers, beryllium fibers, graphite fibers, silicon carbide whiskers, and polymerizable polymeric resin compositions, cements and steel reinforcements. Decorative and functional surface construction layers and load bearing constructions are features of some of the embodiments of the invention.

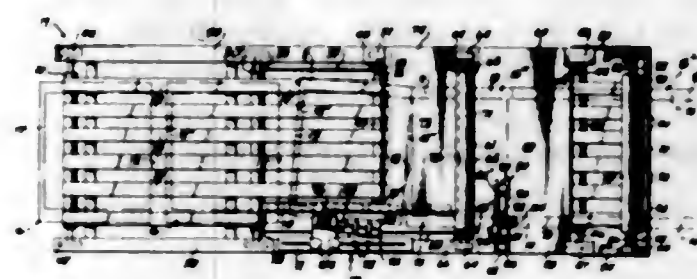
3,384,523

# METHOD AND APPARATUS FOR MAKING PROTECTIVE BOOK COVERS AND THE LIKE

Raymond Henry Bender, Tonawanda, N.Y., assignor to  
The Colad Company, Inc., Buffalo, N.Y., a corporation  
of New York

Filed Jan. 18, 1965, Ser. No. 426,043

16 Claims. (Cl. 156—269)



3. The method of making laminated protective book covers and the like having a base layer and an outer protective layer cemented thereto comprising the steps of providing a continuous strip of material forming said outer protective layer which is of less width than each of a plurality of separate pieces forming the base layer of each protective book cover, with each of said separate pieces cemented in progression on said strip with the leading edge of each of said separate pieces lying loosely in overlapping relationship with the trailing edge of an adjacent separate piece cemented to said strip, said trailing edge of each of said separate pieces lying in transverse relationship to the length of said strip, each of said separate pieces having a lateral edge portion which extends beyond the adjacent edge portion of said strip by virtue of the fact that said separate pieces are wider than said strip, advancing said strip with a first predetermined speed, lifting the attached trailing edge of each separate piece in sequence during the travel of said strip, cutting the edge of said strip while said trailing edge is lifted to provide a cut therein proximate the area of overlapping between said leading edge of a trailing separate piece and the trailing edge of a leading separate piece, accelerating the edge of said separate piece in advance of said cut to a second predetermined speed which is greater than said first predetermined speed to thereby cause said strip to tear along a line substantially coinciding with said cemented trailing edge of said leading separate piece to thereby sever said leading separate piece with a portion of said outer protective layer cemented thereto from said continuous strip to thereby form a separate laminated book cover.

3,384,524

# TRANSFER AND LABELING MACHINE

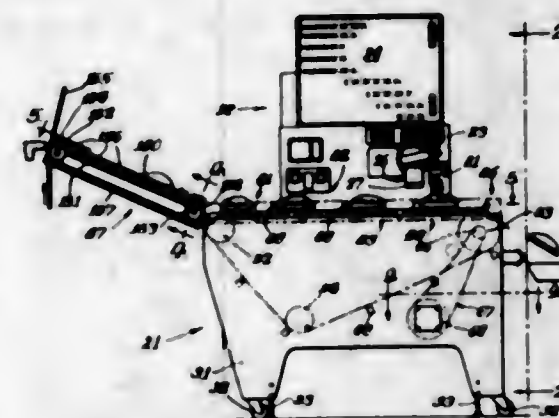
Omar Hansen, Jr., Bluffton, Ind., assignor to Franklin  
Electric Company, Inc., Bluffton, Ind., a corporation  
of Indiana

Filed Apr. 30, 1964, Ser. No. 363,955

26 Claims. (Cl. 156—360)

This disclosure relates to a machine which is designed for use with a computer type scale of the type which weighs an article, computes certain data based on the weight of the article, prints the data on a label, and

delivers the label to a label chute. The present machine receives a series of articles, such as wrapped packages of fresh meat, and automatically moves the articles in succession on to the scale where they are weighed, off



of the scale and to a location adjacent the label chute where a mechanism of the machine picks up a label and fastens the label to the article, and then out of the machine.

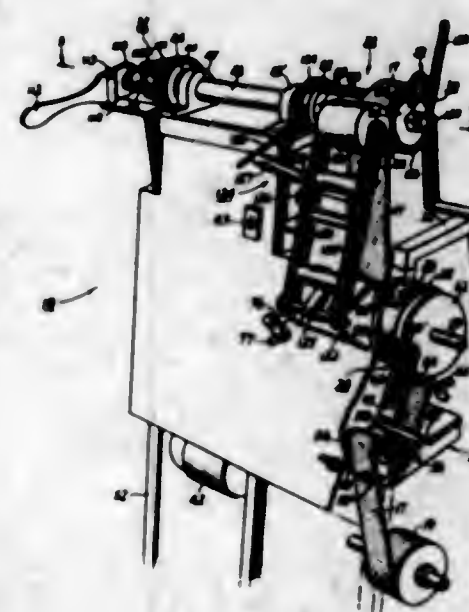
3,384,525

# APPARATUS FOR APPLYING CUFFS TO THE ENDS OF FLEXIBLE TUBULAR MEMBERS

George E. Herbert, Haverhill, Mass., and Richard B. Pelley, East Kingston, N.H., assignors to Callahan Mining Corporation, New York, N.Y.

Filed Oct. 2, 1964, Ser. No. 401,070

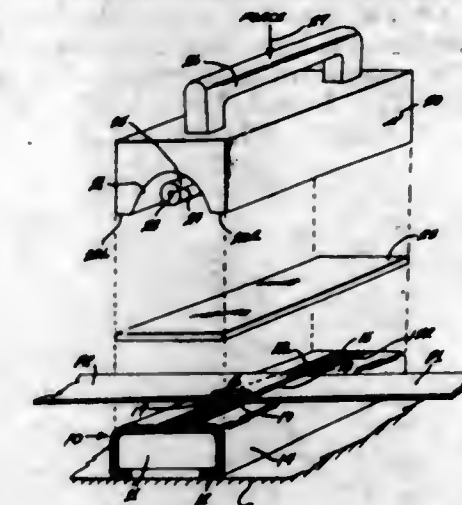
10 Claims. (Cl. 156—446)



Disclosed herein is a motor driven apparatus for applying a cuff to a tubular member such as a length of flexible hose. The tubular member is supported on an expandable mandrel. Cuffing tape is fed from a supply through an adhesive containing tray and over a tension roll, and an axially offset roller assembly causes the cuffing tape to be stretched along one longitudinal edge relative to the other longitudinal edge. The tape is then wrapped about the end of the tubular member with the stretched edge overlapping the mandrel and the other edge overlapping the mandrel. A pressure roller bears against the mandrel to insure adherence of the cuffing tape. A platen is movable under the free end of the tape so that it may be severed with a knife and a cutter wheel is pivotally mounted adjacent the mandrel for trimming the free edge of the finished cuff.

# 3,384,526 METHOD AND MACHINE FOR JOINING PLASTICS

Andrew E. Abramson and Andrew F. Kitchar, Excelsior, Minn., assignors, by means assignments, to Research, Incorporated, a corporation of Minnesota  
Filed Sept. 2, 1965, Ser. No. 484,545  
14 Claims. (Cl. 156—499)



1. An apparatus for joining by fusion and pressure plastic bodies capable of transmitting heat energy radiations comprising:

a padded buck having on the surface thereof a heat absorbing area of a shape corresponding with the area of contact of the plastic bodies to be joined, a presser plate for exerting pressure against said buck for holding the plastic bodies under pressure while they are being joined, said presser plate being of a material capable of transmitting at least some proportion of heat energy radiations projected upon it, pressure means for exerting pressure through the presser plate and against the buck, heater means for generating and projecting heat energy radiations for projection through the presser plate and onto the buck.

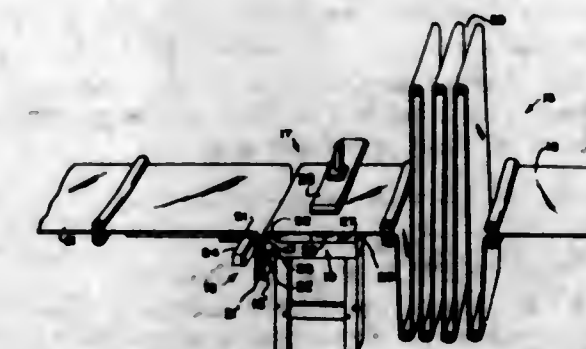
3,384,527

# MEANS FOR SPlicing THERMOPLASTIC WEBBING

Alfred Fener, 422 Beach 146th St.,  
Neponsit, N.Y. 10013

Filed Feb. 12, 1965, Ser. No. 432,242

10 Claims. (Cl. 156—502)

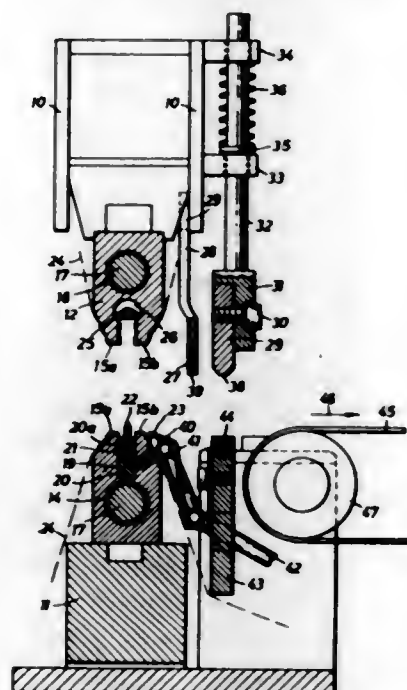


Web ends, superimposed with corresponding surfaces in contact, are joined by a heat sealing operation which trims off excess material. The contacting surfaces are then separated and the narrow seam is subjected to heat and pressure whereby the material of the seam is fused and flattened to assume the thickness of the web body. The operations are performed by two spaced electrical heat sealing devices of the thermal impulse type, one doing the



seaming and trimming, and the other, fusing and flattening the seam, whereby the web ends are joined so their juncture is homogeneous with the spliced webbings.

**3,384,528**  
**APPARATUS FOR SEVERING AND WELDING OF THERMOPLASTIC TUBING FILM**  
Michael Lehmacher, Unterdorfstr., and Hans Lehmacher, Beckergasse, both of Mondorf über Trolsdorf, Germany  
Filed Jan. 11, 1965, Ser. No. 424,865  
Claims priority, application Germany, Jan. 14, 1964, L 46,772; June 3, 1964, L 47,962  
7 Claims. (Cl. 156—515)

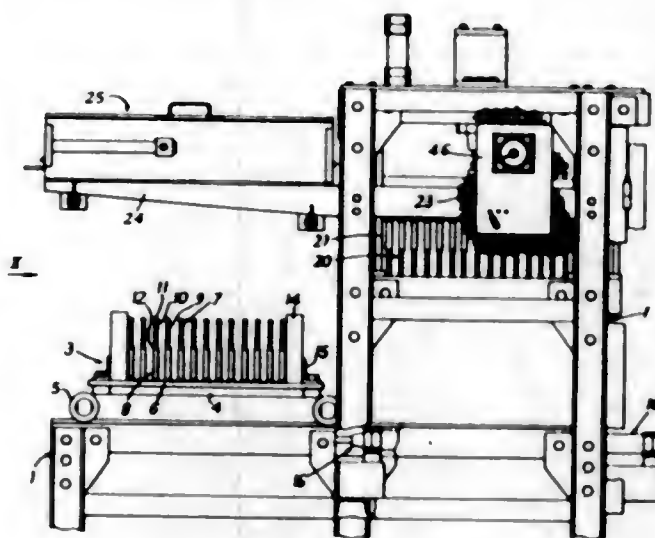


A weld seaming and severing machine fabricating bag-like articles from thermoplastic film including horizontally spaced feed and withdrawal rolls; a film severing blade and jaw assembly therebetween, lower fixed jaws beneath the film path on opposite sides of the blade; and upper vertically movable jaws cooperatively opposed to respective lower jaws to engage the film on opposite sides of the blade; Teflon foil feeding over and preventing film adhesion to jaw surfaces. In a first form, on the discharge side of the jaws as welding jaws, a film gripper and a film depressor are operable with and adjustable relative to the movable jaws, selectively for side seam welding severance with heated jaws and inoperative depressor, or unseamed tensioned severance with depressor operative and jaws inoperative. A second form has separately adjustable movable upper and unheated unitary lower jaws and a heated cutter blade between and movable with the former reversibly mounted to present a double or single beveled edge, permitting double or single seamed or simple severance, according to the selected jaw gripping, and the blade edge and heat condition used.

**3,384,529**  
**SHELL MOULDING**  
Peter Reid Kerr, Surrey, and Max Alderson, Derbyshire, England, assignors to Keramatic Engineering Company Limited, Kingston-upon-Thames, England, a British company  
Filed Sept. 22, 1965, Ser. No. 489,170  
Claims priority, application Great Britain, Sept. 22, 1964, 38,664/64  
10 Claims. (Cl. 156—556)

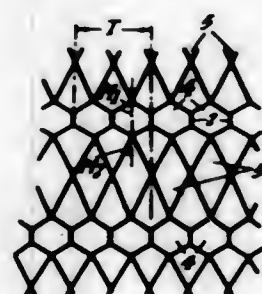
Apparatus for applying adhesive to one component and subsequently clamping it to another component comprises a resilient loading platform movable horizontally and linearly from a loading station to a clamping station; adhesive applying means are mounted above the path

of travel of the loading platform and comprise an apertured plate across which an opened-bottomed trough containing adhesive is adapted to be moved in such a manner that each end of the trough is guided and driven across the plate; the component to which adhesive is to be applied is mounted on the loading platform and beneath the adhesive applying means, whereupon the



trough is moved across the plate to allow adhesive to fall through the apertures in the plate and onto the component, the other component is then located in register with the first and the two components still on the loading platform are moved to a clamping station where they are clamped together between the loading platform and resilient clamping means.

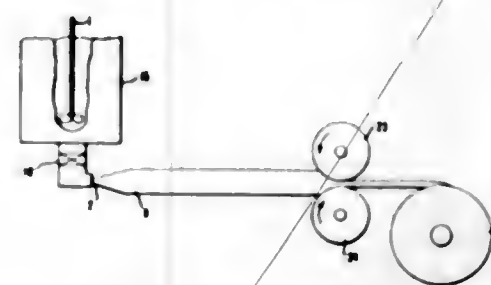
**3,384,530**  
**EXTRUDED PLASTIC NET, METHOD OF MAKING THE SAME AND SACK MADE OF SAID NET**  
Frank Brian Mercer, Blackburn, and Keith Fraser Martin, Darwen, England, assignors to Plastic Textile Accessories Limited, Blackburn, England, a British company  
Filed July 23, 1965, Ser. No. 474,431  
Claims priority, application Great Britain, July 31, 1964, 30,382/64; Feb. 9, 1965, 5,656/65  
11 Claims. (Cl. 161—109)



1. An extruded integral knotless plastic net having successive rows of meshes wherein rows of mesh connecting strands provided at longitudinally spaced intervals of the net are disposed at a mesh angle of substantially more than 35° whereby said rows of connecting strands afford spaced parallel zones of reduced transverse extensibility, the number of such zones being selected having regard to the length of the net at right angles to said zones to restrict the longitudinal extensibility of the net to a desired percentage and the intervening rows of mesh connecting strands having mesh angles substantially less than those

of connecting strands in said zone and never more than 45°, whereby said intervening rows of connecting strands afford spaced parallel zones of reduced longitudinal extensibility.

**3,384,531**  
**FLATTENED ULTRA-MICROCELLULAR STRUCTURE AND METHOD FOR MAKING SAME**  
Robert Guy Parrish, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Continuation-in-part of application Ser. No. 157,820, Dec. 7, 1961. This application Nov. 27, 1963, Ser. No. 326,597  
19 Claims. (Cl. 161—159)



Paper and semi-textile-like sheets of a crystalline hydrocarbon polymer composed of flattened polyhedral shaped cells possessing uniplanar orientation and being substantially aligned within the plane of the sheet. Process for the preparation of the above sheets by permanently compressing or stretching a crystalline ultramicrocellular sheet material composed of the hydrocarbon polymer (for example polyethylene and polypropylene).

**3,384,532**  
**PLASTICIZED POLYVINYL ACETALS CONTAINING ADMIXTURES OF THREE DIFFERENT ESTERS**  
Joseph G. Martins, Ludlow, and George E. Mont, Springfield, Mass., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware  
No Drawing. Filed Apr. 21, 1965, Ser. No. 449,858  
22 Claims. (Cl. 161—194)

Disclosed herein are plasticized poly(vinyl acetal) resins and glass laminates prepared therefrom using these plasticized resins as interlayers, which laminates exhibit improved impact strength. The plasticizers are a synergistic mixture of (1) a non-polymeric ester; (2) a liquid polyester; and (3) an ester which is the coreaction product of a disaccharide and at least one organic carboxylic acid.

**3,384,533**  
**DELIGNIFICATION AND BLEACHING OF CHEMICAL AND SEMICHEMICAL CELLULOSE PULPS WITH OXYGEN AND CATALYST**  
André Robert, Meylan, Philippe Traynard, La Tronche, and Odette Martin-Borret, Grenoble, France, assignors to L'Air Liquide, Société Anonyme pour l'Etude et l'Exploitation des Procédés Georges Claude  
No Drawing. Filed Sept. 10, 1964, Ser. No. 395,565  
Claims priority, application France, Sept. 19, 1963, 947,956  
11 Claims. (Cl. 162—65)

Delignification and bleaching of chemical and semi-chemical cellulose pulps under the action of oxygen in an alkaline medium comprising the treatment of the pulp in the presence of a catalyst, used at a concentration from 0.5 to about 3% by weight on the pulp, selected from the group consisting of barium carbonate, calcium carbonate, magnesium carbonate, zinc carbonate, alkali metal borates and titanium dioxide.

**3,384,534**  
**BLEACHING OF WOOD PULPS WITH THIOUREA DIOXIDE**  
Robert R. Kindron, Pennington, and George W. Hong, Princeton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Dec. 16, 1964, Ser. No. 418,911  
17 Claims. (Cl. 162—71)

1. A method of bleaching mechanical and chemi-mechanical low-cellulose wood pulps containing up to 60% cellulose, in which said low-cellulose wood pulp is treated at a temperature of 90° to 300° F. for up to 4 hours in an aqueous pulp slurry having a pH of 5.5 to 8.0 and containing 1 to 20% by weight of said pulp and thiourea dioxide in an amount to provide 0.1 to 2.0% of the thiourea dioxide on the weight of the pulp.

**3,384,535**  
**PROCESS FOR FIBRILLATING POLYAMIDE-CONTAINING FIBERS WITH AN ACID SWELLING AGENT**  
Bruno S. V. Marek, Aarau, Argovia, and Joseph Gnelz, Rothenburg, Lucerne, Switzerland, assignors to Societe de la Viscose Suisse, Emmenbrucke, Switzerland, a corporation of Switzerland  
Continuation-in-part of application Ser. No. 547,111, Feb. 15, 1966, which is a continuation of application Ser. No. 210,176, July 16, 1962. This application May 23, 1967, Ser. No. 654,023  
8 Claims. (Cl. 162—157)

A process for fibrillating smooth-surface melt-spun monofilament polyamide-containing fibers which may be formed into felted material from self-supporting water-leaves, which comprises suspending up to 10 millimeter lengths of such fibers in an acid swelling agent, agitating the suspension so that the fibers form hook-like extensions, and dispersing the fibers in water and beating the dispersion. The fibers capable of felting and interlocking are also disclosed.

**3,384,536**  
**PROCESS FOR FORMING FIBROUS SHEETS CONTAINING LIMITED PENETRATION OF ADDITAMENTS WITHIN THE SHEET AND SHEETS THEREOF**  
Robert W. Sandberg, New Lebanon, and Bruce W. Brockett and Donald B. Clark, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland  
Filed Mar. 24, 1965, Ser. No. 442,352  
9 Claims. (Cl. 162—175)

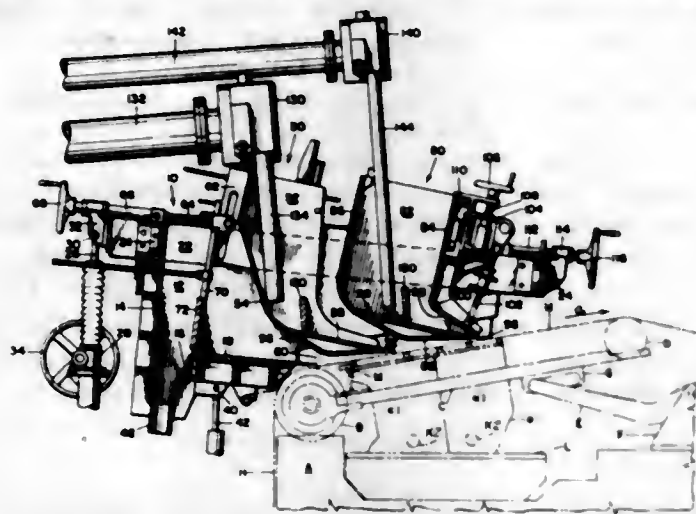
A process for limiting the penetration of particulate material within an embryonic fibrous web by effecting a phase separation of a wall-forming polymeric material (coacervate phase) within the web in the presence of the particulate material; the coacervate phase being formed by applying one or more of the components essential to the phase separation to one side of the embryonic web and the products therefrom.

**3,384,537**  
**MULTI-LAYER PAPERMAKING APPARATUS**  
Martin B. Keller, Hudson Falls, N.Y., assignor to Sandy Hill Corporation, Hudson Falls, N.Y., a corporation  
Filed Apr. 27, 1965, Ser. No. 451,225  
2 Claims. (Cl. 162—299)

A papermaking machine including the combination of an endless moving screen having an upwardly-inclined run, a headbox, individual means for supplying a plurality of moving streams of liquid slurries to the headbox for conveyance into contact with the screen for forming a multi-ply sheet-like structure on the screen, the headbox including pond regulators for cooperantly defining sections of a multi-section headbox with each of the sections having a discharge end for discharging the stream of a



liquid slurry into the upwardly-inclined run of the screen, and means for adjusting the position of each pond regula-



tor with respect to the headbox and other pond regulator and screen.

3,384,538

# COMBATTING INSECTS WITH O-[2-LOWER ALKYL - QUINOLYL - (8)]N - METHYL CARBAMATES

Ernest Hodel, Basel, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed June 1, 1965, Ser. No. 460,515  
4 Claims. (Cl. 167-33)

1. A method for combatting insects, comprising applying thereto an insecticidally effective amount of O-[2-lower alkyl-quinolyl-(8)] N-methyl-carbamate.

3,384,539

# SYNERGISTIC ALPHA-NAPHTHYL N-METHYL-CARBAMATE INSECTICIDE ADMIXED WITH META - ACETYLPHENYL OR META - PROPIONYLPHENYL N-METHYL CARBAMATE

\* Jacques Mocotte, Champagne-au-Mont-d'Or, Rhone, France, assignor to Progil, Paris, France  
Filed July 1, 1965, Ser. No. 468,873

Claims priority, application France, July 3, 1964, 980,678

8 Claims. (Cl. 167-30)

New synergistic insecticidal compositions which are a mixture of alpha-naphthyl N-methylcarbamate and at least one phenyl carbamate having an acyl substituent on the phenyl ring in the meta-position.

3,384,540

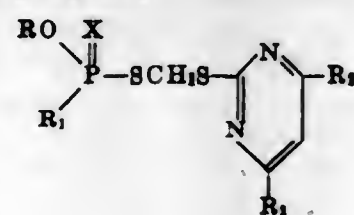
# PESTICIDAL COMPOSITIONS AND METHODS CONTAINING PHOSPHOROUS-CONTAINING ESTERS OF 2-THIOMETHYL MERCAPTO PYRIMIDINES

Arthur C. Thomson, San Antonio, Tex., and Karoly Szabo, Orinda, Mervin E. Brokke, Richmond, and Julius J. Menn, San Jose, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application July 14, 1965, Ser. No. 473,277, now Patent No. 3,313,814, dated Apr. 11, 1967. Divided and this application Jan. 30, 1967, Ser. No. 641,068

10 Claims. (Cl. 167-33)

6. An insecticidal composition comprising an inert pesticidal adjuvant and an effective amount of a compound having the formula



wherein R is lower alkyl, R<sub>1</sub> is selected from the group consisting of lower alkyl and lower alkoxy, R<sub>2</sub> and R<sub>3</sub> are selected from the group consisting of hydrogen and lower alkyl, and X is selected from the group consisting of sulfur and oxygen.

3,384,541

# SPERMICIDAL VAGINAL PHARMACEUTICAL CONCENTRATE FOR PRODUCING NON-AQUEOUS FOAM WITH AEROSOL PROPELLANTS

William G. Clark, 1142 Las Pulgas Road, Pacific Palisades, Calif. 90272

No Drawing. Filed Oct. 28, 1964, Ser. No. 407,231  
1 Claim. (Cl. 167-58)

The invention provides a new composition of matter comprising a major proportion of propylene glycol in a minor proportion of an ethoxylated tallow alcohol, the composition being adapted to incorporation in foam-producing assemblies.

3,384,542

# COMPOSITION FOR ORAL INFLAMMATORY DISEASES COMPRISING HYDROGEN PEROXIDE AND CHROMIUM TRIOXIDE

Anthony F. Accetta, 375 Oakford St., West Hempstead, N.Y. 11552

Filed May 9, 1966, Ser. No. 548,562  
2 Claims. (Cl. 167-60)

Oral inflammatory diseases, such as gingivitis and pyorrhea, are treated by the oral application of a mixture of 3-10 weight percent hydrogen peroxide in aqueous solution and chromic acid in an amount, per fluid ounce of hydrogen peroxide solution, of 0.0025-0.1 g. of chromic acid on the dry basis.

3,384,543

# 7α-METHYL-5-ANDROSTANES

J Allan Campbell and John C. Babcock, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 7, 1965, Ser. No. 446,436  
15 Claims. (Cl. 167-65)

This invention relates to novel steroid compounds, especially to 7α-methyl-5 (α and β)-androstanes, the 2α-methyl derivatives thereof and the 19-nor counterparts of the foregoing.

3,384,544

# INJECTABLE SOLUTIONS OR SUSPENSIONS OF ANTIGENS IN OPTICALLY CLEAR COLLOIDAL SOLUTIONS

Clive A. Walton, Harrow, and Clarence L. J. Coles and Ernst L. Neustadter, Ruislip, England, assignors to Glaxo Laboratories Limited, Greenford, Middlesex, England, a British company

No Drawing. Filed June 1, 1967, Ser. No. 642,727  
Claims priority, application Great Britain, June 8, 1966, 25,595/66

17 Claims. (Cl. 167-78)

There are disclosed injectable compositions for veterinary or human medicine in which an antigen is dissolved or suspended in a particular type of vehicle. This vehicle comprises a physiologically acceptable lipophilic dispersion medium, water and at least one physiologically acceptable nonionic surface active substance. It exists in the form of an optically clear colloidal solution in which the aggregates of water and surface active substance are of a size within the range of 50-800 Å. and the ratio of water to surface active substance is within the range of 1:1 to 1:10. The water content of the composition is within the range of 0.5-22.5% by weight.

3,384,545

# INJECTABLE AQUEOUS EMULSIONS OF FAT SOLUBLE VITAMINS

Ronald Eugene Aiello, Belleville, and Jacob Christopher Bauernfeind, Glen Rock, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 9, 1965, Ser. No. 438,372  
16 Claims. (Cl. 167-81)

1. An aqueous emulsion comprising (a) up to about 12% by weight of a member selected from the group consisting of vitamin A palmitate, vitamin D and vitamin E and mixtures thereof, (b) from about 8% to about 25% by weight of a polyoxyethylene ether of castor oil containing about 20 to 40 moles of ethylene oxide per mole of castor oil, (c) from about 4% to about 44% by weight of glycerin and (d) from about 15% to about 85% by weight of water, the quantity of said component (b) which is present in said emulsion not exceeding about three times the weight of said component (a).

3,384,546

# DIRECTLY COMPRESSED LOW-DENSITY CRYSTALLINE SORBITOL PHARMACEUTICAL TABLETS

Blaze Thomas Palermo, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed May 28, 1965, Ser. No. 459,896  
11 Claims. (Cl. 167-82)

Pharmaceutical tablets are directly compressed from a mixture of at least one active ingredient with an excipient from the group of sorbitol and a blend of sorbitol with mannitol, dextrose, and/or lactose. The sorbitol employed has a bulk density of from about 0.530 to 0.545 gram per cubic centimeter and the tablet produced is characterized by being nongritty and having a low rate of moisture pick-up.

3,384,547

# MAKEUP COMPOSITIONS FOR THE THICKENING AND LENGTHENING OF EYELASHES

Maria A. Palmerio, New York, Julius Wetterhahn, Flushing, and Edward J. Masters, Roslyn, N.Y., assignors to Helena Rubinstein, Inc., New York, N.Y., a corporation of New York

Filed Mar. 14, 1963, Ser. No. 265,197  
15 Claims. (Cl. 167-85)



1. An eyelash makeup preparation comprising a mascara base and fibers mixed therewith for thickening and lengthening the eyelashes, the preparation being in premixed form for application to the eyelashes in this form by means of an applicator device.

3,384,548

# DEPILATORY COMPOSITIONS

Charles Zviak, Franconville, and Jean Rouet, Le Blanc-Mesnil, France, assignors to Société anonyme dite l'Oreal, a corporation of France

No Drawing. Filed Mar. 16, 1964, Ser. No. 352,301  
Claims priority, application France, Mar. 19, 1963, 928,549

1 Claim. (Cl. 167-89)

1. A process for removing hair from human skin comprising applying to the hair to be removed an effective amount of a depilatory composition comprising depilatory amounts of lithium cations and mercaptocarboxylic anions selected from the group consisting of thioglycolic, α-mercaptopropionic acid and β-mercaptopropionic acid, said composition having a pH value between about 11 and 12.5.

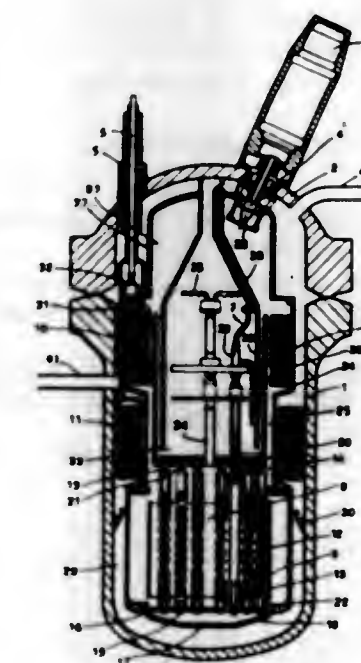
3,384,549

# NUCLEAR REACTOR

Jacques Dellege, Brussels, Claude Gerard, Angleur, and Pierre Maldague, Brussels, Belgium, assignors to Société Anglo-Belge Vulcain S.A., Brussels, Belgium, a corporation of Belgium

Filed Aug. 26, 1965, Ser. No. 482,725  
Claims priority, application Luxembourg, Aug. 28, 1964, 46,851

4 Claims. (Cl. 176-36)



The present patent application relates to nuclear reactors having a pressure vessel, comprising a core, heat exchangers and mechanisms for actuating hydraulically driven neutron absorbing members and wherein the heat exchangers are divided in several sections and located in two regions of the pressure vessel; one region upstream of the circulating pumps and the other region downstream of the circulating pumps. The flow of coolant through the heat exchanger regions creates head losses which are used for actuating the neutron absorbing members. These head losses are used also for feeding the atomization device of the pressurizer.

3,384,550

# NUCLEAR STEAMPLANT METHOD AND APPARATUS

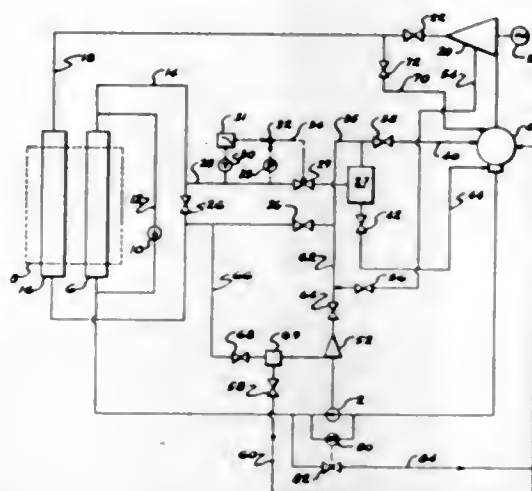
Frederick J. Hanzalek, Suffield, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 29, 1966, Ser. No. 605,866  
17 Claims. (Cl. 176-56)

A nuclear powerplant system to facilitate decay heat removal during shutdown operation, without requiring



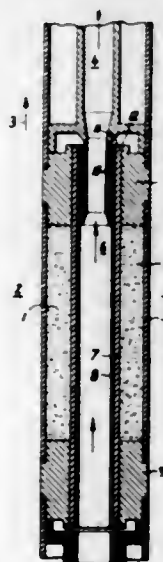
auxiliary power sources for circulation through the reactor using a super-critical pressure reactor having a water heating pass and a steam superheating pass. A turbine drive feed pump supplying water to the reactor. A valve in the through-flow path intermediate the water heating



and steam heating passes and a flash tank with valved inlet and outlet lines in parallel with the valve. A valved pipe from the flash tank to the feed pump turbine for driving the feed pump with flash tank steam during decay heat removal and for supplying cooling steam to the superheating pass.

### 3,384,551 FUEL ELEMENT HEAT TRANSFER ARRANGEMENT

Heinz Kornbichler, Falkenstein, Taunus, Germany, assignor to Licentia Patentverwaltungs G.m.b.H., Frankfurt am Main, Germany  
Filed Feb. 17, 1966, Ser. No. 528,306  
Claims priority, application Germany, Feb. 17, 1965, L 49,979  
4 Claims. (Cl. 176-67)



A cladding arrangement for protecting a tubular fuel element and including an inner jacket covering the inner surface of the fuel element, a corrosion resistant metal layer covering the first jacket, a second jacket covering the outer surface of the fuel element, and a sealing plug disposed at each end of the fuel element for sealing off the ends thereof, the jackets and plug all being made of a material having a low ratio of neutron absorption to

mechanical strength at the temperatures to which the fuel is to be raised.

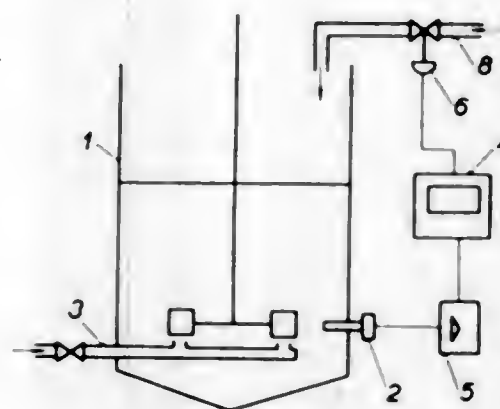
### 3,384,552 DRY SOLID PROTEOLYTIC ENZYME ISOLATED FROM PINGUINAIN

Efrain Toro-Goyco and Milton L. Matos, Rio Piedras, Puerto Rico, assignors to the United States of America as represented by the Secretary of the Army  
Filed June 21, 1965, Ser. No. 465,808  
9 Claims. (Cl. 195-62)

This invention relates to process for purifying crude pinguinain and more particularly to a process for isolating pure pinguinain from inactive proteinaceous material and carbohydrates normally associated therewith. The process including an acetone precipitation of the raw enzyme, isolation of the enzyme by lyophilizing a water solution thereof, and separation through the use of "gel filtration."

### 3,384,553 METHOD AND EQUIPMENT FOR AEROBIC FERMENTATION ON LIQUID CULTURE MEDIUMS

Zdeněk Čáslavský and Jaroslav Hospodka, Prague, Czechoslovakia, assignors to Československá Akademie Ved, Prague, Czechoslovakia  
Filed Apr. 8, 1965, Ser. No. 446,681  
17 Claims. (Cl. 195-95)



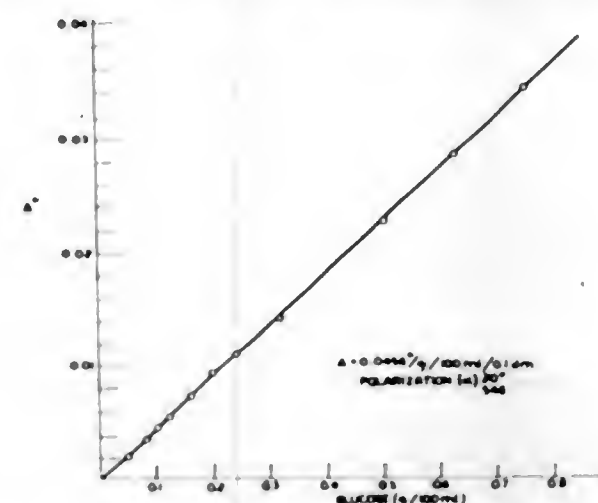
In a method of aerobic cultivation of microorganisms in contact with a liquid culture medium and under admission of oxygen-containing gas preferably at a constant rate, the addition of nutrient to the culture is controlled by determinations of dissolved oxygen in the culture so that when the concentration of dissolved oxygen exceeds a predetermined value nutrients are added and thereby the dissolved oxygen concentration is maintained within predetermined limits, and an arrangement comprising a fermentation vessel, a container for storing nutrients, a dispensing device which may be activated for introducing nutrients from the container into the fermentation vessel, and an arrangement for sensing the dissolved oxygen concentration in the liquid culture medium located in the fermentation vessel and for actuating the dispensing device when the sensed dissolved oxygen concentration in the liquid culture medium rises above a preset limit.

### 3,384,554 METHOD FOR THE ACCURATE AND SPECIFIC ANALYTICAL DETERMINATION OF GLUCOSE

Lawrence F. Martin, New Orleans, La., assignor to the United States of America as represented by the Secretary of Agriculture  
Filed Sept. 22, 1965, Ser. No. 489,437  
14 Claims. (Cl. 195-103.5)

1. An analytical method for measuring the true glucose content of glucose containing solutions comprising oxidizing the glucose stoichiometrically to gluconic acid

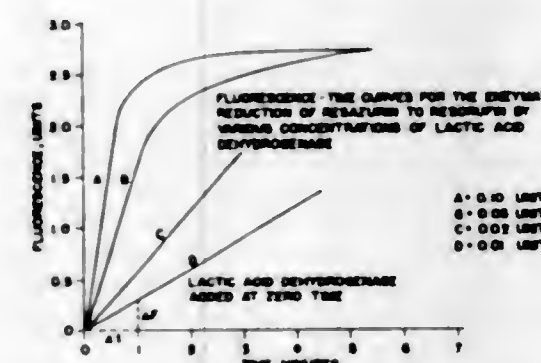
by reacting the glucose with oxygen in the presence of a carbohydrase free glucoseoxidase, and measuring the



change in optical rotation resulting from the reaction by means of a polarimeter.

### 3,384,555 DIRECT FLUOROMETRIC METHOD FOR MEASURING DEHYDROGENASE ACTIVITY

George G. Gullbault, Edgewood, and David N. Kramer, Stevenson, Md., assignors to the United States of America as represented by the Secretary of the Army  
Filed Nov. 30, 1965, Ser. No. 510,719  
3 Claims. (Cl. 195-103.5)



1. A fluorometric method for the quantitative determination of a dehydrogenase which comprises:

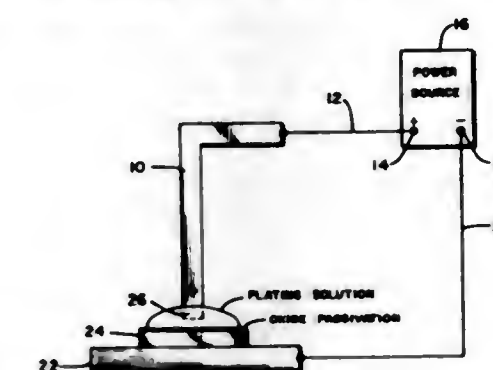
- placing known amounts of resazurin, diaphorase, nicotinamide adenine dinucleotide and a substrate comprising a member of the group consisting of alkali metal salts of malic, lactic, and glutamic acids, ethanol, glucose-6-phosphate, glycerol phosphate, (—)- $\alpha$ -glycerol phosphate in a fluorescence cell of a spectrophotofluorometer at a buffered pH in the range 8.0-9.0;
- adding an unknown concentration of a dehydrogenase corresponding to its substrate at zero time;
- measuring the change in fluorescence with time to determine the concentration of dehydrogenase originally present.

### 3,384,556 METHOD OF ELECTROLYTICALLY DETECTING IMPERFECTIONS IN OXIDE PASSIVATION LAYERS

Robert F. Rohde, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware  
Filed Nov. 23, 1964, Ser. No. 413,167  
17 Claims. (Cl. 204-1)

8. A method of detecting and locating pinholes occurring beneath ohmic circuit patterns deposited over surface oxide passivation layers grown on a planar semi-

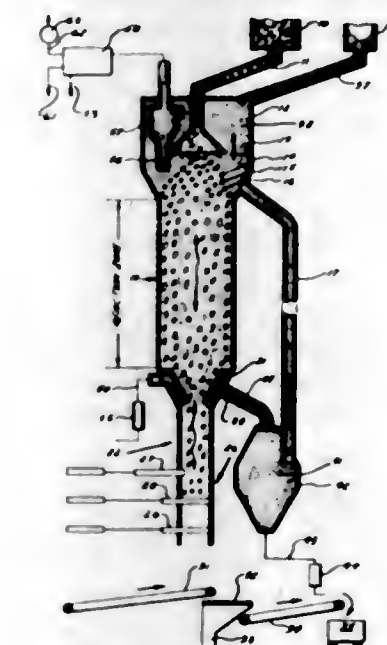
conductor device, said pinholes extending through the oxide passivation layers to a substrate surface and to active and passive elements grown into the device, said method comprising the steps of:



- removing the ohmic circuit patterns by etching to expose the pinholes,
- and electroplating through said imperfections to provide an indication of an electrical circuit failure path.

### 3,384,557 METHOD OF CURING OF GREEN BRIQUETTES BY OXIDATION

Erik Saller, Stamford, Conn., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware  
Filed July 21, 1964, Ser. No. 384,146  
4 Claims. (Cl. 201-22)



1. The process of curing green briquettes consisting essentially of calcined char derived from coal and a bituminous binder, which process comprises continuously passing a bed of green briquettes downwardly through a reaction zone; continuously supplying green briquettes to the upper portion of said bed; continuously introducing a stream of air having heat transfer solid particles dispersed therein in the neighborhood of the exit end of said reaction zone and flowing the said stream of air and heat transfer particles upwardly through said reaction zone countercurrent to the down-flowing bed of briquettes with the stream of heat transfer solids enveloping the briquettes in the down-flowing bed, the rate of flow of the stream of air having the heat transfer solids dispersed therein upwardly being controlled to provide in the portion of the reaction zone where the green briquettes enters at least 10% by volume of free oxygen, on a solids free basis; continuously withdrawing heat transfer solids from an upper portion of said reaction zone, cooling the solids thus withdrawn and continuously returning to the reaction zone the cooled solids thus removing the heat of reaction



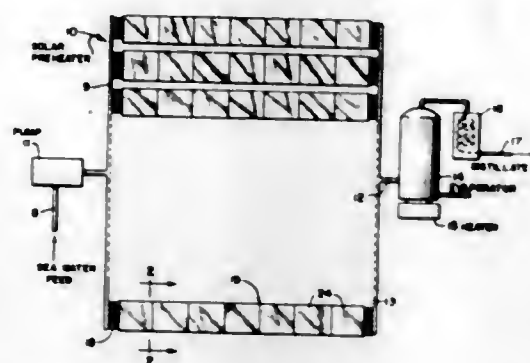
and maintaining the temperature within the reaction zone within the range of from 400° F. to 550 F.; and removing cured briquettes from the exit end of said reaction zone.

3,384,558

**SOLAR DISTILLATION APPARATUS**

Raymond R. Olson, Oak Park, Ill., assignor to Solar Liquid Heating Company, Chicago, Ill., a corporation of Illinois

Filed May 24, 1965, Ser. No. 458,328  
5 Claims. (Cl. 202—177)



Arrangement wherein sea water is preheated as it flows from the supply source to the evaporation chamber of a distillation unit by directing its flow through closely arranged high heat conductive tubes of narrow circular cross section which are passed through channels of larger cross sectional interior having insulated base, end and side walls and a top transparent wall, the channels being inclined to face the sun and the base wall serving to support the tube being planar so that the tubes are substantially completely surrounded by an atmosphere of limited volume which is heated by the sun rays and isolated from the outside air.

3,384,559

**TETRAALKYLLEAD RECOVERY FROM AN ANHYDROUS REACTION MASS**

Frank M. Hopkins, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Aug. 4, 1964, Ser. No. 387,487  
5 Claims. (Cl. 203—49)

This invention relates to the manufacture and recovery of tetraalkyllead compounds. More particularly, the invention relates to a new and novel process and technique whereby tetraalkyllead compounds are recovered from reaction masses resulting from the reaction of an alkali metal lead alloy and an alkyl halide by stripping at least the tetraalkyllead product from a reaction mass with an inert gas and recovering the product from inert gas.

**ERRATUM**

For Class 204—1 see:  
Patent No. 3,384,556

3,384,560

**PHOTOCONDUCTIVE DEVELOPING SOLUTIONS CONTAINING QUATERNARY AMMONIUM SALT ANTI-SHORTING AGENTS**

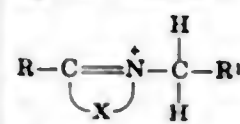
Raymond F. Reithel, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 17, 1966, Ser. No. 528,044  
12 Claims. (Cl. 204—18)

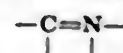
1. An aqueous developing composition for electrolytically developing an exposed photoconductive element comprising a quaternary ammonium salt present in an electrolytic developing solution in an amount effective

to prevent electrical shorting through a photoconductive element during electrolytic development, the cation of which salt is selected from the group consisting of:

(A) cations having the formula:

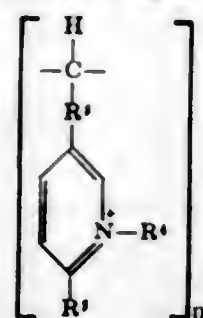


wherein R is a lower alkyl radical, R<sup>1</sup> is selected from the group consisting of a hydrogen atom and a lower alkyl radical, and X is an acyl residue which completes a heterocyclic cationic group with the



and is selected from the group consisting of acyl residues and arylacyl residues; and

(B) polymeric cations having the formula:



wherein n is an integer, R<sup>2</sup> and R<sup>4</sup> are each a lower alkyl radical, R<sup>3</sup> is a lower alkylene radical.

3,384,561

**PROCESS AND ELECTROLYTE FOR COLORING ALUMINUM**

Christian E. Michelson, Hamden, and David C. Montgomery, Clinton, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia  
No Drawing. Filed Feb. 15, 1965, Ser. No. 432,814  
9 Claims. (Cl. 204—58)

The instant disclosure teaches a process and electrolyte for coloring aluminum electrolytically which provides a wide variety of colored aluminum articles having good physical properties, with the electrolyte being an aqueous solution consisting essentially of from 0.1 to 1% sulfuric acid, from 3% to saturation of sulfamic acid, and from 0.1 to 10% sulfophthalic acid.

3,384,562

**PROCESS AND ELECTROLYTE FOR COLORING ALUMINUM**

Christian E. Michelson, Hamden, and David C. Montgomery, Clinton, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia  
No Drawing. Filed Feb. 15, 1965, Ser. No. 432,889  
7 Claims. (Cl. 204—58)

The instant disclosure teaches a process and electrolyte for coloring aluminum electrolytically which achieves a wide variety of light stable surface colors having excellent physical characteristics, with the process characterized by anodically oxidizing aluminum in an aqueous solution consisting essentially of from 0.1 to 1% sulfuric acid and from 3% to saturation of sulfamic acid.

3,384,563

**METHOD OF RADIUSING THE EDGE OF AN APERTURE ELECTROLYTICALLY**

John Taylor, Derby, England, assignor to Rolls-Royce Limited, Derby, Derbyshire, England, a British company  
Filed July 21, 1965, Ser. No. 473,634  
Claims priority, application Great Britain, Aug. 27, 1964, 35,239/64

6 Claims. (Cl. 204—143)

1. A method of smoothing the sharp edge of an aperture within a metal workpiece comprising providing a

nozzle-electrode assembly, the nozzle of which is the same shape as, but of somewhat larger internal dimensions than, said aperture, disposing said assembly adjacent said aperture, causing electrolyte to flow continuous-



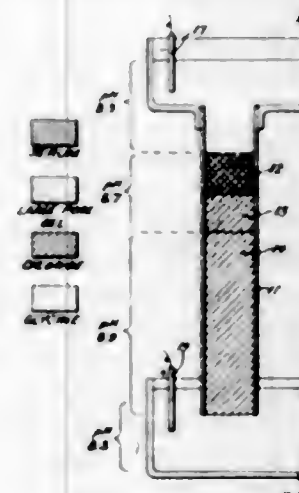
ly through said nozzle-electrode assembly and into said aperture such that it passes over the sharp edge of said aperture, and making said workpiece electrically positive relative to said electrode whereby the sharp edge of said aperture is removed by electrolytic action.

3,384,564

**ELECTROPHORETIC PROCESS FOR SIMULTANEOUSLY SEPARATING AND CONCENTRATING PARTICLES**

Leonard Ornstein, White Plains, and Baruch J. Davis, New York, N.Y., assignors to Mount Sinai Hospital Research Foundation, Inc., New York, N.Y., a membership corporation of New York

Filed Nov. 21, 1962, Ser. No. 239,177  
21 Claims. (Cl. 204—180)



1. An electrophoretic process for simultaneously separating and concentrating various components of a mixture of like sign-charged particles comprising placing said mixture in an anticonvection medium, applying a potential across said medium, providing behind said particles a weak buffer ion carrying said like sign, providing a second ion carrying said like sign within said medium, and providing a pH environment within said medium whereby said buffer ion will remain behind the slowest of said component particles and said second ion will precede the fastest of said component particles.

3,384,565

**PROCESS OF PHOTOELECTROPHORETIC COLOR IMAGING**

Vsevolod Tulagin and Leonard M. Carneira, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed July 23, 1964, Ser. No. 384,737  
16 Claims. (Cl. 204—181)

An electrophoretic polychromatic imaging system is disclosed. In this system, a suspension made up of a plurality of different colored electrically photosensitive particles is dispersed in a carrier liquid, the suspension is

placed between a pair of electrodes, at least one of which is at least partially transparent, an electric field is imposed across the suspension and an image is projected on the suspension through the transparent electrode. Upon separation of the electrodes, a polychromatic image made up of migrated particles is observed on at least one of said electrodes.

3,384,566

**METHOD OF PHOTOELECTROPHORETIC IMAGING**

Harold E. Clark, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 384,681, July 23, 1964. This application July 21, 1967, Ser. No. 655,023

32 Claims. (Cl. 204—181)

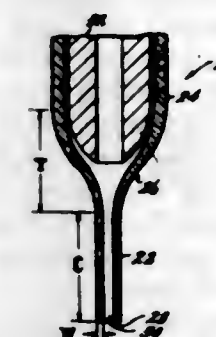
An electrophoretic imaging system is disclosed in which a layer of a suspension comprising electrically photosensitive particles in a liquid carrier is placed between a pair of electrodes, one of which is transparent, an electric field is imposed across the suspension and the suspension is exposed to an image through the transparent electrode whereby an image of migrated particles forms on at least one electrode.

3,384,567

**ELECTROLYTE GUIDE MEMBER**

James D. Andrews and Walter C. Kunz, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York

Filed Oct. 22, 1965, Ser. No. 501,643  
3 Claims. (Cl. 204—279)



1. An electrolyte guide member for use in electrolytic material removal to direct a stream of charged electrolyte toward a workpiece, the guide member including:

a hollow capillary portion of a dielectric material terminating in an open working tip from which the charged electrolyte stream flows, the capillary portion having an outside diameter of no greater than 0.06" and a maximum wall thickness of 0.0020", a hollow body portion of a dielectric material having an inside diameter substantially greater than that of said capillary and joined to said body portion through an intermediate, funnel shaped transition portion, and an electrode extending into said hollow body adapted to be connected to an electrical source.

3,384,568

**ELECTRODIALYSIS APPARATUS HAVING CHORD ELECTRODES**

Masaaki Kato, Yokohama, Ryoza Komori, Tokyo, and Mitsunobu Fukumoto, Yokohama, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

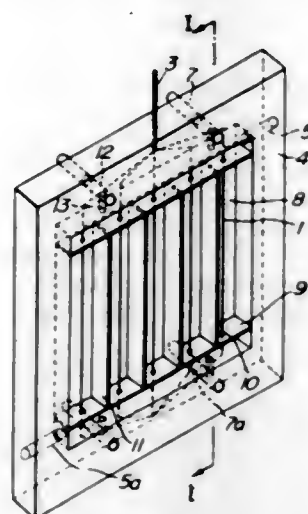
Filed Nov. 19, 1963, Ser. No. 324,744  
Claims priority, application Japan, Nov. 22, 1962, 37/51,095; Mar. 12, 1963, 38/11,390

9 Claims. (Cl. 204—301)

A multicell electrodialyzer which comprises a plurality of dilution compartments and concentration compart-



ments sectioned with anion permselective resin membranes and cation permselective resin membranes alternately, and electrodes at the outermost ends of the ap-



paratus. The electrodes each consist of a plurality of cords made of electroconductive material which prevents accumulation of insoluble precipitate on the electrode surfaces or in the electrode compartment.

3,384,569

## OIL SHALE RETORTING

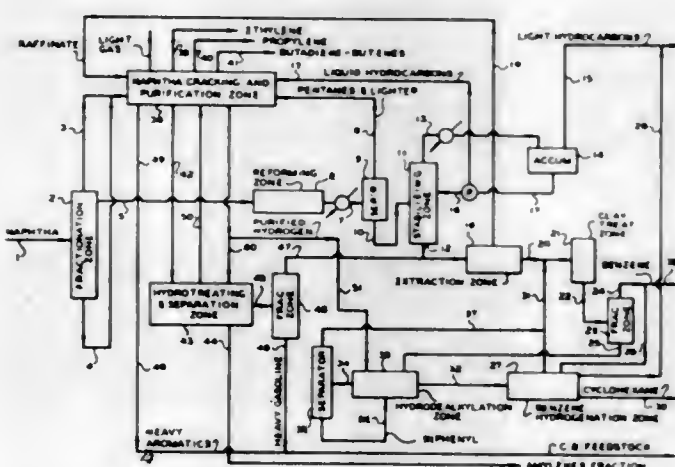
Nick P. Peet, Houston, Tex., assignor to Esso Research and Engineering Company, a corporation of Delaware  
Filed Feb. 21, 1966, Ser. No. 529,094  
9 Claims. (Cl. 208-11)

In plural stage thermal retorting of crushed oil shale, fines are separately recovered from vertical preheating, retorting, burning and cooling zones through which the crushed oil shale serially flows, with the oil-free fines removed from the burning and cooling zones being discarded and the oil-rich fines removed from the preheating and retorting zones being introduced into the burning zone, flue gas from the burning zone being used to provide heat in the retorting zone by indirect heat exchange with preheated oil shale therein.

3,384,570

## FRACTIONATION AND CONVERSION OF A NAPHTHA FRACTION

Carl S. Kelley, Eldred J. Cabanaw, and Vernon A. Cawl, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware  
Filed Feb. 6, 1967, Ser. No. 614,097  
3 Claims. (Cl. 208-79)



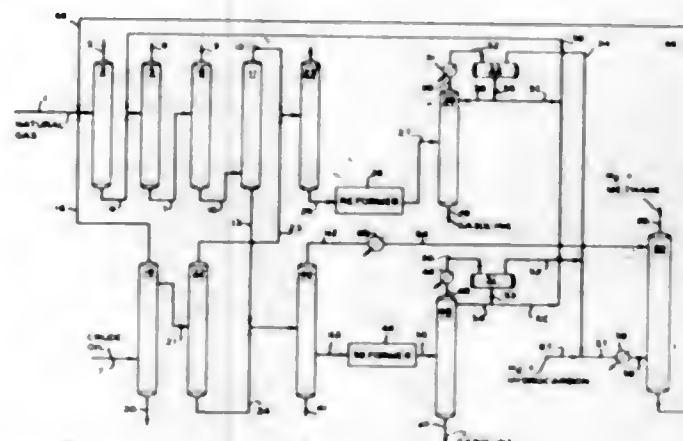
Heart cut naphtha such as that produced by fractionating crude naphtha is reformed and the aromatic con-

stituents are purified by extraction of paraffins and clay treated with subsequent recovery or hydrogenation of benzene and hydrodealkylation of heavier aromatics. The light and heavy naphthas produced in the original fractionation, as well as reformed off gas and paraffinic material recovered from reformat extraction, are cracked to produce hydrogen, olefins, gasoline hydrocarbon, and heavier gas oil, the gasoline range hydrocarbon being hydrotreated to convert a part thereof to aromatics which can be added to the feed to the extraction step, the heavy gas oils being employed as feedstock for carbon black production.

3,384,571

## COMBINED REFORMING OF NATURAL GAS AND CRUDE OIL NAPHTHAS

John H. Engel, Sweeny, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware  
Filed Feb. 9, 1967, Ser. No. 614,938  
4 Claims. (Cl. 208-79)



Natural gas liquid is fractionated to remove light hydrocarbons and leave a mixture of a light gasoline fraction and a heavy gasoline fraction and these two fractions are separated, at the same time a crude oil is fractionated to form a mixture of a light gasoline fraction, a heavy gasoline fraction and hydrocarbons that are lighter than the heavy gasoline fraction, and these two gasoline fractions are separated so that the lighter hydrocarbons go with the heavy gasoline fraction, the two light gasoline fractions are combined as are the two heavy gasoline fractions, the combined light gasoline fractions are reformed as is the combined heavy gasoline fractions after the hydrocarbons that are lighter than the heavy gasoline fractions have been removed therefrom, light hydrocarbons such as butanes and lighter and hydrogen are removed from both light and heavy gasoline fractions, these two light hydrocarbon fractions are each separated into a lighter sub-fraction containing propane and lighter hydrocarbons and hydrogen and a heavier sub-fraction containing the remainder of the light hydrocarbons removed from the two gasoline fractions, the two lighter sub-fractions are combined and contacted with the hydrocarbons that are lighter than the heavy gasoline fraction, the two heavier sub-fractions are combined and used as feed for the natural gas liquid fractionation step.

3,384,572

## CATALYTIC HYDROCRACKING

Claude G. Myers, Pitman, Barton W. Rope, Mullica Hill, and William E. Garwood, Haddonfield, N.J., assignors to Mobil Oil Corporation, a corporation of New York  
No Drawing. Filed Aug. 3, 1964, Ser. No. 387,201  
6 Claims. (Cl. 208-111)

1. A process for hydrocracking a hydrocarbon charge having an aromatic content of at least 50 percent which comprises contacting the same under hydrocracking con-

ditions with a catalyst composition comprising a hydrogenation component having an activity of from 5 to 35 and a crystalline aluminosilicate having an alpha value of from 1.5 to 20,000.

3,384,573

## CONTROL AND CHARACTERIZATION OF CATALYTIC CRACKING PROCESSES

Robert L. Goring, Barrington, N.J., assignor to Mobil Oil Corporation, a corporation of New York  
Filed Jan. 14, 1966, Ser. No. 520,572  
5 Claims. (Cl. 208-113)

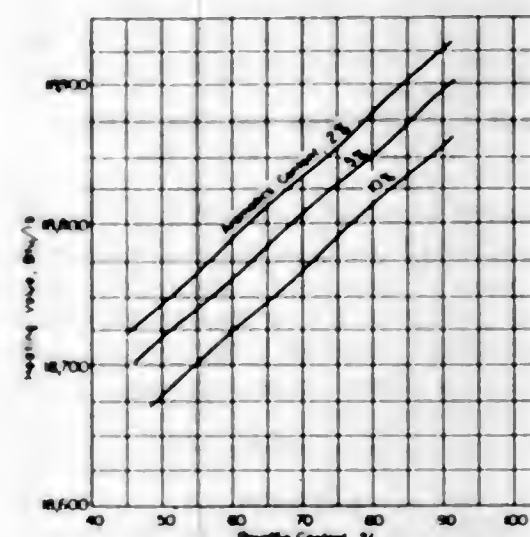
1. A method for characterizing the coking tendencies of a hydrocarbon material employed in a catalytic cracking operation which comprises subjecting a hydrocarbon material to ultraviolet spectrophotometric analysis by passing light having a wave length in the range of from about 2800 Å. to about 3200 Å. so as to generate a signal representative of the light absorbing characteristics and thus the coking tendencies of the hydrocarbon material and employing the signal thus generated to control at least one of (a) hydrocarbon feed rate to the process, (b) combustion air rate to the regenerator and, (c) catalyst circulation rate in the process.

3,384,574

## CATALYTIC PROCESS FOR MAKING A JET FUEL

Raymond R. Hallik, Pitman, Henry R. Ireland, West Deptford Township, Gloucester County, Fritz A. Smith, Cherry Hill, and Carl W. Streed, Haddonfield, N.J., assignors to Mobil Oil Corporation, a corporation of New York  
Continuation-in-part of application Ser. No. 478,526, July 27, 1965. This application July 21, 1966, Ser. No. 567,007  
6 Claims. (Cl. 208-138)

HEATING VALUE VS. PARAFFIN CONTENT OF JET FUELS



The disclosure is concerned with the method of producing jet fuels from predetermined correlations represented by FIGURES I through IV in which the method includes determining from the correlation of FIGURE IV the permissible n-paraffin content of a desired freeze point jet fuel product, determining from FIGURES I and II the maximum naphthene to aromatic ratio tolerable in a product of desired heating value and luminometer number, and catalytically reforming a paraffin containing kerosine feed in accordance with the relationship represented by FIGURE III for the above predetermined naphthene/aromatic ratio under space velocity conditions to permit 70% retention of paraffins.

3,384,575

## PETROLEUM REFINING WITH ORGANIC ACID ANHYDRIDES

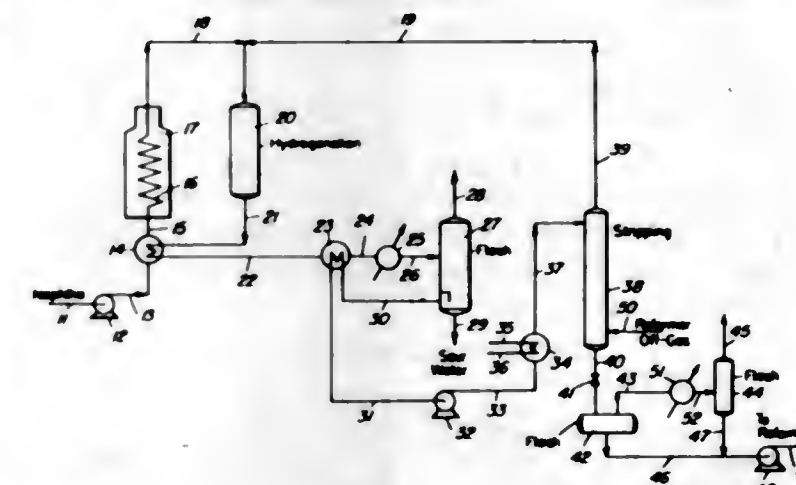
Charles O. Hoover, 502 Princess Drive, Corpus Christi, Tex. 78410  
No Drawing. Filed May 24, 1965, Ser. No. 458,461  
4 Claims. (Cl. 208-285)

A process for treating petroleum stocks to improve their storage stability by successive admixture with the stock of first, an organic acid anhydride, and second, sodium methylate in an amount sufficient to neutralize the admixture.

3,384,576

METHOD OF REDUCING C<sub>3</sub> AND LIGHTER HYDROCARBONS IN REFORMER FEED

Saverio G. Greco, Valhalla, N.Y., assignor to Mobil Oil Corporation, a corporation of New York  
Filed Mar. 1, 1967, Ser. No. 619,781  
6 Claims. (Cl. 208-361)

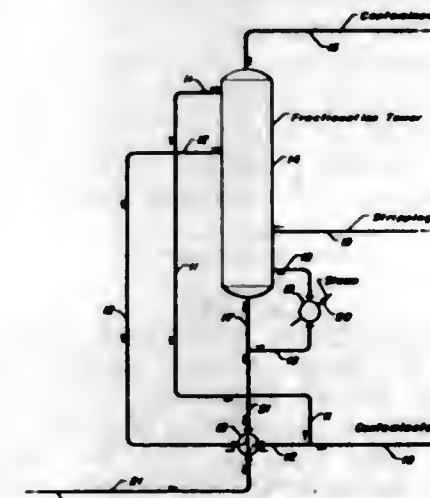


A naphtha which has been previously treated with hydrogen to reduce sulfur and nitrogen concentrations to innocuous levels is treated to reduce concentrations of materials boiling at C<sub>3</sub> and below. The hydrogen treated naphtha is directed to an initial flash unit to separate vaporous material from liquid naphtha. Vaporous material is further separated from liquid naphtha by a series of steps comprising a stripping step and a plurality of flash steps.

3,384,577

## FRACTIONATION METHOD

Robert E. Shaffer and Richard J. Bergman, Glenview, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
Filed Mar. 2, 1967, Ser. No. 620,179  
6 Claims. (Cl. 208-362)



Method of fractionation which passes unheated feed into the top of the tower, heated feed into the middle of



the tower, introduces stripping gas into the lower end of the tower, and reboils the bottoms of the tower. This operation performs a fractionation of components, such as removal of  $H_2S$  from an absorption oil.

### 3,384,578 ALUMINA-BORON FIBER COMPOSITE MATERIAL

Carl D. Stuber, Columbus, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force  
No Drawing. Filed Nov. 25, 1966, Ser. No. 597,163  
6 Claims. (Cl. 252-12)

Powdered  $Al_2O_3$ -B fiber mix in graphite die, compressed at 7500 p.s.i. at 3050° F. for five minutes, for friction bearings.

### 3,384,579 OLEOPHILIC TUNGSTEN DISULPHIDE

Aleksander Jerzy Groszek, Ealing, London, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England  
No Drawing. Filed Mar. 29, 1967, Ser. No. 626,680  
Claims priority, application Great Britain, Apr. 4, 1966, 14,803/66

6 Claims. (Cl. 252-25)  
Tungsten disulphide with improved load-carrying capacity is prepared by grinding tungsten disulphide in a high-energy mill in a low surface tension, low viscosity, low boiling point organic liquid.

### 3,384,580 GRAPHITE DISPERSIONS

James B. Peace, Modbury, Devon, England, assignor to Acheson Industries, Inc., Port Huron, Mich., a corporation of Michigan  
No Drawing. Filed May 9, 1967, Ser. No. 637,088  
10 Claims. (Cl. 252-29)

A stabilized dispersion composition for use as a lubricating oil or the like comprising graphite dispersed in a fluid or liquid organic carrier material, and containing a stabilizing agent to maintain the graphite in dispersed form, said stabilizing agent being an ethylene-propylene copolymer or terpolymer; and the method of preparing said composition.

### 3,384,581 SOLID LUBRICANT AND PIGMENT DISPERSIONS

James B. Peace, Modbury, Devon, England, assignor to Acheson Industries, Inc., Port Huron, Mich., a corporation of Michigan  
No Drawing. Filed June 9, 1967, Ser. No. 644,832  
10 Claims. (Cl. 252-29)

A stabilized dispersion composition for use as a lubricating oil, or other pigmented dispersion, comprising a particulate material dispersed in a fluid or liquid organic material and containing a stabilizing agent to contain the particulate material in dispersed form, said stabilizing agent being an ethylene-propylene copolymer or terpolymer; and the method of preparing said composition.

### 3,384,582 DISPERSIONS AND GREASES

Aleksander Jerzy Groszek, Ealing, London, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England  
No Drawing. Filed Sept. 21, 1966, Ser. No. 580,868  
Claims priority, application Great Britain, Sept. 24, 1965, 40,699/65

9 Claims. (Cl. 252-25)  
1. A lubricating composition which is based on a lubricating base oil and containing an effective amount of an

oleophilic molybdenum disulphide having a surface area of 10 to 400 square metres per gram and prepared by grinding natural or synthetic molybdenum disulphide in an organic liquid distilling below 500° C., having a viscosity below 600 centistokes at 38° C. and having a surface tension below 72 degrees/cm. at 25° C.

### 3,384,583 GREASES

Aleksander Jerzy Groszek, Ealing, London, and Samuel Richard Pethrick, Frimley Green, near Aldershot, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England  
No Drawing. Filed Sept. 21, 1966, Ser. No. 580,854  
Claims priority, application Great Britain, Sept. 24, 1965, 40,701/65

9 Claims. (Cl. 252-29)  
1. A lubricating composition which is based on a lubricating base oil containing in an effective amount an oleophilic graphite having a surface area of from 20 to 800 square metres per gram and prepared by grinding natural or synthetic graphite in organic liquid distilling below 500° C., having a viscosity below 600 centistokes at 38° C. and having a surface tension below 72 degrees/cm. at 25° C.

### 3,384,584 SOLID LUBRICANT DISPERSIONS

Aleksander Jerzy Groszek, Ealing, London, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England  
No Drawing. Filed Mar. 15, 1967, Ser. No. 623,247  
Claims priority, application Great Britain, Mar. 22, 1966, 12,525/66

9 Claims. (Cl. 252-30)  
Intimate mixtures of graphite and sulphur-containing materials when ground in a high-energy mill in a low boiling point, low viscosity, low surface tension organic liquid have high thickening power and load carrying capacity.

### 3,384,585 OVERBASING LUBE OIL ADDITIVES

James T. Gragson and David W. Bosse, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware  
Filed Aug. 29, 1966, Ser. No. 575,643  
8 Claims. (Cl. 252-33)

A method of overbasing metal petroleum sulfonates wherein methanol is added to a mixture of metal petroleum sulfonate, a hydroxide or oxide of a base metal and diluent just prior to treatment with carbon dioxide; the treatment being effected by contacting the mixture in a discontinuous liquid phase with the carbon dioxide in a continuous gaseous phase under a pressure of 10 to 100 p.s.i.g.

### 3,384,586 RESINOUS COMPOSITIONS

Richard L. McMillen, Palmersville, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio  
No Drawing. Continuation-in-part of application Ser. No. 535,742, Mar. 21, 1966, which is a continuation-in-part of application Ser. No. 185,521, Apr. 6, 1962. This application Jan. 30, 1967, Ser. No. 612,332

25 Claims. (Cl. 252-33)  
A polymeric composition possessing improved rheological properties comprising a mixture of a polymeric resin and a non-Newtonian colloidal disperse system which system is characterized as being a colloidal dispersion of solid, metal-containing colloidal particles predispersed in an inert organic liquid and, as an essential third component of the system, an organic compound with molecules which contain a hydrophobic portion and at least one polar substituent. An exemplary composition would

contain polyvinyl chloride polymer, a plasticizer for the polymer, and a disperse system comprising calcium carbonate particles, a liquid hydrocarbon disperse medium, and a calcium petrosulfonate. A method for imparting improved rheological properties to polymeric resinous compositions by incorporating such a disperse system into the compositions is described.

### 3,384,587 HYPERBASIC CALCIUM SULFONATE LUBRICATING OIL COMPOSITION

Edward H. Holst, Robert S. Edwards, and Claud E. Sibert, Jr., Nederland, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Feb. 4, 1966, Ser. No. 525,136  
9 Claims. (Cl. 252-33.4)

A method of preparing hyperbasic calcium sulfonate lube oil concentrate useful as detergent dispersant additive in oils comprising forming a first reaction mixture of sulfonic acid or salt thereof, calcium hydroxide or calcium oxide and water, lower alcohol or lower alkoxy ethanol, and lubricating oil, sequentially injecting hydrogen sulfide and carbon dioxide under a hydrogen sulfide and carbon dioxide pressure of at least 10 p.s.i.g. and stripping off incidental water and oxygenated vehicle.

### 3,384,588 LUBRICANTS CONTAINING p-POLYPHENYL

Matthew A. McMahon, Jr., Hopewell Junction, and Harry Chafetz and William J. Coppoc, Poughkeepsie, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Nov. 17, 1964, Ser. No. 411,720  
6 Claims. (Cl. 252-42.1)

4. A grease composition comprising a major portion of a mineral lubricating oil having an SUS viscosity at 100° F. of between about 50 and 10,000, a grease forming amount of a metal soap, and between about 0.5 and 30 wt. percent of poly-p-phenylene solid polymer of the formula:



where  $n$  is an average integer between about 38 and 200 and said polymer is of an average particle size between about 2 and 100 microns.

5. A grease composition in accordance with claim 4 wherein said metal soap is lithium 12-hydroxystearate and also included in said composition is an oxidation inhibiting amount of phenyl-alpha-naphthylamine and a rust inhibiting amount of N-oleylpropylene diamine.

### 3,384,589 NITRIDED IRON POWDER CORE WITH CONTROLLED PERMEABILITY COEFFICIENT

Thornley Athelstan Dunton, Birmingham, England, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware  
Original application Feb. 24, 1964, Ser. No. 346,622. Divided and this application May 31, 1967, Ser. No. 642,564  
Claims priority, application Great Britain, Mar. 6, 1963, 8,977/63

4 Claims. (Cl. 252-62.54)  
Inductor core comprises carbonyl-iron powder having a total nitrogen plus carbon content of 9.0% to about 10.5% and is characterized by a temperature coefficient of permeability not greater than  $5 \times 10^{-6}$  per ° C.

### 3,384,590 ANTI-CORROSIVE SALT

Russell A. Eversole, Excelsior, and Young J. Lee, Minneapolis, Minn., assignors to Cargill, Incorporated, Bloomington, Del., a corporation of Delaware  
No Drawing. Filed Nov. 25, 1964, Ser. No. 413,995  
16 Claims. (Cl. 252-70)

A salt composition for de-icing including a de-icing salt and minor but effective amounts of an alkali metal chromate or nitrite anodic passifier and an organic compound cathodic passifier having an amino nitrogen atom and an alkyl radical of from 8 to 24 carbon atoms.

### 3,384,591 DETERGENT COMPOSITIONS OF SOAP AND A UREA-OLEFIN-SULFURIC ACID CONDENSATION PRODUCT

John D. Zech, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,254  
8 Claims. (Cl. 252-117)

Detergent compositions comprising soap and a water-soluble salt of an urea-olefin-sulfuric acid condensate. The olefin is either butadiene or a mixture of a major amount of butadiene and a minor amount of cyclopentadiene, unhindered tertiary mono-olefin, 2-alkyl-1,3-butadiene, or mixtures thereof. The detergent composition may also contain an inorganic detergent builder.

### 3,384,592 SKIN POLISH REMOVER

Elizabeth H. Weems, 2616 Cleveland Heights Blvd., Lakeland, Fla. 33803  
No Drawing. Filed Sept. 15, 1966, Ser. No. 579,523  
1 Claim. (Cl. 252-135)

A skin polish remover for removing nail polish composition from the skin about a fingernail without removal of the nail polish on the nail, consisting of amyl acetate or other type of protein-containing material, together with water and trisodium phosphate and calcium sulphate.

### 3,384,593 DETERGENT COMPOSITIONS CONTAINING A UREA-OLEFIN-SULFURIC ACID CONDENSATION PRODUCT

John D. Zech, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,255  
9 Claims. (Cl. 252-137)

Detergent compositions comprising a blend of synthetic detergents where one of the detergents is a water-soluble salt of an urea-olefin-sulfuric acid condensate. The olefin is either butadiene or a mixture of a major amount of butadiene and a minor amount of cyclopentadiene, unhindered tertiary mono-olefin, 2-alkyl-1,3-butadiene, or mixtures thereof. The condensate may be prepared by adding the olefin to a suspension of urea and sulfuric acid in an inert solvent at a temperature from -10° C. to 70° C. The detergent compositions may also contain inorganic detergent builders.

### 3,384,594 DETERGENT COMPOSITIONS CONTAINING BUILDERS AND A UREA-OLEFIN-SULFURIC ACID CONDENSATION PRODUCT

Thomas J. Galvin and Francis A. Hughes, Wilmington, Del., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,256  
7 Claims. (Cl. 252-137)

Detergent compositions comprising an inorganic detergent builder and a water-soluble salt of an urea-olefin-sul-



furic acid condensate. The olefin is either butadiene or a mixture of a major amount of butadiene and a minor amount of cyclopentadiene, unhindered tertiary mono-olefin, 2-alkyl-1,3-butadiene, or mixtures thereof. The condensate may be prepared by adding the olefin to a suspension of urea and sulfuric acid in an inert solvent at a temperature from  $-10^{\circ}\text{C}$ . to  $70^{\circ}\text{C}$ .

3,384,595

#### DETERGENT COMPOSITIONS CONTAINING GAMMA-HYDROXY ORGANIC SULFONATE TYPE COMPOUNDS

George L. Broussalian, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 15, 1964, Ser. No. 418,567

11 Claims. (Cl. 252—161)

Detergent compositions containing in addition to conventional detergent ingredients from about 5 to 50% by weight of a gamma-hydroxy sulfonate type compound. The gamma-hydroxy organic sulfonate type compound acts as a supplemental detergent active material and results in the production of large quantities of foam or lather which is extremely stable in the presence of greases.

3,384,596

#### PEROXY ACID BLEACHING SYSTEMS

John R. Moyer, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 30, 1965, Ser. No. 517,787

2 Claims. (Cl. 252—187)

The present invention relates to an aqueous bleaching composition which comprises an organic peroxy acid, a water soluble source of an alkaline earth metal ion, and water, said composition having a peroxy acid concentration which provides an active oxygen concentration of from about 10 to 150 parts per million.

3,384,597

#### SILICATE BASED LASER GLASS

Paul F. De Paolis and Paul B. Mauer, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 27, 1964, Ser. No. 392,643

11 Claims. (Cl. 252—301.6)

1. A glass laser material consisting essentially of, by weight, between 40% and 60%  $\text{SiO}_2$ , between 3% and 10%  $\text{Li}_2\text{O}$ , between 2% and 20%  $\text{Na}_2\text{O}$ , at least 5% other crown glass crystallization inhibiting oxides and between .1% and 20% of at least one oxide at at least one type of activating ion selected from the group consisting of  $\text{Nd}_2\text{O}_3$ ,  $\text{Ho}_2\text{O}_3$ ,  $\text{Yb}_2\text{O}_3$  and  $\text{Tm}_2\text{O}_3$ .

3,384,598

#### HALOPHOSPHATE PHOSPHOR TREATMENT PROCESS

Arnold I. Friedman, South Euclid, and David H. Beaumont, Lyndhurst, Ohio, assignors to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 19, 1965, Ser. No. 441,317

4 Claims. (Cl. 252—301.4)

Sulfamic acid can be used effectively to wash deleterious impurities from newly produced alkaline earth halophosphate phosphors to improve the brightness and maintenance of light output of the phosphors. At least about 10.5 grams of sulfamic acid for each kilogram of phosphor are needed, and preferred proportions and concentrations of sulfamic acid are stated.

3,384,599

#### SILOXANE-POLYOL COMPOSITIONS AND PROCESS THEREFOR

George M. Omietanski, Tonawanda, and Thomas C. Williams, Lancaster, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 300,628, Aug. 7, 1963. This application Aug. 13, 1964, Ser. No. 389,473

8 Claims. (Cl. 252—352)

A composition useful as a polyol reactant having a built-in foam stabilizer which comprises an organic polyol containing an average of more than two carbon-bonded hydroxyl radicals per polyol molecule and from 0.025 to about 6 weight percent organosiloxane groups, such weight percent based on total weight of the organic polyol-siloxane composition, and wherein the organopolysiloxane groups are bonded to some of the molecules of the polyol in a copolymer, said copolymer being intimately dispersed among the remainder of the organic polyol.

3,384,600

#### NOVEL COMPOSITIONS AND THEIR USE IN PREVENTING AND INHIBITING FOAM

Elemer Domba, Olympic Fields, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 20, 1964, Ser. No. 413,399

2 Claims. (Cl. 252—358)

This invention concerns new compositions characterized as having low foaming activity. The compositions comprise hydrocarbons which normally tend to foam and cyanoethoxyalkoxypolysiloxane oligomers.

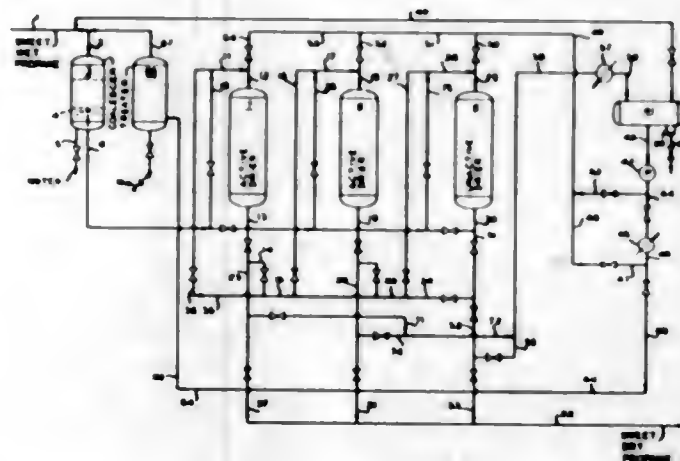
3,384,601

#### METHOD FOR REGENERATING A DESICCANT TO PREVENT $\text{H}_2\text{S}$ CONTAMINATION OF THE HYDROCARBON FEED

Clifford W. Price, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 28, 1964, Ser. No. 421,222

2 Claims. (Cl. 252—412)



In a hydrocarbon drying process, using a plurality of drying zones, one of which is undergoing regeneration using vaporous feed, the vaporous feed after regeneration is treated to separate out sulphur containing compounds and added to the feed hydrocarbon for the system, thereafter the regenerated zone is cooled using cool hydrocarbon feed to avoid additional generation of sulfur containing compounds.

3,384,602

#### BONDED MOLECULAR SIEVE CATALYSTS AND PREPARATION OF THE SAME

Alfred J. Robinson, South Plainfield, N.J., assignor by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Newark, N.J., a corporation of Delaware

No Drawing. Filed Mar. 24, 1965, Ser. No. 442,498

5 Claims. (Cl. 252—455)

Mechanically strong zeolitic molecular sieve catalyst particles are formed by blending finely divided particles of zeolitic molecular sieve with a substantial amount of halloysite clay and sufficient dilute sodium hydroxide solution to form a plastic mixture. The mixture is formed into particles by means such as extrusion and the particles are heated at a temperature within the range of about  $100^{\circ}\text{F}$ . to  $300^{\circ}\text{F}$ ., ion-exchanged with nonalkali metal ions and calcined.

3,384,603

#### PROCESS FOR PRODUCTION OF POLYMERS OF PROPYLENE OXIDE

Gunther Eilers, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Oct. 2, 1964, Ser. No. 401,216

6 Claims. (Cl. 260—2)

High molecular weight propylene oxide polymers and copolymers characterized by at least 50% crystallinity are prepared employing a catalyst system comprising (a) a dialkyl or diaryl zinc, (b) an aluminum alkoxide, and (c) water. The polymer and copolymer so prepared have rubber-like properties and upon curing result in ozone and oil resistant elastomers.

3,384,604

#### POLYMER PREPARATION

James Ping King, Cheltenham, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,631

8 Claims. (Cl. 260—2)

1. A process for preparing inorganic polymers which comprises oxidizing in the presence of water a compound of formula  $\text{Cr}(\text{OPR}_1\text{R}_2\text{O})_3 \cdot \text{X}$  where  $\text{R}_1$  and  $\text{R}_2$  are alkyl, aryl, alkoxy, or aryloxy and X is a coordinating molecule selected from the group consisting of aliphatic alcohols and five- and six-membered heterocyclic compounds containing oxygen or sulfur as a coordinating atom.

3,384,605

#### COORDINATION POLYMERS

Anthony Joseph Saraceno, Devon, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 479,607, Aug. 13, 1965. This application May 1, 1967, Ser. No. 634,918

14 Claims. (Cl. 260—2)

Polymers and copolymers involving a doubly bridged (catenated) trivalent octahedral metal coordinated with two unidentate ligands, whereby the polymer is terminated at each end with a bidentate ligand. These polymers and copolymers are useful as additives to hydraulic fluids and lubricants in order to improve viscosity-temperature characteristics.

3,384,606

#### CROSSLINKING AQUEOUS POLYURETHANES WITH FORMALDEHYDE

Dieter Dieterich and Erwin Muller, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Mar. 10, 1964, Ser. No. 350,651

Claims priority, application Germany, Mar. 13, 1963, F 39,240

6 Claims. (Cl. 260—29.4)

1. A polyurethane plastic prepared by a process which comprises reacting an organic polyol with an organic polyisocyanate, at least one of said reactants containing a tertiary nitrogen atom, in substantially stoichiometric quantities to prepare a polyurethane prepolymer, reacting said prepolymer with a member selected from the group consisting of a quaternization agent and an acid having a pK value of less than 6 to prepare a polyurethane, mixing said polyurethane with formaldehyde in an aqueous medium to form a dispersion having a pH value of 2 to 5 and heating said mixture to remove water and leave an elastic synthetic polyurethane plastic having improved mechanical properties and improved resistance to boiling water by heating said mixture to a temperature of from about 20 to about  $150^{\circ}\text{C}$ .

3,384,607

#### VINYL CHLORIDE RESINS AND NITRILE RUBBERS PLASTICIZED WITH DIESTER-AMIDES

Frank C. Magne, Robert R. Mod, and Evald L. Skau, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Sept. 29, 1964, Ser. No. 400,278. Divided and this application Mar. 24, 1965, Ser. No. 459,490

20 Claims. (Cl. 260—30.4)

Plastic compositions are obtained in which vinyl chloride resins or nitrile rubbers are plasticized with diester-amides derived from diethanol amine. The acyl portion of the amide moiety can be derived from monoolefinic carboxylic acids or such acids which contain at least one epoxy group, or which contain an alkyl chain substituted with at least one epoxy group. The hydrocarbon moiety of the acids used to esterify the ethanol groups can comprise phenyl, cyclohexyl, or substituted phenyl. The N-bis(2-acetoxyethyl) amide of selectively hydrogenated cottonseed oil fatty acids and the N-bis(2-acetoxyethyl) amide of epoxidized cottonseed oil fatty acids are particularly suitable as softeners for nitrile rubber.

3,384,608

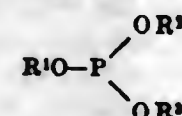
#### VINYL CHLORIDE RESINS AND PLASTICIZERS THEREFOR STABILIZED WITH 1,1-BIS-(2-METHYL-5-TERTIARY BUTYL-4-HYDROXYPHENYL) BUTANE

George F. Hardy and Ronald Saltzman, Madison, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,305

4 Claims. (Cl. 260—31.8)

1. A plasticizer composition stable against oxidative degradation which comprises diisodecyl phthalate prepared from "oxo" prepared alcohol having dissolved therein the combination of between about 0.05% to 0.2% by weight of 1,1-bis(2-methyl-5-tertiary butyl-4-hydroxyphenyl) butane and between about 0.2% to 0.5% by weight of an organic phosphite of the formula:

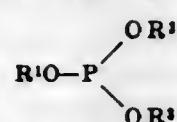


wherein  $\text{R}^1$  is a member selected from the group consisting of hydrogen, the phenyl radical, 1-10 carbon atom alkyl



substituted phenyl radicals, and alkyl radicals of 1-10 carbon atoms,  $R^2$  and  $R^3$  are selected from the group consisting of the phenyl radical, 1-10 carbon atoms substituted phenyl radicals, and alkyl radicals of 1-10 carbon atoms.

3. A wire coating composition of high volume resistivity comprising: (A) a vinyl chloride polymer selected from the group of polyvinyl chloride and copolymers of a major portion of vinyl chloride with a minor portion of a monoethylenically unsaturated monomer copolymerizable with vinyl chloride; (B) calcium carbonate as filler; (C) diisodecyl phthalate prepared from "oxo" prepared alcohol; and (D) between about 0.05% to 0.2% by weight of 1,1-bis(2-methyl-5-tertiary butyl-4-hydroxyphenyl) butane and between about 0.2% to 0.5% by weight of an organic phosphite of the formula:



wherein  $R^1$  is a member selected from the group consisting of hydrogen, the phenyl radical, 1-10 carbon atom alkyl substituted phenyl radicals, and alkyl radicals of 1-10 carbon atoms,  $R^2$  and  $R^3$  are selected from the group consisting of the phenyl radical, 1-10 carbon atoms substituted phenyl radicals, and alkyl radicals of 1-10 carbon atoms, said percentages based on the weight of said diisodecyl phthalate.

3,384,609

## PLASTICISED SULPHUR

Jean Baptiste Signoret, Billiere, Bernard Audouze, Orthez, and Jean Barge, Pau, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France

No Drawing. Filed July 14, 1965, Ser. No. 472,033  
Claims priority, application France, July 23, 1964, 982,775

11 Claims. (Cl. 260-37)

A novel plastic material is formed by the homogeneous union of elementary sulphur with a resinous condensation product formed by the simultaneous action of a haloepoxy-alkane and hydrogen sulphide upon an aqueous solution of a polysulphide of an alkali or alkaline earth metal. The products of the process of the present invention may be produced with varying degrees of flexibility or hardness, may contain fillers such as glass fibers, glass balls or other mineral material, and are useful for forming resistant coatings and markings on concrete, asphalt or similar surfaces.

3,384,610

## FLUIDIZED BED COATINGS CONTAINING POWDERED EPOXY RESIN COMPOSITIONS AND METHOD FOR PREPARING THE SAME

Max M. Lee, Fort Wayne, Ind., assignor to The Dexter Corporation, a corporation of Connecticut

No Drawing. Filed May 25, 1964, Ser. No. 370,080  
12 Claims. (Cl. 260-37)

An epoxy resin coating composition adapted for low temperature film formation and rapid cure on pre-heated substrates, said composition comprising a uniform mixture of powdered components having a particle size within the range of about 5 to 600 microns, a first powder in said mixture consisting essentially of a partially reacted mixture of epoxy resin having an epoxy equivalency between 1.0 and 2.0, a molecular weight within the range of 450-2550, and a softening point above 65° C., and about 0.5 to 5% based on the weight of resin of a  $\text{BF}_3$ -amine complex soluble in said resin, and a second powder in said mixture consisting essentially of a solid, friable, non-agglomerable polycarboxylic acid anhydride, the amount of said second powder being sufficient to provide 0.25 to 1.0 equivalents of anhydride per equivalent of epoxy resin, and said composition having the character-

istic of being stable to storage for long periods of time as free-flowing powder while fusing and coalescing to a continuous coating at a temperature above about 100° C.

3,384,611

## MODIFIED TRIPHOSPHONITRILIC POLYMER COMPOSITIONS

Bernard Grushkin, Silver Spring, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Sept. 1, 1964, Ser. No. 393,739  
19 Claims. (Cl. 260-39)

Phosphonitric polymers such as those prepared from 2,4,6-triamido-2,4,6-triphenyltriphosphonitric, can be modified by reacting with a diisocyanate. The resulting polymer can be combined with inorganic fillers to produce molding compositions.

3,384,612

## GOLF BALL

Harry W. Brandt and Warren F. Busse, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 1, 1966, Ser. No. 523,872  
8 Claims. (Cl. 260-41)

A golf ball of a one-piece construction of a homogeneous solid can be prepared by a process that comprises blending from 25-75% by weight of an elastomer and complementally from 75-25% by weight of an ionic copolymer derived from an alpha-olefin of the formula  $\text{RCH}=\text{CH}_2$ , wherein R is H or alkyl having from 1-8 carbon atoms and from 1-25 mole percent of units derived from an  $\alpha,\beta$ -ethylenically unsaturated carboxylic acid and optionally a filler material for adjusting the weight of the ball.

3,384,613

## RETARDATION OF SCORCH IN RUBBER COMPOUNDS CONTAINING DICUMYL PEROXIDE AS THE VULCANIZING AGENT

Carl R. Parks, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 20, 1964, Ser. No. 391,022  
14 Claims. (Cl. 260-45.9)

1. In a curable rubber composition comprising (a) a peroxide-curable rubber, said rubber being an elastomeric high polymer comprising conjugated diene monomers linked through carbon-carbon bonds, and (b) a ditertiary organic peroxide curing agent in an amount within the range of from about 0.5 to 5.0 parts by weight per 100 parts by weight of rubber, said amount being sufficient to cure said rubber, the improvement comprising (c) a modifier selected from ring-substituted nitro-aryl compounds, ring-substituted nitroso-aryl compounds, and N-nitroso diarylamine compounds, in an amount within the range of about 0.1 to about 5 parts by weight per 100 parts by weight of rubber, said amount being sufficient to retard scorching of said rubber.

3,384,614

## SYNERGISTIC ANTIOZONANT MIXTURE

Robert H. Rosenwald, Western Springs, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,785  
17 Claims. (Cl. 260-45.9)

A synergistic mixture of from about 5% to about 95% by weight of a p-phenylenediamine antiozonant and from about 95% to about 5% by weight of a dicycloalkyldiaminodiphenyl compound such as dicycloalkyldiaminodiphenyl ether, dicycloalkyldiaminodiphenyl sulfide, dicycloalkyldiaminodiphenyl amine or dicycloalkyldiaminodi-

pheny alkane. The synergistic mixture is useful as an antiozonant for natural and synthetic rubber.

3,384,615

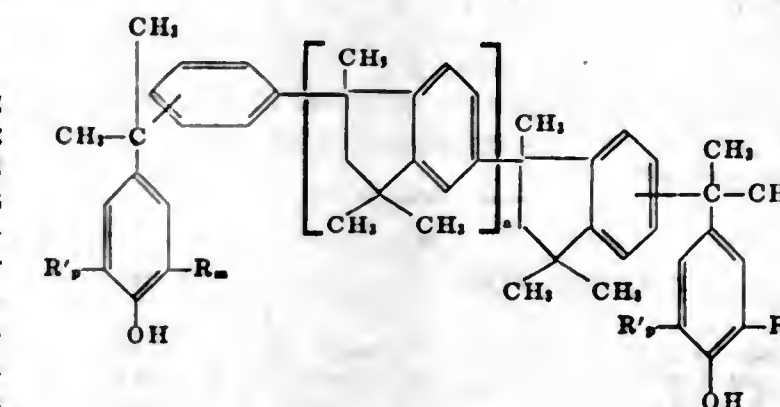
## STABILIZATION OF POLYAMIDES

Elias R. Agouri, Pau, France, and Helmut Müller, Binningen, Switzerland, assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed May 16, 1966, Ser. No. 559,364  
5 Claims. (Cl. 260-45.9)

1. A heat-stabilized polyamide composition comprising a synthetic linear amorphous polyamide and stabilizing amounts of, an alkyl-substituted diphenylamine said alkyl having from 4-12 carbon atoms; a phosphorous compound selected from the group consisting of phosphorous acid, a salt of a phosphorous acid, and an ester of phosphorous acid; and a halide selected from the group consisting of hydrogen chloride, hydrogen bromide, hydrogen iodide, an alkali metal chloride, an alkali metal bromide, an alkali metal iodide, an alkali-earth metal chloride, an alkali earth metal bromide and an alkali earth metal iodide.

epihalohydrin and a dihalohydrin in which at least one halogen atom is attached to a carbon atom alpha to the hydroxy-substituted carbon atom and the two halogen atoms are attached to different carbon atoms and p-phenol alkylated 1,1,3-trimethyl-1,2-dihydroindene having the formula:



wherein R and  $R'$  are selected from the group consisting of methyl, ethyl, methoxy, ethoxy, chloro, bromo, iodo and fluoro and m and p represent the integers 0 and 1 and n represents an integer from 0 to 8, said reaction being carried out in a basic medium at a temperature of about 20 to 120° C., employing 1 to 15 mols of said halohydrin per mol of said p-phenol alkylated 1,1,3-trimethyl-1,2-dihydroindene.

3,384,618

## METHOD OF PRODUCING SYNTHETIC RESINS FROM AROMATIC GLYCOLS AND A PHENOL

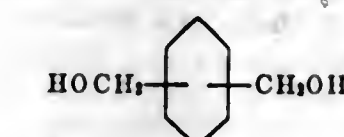
Minoru Imoto, 181-2 Okashin-machi, Osaka-fu, and Chingyun Huang, 249 Okashin-machi, Osaka-fu, both of Malkata-shi, Japan

No Drawing. Continuation-in-part of application Ser. No. 375,620, June 16, 1964. This application Dec. 8, 1966, Ser. No. 600,700

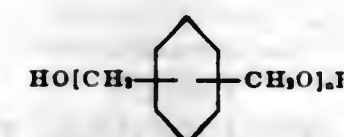
Claims priority, application Japan, Nov. 24, 1960, 35/46,581

9 Claims. (Cl. 260-47)

There is provided a method of producing a synthetic resin which comprises reacting a material selected from the group consisting of aromatic glycols having the formula



and polyethers thereof having the formula



wherein



is an aromatic hydrocarbon moiety selected from the group consisting of benzene, naphthalene and anthracene, each having up to four methyl substituents on the aromatic nucleus, and n is an integer from 2 to about 200, with a phenol selected from the group consisting of phe-

3,384,616

## THERMALLY STABLE POLYAMIDES CONTAINING COPPER 2,2'-DIHYDROXY-DIPHENYLSULFIDES OR MIXTURES OF COPPER SALTS WITH 2,2'-DIHYDROXY-DIPHENYLSULFIDES

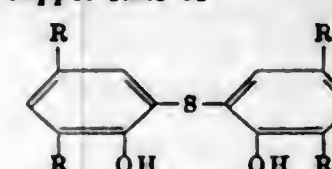
Karl-Heinz Heller, Krefeld, Peter Popper and Joachim Neutwig, Krefeld-Bochum, and Hermann Schnell, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 398,395, Sept. 22, 1964. This application Jan. 24, 1967, Ser. No. 611,475

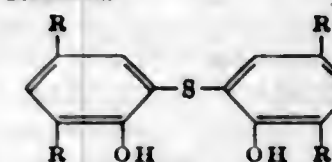
Claims priority, application Germany, Sept. 28, 1963, F 40,870

6 Claims. (Cl. 260-45.75)

Thermal stabilization of polyamides by the incorporation therein of copper salts of



wherein R is at least one member selected from the group consisting of hydrogen, halogen, cycloalkyl, and alkyl having about 1 to 12 carbon atoms; and mixtures of copper chlorides, sulfates, nitrates or acetates with compounds of the formula



wherein R is at least one member selected from the group consisting of hydrogen, halogen, cycloalkyl, and alkyl having about 1 to 12 carbon atoms.

3,384,617

REACTION OF DIISOPROPYLBENZENE- $\alpha,\alpha'$ -DIOL WITH PHENOLIC COMPOUNDS AND PRODUCTS THEREOF

Salvatore A. Casale, Morris Township, Morris County, Thomas M. Cawthon, Dover, and Wilbert M. Wenner, Rockaway, N.J., assignors to Allied Chemical Corporation, a corporation of New York

No Drawing. Original application Apr. 30, 1962, Ser. No. 191,279, now Patent No. 3,256,347, dated June 14, 1966. Divided and this application Feb. 21, 1966, Ser. No. 544,051

5 Claims. (Cl. 260-47)

5. An epoxide resin which is a reaction product of a halohydrin selected from the group consisting of an



nol, ortho-, meta- and para-cresols, para-tert-butylphenol, octylphenols, nonylphenols, phenylphenols, p-chlorophenol, hydroquinone, resorcinol, catechol, bisphenol, 8-(para-hydroxyphenyl)-para-menthane-1,1,8-di(para-hydroxyphenyl)-para-menthane and novolac resins which are the reaction product of any of the foregoing phenols and formaldehyde and having a molecular weight of about 250 to 900, thereby to form a synthetic resin in which aromatic hydrocarbon moieties and phenol moieties are alternately bonded by methylene radicals. The synthetic resins produced are novel in their alternation of phenolic and non-phenolic moieties linked by methylene radicals.

3,384,619

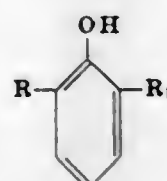
# PROCESS FOR MANUFACTURE OF POLYPHENYLENE ETHERS

Takeshi Hori and Shunro Kataoka, Ohtsu-shi, and Hiroshi Kodama, Kyoto, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed May 18, 1967, Ser. No. 639,272

7 Claims. (Cl. 260-47)

Process for preparation of polyphenylene ethers which comprises reacting a phenol having the formula:



wherein R and R<sub>1</sub> are alkyl group, with oxygen in the presence of three component catalyst composed of (1) nonbasic cupric halide or cupric carboxylate, (2) tertiary amine, and (3) alcohol.

3,384,620

# POLYACETAL TERPOLYMERS CONTAINING RANDOMLY RECURRING GROUPS DERIVED FROM AN AROMATIC ACETAL

Henri Sidi, Paramus, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Aug. 28, 1964, Ser. No. 392,899

3 Claims. (Cl. 260-67)

Certain aromatic acetals may be copolymerized with formaldehyde or with its cyclic trimer, trioxane, to form a new class of polyacetal copolymers and terpolymers which contain randomly recurring groups derived from the aromatic acetal. These new polyacetal copolymers and terpolymers are characterized by viscosimetrically-determined average molecular weights in the range from 10,000 to 100,000, and by excellent thermal and hydrolytic stability.

3,384,621

# METHOD FOR PREPARING POLYOXY-METHYLENE OF IMPROVED THERMAL STABILITY

Shigeki Horie, Eiji Sakaoka, Susumu Kurematsu, and Michikazu Hiraoka, Tokyo, Japan, assignors to Denki Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Feb. 8, 1965, Ser. No. 431,187

Claims priority, application Japan, Feb. 11, 1964, 39/6,881

8 Claims. (Cl. 260-67)

Method for preparation of substantially pure white polyoxymethylene of good thermal stability comprising incorporating polymerized or copolymerized polyoxy-

methylene of high molecular weight and from 0.1 to 20% ammonium cyanate in an organic solvent and heating.

3,384,622

# RAPIDLY WATER-SOLUBLE GUANIDINE-FORMALDEHYDE RESIN AND PROCESS FOR THE MANUFACTURE THEREOF

Edward Helmut Sheers, Flushing, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 11, 1965, Ser. No. 454,994

7 Claims. (Cl. 260-72)

Hydrocolloid-reactive guanidine-formaldehyde resin in aqueous alkaline solution is spray-dried to a free-flowing powder which dissolves uniformly and rapidly in cold water, by acidifying the solution to pH 6.8-7.5, spray-drying the solution into a current of air having a temperature less than 450° F., and rapidly cooling and recovering the resin particles thereby formed. The size of the droplets of the sprayed solution is such that the average diameter of the resin particles which are formed is less than 150 microns.

3,384,623

# PRODUCTION OF POLYURETHANE ELASTOMERS

Katsumi Inoue, Toshimi Matsui, Ikuo Suyama, and Hiroaki Masuda, Tsuruga, Japan, assignors to Toyo Spinning Co., Ltd., Osaka, Japan

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,542

Claims priority, application Japan, Jan. 11, 1964, 39/1,090

5 Claims. (Cl. 260-75)

The present invention provides for a process for preparing a spinnable solution of a linear elastic polyurethane comprising:

(A) Forming an isocyanate-terminated prepolymer by reacting at an elevated temperature (i) an organic diisocyanate, (ii) a hydroxyl-terminated difunctional polyol having a molecular weight between about 600 and 4,000, and (iii) between about 0.05% and 5%, based on the weight of the prepolymer of a monohydric alcohol containing as its sole group, reactive with an isocyanate group, one hydroxyl group;

(B) Forming a prepolymer solution by dissolving between 15 and 50 parts of prepolymer (A) in 50 to 85 parts of a solvent which is inert to the isocyanate group and which will dissolve the linear polyurethane;

(C) Adjusting the temperature of solution (B) to within the range of about 0° C. up to about 100° C., and

(D) Forming a spinnable solution by adding to solution (C) a difunctional chain-extender which is capable of reacting with said prepolymer (A).

3,384,624

# PREPOLYMER COMPOSITION

Herbert L. Heiss, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,275

9 Claims. (Cl. 260-77.5)

Monomeric tolylene diisocyanate is removed from a prepolymer composition prepared by reacting an excess of tolylene diisocyanate with an organic compound containing active hydrogen containing atoms as determined by the Zerewitinoff method by reacting the monomeric tolylene diisocyanate remaining in the prepolymer with a benzyl alcohol.

3,384,625

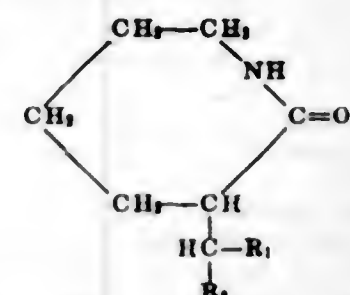
# POLYAMIDE POLYMERIZATION PRODUCTS OF DERIVATIVES OF EPSILON-CAPROLACTAM

Herbert K. Reineckmessel, Morristown, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Jan. 29, 1964, Ser. No. 341,068

6 Claims. (Cl. 260-78)

1. The polyamide polymerization product of a compound having the formula:



wherein R<sub>1</sub> is carboxy, alkoxycarbonyl or carbamyl and R<sub>2</sub> is hydrogen or a group represented by R<sub>1</sub>.

3,384,626

# CROSS-LINKED POLYAMIDES

Robert M. Lusk, Neenah, Wis., Frank Becker, Albany, N.Y., and John R. Larson, Upper Saddle River, N.J., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Original application Sept. 26, 1963, Ser. No. 311,620. Divided and this application Feb. 13, 1967, Ser. No. 615,348

7 Claims. (Cl. 260-78)

The polymeric compositions of matter comprise the reaction product of a polyamide with a halo-substituted polyhydromethanonaphthalenedicarboxylic acid or anhydride thereof, said polymeric compositions of matter possessing desirable physical characteristics such as fire retardance and color stability. The resulting polyamide may be used for molding resins, films, coatings, insulation, etc.

3,384,627

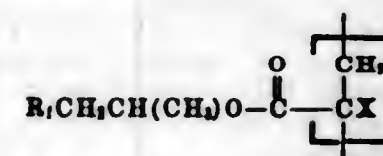
# NOVEL POLYFLUOROALKYL ACRYLATE MONOMERS, POLYMERS AND INTERMEDIATES

Louis Gene Anello, Basking Ridge, and Richard F. Sweeney, Dover, Randolph Township, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,749

20 Claims. (Cl. 260-89.5)

9. Polymers comprising recurring polyfluoroalkyl acrylate ester units of the formula:



wherein R<sub>1</sub> is a perfluoroalkyl group containing 5-14 carbon atoms and X is H or CH<sub>3</sub>.

3,384,628

# FLUORINATED ESTER COMPOUNDS AND USE THEREOF

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,129

21 Claims. (Cl. 260-89.5)

Novel alkali metal fluorocarbonates are produced by a novel method which involves reacting a great variety of

ketones and substituted ketones with an alkali metal fluoride. The resulting fluorocarbonates are then converted to fluorinated esters by reaction with an acid halide. Because the resulting esters have a fluorine on the α-carbon of the alcohol moiety, they are useful as oil and water repellants for fabrics. By using the halide of an unsaturated acid in the reaction, the resulting esters can be made into homo- or copolymers which are useful for the production of oil and water resistant coatings on a variety of fabrics made from both natural and synthetic fibers.

3,384,629

# METHOD OF SHORTSTOPPING CONJUGATED DIENE POLYMERIZATIONS

Charles W. Strobel, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 253,992, Jan. 25, 1963. This application Aug. 26, 1963, Ser. No. 304,655

16 Claims. (Cl. 260-94.2)

1. In a process wherein a polymerization mixture is formed by polymerizing a conjugated diene with a lithium-based catalyst, the improvement which comprises adding to said polymerization mixture as a shortstopping agent an organic peroxide and thereafter coagulating and recovering the shortstopped polymer directly from the shortstopping step.

3,384,630

# BUTADIENE POLYMERIZATION AND CATALYSTS THEREFOR

Kouei Komatsu, Shigeoaki Nishiyama, Hidetoshi Yamaguchi, and Kenichi Ueda, Yokkaichi-shi, Japan, assignors to Japan Synthetic Rubber Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 22, 1965, Ser. No. 450,184

Claims priority, application Japan, June 11, 1964, 39/32,908

7 Claims. (Cl. 260-94.3)

A process for producing polybutadiene having a high percentage of cis-1,4 configuration by contacting butadiene in the presence of a hydrocarbon solvent with a catalyst consisting of a reaction mixture of (1) a compound selected from the group consisting of iron, cobalt and nickel peroxides, 1 gram of which contains more than 0.1 milligram equivalent of active oxygen capable of oxidizing potassium iodide at room temperature, and (2) a halide of aluminum.

3,384,631

# ISOLATION OF BACITRACIN FROM DILUTE SOLUTIONS THEREOF BY PRECIPITATION AS A COMPLEX WITH A DIVALENT METAL AND AN ORGANIC SULFATE OR SULFONATE

Vladimir Kalina, Stanislav Ulbert, and Artur Malina, Prague, Czechoslovakia, assignors to Speda, Sbrusni podnik pro zdravotnickou výrobu, Prague, Czechoslovakia

No Drawing. Filed June 23, 1965, Ser. No. 466,444

Claims priority, application Czechoslovakia, June 26, 1964, 3,687/64

11 Claims. (Cl. 260-112.5)

The antibiotic bacitracin is recovered from a crude solution thereof, in particular from the original culture medium, by adding to the solution

(I) a compound of the general formula R-SO<sub>3</sub>H, or a soluble salt thereof, R being alkyl, aralkyl or alkaryl and alkyl and aralkyl having from 4 to 20 carbon atoms and alkaryl having at least one alkyl substituent with between 4 and 16 carbon atoms, and R being linked to the -SO<sub>3</sub>H group either directly or by means of an oxygen bridge; and

(II) a soluble salt of a complex-forming metal.



The reaction is carried out in an acid environment, preferably at a pH between 2 and 5. There is thus formed a complex compound between the sulfonated group, the metal and the bacitracin of the general formula



wherein R has the meaning just stated and Me is preferably zinc, cobalt, manganese or copper. The complex compound is then separated and the bacitracin is recovered therefrom. Preferably, the recovery is effected by separating the complex compound, dissolving it in an alcohol having from 1 to 5 carbon atoms at a pH between 4 and 9, eliminating the complex by an ion exchange reaction and recovering the bacitracin from the reaction product. Good yields of bacitracin are obtained without the necessity of previous concentration of the culture medium.

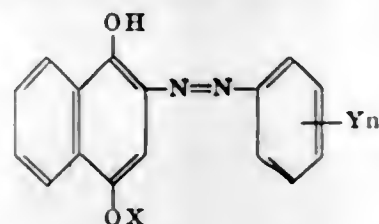
### 3,384,632 ARYLAZO-4-ISOPROPOXY-1-NAPHTHOL COMPOUNDS

Warren E. Solodar, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

No Drawing. Filed Apr. 2, 1965, Ser. No. 445,240

3 Claims. (Cl. 260-197)

Compounds of the formula:



wherein

X is lower alkyl,

y is lower alkyl, lower alkoxy, lower carbalkoxy, carboxy, nitro, cyano, halo or sulfonamido and cyano halo or sulfonamido and

n is a positive integer of from 1 to 4, which compounds are useful as pigments in coating and molding compositions.

3,384,633  
PROCESS FOR THE ISOMERIZATION OF  
VITAMIN A AND ESTERS THEREOF  
Joseph A. Kardys, Groton, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 363,065, Apr. 24, 1964. This application Nov. 8, 1966, Ser. No. 592,748

6 Claims. (Cl. 260-207.1)

Isomerization of vitamin A, its isomers and esters, using iodine and basic amines, particularly pyridine, as catalysts. Relatively inactive 11-cis and 11,13-di-cis isomers thus converted to mixtures of vitamin A and neo-vitamin A without formation of additional inactive 9-cis vitamin A isomer. Vitamin A esterification and transesterification using alkali metal alkoxide as catalyst, improved by presence of alkali metal borohydride and basic amine.

3,384,634  
PURIFYING ESTERS OF POLYHYDRIC  
ALCOHOLS  
Charles J. O'Boyle, Gramercy, La., assignor to North American Sugar Industries Incorporated, New York, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of applications Ser. No. 33,116, June 1, 1960, and Ser. No. 263,349, Mar. 6, 1963. This application July 13, 1964, Ser. No. 382,393

15 Claims. (Cl. 260-234)

The specification discloses a method for removing extraneous solvents from mixtures containing polyhydric

alcohol esters. The mixture is dispersed in a wash solvent in which the extraneous solvent is soluble and the ester is of limited solubility. The wash solvents disclosed are alkane hydrocarbons having a boiling point between about -45° C. and 115° C., at atmospheric pressure. Methods for the preparation and preliminary purification of the polyhydric alcohol esters are also described.

3,384,635  
1,4-BENZODIAZEPINE DERIVATIVES  
Phillip M. Carabateas, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 465,198, June 18, 1965. This application Sept. 28, 1966, Ser. No. 582,529

14 Claims. (Cl. 260-239)

1-R<sub>1</sub>-3-R<sub>3</sub>-4-R<sub>4</sub>-1H-2,3,4,5-tetrahydro-1,4-benzodiazepine, where R<sub>1</sub> is hydrogen, lower-alkanoyl, lower-alkanesulfonyl, or benzoyl, R<sub>3</sub> is hydrogen or lower-alkyl, and R<sub>4</sub> is lower-alkenyl, halo-(lower-alkenyl), phenyl-(lower-alkyl), lower-cycloalkyl-(lower-alkyl) or lower-carbalkoxy-(lower-alkyl), analgesic antagonists, are prepared by reducing the corresponding 3-R<sub>3</sub>-4-R<sub>4</sub>-3H-1,4-benzodiazepine-2,5(1H,4H)-diones to prepare said compounds where R<sub>1</sub> is hydrogen and acylating the latter to obtain said compounds where R<sub>1</sub> is lower-alkanoyl, lower-alkanesulfonyl or benzoyl. Intermediate 4-(cycloalkylalkyl)-3H-1,4-benzodiazepine-2,5(1H,4H)-diones also have psychomotor depressant activity.

3,384,636  
3-BENZOYL-3-AZABICYCLO[3.2.2]NONANES  
Theodore E. Stanin and Vada L. Brown, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 276,195, Apr. 29, 1963. This application June 16, 1965, Ser. No. 464,533

5 Claims. (Cl. 260-239)

1. 3-benzoyl-3-azabicyclo[3.2.2]nonane.

3,384,637  
16-METHYLATED CORTICOSTEROIDS  
Patrick A. Diassi, Westfield, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

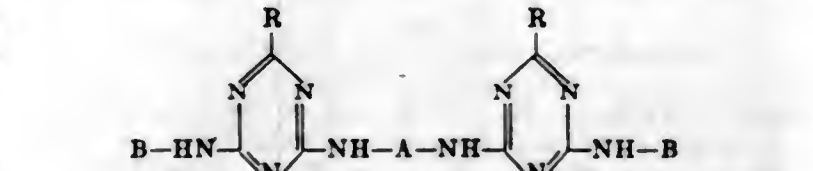
No Drawing. Filed Jan. 18, 1966, Ser. No. 521,399  
8 Claims. (Cl. 260-239.5)

The invention disclosed herein relates to 16-methylated corticosterones. These compounds have been found to have activity as anti-inflammatory agents.

3,384,638  
ANTHRAQUINONE VAT DYESTUFFS  
Konrad Mix, Frankfurt am Main-Fechenheim, Germany, assignor to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany, a company of Germany

No Drawing. Filed Feb. 15, 1966, Ser. No. 527,479  
Claims priority, application Germany, Mar. 3, 1965, C 35,205

1 Claim. (Cl. 260-249)



wherein -NH-A-NH- is a bivalent residue of a diamino anthraquinone of the group consisting of 1,4-diamino-anthraquinone, 1,5-diamino-anthraquinone, 1,8-di-

amino-anthraquinone, and 1,5-diamino-4,8-dihydroxy-anthraquinone, B-NH- is the residue of an amine of a vatable amino-anthraquinone of the group consisting of 1,4-diamino-2-acetyl-anthraquinone, 1-amino-4-benzoyl-amino-anthraquinone, and 4-amino-anthraquinone-1(N), 2-benzacridone, and R is a radical of the group consisting of phenyl and phenoxy.

3,384,639  
METHOD FOR PRODUCING 3,6-DIOXO-  
2,5-DIMETHYLPYPERAZINE  
Shinichi Ishida and Chihito Oizumi, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed May 19, 1965, Ser. No. 457,192  
Claims priority, application Japan, May 28, 1964, 39/29,840

8 Claims. (Cl. 260-268)

1. A process for producing 3,6-dioxo, 2,5-dimethyl piperazine which comprises heating a salt of alanine with an organic or inorganic acid having a pKa less than 4 with a phenol of the general formula:



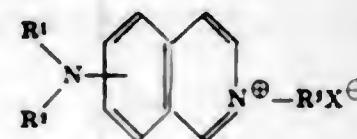
wherein R is selected from the group consisting of hydrogen, methyl, halogen, and nitro, said phenol being present in an amount by weight at least equal to that of the alanine salt.

3,384,640  
AMINO ISOQUINOLINIUM SALTS  
Joseph Martin Muchowski, La Salle, Quebec, Canada, assignor, by mesne assignments, to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 15, 1966, Ser. No. 534,414

11 Claims. (Cl. 260-286)

1. A compound of the formula:



wherein:

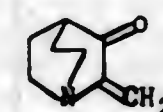
R<sup>1</sup> is a member selected from the group consisting of hydrogen and (lower) alkyl,  
R<sup>2</sup> is a member selected from the group consisting of hydrogen, (lower) alkyl, (lower) alkanoyl and phenyl (lower) alkyl,  
R<sup>3</sup> is a member selected from the group consisting of (lower) alkyl and phenyl (lower) alkyl, and  
X is a pharmaceutically acceptable nontoxic anion.

3,384,641  
2-METHYLENE-3-QUINUCLIDONES  
John H. Biel and Harvey B. Hopps, Milwaukee, Wis., and Henryk Bader, Newton Center, Mass., assignors to Aldrich Chemical Co., Inc., Milwaukee, Wis., a corporation of Wisconsin

No Drawing. Continuation-in-part of application Ser. No. 426,360, Jan. 18, 1965. This application Sept. 19, 1967, Ser. No. 668,941

3 Claims. (Cl. 260-294.7)

Chemical compounds, namely the free base and acid addition salts of 2-methylene-3-quinuclidinone of the following structure:

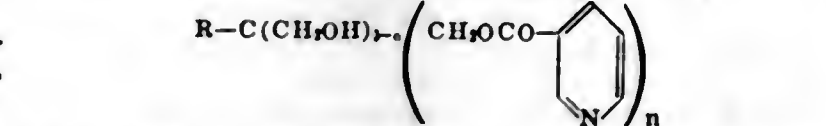


which are useful in separating mixtures of primary and secondary amines in a quantitative manner as well as purifying various amines.

3,384,642  
NICOTINIC ACID ESTERS OF  
1,3-PROPANE DIOLS  
Michio Nakanishi, Ryosuke Kobayashi, and Katsuo Arimura, Nakatsu, Oita, Japan, assignors to Hoshitomi Pharmaceutical Industries, Ltd., Osaka, Japan

No Drawing. Filed Nov. 16, 1965, Ser. No. 508,140  
Claims priority, application Japan, Nov. 18, 1964, 39/65,178; Oct. 12, 1965, 40/62,859

9 Claims. (Cl. 260-295.5)



wherein R is alkyl of 5 to 20 carbon atoms and n is an integer from 1 to 3, are useful in the treatment of hypercholesteremia and peripheral vascular diseases, are well absorbed and show prolonged activity without producing significant or substantial side effects, such as flushing, skin sensation, formication and hyperemic skin reaction.

3,384,643  
1-HYDROCARBYLSULFONYL-2,2-DICHLORO (OR  
DIALKOXY)-4,5-IMIDAZOLIDINE DIONES  
Adnan A. R. Sayigh, North Haven, and Henri Ulrich, Northford, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Feb. 17, 1965, Ser. No. 433,498

13 Claims. (Cl. 260-309.7)

Novel 1-alkyl- or aryl-sulfonyl-2,2-dialkoxy-4,5-imidazolidine diones are prepared by alcoholysis of the corresponding 2,2-dichloro compounds. The latter are also novel and obtained by reaction of oxalyl chloride with the appropriately substituted sulfonylcarbodiimide. The novel 2,2-dialkoxy and 2,2-dichloro compounds are intermediates, by hydrolysis, for the corresponding sulfonylureas which have antidiabetic activity.

3,384,644  
AMINOPHENOXYMETHYLATED  
PHTHALOCYANINES  
Harlan B. Freyermuth and David L. Randall, Easton, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 28, 1965, Ser. No. 517,129

10 Claims. (Cl. 260-314.5)

Novel phthalocyanine dyestuff compounds containing at least one acylamino or aminophenoxyethylene group, and novel methods of making same.

3,384,645  
7-METHYLENE-3α,5-CYCLO-6-KETONE STEROIDS  
AND PROCESS FOR PRODUCING SAME  
Derek Burn and Vladimir Petrov, London, England, assignors to The British Drug Houses Limited

No Drawing. Filed Nov. 22, 1965, Ser. No. 509,170  
Claims priority, application Great Britain, Dec. 3, 1964, 49,166/64

6 Claims. (Cl. 260-397.3)

New 7-methylene-3α,5-cyclo-6-ketone steroids and process for producing same comprising reacting a corresponding steroidal 3α,5-cyclo-6-ketone with formaldehyde and the salt of a secondary amine.

3,384,646  
16-HYDROXY-17-OXY-16-OXYMETHYL-  
ANDROST-4-EN-3-ONES  
Ivar Laos, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 18, 1965, Ser. No. 465,170  
5 Claims. (Cl. 260-397.4)

Preparation of the captioned compounds—for example, 16α,17β-dihydroxy-16β-hydroxymethylandroster-4-en-3-



one—and their valuable pharmacological properties—specifically, androgenic activity—are disclosed.

### 3,384,647 HYDROGEN FLUORIDE CATALYZED ESTERIFICATION PROCESS

Eugene J. Miller, Jr., Wheaton, and Ago Mais, La Grange Park, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 9, 1964, Ser. No. 410,015  
11 Claims. (Cl. 260—410.9)

Long chain fatty acids and their anhydrides are esterified with straight or branched chain primary alcohols in almost quantitative yields by using HF in great excess.

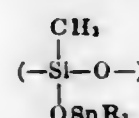
### 3,384,648 ORGANOTINOXY SUBSTITUTED POLYSILOXANES

Kazuo Itoi, Kurashiki, Japan, assignor to Kurashiki Rayon Co., Ltd., Kurashiki, Japan

No Drawing. Filed Oct. 15, 1965, Ser. No. 496,695  
Claims priority, application Japan, Dec. 26, 1964,  
39/73,358

5 Claims. (Cl. 260—429.7)

Vinyl chloride resins are stabilized to provide increased weather resistance, low hygroscopicity and some water repellency by adding thereto up to 1 percent by weight of a liquid polysiloxane compound characterized by structural units in the main chain having the formula



wherein R is an alkyl radical having from 1 to 12 carbon atoms, there being no linkage of  $\equiv\text{Si}-\text{H}$  in the molecule.

A novel polysiloxane compound for this purpose is prepared by the reaction of tri-(n-butyl)tin oxide with methylhydrosiloxane in equimolecular proportions and separating the volatile tri-(n-butyl)tin hydride reaction product from the heavier liquid polysiloxane compound.

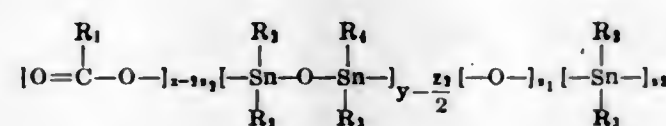
### 3,384,649 CRYSTALLINE CYCLIC ORGANOTIN COM- POUNDS AND PROCESS OF MAKING THE SAME

Otto S. Kauder, Jamaica, N.Y., assignor to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 454,966, May 11, 1965. This application Aug. 28, 1967,  
Ser. No. 663,529

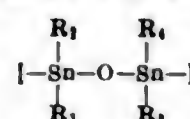
12 Claims. (Cl. 260—429.7)

Cyclic crystalline organotin compounds that are polymers of dipropyl, dibutyl or diamyl tin aromatic acid salts and a process for preparing such salts, are provided, that comprise the structural units:

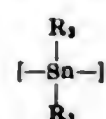


In the above formula,  $R_1$  is an aromatic radical, and  $R_2, R_3, R_4$  and  $R_5, R_6$  are alkyl radicals having from three to five carbon atoms,  $x$  is a number from about 0.7 to about 17,  $y$  is a number from 1 to about 5, and the ratio  $x/y$  is within the range from about 0.7 to about 3.5.

The  $[-O-]$  groups serve as linking radicals between



groups, and the



groups may be linked coordinately thereto as residues of the normal salts.

### 3,384,650 1-ACYLOXY- $\pi$ -ALLYLCOBALT TRICARBONYLS AND PREPARATION THEREOF

Richard F. Heck, McDaniel Crest, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed June 10, 1965, Ser. No. 463,008  
17 Claims. (Cl. 260—439)

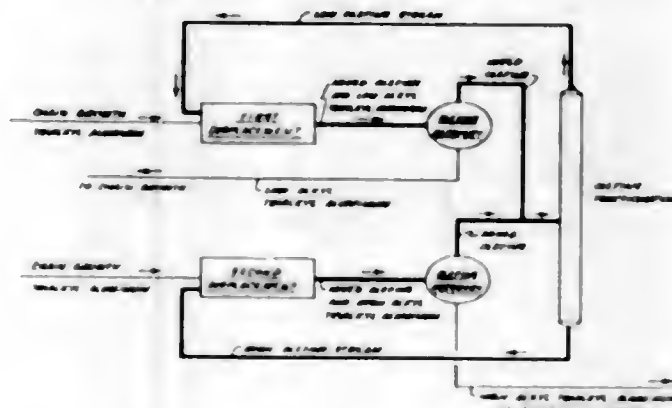
1. As a new composition of matter, a 1-acyloxy- $\pi$ -allyl-cobalt tricarbonyl.

### 3,384,651 PROCESS FOR PRODUCING TRIALKYL ALUMINUM COMPOUNDS

Wayne T. Davis, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

Continuation-in-part of applications Ser. No. 234,339,  
Oct. 31, 1962, and Ser. No. 244,102, Dec. 12, 1962.

This application Sept. 26, 1963, Ser. No. 311,706  
19 Claims. (Cl. 260—448)



1. A process for making a high alkyl trialkyl aluminum having alkyl groups controlled as to identity and proportions comprising

(a) chain growing from about one-fourth to nine-tenths of the ethylene required to produce the desired high alkyl trialkyl aluminum compound on a low alkyl trialkyl aluminum and producing a trialkyl aluminum mixture having at least some alkyl groups in the desired product range,

(b) reacting the trialkyl aluminum mixture from (a) with a first olefin stream predominating in olefins of lower chain length than the desired alkyl groups, forming thereby a displacement mixture including olefins enriched in higher olefins corresponding to the desired alkyl groups and a trialkyl aluminum mixture enriched in alkyl groups of lower chain length than desired,

(c) recovering from the mixture from (b) a major portion of the olefins,

(d) chain growing the rest of the ethylene required to produce the desired high alkyl trialkyl aluminum compound on the trialkyl aluminum components from (c), producing a trialkyl aluminum mixture enriched in alkyl groups in the desired product range,

(e) converting a preponderance of the lower-than-desired alkyl groups in at least a part of the trialkyl aluminum mixture from (d) into alkyl groups of the

desired product range by reacting with an excess of a second olefin stream concentrated in olefins having a chain length corresponding to the desired alkyl groups, forming thereby a mixture including olefins enriched in olefins of lower chain length than the desired alkyl groups and a trialkyl aluminum mixture concentrated in the desired alkyl groups,

(f) recovering at least part of the olefins from (e) and (g) separating the first and second olefin streams from the olefins from (c) and (f).

3. The process for production of a trialkyl aluminum product having alkyl groups controlled as to identity and proportions comprising

(a) chain growing with ethylene on a mixture of fresh low alkyl-trialkyl aluminum components, and recycled low alkyl-trialkyl aluminum compounds as hereafter defined, and forming a chain growth product,

(b) dividing at least part of the trialkyl aluminum compounds of the so-formed chain growth product into an A portion and a B portion,

(c) reacting the A portion with an olefin stream predominating in lower olefins having less carbon atoms than the alkyl groups of the desired final product, and forming thereby an A displacement product mixture including lower alkyl trialkyl aluminum components and olefins enriched in higher olefins corresponding to higher alkyl groups in the A portion,

(d) recovering at least part of the olefins of the A displacement product mixture of (c) and returning at least part of the lower alkyl-trialkyl aluminum components of the A displacement product mixture to the chain growing step (a),

(e) reacting the B portion with a higher olefin stream as hereafter defined and forming thereby a B displacement product mixture including lower olefins and higher alkyl-trialkyl aluminum components,

(f) recovering at least part of the olefins of the B displacement product mixture of (e) and

(g) fractionating from the recovered olefins from (d) and (f) a low olefins stream for reacting in (c) and a high olefins stream for reacting in (e).

6. In a method of making trialkyl aluminum from a low alkyl-trialkyl aluminum and ethylene, the method of producing a product with alkyl groups controlled as to identity and proportions, comprising fractionating a recirculated supply of olefins into a high olefin stream and a low olefin stream, and reacting said high and low olefin streams in excess in separate displacement reactions with trialkyl aluminum mixtures having some alkyl groups in the desired product range and some smaller, producing displacement mixtures, respectively, including

a high alkyl-trialkyl aluminum product with a mixture of olefins enriched in lower olefins,

a low alkyl-trialkyl aluminum mixture with a mixture of olefins enriched in higher olefins,

then recovering the olefin mixtures of the above defined displacement mixtures as the recirculated supply of olefins for fractionating into said high and low olefins streams, and reacting the low alkyl-trialkyl aluminum mixture with ethylene for further chain growth.

18. A process for making aluminum alcoholates predominating in 12 to 18 carbon atoms, from triethyl aluminum, ethylene and an oxygen containing gas which process comprises:

(a) chain growing from about one-half to three-fourths of the ethylene required to produce the trialkyl aluminum fifth mixture of step (f) on triethyl aluminum producing thereby trialkyl aluminum first mixture having at least some alkyl groups of 12 to 18 carbon atoms;

(b) chain growing the rest of the ethylene required to produce the trialkyl aluminum fifth mixture of step (f) on trialkyl aluminum second mixture which

is composed at least in part of trialkyl aluminum fourth mixture from (e) producing trialkyl aluminum third mixture enriched in alkyl groups of 12 to 18 carbon atoms;

(c) separating a portion of said third mixture and feeding to first displacement reaction (d) hereafter defined;

(d) reacting by a first displacement at least a part of said first mixture and the aforementioned separated portion of said third mixture with first olefins predominating in olefins of less than 12 carbon atoms producing:

(1) second olefins enriched in higher olefins of 12 to 18 carbon atoms, and

(2) trialkyl aluminum fourth mixture enriched in alkyl groups of less than 12 carbon atoms;

(e) separating at least a major portion of the second olefins and leaving a stream concentrated in said fourth mixture;

(f) reacting by a second displacement at least part of the non-separated portion of said third mixture from (c) with third olefins predominating in olefins of 12 to 18 carbon atoms producing a displacement mixture including:

(1) fourth olefins enriched in olefins of lower chain length than the desired alkyl groups, and

(2) trialkyl aluminum fifth mixture concentrated in alkyl groups of 12 to 18 carbon atoms;

(g) adding to at least part of the displacement mixture from (f) an oxygenated alkyl aluminum stream in proportions such that at least about one alkoxide group is provided per aluminum atom in the thus formed mixture;

(h) vaporizing from the mixture formed in (g) at least part of fourth olefins carried therewith and leaving a bottoms including aluminum compounds having total alkoxide groups equal to at least those in dialkyl aluminum alkoxide;

(i) oxidizing the said aluminum compounds in the bottoms of (h) with an oxygen containing gas and thereby converting substantially all the aluminum compounds to aluminum trialkoxides; and

(j) fractionating olefins from at least one of the second olefins and fourth olefins to provide at least part of the first and third olefins.

### 3,384,652 METHOD OF REACTING SUBSTITUTED SILANES EMPLOYING ALUMINOSILICATE CATALYST

Lyle A. Hamilton, Pitman, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed June 8, 1964, Ser. No. 373,550  
8 Claims. (Cl. 260—448.2)

Organo and/or chloro substituted silanes undergo disproportionation reactions or condensation reactions in the presence of crystalline aluminosilicate catalyst. A typical reaction is the disproportionation of dimethyldichlorosilane to principally methyltrichlorosilane and trimethylchlorosilane.

### 3,384,653 COMPOSITIONS OF METHYLENEBIS(PHENYL ISOCYANATE) WITH TRIHYDROCAR- BYL PHOSPHATES AND PREPARATION THEREOF

William E. Erner, Hamden, and Alec Odinak, New Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,391  
12 Claims. (Cl. 260—453)

Methylenebis(phenyl isocyanate), a solid of melting point, circa 40° C., is transformed to a storage stable liquid by heating at 160° C. to 250° C. with 0.1% to 3%



by weight of a trihydrocarbyl phosphate (trialkyl phosphate, e.g., triethyl phosphate, is preferred). The liquid isocyanate so obtained can be used for all polyurethane syntheses for which the untreated methylenebis(phenyl isocyanate) is commonly employed.

3,384,654

# PROCESS FOR THE MANUFACTURE OF CYANOACETIC ACID ESTERS

Kurt Sennewald and Alfred Hauser, Knapsack, near Cologne, and Winfried Lork, Friesheim, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany. No Drawing. Filed Aug. 3, 1965, Ser. No. 476,996. Claims priority, application Germany, Aug. 12, 1964, K 53,731.

6 Claims. (Cl. 260-464)

A process to produce cyanoacetic acid esters by reacting a halogenoacetic acid ester of the formula



wherein Hal is halo and R is an aliphatic, cycloaliphatic or aralkyl; with an alkali metal cyanide in an inert solvent in the presence of hydrogen cyanide; effecting the reaction at a temperature of about 20-25° C. under a pressure of about 1-6 atmospheres.

In particular, the invention relates to the production of the formula



in which R stands for aliphatic and cycloaliphatic radicals free of aliphatic unsaturation and aralkyl radicals, and Hal is defined as chloro, bromo and iodo.

3,384,655

# PREPARATION OF URETHANES

John E. Anderson, Clyde E. Parish, and George H. Ross, Houston, Tex., assignors to Signal Oil and Gas Company, Los Angeles, Calif. No Drawing. Filed May 12, 1964, Ser. No. 366,892.

13 Claims. (Cl. 260-482)

1. An improved method of preparing substituted urethanes, which method comprises oxidizing an adduct consisting of selected adduct-forming secondary amine, alcohol and carbonyl sulfide



wherein R' and R'' are selected from the group consisting of alkyl, cycloalkyl and benzyl radicals and R is selected from the group consisting of aliphatic and cycloaliphatic radicals, in the presence of oxygen within an alcohol solvent at a reaction temperature not in excess of about 100° C. to the corresponding substituted urethane, water and precipitated free sulfur.

3,384,656

# VAPOR PHASE ESTERIFICATION OF ALIPHATIC ALCOHOLS WITH LOWER ALIPHATIC ACIDS IN THE PRESENCE OF NIOBIUM OXIDE

Joseph F. McMahon, Clinton, N.J., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland. No Drawing. Filed Dec. 29, 1965, Ser. No. 517,447.

5 Claims. (Cl. 260-488)

1. A process for the preparation of aliphatic esters which comprises contacting a gaseous mixture consisting essentially of an aliphatic carboxylic acid of the formula RCOOH wherein R is hydrogen or a lower alkyl radical and an aliphatic alcohol of the formula R'OH wherein

R' is a lower alkyl radical with a niobium oxide catalyst at a temperature of from about 100 to about 400° C.

3,384,657

# ACETOACETAMIDE COUPLERS IN WHICH THE NON-OXO CARBON ATOM OF THE ACETO GROUP IS A TERTIARY CARBON ATOM

Arnold Weissberger, Rochester, N.Y., and Charles J. Kibler, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey. Application May 4, 1964, Ser. No. 364,450, now Patent No. 3,265,506, dated Aug. 9, 1966, which is a continuation-in-part of application Ser. No. 25,295, Apr. 28, 1960. Divided and this application Sept. 28, 1965, Ser. No. 516,802.

7 Claims. (Cl. 260-507)

Acetoacetamide couplers in which the non-oxo carbon atom of the aceto group is a tertiary carbon atom are advantageously used as yellow dye-forming couplers in photography; the couplers are characterized by producing dyes upon color development that have very desirable absorption characteristics with relatively low absorption in the green and red areas of the spectrum, exceptionally good stability to prolonged exposure to light and the couplers when incorporated in photographic emulsion layers exhibit considerably less "print out" on prolonged exposure to light and less "yellowing" than prior art couplers such as the alpha-benzoyl analogues.

3,384,658

# PROCESS FOR DIMERIZING ARYL ALKANES

John H. McCracken, Pittsblain, Johann G. Schulz, Pittsburgh, Charles M. Selwitz, Pittsblain, and Arthur C. Whitaker, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware. No Drawing. Filed June 4, 1964, Ser. No. 372,677.

9 Claims. (Cl. 260-515)

A process for dimerizing an aryl alkane by subjecting an aryl alkane to the influence of ultraviolet radiation in the presence of a diaryl ketone and to certain compounds resulting from such process.

3,384,659

# CATALYTIC DECOMPOSITION OF FORMIC ACID IN ACETIC ACID MIXTURES

Roger A. Bate, Pampa, Tex., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware. No Drawing. Filed Apr. 6, 1964, Ser. No. 357,814.

16 Claims. (Cl. 260-541)

1. The method of selectively removing formic acid from a mixture obtained in a process for oxidizing hydrocarbons containing formic acid and other vaporizable organic compounds, including acetic acid, which comprises bringing said mixture, in vapor form, together with from about 5 to 300 ml. per minute for each ml. per minute of said mixture, of an oxidizing oxygen-containing gas comprising oxygen, air, or gaseous oxides of nitrogen, into contact with a catalyst comprising an adsorbent having on its surfaces an inherently acidic salt of a weak inorganic base and a strong acid, the cation of said base being selected from the group consisting of copper, iron, cobalt, nickel, iridium, palladium and platinum, the amount of said salt on the surfaces of said adsorbent being at least about 0.05% by weight, calculated on the basis of said cation, of the weight of said adsorbent, whereby formic acid in said mixture is selectively decomposed.

3,384,660

# 2-HYDROXYACETAMIDO-5-CHLOROBENZOPHENOL

Stanley C. Bell, Penn Valley, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware. Original application May 7, 1964, Ser. No. 365,773.

Divided and this application July 1, 1966, Ser. No. 562,392.

1 Claim. (Cl. 260-562)

1. 2-hydroxyacetamido-5-chlorobenzophenone.

3,384,661

# ALCOHOLATES OF BIS(p-AMINOCYCLOHEXYL) METHANE AND THEIR USE IN SEPARATING STEREOISOMERS OF BIS(p-AMINOCYCLOHEXYL)METHANE

Willfred J. Arthur, Charleston, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware. No Drawing. Filed Dec. 28, 1964, Ser. No. 421,642.

14 Claims. (Cl. 260-563)

Alcoholates of bis(p-aminocyclohexyl)methane and cycloaliphatic alcohols such as cyclohexanol are prepared by admixing the two components in the presence or absence of an inert organic diluent such as cyclohexane. The alcoholates are useful in separating the stereoisomers of bis(p-aminocyclohexyl)methane as the alcoholates of the stereoisomers have different solubilities one from the other and different solubilities than the stereoisomers themselves.

## ERRATUM

For Class 260-563 see: Patent No. 3,384,757

3,384,662

# 1,1-DIPHENYL-1-METHOXY-3-BENZYLAMINO-PROPANE AND THE SALTS THEREOF

Roderich Höllinger and Wolf Wendtlandt, Linz, Austria, assignors to Österreichische Stickstoffwerke Aktiengesellschaft, Linz, Austria. No Drawing. Filed Mar. 22, 1966, Ser. No. 536,313.

Claims priority, application Austria, Mar. 25, 1965, A 2,703/65.

2 Claims. (Cl. 260-570)

1,1-diphenyl-1-methoxy-3-benzylaminopropane and acid addition salts thereof with non-toxic acids which have analgesic properties.

3,384,663

# 5-TERTIARYAMINOALKYLIDENE DIBENZOCYCLOHEPTADIENE COMPOUNDS, AND SALTS THEREOF

Gerald Rey-Bellet and Hans Spiegelberg, Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey. No Drawing. Original application Mar. 27, 1959, Ser. No. 802,298. Divided and this application Oct. 27, 1967, Ser. No. 678,552.

13 Claims. (Cl. 260-570.8)

5-(ω-tertiaryaminopropylidene)-dibenzo[a,e]cyclohepta[1,5]dienes, such as amitriptyline, are prepared via dehydration of 5-hydroxy-5-(ω-tertiaryaminopropyl)-dibenzo[a,e]cyclohepta[1,5]dienes. The latter intermediates are prepared from dibenzo[a,e]cyclohepta[1,5]dien-5-ones via a Grignard reaction and hydrolysis of the condensation product. Catalytic hydrogenation of the propylidene compound yields corresponding ω-tertiaryaminopropyl compounds. The compounds having the ω-tertiaryaminopropyl or ω-tertiaryaminopropylidene side chain are useful as narcosis-potentiating, adrenolytic,

sedative, antihistaminic, antiemetic, antipyretic and hypothermic agents.

3,384,664

# ALKYLATION METHOD FOR PRODUCING PHENYLENEDIAMINES

Frederic N. Schwettmann, Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware. No Drawing. Filed Sept. 15, 1965, Ser. No. 487,582.

5 Claims. (Cl. 260-577)

N,N'-dialkyl phenylenediamine is prepared by catalytic alkylation of nitroaniline or phenylenediamine with a ketone utilizing a hydrocarbon-sulfur compound pretreated catalyst. The N,N'-dialkyl phenylenediamine products find use as antioxidants in gasoline.

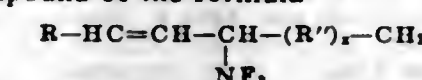
3,384,665

# DIFLUOROAMINES AND PROCESS FOR MAKING SAME

Carl L. Bumgardner, Huntsville, Ala., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army. No Drawing. Filed May 7, 1964, Ser. No. 365,837.

10 Claims. (Cl. 260-583)

1. A compound of the formula



wherein R is a member selected from the group consisting of hydrogen and lower alkyl, R' is a lower alkylene group, and x is zero or one, the total number of carbon atoms in the molecule not to exceed 10.

3,384,666

# CATALYST PELLET STABILIZATION IN THE CONTINUOUS PREPARATION OF IMINOBIS-PROPYL AMINES

Myrl Lichtenwalter, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware. No Drawing. Filed Dec. 4, 1964, Ser. No. 416,117.

4 Claims. (Cl. 260-583)

The pellets of a catalyst are protected against deterioration in the continuous production of iminobispropylamine or methyliminobispropylamine from the corresponding iminobispropionitrile with ammonia in the presence of hydrogen and a three-component hydrogenation catalyst consisting essentially of:

- 60-85 mole percent of nickel or cobalt,
- 14-37 mol percent of copper, and
- 1-5 mol percent of chromium oxide, manganese oxide, molybdenum oxide or thorium oxide by conducting the reaction in methanolic solution in the presence of a minor amount of a hydroxide or alkoxide of sodium, lithium or potassium.

3,384,667

# PRODUCTION OF PRIMARY AND SECONDARY AMINES

Lyle A. Hamilton, Pitman, N.J., assignor to Mobil Oil Corporation, a corporation of New York. No Drawing. Filed Apr. 28, 1964, Ser. No. 363,283.

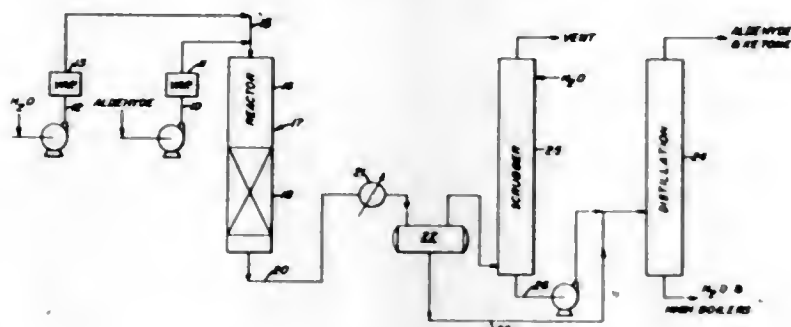
8 Claims. (Cl. 260-585)

Primary and secondary amines are produced in preference to tertiary amines by reacting ammonia with an alcohol in the presence of a dehydrated crystalline aluminosilicate catalyst having pores of a size to selectively yield primary and secondary amines.



3,384,668

**CONVERSION OF ALDEHYDES TO KETONES**  
 Frank C. Canter and Milton A. Perry, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
 Filed Nov. 12, 1964, Ser. No. 410,569  
 6 Claims. (Cl. 260-593)



Isomerization of aliphatic aldehydes to ketones by contact in the vapor state with a solid acidic catalyst, e.g. phosphoric acid on a support, at a temperature above 100° C.

3,384,669

**PROCESS AND CATALYST FOR OXIDIZING OLEFINS TO CARBONYL COMPOUNDS**  
 Alexander F. MacLean and Adin L. Stautzenberger, Corpus Christi, Tex., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware  
 No Drawing. Continuation-in-part of application Ser. No. 212,440, July 25, 1962. This application Sept. 24, 1963, Ser. No. 311,197

11 Claims. (Cl. 260-597)

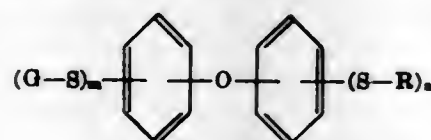
Ethylenically unsaturated aliphatic organic compounds are converted to their corresponding carbonyl (i.e. aldehyde or ketone) derivatives by oxidation with molecular oxygen in the presence of a catalyst which comprises an aqueous solution of varivalent noble metal ions in a higher valence state together with nitrate ions, nitrite ions, or a mixture of nitrate and nitrite ions.

3,384,670

**THIOETHER ETHERS**

Walter Reifschneider, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
 No Drawing. Continuation-in-part of applications Ser. No. 205,503, June 27, 1962, and Ser. No. 359,763, Apr. 14, 1964, which latter application is a continuation-in-part of application Ser. No. 205,512, June 27, 1962. This application Oct. 6, 1966, Ser. No. 584,691  
 9 Claims. (Cl. 260-609)

Compounds of the formula



wherein R and G independently represent alkyl from 2 to 12, inclusive, carbon atoms, cyclopentyl or cyclohexyl; and n is 1 to 4, and m is 0 to 4; useful as pesticides, intermediates in the preparation of dyestuffs and oil additives.

3,384,671

**PREPARATION OF DITHIOLS**

Rector P. Louthan, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
 No Drawing. Filed Jan. 18, 1965, Ser. No. 426,419  
 10 Claims. (Cl. 260-609)

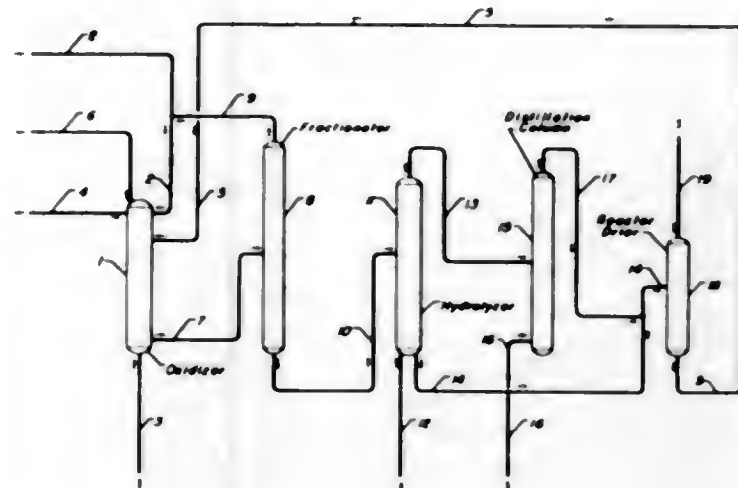
Dithiols having terminal SH groups, useful as caulking agents with Epon resins and adhesives, are prepared

by reacting an alkali metal sulfide with a sulfur-containing thiotane or a 3-halo-1-propane thiol.

3,384,672

**PREPARATION OF ALCOHOLS**

George E. Illingworth, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
 Filed Apr. 12, 1965, Ser. No. 447,506  
 3 Claims. (Cl. 260-631)



1. A process for converting a cyclic or acyclic saturated hydrocarbon containing from about 4 to about 20 carbon atoms to an alcohol which comprises:

- reacting said saturated hydrocarbon, an alkyl metaborate and air at oxidation reaction conditions including a temperature of from about 100° C., to about 225° C., said alkyl metaborate being characterized in that the alkyl substituent thereof is an alkyl or alicyclic radical of not more than 13 carbon atoms and is a derivative of a hydrocarbon other than the saturated hydrocarbon starting material,
- hydrolyzing the resulting oxidate and forming an alcohol derivative of the saturated hydrocarbon starting material, an alcohol derivative of the alkyl metaborate and aqueous boric acid, said alcohol derivatives being formed in approximately equimolar amounts,
- separating and recovering the alcohol derivative of the saturated hydrocarbon starting material, reacting the alcohol derivative of the alkyl metaborate with the aqueous boric acid at a temperature of from about 50° C. to about 250° C. while continuously removing water from the reaction mixture, and reforming the alkyl metaborate,
- recovering said alkyl metaborate in a substantially anhydrous state and recycling the same to be further reacted with a saturated hydrocarbon starting material and air as hereinabove described.

3,384,673

**STABILIZATION**

Milton J. Blankenship, Midland, and Ralph McCarthy, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
 No Drawing. Filed Mar. 7, 1966, Ser. No. 532,119  
 5 Claims. (Cl. 260-652.5)

Methyl chloroform is effectively stabilized against reaction with metals such as iron and aluminum by incorporation in the methyl chloroform of up to fifteen percent by weight of a dithiane or a thioxane. The in-

hibited methyl chloroform is also thereby stabilized against oxidative decomposition in the presence of iron.

3,384,674

**STABILIZATION OF NITROFORM SALTS**

John A. Brown, Berkeley Heights, and Carroll L. Knapp, Jr., Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware  
 No Drawing. Filed Feb. 27, 1961, Ser. No. 92,089  
 4 Claims. (Cl. 260-644)

1. Hydrazinium nitroformate stabilized by about 1 to 5 wt. percent of an aldehyde selected from the group consisting of benzaldehyde, dihydroxybenzaldehyde, and a mixture thereof.

3,384,675

**STABILIZATION OF NITROFORM SALTS**

John A. Brown, Berkeley Heights, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware  
 No Drawing. Filed Feb. 27, 1961, Ser. No. 92,091  
 6 Claims. (Cl. 260-644)

1. Hydrazine nitroform stabilized by an admixture of about 1 to 5 wt. percent of a salt selected from the group consisting of mercurous oxalate, mercuric oxalate, zinc chloride, zinc oxalate, and lead oxalate.

3,384,676

**HYDROGENATION OF PARA AND META XYLENE MIXTURES**

George R. Lester, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
 Filed Jan. 15, 1965, Ser. No. 425,834  
 8 Claims. (Cl. 260-667)

A process for the separation of para and meta xylene from mixtures thereof by hydrogenating the xylene mixture, separating the hydrogenated C<sub>8</sub> products by ordinary fractionation thereby producing a substantially pure 1,4-dimethylcyclohexane stream and dehydrogenating the 1,4-dimethylcyclohexane stream to produce a substantially pure para xylene stream, said process being further characterized by the utilization of a non-acid hydrogenating catalyst in the above hydrogenation step to produce a product whose geometric isomer distribution is such as to render at least a portion of the 1,4-dimethylcyclohexane readily separable by ordinary fractionation.

3,384,677

**OLEFIN ISOMERIZATION**

Raymond A. Franz, Kirkwood, and James C. Hill, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
 No Drawing. Filed Feb. 5, 1964, Ser. No. 342,807  
 18 Claims. (Cl. 260-683.2)

1. A process for the isomerization of internally unsaturated mono-olefin hydrocarbons which comprises intimately co-mixing a reactive alkyl aluminum selected from the group consisting of tri-alkyl aluminum and alkyl aluminum hydride with internally unsaturated mono-olefin hydrocarbons and a solvent selected from the group consisting of ethers and tertiary amines, at elevated temperatures until alkylation with said internally unsaturated mono-olefin hydrocarbons is complete, said solvent being in the liquid phase during said alkylation, subjecting the resulting tri-alkyl aluminum while in the presence of a solvent selected from the group consisting of ethers and tertiary amines to conditions such as to decompose the tri-alkyl aluminum to the corresponding di-alkyl aluminum hydride, and recovering terminally unsaturated mono-olefin hydrocarbons as a decomposition product.

3,384,678

**CONVERSION OF ETHYLENE TO 1-OLEFINS**  
 Paul R. Stapp, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
 No Drawing. Filed Mar. 26, 1965, Ser. No. 443,169  
 9 Claims. (Cl. 260-683.15)

Ethylene is converted to higher 1-olefins with a catalyst which comprises the product obtained on admixing at least one rare earth metal halide and at least one alkyl magnesium halide.

3,384,679

**COMPOSITION COMPRISING BLEND OF THERMOPLASTIC POLYURETHANE ELASTOMER AND PHENOXY RESIN**

Thomas T. Stetz, Jr., Olmsted Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York  
 No Drawing. Filed Apr. 29, 1965, Ser. No. 452,016  
 9 Claims. (Cl. 260-830)

Polyurethane elastomer compositions having improved mechanical processing characteristics and physical properties are prepared by blending thermoplastic polyesterurethanes or polyetherurethanes with about 2 to about 100 parts by weight, per 100 parts by weight of polyurethane, of a thermoplastic copolymer of bisphenol A and epichlorohydrin.

3,384,680

**CURING EPOXIDE RESINS WITH ENCAPSULATED SHIELDED CATALYSTS**

Robert O. Lussow, University Park, Pa., assignor to The Boeing Company, Wichita, Kans.  
 No Drawing. Original application Apr. 8, 1963, Ser. No. 271,455. Divided and this application Oct. 13, 1965, Ser. No. 509,241

2 Claims. (Cl. 260-830)

Polyepoxides may be cured by encapsulated curing agents. A curing agent for polyepoxides is adsorbed on an adsorbent having internal pore structure and active pore sites. The adsorbent is coated with a shielding agent adsorbed into said adsorbent. In heating the mixture of the curing agent and polyepoxide the shielding agent and hardener desorb from the pore sites. The shielding agents include vinyl cyclohexene dioxide, 2,5-hexanedione, allyl-azetate, squalene and mixtures thereof. In an example 25 gm. of a liquid DGEBA were mixed with a curing agent described above containing 5 gm. metal alumina-silicate, 2 cc. diethylene triamine and 1 cc. vinyl cyclohexene dioxide.

3,384,681

**BLOCK COPOLYMER PREPARED FROM AMINE TERMINATED POLYALKYLENE GLYCOLS AND POLYAMIDES OR POLYUREAS**

Hidehiko Kobayashi and Kichiro Sasaguri, Tokyo, and Yoshihisa Fujimoto, Saitama-ken, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan  
 No Drawing. Filed Nov. 30, 1965, Ser. No. 510,701  
 Claims priority, application Japan, Dec. 2, 1964, 39/67,611; June 18, 1965, 40/36,012  
 12 Claims. (Cl. 260-857)

A method for the synthesis of a block copolymer, in which two essentially different kinds of molecular chains A and B are combined, the molecular chain A being a polymer residual radical of a polyoxyalkylene polyoxymethylene glycol or copolymer thereof, removed of terminal amino groups from bifunctional polymer which is selected from the group having primary amines at both terminals and containing secondary amine in an amount of 3 to 15 equivalent percent of the total amine and has a secondary transition point below -30° C. and a molecular weight of 500 to 6,000. The molecular chain A constitutes 50 to 96% weight of the block copolymer. The







from each other and disposed in the form of a circle; periodically forming strands of plastic in the form of rings transverse to the direction of extrusion adjacent to said parallel streams as said streams emerge from their orifices; and extruding unitary intersections between said rings and the parallel streams whereby said rings are attached to said streams at said intersections.

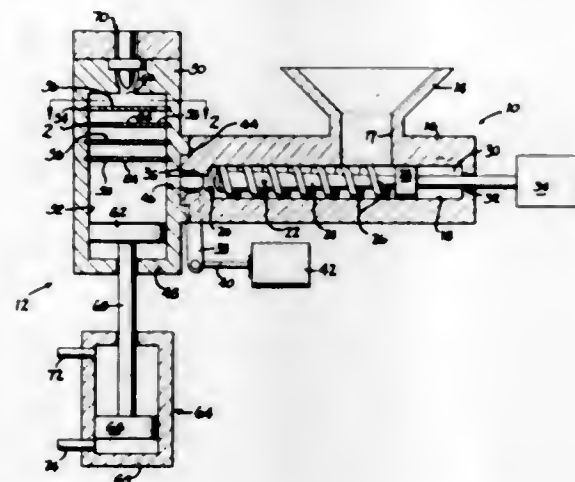
3,384,693

**METHOD FOR MIXING PLASTIC COMPOSITIONS**

Sheldon F. Roe, Jr., Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio

Filed Aug. 24, 1964, Ser. No. 391,640

3 Claims. (Cl. 264—211)



A method of homogeneously dispersing pigment in a plastic composition by first mixing the pigment and composition in a helical pattern and secondly mixing the pigment and composition in a second non-helical pattern so as to subject the mixture to sequential axial and transverse shear forces. The first mixing can be readily carried out in a conventional screw-type extruder and the second step is carried out in a pressure chamber provided with a series of radial baffles having offset apertures, the mixture being advanced through the pressure chamber by means of a hydraulically actuated piston.

3,384,694

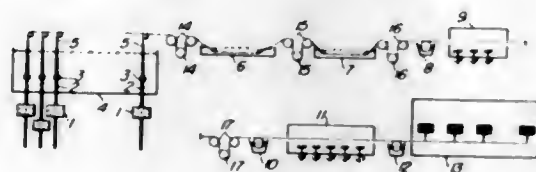
**METHOD OF PRODUCING ALIGNED ACRYLONITRILE POLYMER FILAMENT YARNS**

Chozo Nakayama, Teiichi Kaku, Hiide Aizawa, and Takeaki Iwamoto, Fuji-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

Filed Nov. 12, 1964, Ser. No. 410,687

Claims priority, application Japan, Nov. 21, 1963, 38/62,275

10 Claims. (Cl. 264—290)



A method for producing well aligned acrylonitrile polymer filament yarns in which the filament yarns are

prepared by wet spinning of acrylic polymer which comprises impregnating heated, stretched and swollen filament yarns with an oiling agent having a melting point below 100° C., or 2% or less of a sizing agent with respect to the weight of the filament yarns, or a mixture of said oiling agent and 2% or less of said sizing agent, drying the impregnated yarn in a dryer while subjecting same to 5–20% shrinkage in the direction of the filament length, impregnating the dried filament yarns with 10% or less of a sizing agent with respect to the weight of the filament yarns, and drying same while subjecting it to 0–10% stretching in the direction of the filament length.

3,384,695

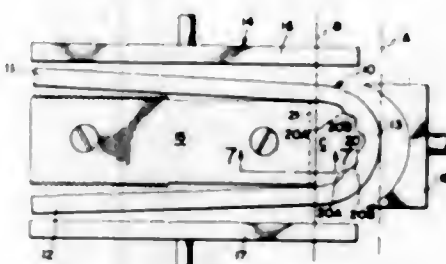
**METHOD OF MAKING LUG STRAPS**

Coyt E. Murray, Gastonia, N.C., assignor, by mesne assignments, to Impact Plastics, Inc., Gastonia, N.C., a corporation of North Carolina

Original application Apr. 26, 1965, Ser. No. 450,918.

Divided and this application May 12, 1967, Ser. No. 638,148

8 Claims. (Cl. 264—294)



A method for forming plastic lug straps from high molecular weight polyethylene consisting of bending heated stock to form a U-shaped configuration. Then the stock is compression molded at a pressure of at least 200 p.s.i. for at least one minute to reorient and align the molecular chains in the web.

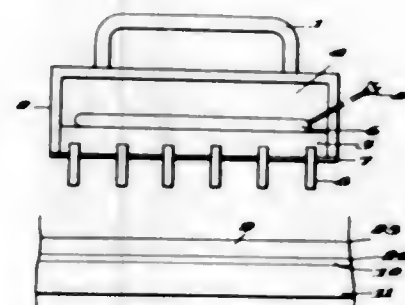
3,384,696

**PROCESS FOR PROVIDING A PERFORATED ULTRAMICROCELLULAR SHEET**

Munzer Makansi, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 27, 1965, Ser. No. 428,450

9 Claims. (Cl. 264—321)



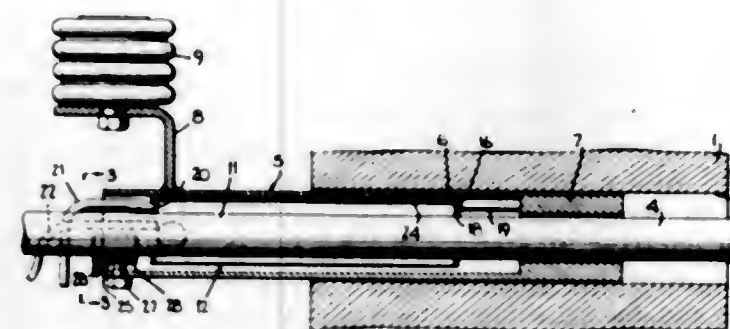
A process to obtain uniform, smooth-walled perforations in ultramicrocellular sheets by the insertion of heated protrusion elements at a temperature at least 100° C. above the crystalline melting point of the sheet and for a period of at least from 0.001 to about 1 second.

**ELECTRICAL****3,384,697  
LIQUID-COOLED HOLDER FOR FURNACE ELECTRODE**

William H. Fouse, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware

Filed Mar. 10, 1966, Ser. No. 533,364

6 Claims. (Cl. 13—6)



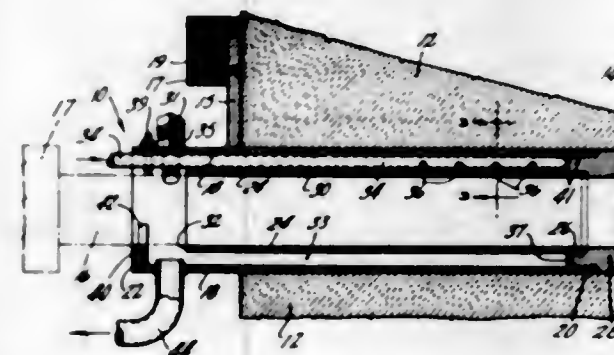
1. An electrode assembly for an apertured furnace wall comprising the combination of a hollow casing adapted for being positioned in the aperture, an electrode extending through the casing into the furnace, an electrode supporting collar in said casing slidably supporting said electrode in spaced relation to the inside walls of said casing, a cooling jacket in said casing surrounding said electrode having an outer wall and end members for maintaining a cooling fluid in direct contact with the electrode, said jacket end members having apertures proportioned for sliding engagement with the electrode, and means for passing a cooling fluid through said jacket.

**3,384,698  
ELECTRODE HOLDER FOR GLASS MELTING FURNACE**

John F. Blumenfeld, Simsbury, Conn., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed Mar. 21, 1966, Ser. No. 535,916

12 Claims. (Cl. 13—6)



1. An electrode holder for supporting an electrode in an aperture passing through the wall or bottom of a glass melting furnace or the like, said electrode holder comprising an outer tubular sleeve adapted to be partially received in an aperture such as aforesaid and having an inner end and an outer end, an inner tubular sleeve located inside of said outer sleeve in substantially coaxial relation therewith and having an inner end substantially axially aligned with said inner end of said outer sleeve, means closing the space between said inner ends of said inner and outer sleeves, said inner sleeve extending along at least a major portion of the length of said outer sleeve so as to define an annular chamber between said inner and outer sleeves which annular chamber extends along

at least a major portion of said outer tube and is open to the atmosphere at its outer end, said inner tubular sleeve having a bore adapted to receive an electrode such as aforesaid which passes through said inner sleeve and beyond said inner end thereof, and means for discharging a fluid cooling medium into said annular chamber adjacent the inner end thereof.

3,384,699

**APPARATUS FOR MOUNTING A TONE GENERATOR AND FOR POSITIONING THE SAME RELATIVE TO A TRANSDUCER**

Harold B. Rhodes, Anaheim, Calif., assignor, by mesne assignments, to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 241,270,

Nov. 30, 1962. This application Dec. 16, 1964, Ser. No. 421,148

39 Claims. (Cl. 84—1.14)



3. An electrical musical instrument, comprising: a tuning fork having a base and a plurality of prongs, a support, lever means to mount said base to said support, said lever means being adjustable to vary the precise position of said base and thus of said prongs, said lever means being a third-class lever incorporating said base as a component thereof, mechanical-electrical transducer means, means to mount said transducer means operably adjacent at least one of said prongs to sense the vibrations thereof, the response generated in said transducer means being determined largely by the adjusted position of said lever means, and means to excite at least said one prong to set the same into vibration.

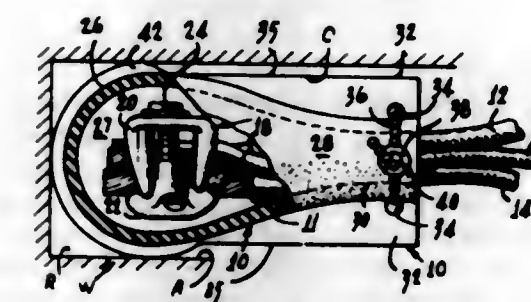
3,384,700

**SPLICE INSULATING DEVICE OF THE HEAVY DUTY TYPE**

Christopher W. Mier, 447 Norway Ave. 08629, and Frank Kowalik, 112 Birch 08610, both of Trenton, N.J.

Filed Apr. 19, 1966, Ser. No. 543,734

8 Claims. (Cl. 174—5)



A pouch-like body formed of flexible, electrically insulative material encloses a heavy-duty electrical cable splice. The wall of the body is molded to assume a configuration defining radial wings angularly spaced about an open end

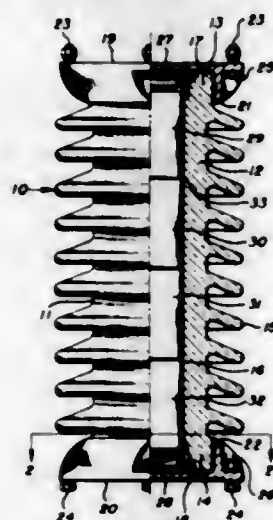


of the body. These spread resiliently, yieldably for insertion of the splice. The inherent tensioning of the wings partially contracts the open end about the cables, after which a radially contractible tie or clamp fully closes the end about the cables, causing the wall material to enter crevices between the cables. Projections on the pouch space the body from adjacent surfaces.

3,384,701

**POST INSULATOR WITH COMPOSITE FILLERS**  
John W. Kalb, Medina, Robert W. Harmon, Doylestown, and Douglas E. Winters, Wadsworth, Ohio, assignors to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey

Filed Nov. 15, 1966, Ser. No. 594,454  
10 Claims. (Cl. 174-12)

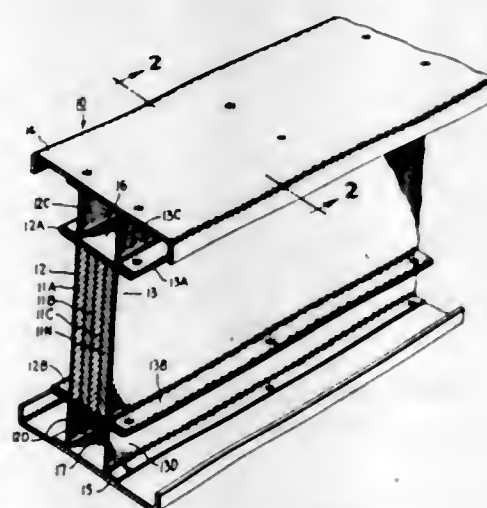


This patent describes post insulators in which a hollow insulator body is filled with a hydrophobic liquid insulating medium, such as silicone oil, and a solid insulating filler medium.

3,384,702

**ELECTRIC POWER BUSWAY WITH NOVEL HOUSING CONSTRUCTION**  
Clarence M. Stevens, West Hartford, Conn., assignor to General Electric Company, a corporation of New York

Filed Aug. 5, 1966, Ser. No. 570,504  
11 Claims. (Cl. 174-68)

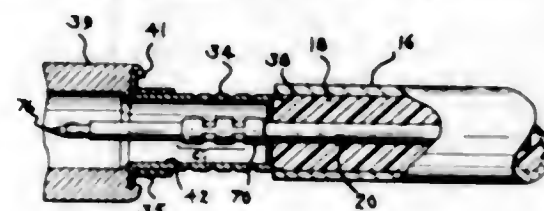


An electric power busway including a number of wide flat insulated bus bars compressed between a pair of sheet metal housing side members; the housing side members extend substantially above and below the bus bar assembly and are joined together by top and bottom housing cover members at their outer edges and by a pair of sheet metal tie plates closely adjacent the bus bar edges; each housing side member in its free form is curved about its longitudinal central axis and so has an inherent bias pressing the bus bars together when in the completed assembly.

3,384,703

**COAXIAL CONNECTOR**

Edgar Willmot Forney, Jr., Harrisburg, and Richard Shure Hogendobler, Camp Hill, Pa., assignors to AMP Incorporated, Harrisburg, Pa.  
Filed May 26, 1964, Ser. No. 370,204  
6 Claims. (Cl. 174-75)



1. In a coaxial connection the combination including a coaxial cable having an inner conductor and an outer conductor coaxially disposed therearound with the space between said inner and outer conductors substantially filled with a solid dielectric material, the said outer conductor being formed of a rigid metallic tubing of a given and constant diameter along its length, a connector for said cable including an outer metallic body having at one end means thereon to facilitate mating with another connector and having at the other end a sleeve extension, a bore extending through said body and a dielectric insert fitted within said bore toward the said one end, a center contact fitted within said insert terminated to the center conductor of said cable with a portion thereof projecting forwardly toward said one end for contact engagement with the center contact of another connector, a ferrule member having an inner diameter approximately equal to the outer diameter of said outer conductor and fitted thereover with the said outer conductor positioned over said sleeve extension and the said ferrule member crimped inwardly terminating said outer conductor to said sleeve extension and to said connector with said dielectric material extending into said sleeve extension, the said sleeve extension having a relatively thin wall section and an outer diameter very slightly less than the said given inner diameter of the outer conductor and fitting tightly against the inner surface of the cable outer conductor and further having a sharp leading edge which separated the cable dielectric material from the cable outer conductor without expansion of said outer conductor during insertion in said cable, whereby assembly of said connector to said cable is facilitated with minimum damage to the dielectric material, minimum change in spacing between the inner and outer conductive paths formed within said sleeve extension and minimum required force in inserting said sleeve extension into said cable outer conductor.

3,384,704

**CONNECTOR FOR COMPOSITE CABLES**  
William Joseph Vockroth, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.  
Filed July 26, 1965, Ser. No. 474,619  
3 Claims. (Cl. 174-90)

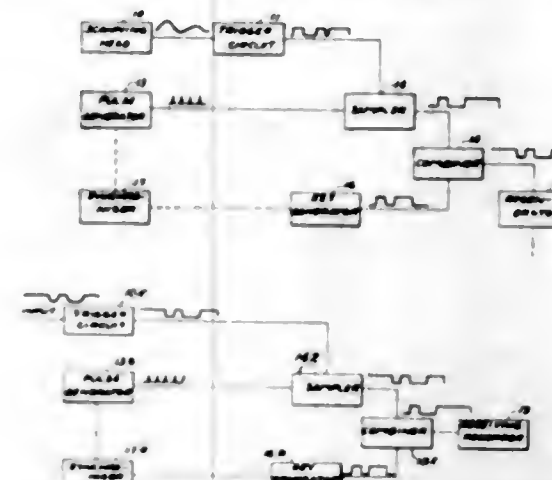


A high tensile electrical connector for joining stranded cables and having an outer ferrule with a pair of tapered gripping jaw means disposed therein in spaced relationship to the ends of the ferrule. The jaw means grip the core strands of cables for a mechanical connection, and the ferrule is crimped at both ends onto the conductor strands of the cables for an electrical connection. During crimping, the conductor strands and the ferrule extrude longitudinally and pull the core strands and jaw means into tighter engagement.

3,384,705

**FACSIMILE PRIVACY APPARATUS**

Leo Rosen, Arlington, Va.  
(Heritage Apartments, G-5, Essex, Conn. 06426)  
Filed Aug. 29, 1944, Ser. No. 551,766  
2 Claims. (Cl. 178-5.1)

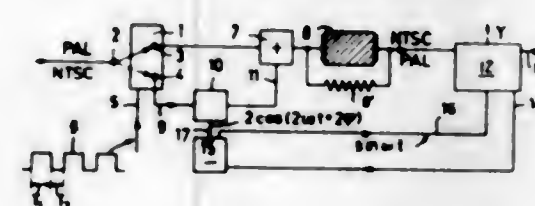


1. The combination of means for producing a signal comprising marking and spacing values and means for enciphering said signal; the last-mentioned means including means for furnishing a keying signal of marking and spacing values, a pulse generator and synchronizing means for controlling said pulse generator and key-furnishing means; a trigger circuit having two conditions of conductivity controllable by said first mentioned signal and pulses from said generator acting conjointly to assume one condition and by the pulse generator alone to cause the same to assume its other condition; and means for combining the output of the trigger circuit and the keying signal.

3,384,706

**CIRCUIT ARRANGEMENT FOR CONVERTING A COLOR TELEVISION SIGNAL**

Jan Davidse, Rotterdam, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware  
Filed Sept. 16, 1965, Ser. No. 487,660  
Claims priority, application Netherlands, Sept. 19, 1964, 64-10,974  
7 Claims. (Cl. 178-5.4)



A system for converting PAL to NTSC color television signals, and vice versa, in which alternate lines of the signal are applied to two signal channels, and the outputs of the channels are added to produce the converted signal. One of the channels includes a mixer for multiplying the signals by oscillations of twice the color subcarrier frequency.

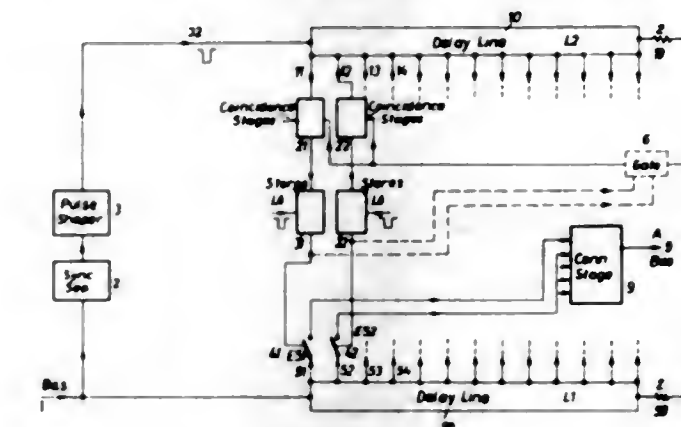
3,384,707

**CORRECTION OF TIMING ERRORS IN A TELEVISION SIGNAL PRODUCED FROM A MAGNETIC TAPE RECORD THEREOF**

Achim Bopp, Furtwangen, and Gerhard Krause, Darmstadt, Germany, assignors to Fernseh G.m.b.H., Darmstadt, Germany  
Filed Mar. 16, 1965, Ser. No. 440,090  
Claims priority, application Germany, Mar. 24, 1964, F 42,405; Sept. 25, 1964, F 44,055; Jan. 30, 1965, F 45,105  
17 Claims. (Cl. 178-6.6)

1. The method of correcting timing errors in a signal containing a repetitive component nominally having a

predetermined periodicity, which comprises the steps of: applying said signal to a series-connected succession of delay devices; comparing the timing of said signal at the output of each said delay device with the timing of a reference signal having said predetermined periodicity;

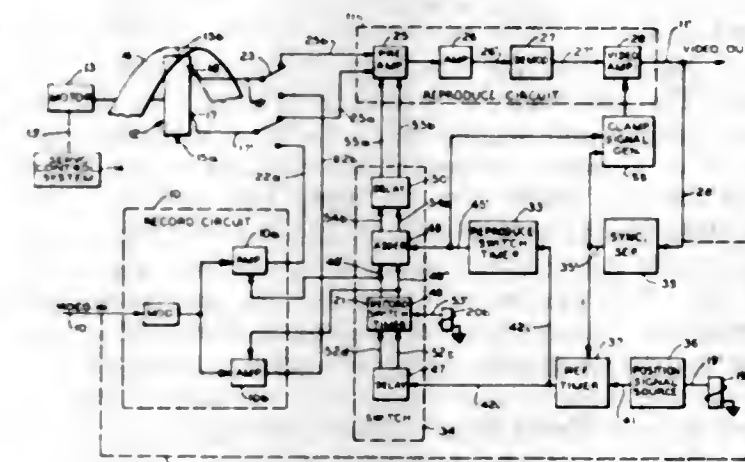


deriving by said comparison a control voltage related to the difference in timing of said component in said output signal and of said reference signal; and employing said control voltage to actuate switch means controlling the passage of said signal through a selected one of said delay devices so as to reduce said difference to a minimum.

3,384,708

**VIDEO REPRODUCER SWITCHING AND SIGNAL PROCESSING SYSTEM**

Arturo E. Stosberg, Palo Alto, Calif., assignor to MVR Corporation, Palo Alto, Calif., a corporation of California  
Filed Aug. 23, 1965, Ser. No. 481,609  
18 Claims. (Cl. 178-6.6)



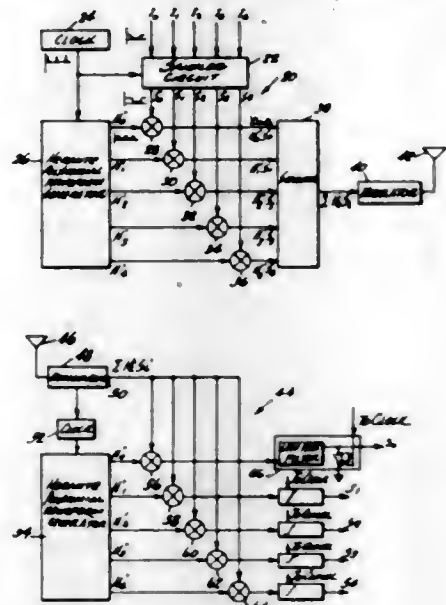
1. A processing system for an apparatus reproducing a composite video signal with a horizontal sync signal of horizontal sync pulses and with a vertical sync signal during vertical blanking periods, single fields of the composite video signal being recorded on separated successive tracks on a storage member, said processing system comprising: reproduce means including a reproduce circuit and a plurality of transducer heads to reproduce the signal recorded on the separated tracks; and an electronic switch being connected to the reproduce circuit for alternately connecting and disconnecting the reproduce circuit from the transducer heads, said switch connecting one transducer head to the reproduce circuit at a selected time during each vertical blanking period, and said switch disconnecting another transducer head to the reproduce circuit at another selected subsequent time during each vertical blanking period, in order to simultaneously connect both of said transducer heads to the reproduce circuit during a predetermined overlapping time period of each vertical blanking period.







and information signals, and receiver Hermite waveforms and output signals having durations restricted to selected,



periodic time periods which limit crosstalk to predetermined percentages.

3,384,716

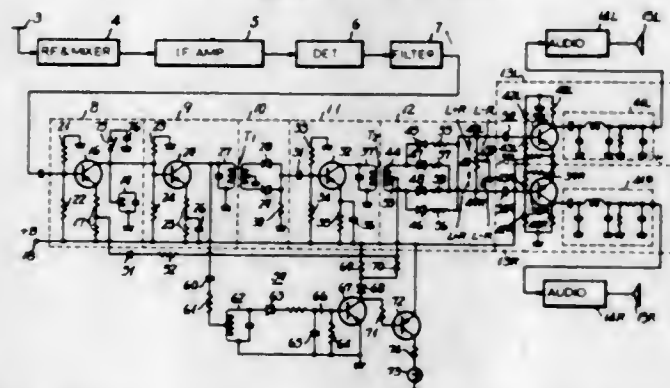
#### SWITCH MEANS FOR AUTOMATIC SELECTION OF MONAURAL AND STEREO OPERATION OF AN FM STEREO RECEIVER

Yuzo Takano, Tokyo, Japan, assignor to Kabushikikaisha Taiko Denki, seisakusho (Taiko Electric Works Ltd.), Tokyo, Japan, a corporation of Japan

Filed Dec. 29, 1965, Ser. No. 517,401

Claims priority, application Japan, Dec. 30, 1964, 39/102,813

2 Claims. (Cl. 179-15)



A switching circuit for automatically rendering the stereo channels of an FM stereo receiver operative upon sensing the reception of a stereo broadcast signal. The switching circuit includes means for detecting the presence of a stereo or monaural signal. The detector means is connected to an indicating circuit which gives visual indication of the presence of a stereo station. Additionally, the detector means is connected to a switching circuit which automatically causes the right and left channels of the stereo receiver to be rendered operative in response to sensing the reception of a stereo station and to be rendered inoperative and function as a monaural audio system upon sensing the reception of a monaural station.

3,384,717

#### CORDLESS DISPATCH TELEPHONE SWITCHING SYSTEM HAVING CONFERRING MEANS

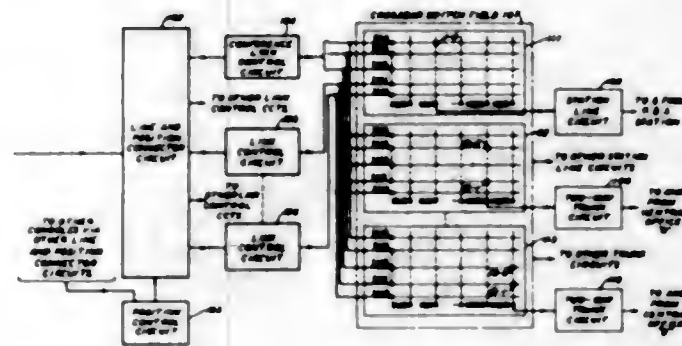
Semer H. Coston, Denver, Colo., assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York

Filed Aug. 3, 1964, Ser. No. 387,064

20 Claims. (Cl. 179-27)

In a cordless dispatch telephone switching system each console is equipped with a pushbutton signaling set and

a plurality of trunk status indicating lamps positionally arranged in a numerically ordered matrix. Interconnection of a pair of trunks, conferencing of a group of trunks, recall of one or more trunks, and addition of



other trunks to an existing conference is accomplished by the operation of a single key preceded by pushbutton generation of the unique trunk code manifested by the matrix location of the associated trunk lamps.

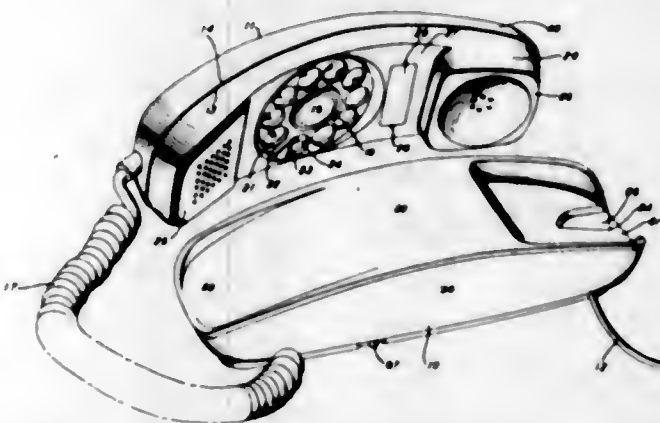
3,384,718

#### TELEPHONE HANDSET HOUSING

Leslie N. Wilder, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 5, 1964, Ser. No. 364,974

11 Claims. (Cl. 179-100)



A telephone handset housing structure consists of two shells matably disposed along their respective rims with tongue-and-groove joints. Mating tabs and indentations along the rims overcome torsional flexure. A single access aperture is covered with a flush-mounted plate, depression of which actuates an auxiliary switchhook serially connected with the telephone base switchhook. Radial grooves in the base underside position the line cord in selective fashion.

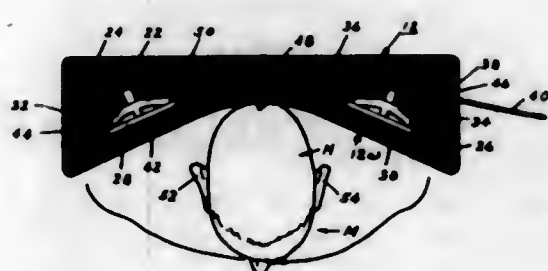
3,384,719

#### STEREOPHONIC SPEAKER ARRANGEMENT

Edward M. Lanzara, Decatur, Ill., assignor to General Electric Company, a corporation of New York

Filed Oct. 21, 1964, Ser. No. 405,349

4 Claims. (Cl. 179-146)



A headrest of resilient composition that has a right loudspeaker means and a left loudspeaker means located

and arranged therein in such a manner as to enable the transmission of near field sound from the right loudspeaker means to the right ear of a person reposing on the headrest, and the transmission of near field sound from the left loudspeaker means to the left ear of such a person.

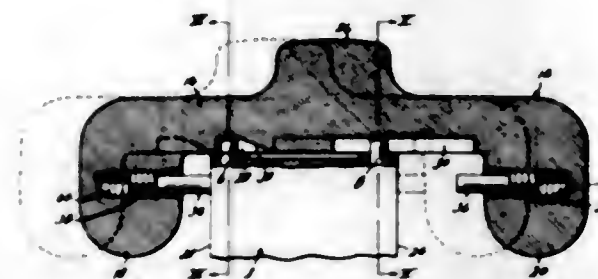
3,384,720

#### TELEPHONE ACCESSORY FOR PARTIALLY DISABLED PERSONS

David L. Beatty, 10712 E. 84th Terrace, Raytown, Mo. 64138

Filed Apr. 1, 1965, Ser. No. 444,747

6 Claims. (Cl. 179-162)



A weight designed to rest in the cradle of an ordinary telephone set, the horizontal displacement of which results in the depressing or releasing of the cradle push-buttons.

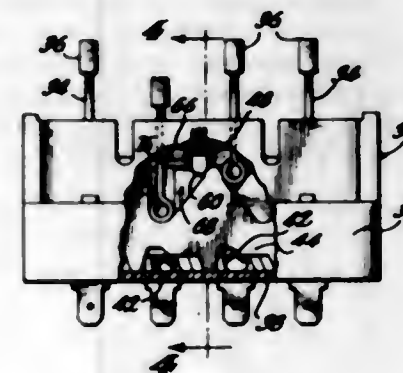
3,384,721

#### PUSHBUTTON SWITCH WITH IMPROVED DETENT PLUNGER RETAINING MEANS

Albert J. Gartland, Jr., Trumbull, Conn., assignor to General Electric Company, a corporation of New York

Filed Sept. 29, 1966, Ser. No. 583,008

4 Claims. (Cl. 200-5)



In a pushbutton switch having a hollow housing and sliders within the housing, a plunger is provided to give detent action to the sliders. Supporting means for the plunger includes a stationary spacer member having a U-shaped cutout to receive at least a portion of the plunger to limit its lateral movement as well as its movement into the hollow housing.

3,384,722

#### SAFETY SWITCH LOCK

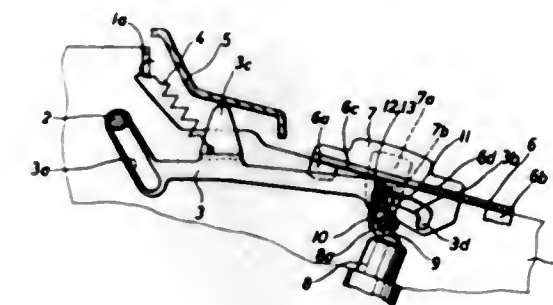
Walter Hanke, Sande-Neufeld, and Wolfgang Klingner, Grafschaft, Germany, assignors to Olympia Werke A.G.

Filed Feb. 28, 1967, Ser. No. 619,432

Claims priority, application Germany, Mar. 8, 1966, O 8,666

10 Claims. (Cl. 200-50)

The device has a locking means by which the main switch of an electric typewriter is automatically locked in circuit breaking position when the top cover of the



typewriter is opened. If the switch is in a circuit making position when the top cover is opened, it is first shifted

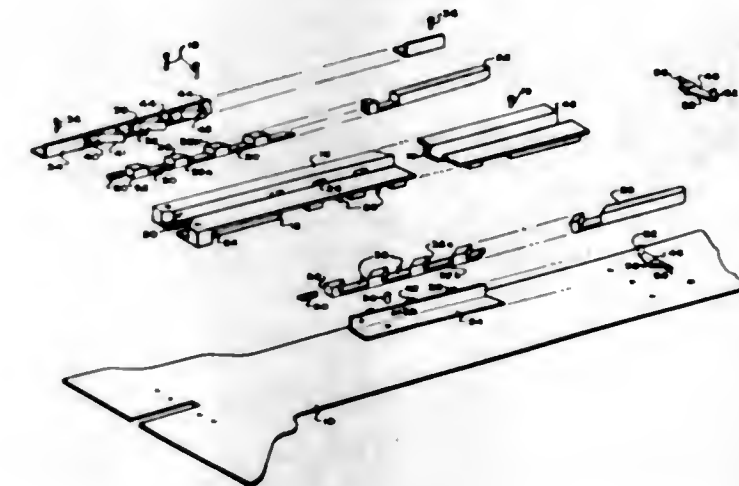
3,384,723

#### GROUNDING GUIDE FOR A PLUG-IN UNIT

Donald D. Skarke, Colorado Springs, Colo., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Sept. 6, 1966, Ser. No. 577,484

4 Claims. (Cl. 200-51.07)



A non-metallic guide is mounted on the main frame of an instrument to guide insertion of a plug-in unit into the instrument along a fixed insertion path. Electrically conductive grounding springs are mounted on the main frame along adjacent sides of the guide and in rows substantially parallel to the direction of insertion of the plug-in unit. An actuator mechanism is mounted on the main frame along each row of grounding springs. When the plug-in unit is near the end of the insertion path, this actuator mechanism forces the grounding springs to engage a lengthwise portion of the plug-in unit through openings in the adjacent of the guide.

3,384,724

#### CIRCUIT BREAKER WITH LIQUID ARC QUENCHING

Erwin Otto Marx, Braunschweig, Rudolf Erich Grosskope, Wolfenbittel, Wilfried Kruckewitt, Braunschweig, Holger Ann, Erlangen-Sieglitzhof, Adolf Erk, Braunschweig, Ludwig Schmitz, Ratingen, and Klaus Mollenhoff, Dortmund-Derne, Germany, assignors to Erwin Marx, Braunschweig, Germany

Filed Mar. 23, 1965, Ser. No. 442,016

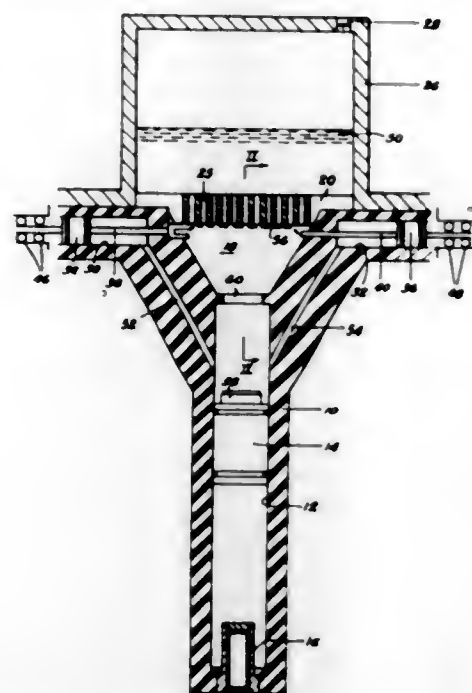
Claims priority, application Germany, Apr. 2, 1964, M 60,516; Feb. 13, 1965, M 64,158

6 Claims. (Cl. 200-150)

Circuit breaker in which current carrying contacts are moveable in separating direction in a narrow chamber



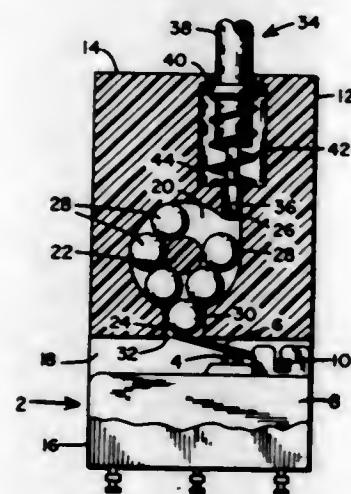
and adjacent a grating while simultaneously cooling and quenching liquid is caused to flow through the chamber



**3,384,725**  
**SWITCH ACTUATING MECHANISM (MOMENTARY TYPE) FOR PIN-PLUNGER TYPE ELECTRICAL SWITCH**

Alfred B. Poch, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

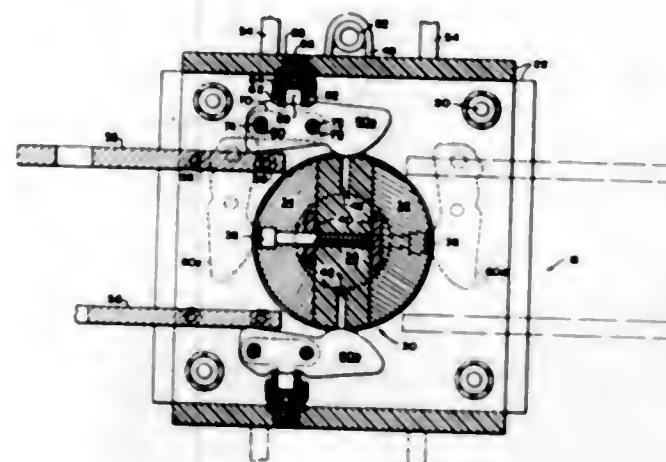
Filed Nov. 23, 1966, Ser. No. 596,523  
6 Claims. (Cl. 200—153)



This invention which is the property of the Sperry Rand Corporation is directed to a mechanism which may be attached to a precision switch of the "pin-plunger" type such as disclosed in the McGall Patent 1,960,020 for obtaining a momentary actuation thereof which is substantially independent of the time that the manual switching force is applied. Specifically, the invention comprises a housing which may be molded or otherwise formed so as to contain a closed track or raceway in which is located a plurality of rollers. Communicating with the raceway are first and second apertures. The first aperture is designed to accommodate one of the roller members and is positioned to be in contact with the pin-plunger of the aforementioned switch. Located in the second aperture is a plunger which when depressed, forces the roller members to advance along the track and in doing so to momentarily depress the pin-plunger of the electrical switch.

**3,384,726**  
**ROTARY HIGH-CURRENT SWITCH**  
Edwin E. Kussmaul, Westwood, Mass., assignor to Kelek Company, Norwood, Mass., a corporation of Massachusetts

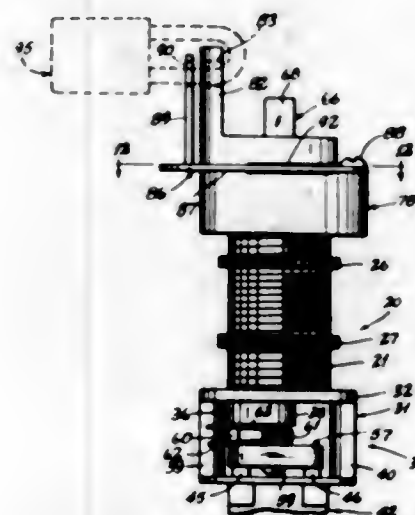
Filed Apr. 6, 1966, Ser. No. 540,568  
9 Claims. (Cl. 200—155)



A rotary high-current switch comprises a housing with plural sub-frames within which a rotor has plural longitudinally displaced sections, each section including a part of each of a plurality of mutually insulated conductors. Alternate orientations of the housing sub-frames permit alternate access directions for bus connections to independently mounted bridging type contacts. Current interruption or reversal is effected by connections wholly internal to the housing with minimal movement and within a minimal space.

**3,384,727**  
**SWITCH OPERATOR**  
Marshall G. Zaveritnik, Manchester, Mo., Charles C. Montgomery, East St. Louis, Ill., and John W. Buser, St. Louis, Mo., assignors to Killark Electric Manufacturing Company, St. Louis, Mo., a corporation of Missouri

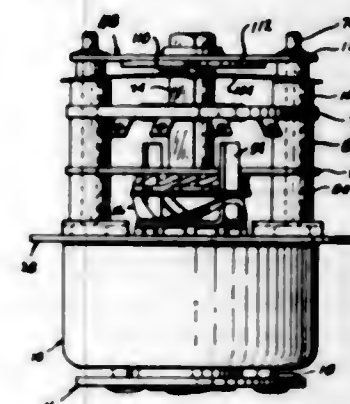
Filed Feb. 28, 1966, Ser. No. 530,532  
2 Claims. (Cl. 200—159)



A switch operator for use in locations requiring protection against hazardous flame and/or hazardous dust and/or weatherproof protection. A rotatable, depressible actuator for selectively operating switch contacts. A lever to selectively lock the actuator in or out of operating position.

**3,384,728**  
**MOUNTING ASSEMBLY FOR ROTARY SWITCH WITH MOUNTING PLATE HAVING RADIALLY DISPOSED SLOTS TO SLIDABLY RECEIVE WAFER SUPPORTING RODS**

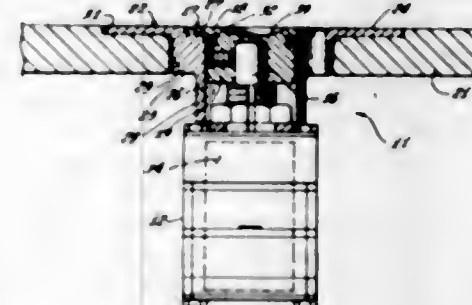
John R. Davis, Kettering, Ohio, assignor to Ledex Inc., Dayton, Ohio, a corporation of Ohio  
Filed Dec. 1, 1966, Ser. No. 598,484  
3 Claims. (Cl. 200—168)



A rotary switch mounting assembly has a mounting plate provided with radial slots to receive support rods disposed diametrically with respect to the rotary axis of the switch mounting. The assembly is effected by sliding the support rods radially into said slots, sliding a rotary switch mechanism including one or more switch wafers axially onto said rods, and locking the assembly by suitable collar devices affixed to the ends of said rods. The assembled switch mechanism retains the support rods in said radial slots.

**3,384,729**  
**POSITIVE POSITION SWITCH**  
Nelson W. Burris, Jr., Long Beach, and Jerry E. Acord, Lakewood, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Aug. 8, 1966, Ser. No. 571,010  
3 Claims. (Cl. 200—172)



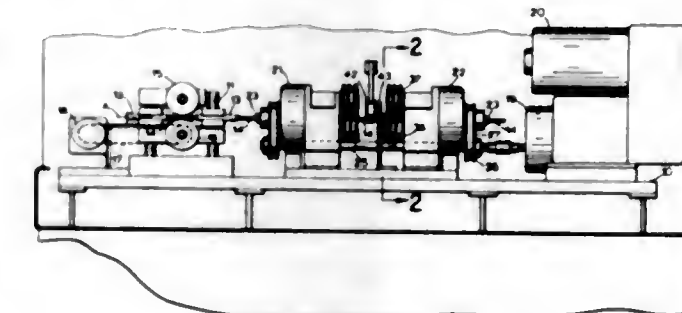
A switch adapted to be rotated to a plurality of positions in which electrical circuits are activated and deactivated. Mounted on a plane surface, all visible portions of the switch have a flush relation with the plate. The switch also includes means, visible to an operator of the switch at considerable distance, indicating that all circuits, completed by the switch, are deactivated and therefore safe to work on. Also, if the switch is utilized in connection with a military aircraft, it (visual means) precluded premature take-off prior to proper positioning of the switch.

**3,384,730**  
**MACHINE FEED MECHANISM**  
Ralph S. Easley, Cincinnati, Ohio, assignor, by mesne assignments, to The Ohio Crankshaft Company, Cleveland, Ohio

Filed Aug. 19, 1965, Ser. No. 481,131  
4 Claims. (Cl. 219—10.73)

There is provided a device for feeding an elongated workpiece along a given axis. Three feed rolls combine

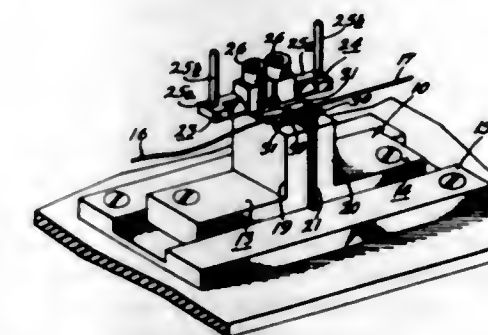
to encircle the workpiece, and each roll includes axially spaced ribs and intermediate grooves. To reduce the open-



ing defined by the feed rolls, the ribs of each roll extend into the grooves of the other rolls.

**3,384,731**  
**METHODS AND APPARATUS FOR BUTT WELDING WIRES AND THE ARTICLE PRODUCED THEREFROM**  
Walter J. Drueling, Willow Grove, Pa., assignor to Philadelphia Metal Stamping Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 315,884, Oct. 14, 1963, and a continuation of application Ser. No. 407,204, Oct. 28, 1964. This application May 18, 1967, Ser. No. 639,588  
24 Claims. (Cl. 219—57)



This patent discloses a method of and apparatus for welding together small workpieces including one of the novel articles as a product of the method. The method discloses welding together such workpieces by utilizing novel apparatus including a pair of fixedly spaced electrode die-holders, one of the die-holders serving to rigidly clamp one of the workpieces thereto while the other of the die holders having means for loosely clamping the other of the workpieces. After the workpieces are thus positioned, a potential is applied between the die-holders and the loosely clamped workpiece is moved into contact with the other workpiece thereby discharging the potential through the workpieces causing a weld to be effected.

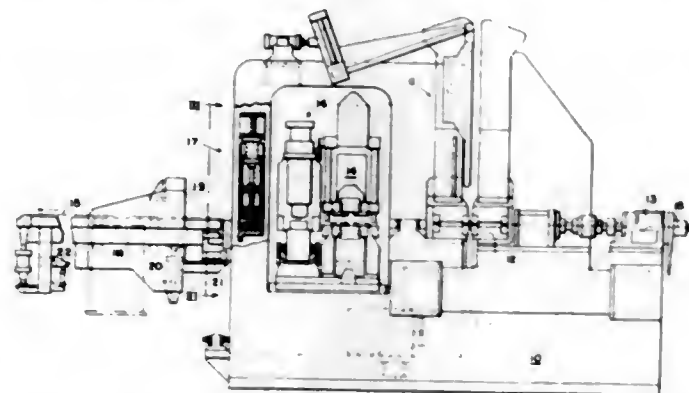
**3,384,732**  
**INDUCTION ANNEALING OF STRIP JOINTS**  
Desmond E. Decker, Warren, Ohio, assignor to The Taylor-Winfield Corporation, Warren, Ohio, a corporation of Ohio

Filed Jan. 8, 1964, Ser. No. 337,122  
12 Claims. (Cl. 219—97)

The present invention relates to the provision of an annealing station in a line for joining metal sheets and strips in end-to-end relationship by resistance welding. The sheet or strip, after welding, is accurately indexed to the annealing position wherein a high frequency inductor of novel construction is used for annealing the weld. The inductor is in the form of a U-shaped loop of hollow, rectangular tubular construction through which cooling fluid may pass, comprising flat leg portions extending



above and below the welded strip and a loop or bight portion extending around one side edge of the strip. A

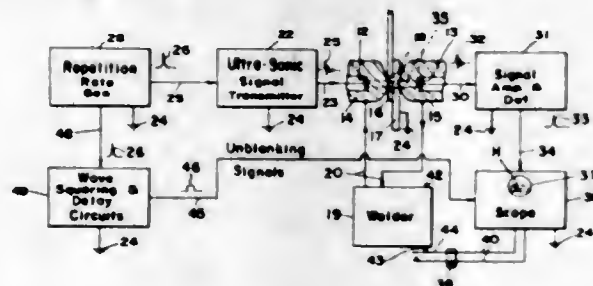


pyrometer assembly is also used to detect the annealing temperature.

3,384,733

### ULTRASONIC INSPECTION SYSTEM AND APPARATUS FOR RESISTANCE WELDS AND THE LIKE

George E. Burbank, Maple Shade, N.J., and Wallace D. Taylor, Wyncote, Pa., assignors to the United States of America as represented by the Secretary of the Army  
Filed July 20, 1964, Ser. No. 384,004  
6 Claims. (Cl. 219-109)

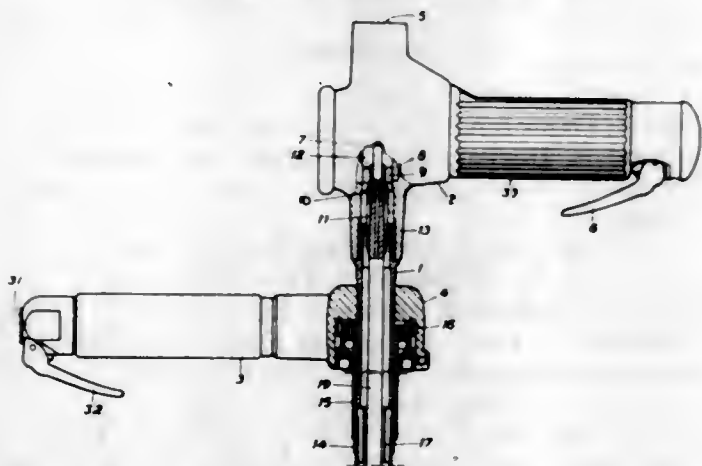


Nondestructive testing and inspection of welds by ultrasonic means. Spaced high frequency bursts of ultrasonic energy are transmitted from one electrode, through the weld zone, to the opposite electrode. A receiving transducer picks up the signal which is amplified and then detected to produce an envelope of the input signal. The detected signal pulses are then applied to the cathode ray tube of an oscilloscope where the amount of attenuation and shape of the overall traces provide an indication of the weld quality.

3,384,734

### APPARATUS FOR WELDING CIRCULAR JOINTS

Karl Uno Jakobsson, Laxa, Sweden, assignor to Elektriska Svetsningsaktiebolaget, Goteborg, Sweden, a corporation of Sweden  
Filed Dec. 15, 1964, Ser. No. 418,439  
5 Claims. (Cl. 219-125)



An apparatus for welding tubes to tube sheets by an arc-shielded metal arc welding process. The apparatus has

a hand held substantially tubular head unit with a torch unit rotatably mounted on the other surface of the head unit. The head unit is supplied with a shielding gas and welding current through an extremity of the head unit. A motor including reduction gears is mounted on the head unit for rotating the torch unit. An electrode wire advancing mechanism is provided in the head unit for advancing the electrode wire to the torch unit.

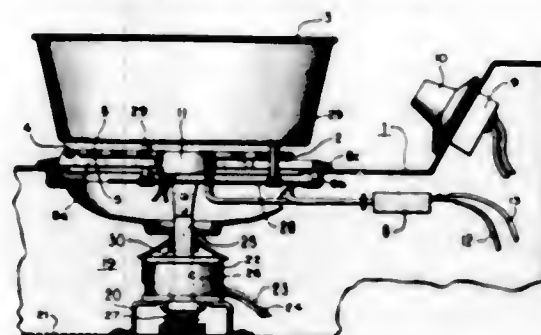
### ERRATUM

For Class 219-442 see:  
Patent No. 3,384,195

3,384,735

### SURFACE HEATING DEVICE

Harrison K. Linger, Wheaton, Ill., assignor to General Electric Company, a corporation of New York  
Filed Apr. 29, 1966, Ser. No. 546,445  
12 Claims. (Cl. 219-456)



#### 1. A surface heating device comprising:

- (a) means providing a generally flat upper surface intended to contact a cooking vessel for heating primarily by conduction;
- (b) independent support means for supporting the vessel;
- (c) means for causing heating of said upper surface;
- (d) an on-off system for controlling operation of said heating means; and
- (e) means responsive to said on-off system for changing the vertical spacing of said independent means and said surface;
  - (i) said changing means causing said surface to be at least as high as said independent support means in the "on" condition of said on-off system;
  - (ii) said changing means providing vertical spacing of said independent support means and said surface in the "off" condition of said on-off system, with said independent support means above said surface, whereby heat conduction from said upper surface to the vessel is substantially interrupted.

3,384,736

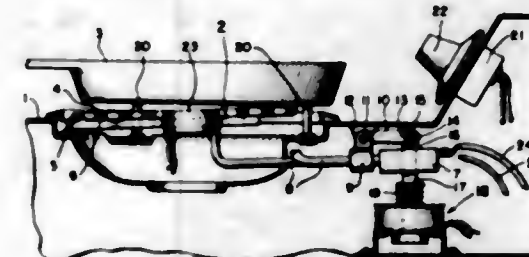
### SURFACE HEATING DEVICE

Peter Nowosielski, Chicago, Ill., assignor to General Electric Company, a corporation of New York  
Filed Apr. 29, 1966, Ser. No. 546,446  
6 Claims. (Cl. 219-456)

#### 1. A surface heating device comprising:

- (a) means providing a generally flat upper surface intended to contact a cooking vessel for heating primarily by conduction;
- (b) independent support means extending up for supporting the vessel, said flat upper surface having openings through which pass the independent support means;
- (c) means for causing heating of said upper surface;
- (d) an on-off system for controlling operation of said heating means; and

(e) means responsive to said on-off system for raising and lowering said upper surface a relatively small distance in the "on" and "off" conditions respectively of said on-off system;

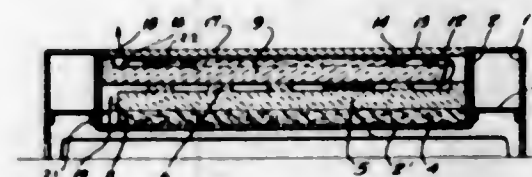


- (i) said raising and lowering means raising said upper surface so that it is against the bottom of a vessel supported on said independent support means;
- (ii) said raising and lowering means lowering said upper surface so that it is spaced from a vessel supported on said independent support means and cannot transfer heat thereto by conduction.

3,384,737

### ELECTRIC STOVE WITH HEATING METALLIC PLATES

Adelard Doutre, 4895 Des Erables St., Montreal, Quebec, Canada  
Filed Apr. 14, 1965, Ser. No. 448,104  
1 Claim. (Cl. 219-460)

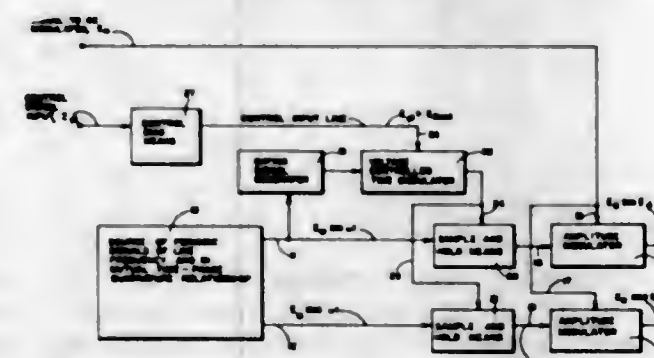


A hot plate type electric stove for cooking having a sheet metal frame with a rectangular depression, and a layer of asbestos material, and two refractory plates disposed thereon, the upper refractory plates having grooves and heating coils therein. The assembly including air inlets in the bottom of the depression at one end and the top plate having vents at one end. The space between the refractory plates and space between the upper refractory plate and metal plate providing a conduit for the continuous circulation of air by convection induced by heat from the coils.

3,384,738

### SIGNAL-RESOLVING APPARATUS

Stuart C. Warrick, Jr., La Sierra, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware  
Filed Sept. 26, 1963, Ser. No. 311,817  
7 Claims. (Cl. 235-189)



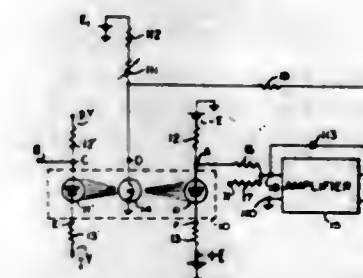
An electronic signal resolver generating analog signals indicative of the mutually orthogonal components of a

resolved vector quantity. A high frequency sinusoidal signal source provides two outputs in mutually time-phase quadrature relationship to respective ones of two sample-and-hold devices. Voltage controlled time modulating means responsive to one of the high frequency source outputs and having a control input responsive to a signal analog of a resolving angle, provides a sampling control input to the sample-and-hold devices which, in turn, provide respective modulating inputs to respective ones of two amplitude modulators, commonly responsive to the signal-to-be-resolved.

3,384,739

### ANALOG MULTIPLIER

Mark E. Connelly, Concord, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts  
Filed Sept. 23, 1964, Ser. No. 398,710  
5 Claims. (Cl. 235-194)



1. An analog multiplier comprising
  - a first and second variable resistance element,
  - a single concentrated incandescent source of radiant energy impinging on said first and second resistance elements, means for isolating said elements from extraneous radiant energy, the resistance of each element being substantially equal and dependent upon the intensity of said radiant energy,
  - a first and second electrical network including said first and second variable resistance elements respectively,
  - a source of constant voltage applied to the input terminals of said first network,
  - said first and second network each having an output terminal to provide an output voltage responsive to its input voltage and to the resistance of its variable resistance element,
  - a first signal voltage,
  - means for amplifying the difference of said first signal voltage and said first network output voltage to provide an energization voltage to said energy source whose magnitude is dependent upon the magnitude of said first signal voltage, the intensity of radiant energy from said source being dependent upon its energization voltage,
  - a second signal voltage applied to the input terminals of said second network,
  - the voltage at said second network output terminal being proportional to the product of said first and second voltages.

3,384,740

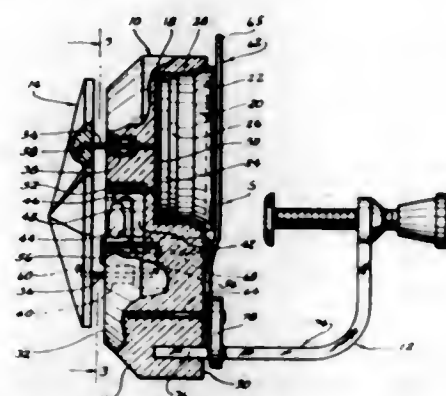
### JEWELRY INCLUDING MEANS CAUSING INTERMITTENT ILLUMINATION

Robert E. Wood, Racine, Wis.  
(R.D. 1, Box 332C, Ashland, Ohio 44805)  
Filed Sept. 24, 1965, Ser. No. 489,928  
1 Claim. (Cl. 240-6.4)

An article of personal jewelry provided with an electrical cell and a lamp. An ornamental member is mounted on the body of the article by means of flexible metal members, which members are part of a make-and-break circuit actuated by vibration of the ornamental member



upon movement, causing one of the flexible members to engage a switch member, resulting in an intermittent



flashing of the lamp. Means is provided to prevent closing the circuit when desired.

3,384,741

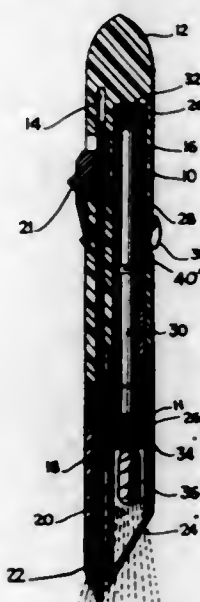
**ILLUMINABLE FRACTURE-RESISTANT BATON**  
Sidney J. Bice, 149 Alpha Drive,  
Eau Gallie, Fla. 32935  
Filed Aug. 25, 1966, Ser. No. 575,168  
5 Claims. (Cl. 240-6.42)



This baton is fracture-resistant and virtually unbreakable when dropped. It is adapted to replace unsafe batons having dangerous fire-heads at the respective ends of the handling shaft. It is safe and feasible for use by twirlers on stage or inside of homes and buildings. It is attractive for parading, tossing and twirling and for festive handling. It embodies a hollow wand having illuminable globes removably mounted on the opposite end portions by novel coupling means. Repeated experimental use has shown that the baton is an innovation and well serves the purposes for which it is intended.

3,384,742

**BALLPOINT PENLIGHT**  
Susie G. Delligatti, 11-24 46th Ave.,  
Long Island City, N.Y. 11101  
Filed Feb. 4, 1966, Ser. No. 525,046  
3 Claims. (Cl. 240-6.46)



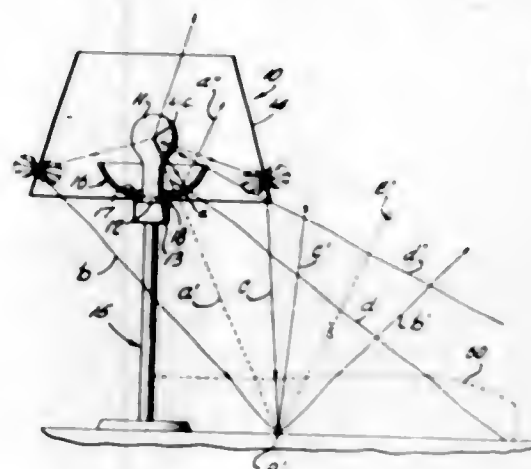
The ballpoint pen has a self contained light source comprising a hollow plastic cylindrical barrel having first

and second parallel bores. The first bore houses a ballpoint pen cartridge wherein the portion defining the opening for the point is transparent. The second bore houses batteries and a light bulb. A slanted flat lens plate closes the opening of the second bore adjacent the point of the pen. A reflector is employed to the rear of the bulb to reflect the light thereof through the lens and transparent portion about the point.

3,384,743

DESK LAMP

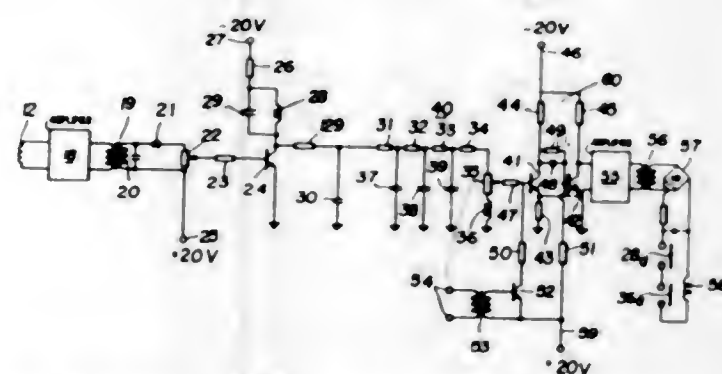
William F. Little, Yonkers, N.Y., and Vearl S. Wince,  
Newark, Ohio, assignors, by direct and mesne assignments, to Holophane Company, Inc., New York, N.Y.  
a corporation of Delaware  
Filed Oct. 21, 1965, Ser. No. 499,791  
12 Claims. (Cl. 240-81)



A desk lamp having a light source and an open-bottom lamp shade disposed around the light source. A bowl-shaped light director is disposed below the light source and has an upper portion formed by substantially horizontally extending prisms for receiving direct light from the source and for vertically refracting and substantially evenly distributing the same over a surface beneath the light source. There is also provided a substantially horizontally extending bottom portion with reflecting prisms for reflecting direct light upwardly and away from the surface in order to eliminate veiling glare.

3,384,744

**AUTOMATIC BRAKING SYSTEM FOR TRAINS**  
Akira Watanabe and Keliichi Hayashi, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan  
Filed Aug. 4, 1965, Ser. No. 477,253  
4 Claims. (Cl. 246-182)



An automatic braking system for a train comprising a braking device, a receiving means mounted on said train to successively receive signals from a number of spaced signal transmitters installed along a railway track, a first logical circuit device connected to receive output signals from said receiving means to actuate said braking device to maintain the speed of said train at a predetermined

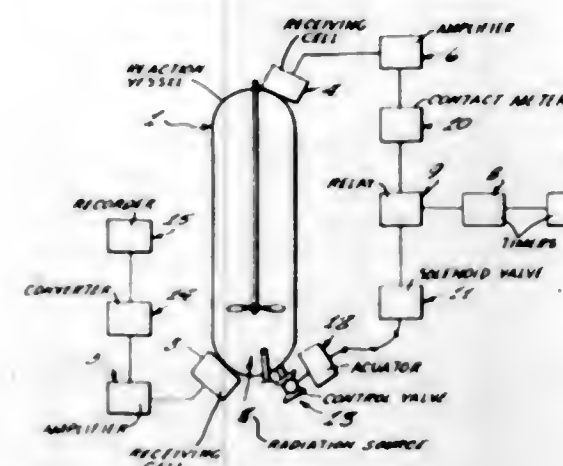
mined value and a second logical circuit device also connected to receive the output signals from said receiving means to actuate said braking device in response to a speed which is higher than said predetermined value.

3,384,745

**MASS CONTROL AND DENSITY MEASUREMENT SYSTEM FOR CHEMICAL REACTIONS**

Joel Markowitz, Yonkers, N.Y., and Donald W. Fair, Odessa, Tex., assignors to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

Filed Feb. 17, 1964, Ser. No. 345,369  
5 Claims. (Cl. 250-43.5)

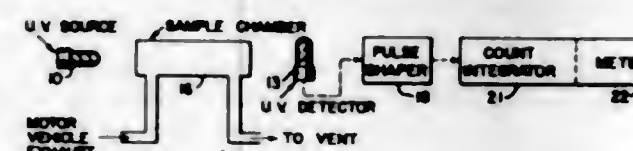


1. In a method for carrying out a continuous polymerization reaction comprising continuously introducing at least one reactant to a substantially vertical vessel and substantially continuously removing the polymerization reaction mass from said vessel, the improvement for controlling the residence time of said polymerization reaction mass in said vessel by maintaining said reaction mass in said vessel for a predetermined time, which comprises transmitting a beam of gamma radiation through said reaction mass, the path of said beam of gamma radiation representing the entire length and cross-section of the total polymerization mass including a gaseous and a non-gaseous phase in said vessel, measuring the intensity of said transmitted beam of radiation, converting said transmitted radiation beam to an electrical signal and discharging at least a portion of said polymerization reaction mass from said vessel in response to said electrical signal.

3,384,746

**ULTRAVIOLET GAS ANALYSIS APPARATUS AND DETECTOR CIRCUIT INTEGRATING MEANS HAVING BOTH SHORT AND LONG CONSTANTS**  
Donald E. Benz, Minnetonka, Daniel A. Doughty, Plymouth Village, and Stanley J. Tibbetts, Minnetonka, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Feb. 2, 1966, Ser. No. 524,583  
10 Claims. (Cl. 250-43.5)



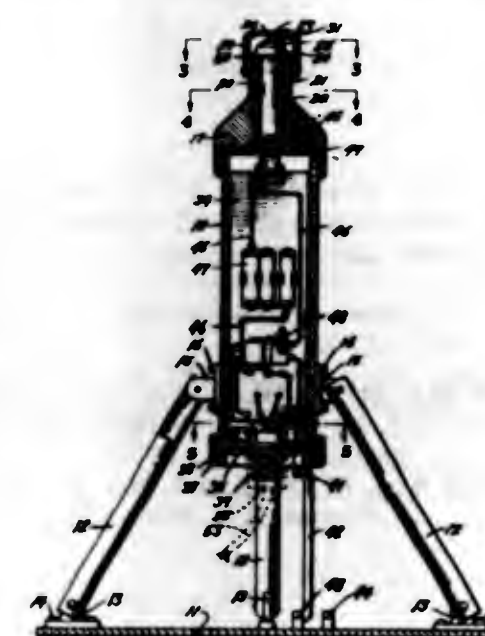
1. In combination with detector means which originates pulses of electrical energy upon being subjected to a condition to which the detector means is sensitive, first electrical energy integrating means connected to said detector means and having first electrical energy storage means, said first integrating means having a short time constant,

second electrical energy integrating means connected to said detector means and having second electrical energy storage means, said second integrating means having a long time constant, electrical energy sensitive output means connected to said second storage means, and electrical energy sensitive means connected between said first and second storage means to be sensitive to a differential in energy stored therein which is above a given value and to then quickly modify the energy stored in said second storage means until said differential is reduced to said given value.

3,384,747

**LIGHTNING WARNING PROBE UTILIZING A RADIOACTIVE IONIZING ELEMENT**

Edward T. Able, Denver, Colo., assignor to B. K. Sweeney Manufacturing Co., Denver, Colo.  
Filed Sept. 8, 1964, Ser. No. 394,880  
8 Claims. (Cl. 250-44)



1. A probe construction for use in sensing the gradient of electrical potential in the atmosphere comprising: a hollow, vertical, electrically grounded, metallic container; a metallic head element closing the top of and grounded to said container; an ungrounded metallic circuit bar positioned in a vertical passage through said head element, said bar being spaced from and electrically insulated in its entirety from said container and from said head element; a radio-active, ionizing element mounted on the upper extremity of said circuit bar above said head element; and an electrostatic DC amplifier circuit completely enclosed in said container and connected to said circuit bar for amplifying the potential produced by said ionizing element in consequence of its contact with the atmosphere.

3,384,748

**GONIOMETRIC SUPPORTS FOR SUPPORTING CRYSTAL DURING CRYSTAL ANALYSIS AND SUBSEQUENT CUTTING**

Jacques Rioux, Versailles, and Michel Rodot, Meudon, France, assignors to Centre National de la Recherche Scientifique, Paris, France

Filed Mar. 30, 1965, Ser. No. 443,865

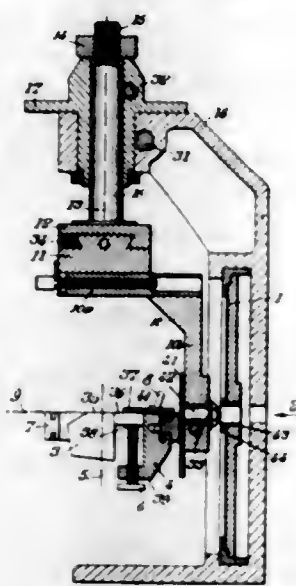
Claims priority, application France, Apr. 3, 1964, 969,703

7 Claims. (Cl. 250-51.5)

A goniometric support which comprises a frame, a support movably carried by said frame and adapted to be rotatable, preferably about a fixed vertical axis and displaceable in three directions perpendicular to one another.

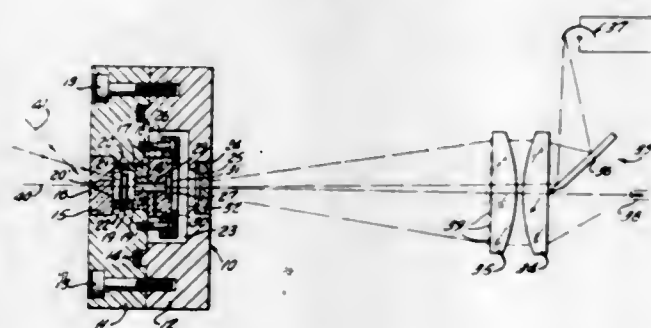


other, one of said directions being vertical. A ring is mounted on the support and pivotable with respect thereto about a horizontal axis. A crystal holder, slidably and adjustably mounted on the ring, holds a crystal in the



area of the centre of the ring. This goniometric support enables the rotation of a crystal, subjected to an X-ray beam, about three axes and within angles at least equal to 270°.

**3,384,749**  
**PNEUMATIC RADIATION DETECTOR**  
Marcel J. E. Golay, 116 Ridge Road,  
Rumson, N.J. 07760  
Filed Aug. 11, 1965, Ser. No. 478,819  
13 Claims. (Cl. 250-83)

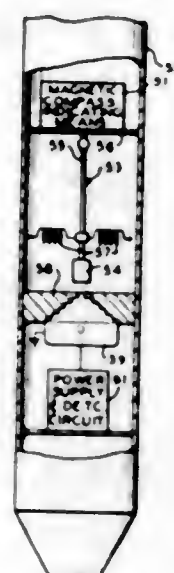


A pneumatic detector wherein the radiation receiving chamber includes a membrane dividing the chamber into two parts, the membrane being optionally multiple membrane having a radiation coating covering a portion of its area with the remainder being transparent to radiation. The radiation receiving chamber parts may also be tapered to increase the pneumatic energy produced by the transfer of heat to the gas of the chamber.

**3,384,750**  
**BOREHOLE DEVIATION DETECTOR**  
Joe D. Owen, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
Filed May 25, 1964, Ser. No. 369,671  
4 Claims. (Cl. 250-83.3)

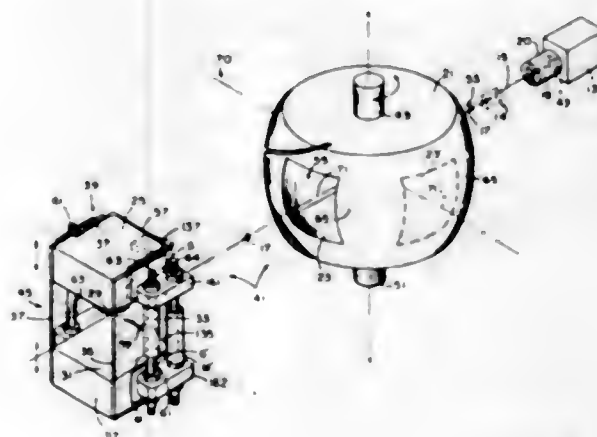
1. An inclinometer comprising a housing adapted to be lowered into a borehole, means positioned in said housing for indicating a fixed azimuthal orientation, a pendulum weight suspended in said housing by a pendulum support member, an uncollimated radiation source constituting at least part of said pendulum weight, said source of radiation being a source of radiation selected from the

group consisting of alpha particles, beta particles, gamma rays, neutrons, visible light, infrared radiation and ultraviolet radiation, and means positioned in said housing for detecting the angle of inclination between said pendulum support member and the axis of said housing and the direction of said angle of inclination with respect to said fixed azimuthal orientation comprising at least three uncollimated detectors capable of measuring radiation from said source of radiation, said at least three detectors being positioned in said housing spaced apart from one another to detect equal amounts of radiation when the lengthwise



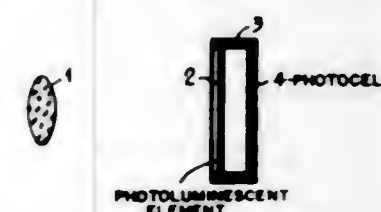
axis of said housing and the axis of said pendulum support member coincide, means connected to said pendulum support member for dampening the movement of said pendulum support member, means connected to the outputs of said detectors to establish a first output signal representative of the magnitude of the deviation and a second output signal representative of the direction of the deviation.

**3,384,751**  
**BEAM PORT CLOSURE FOR NUCLEAR REACTOR**  
Edward D. Sperry III, Ridge, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission  
Filed May 12, 1965, Ser. No. 455,351  
2 Claims. (Cl. 250-105)



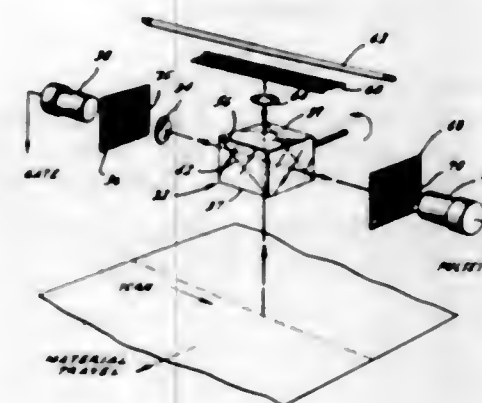
A beam port closure for a high flux, high energy particle beam from a nuclear reactor, having a compact, portable, easily rotatable, pierced ball and oppositely slidable shutters that move selectively to provide a uniform, substantially unperturbed, neutron path when open and maximum shielding when closed.

**3,384,752**  
**ARRANGEMENT FOR DETECTING THE MAXIMUM SHARPNESS OF AN IMAGE**  
Giovanni Odone, Yverdon, Switzerland, assignor to Paillard S.A., Saint-Croix, Vaud, Switzerland, a corporation of Switzerland  
Filed Apr. 10, 1964, Ser. No. 358,896  
Claims priority, application Switzerland, Apr. 17, 1963, 4,795/63  
3 Claims. (Cl. 250-213)



An arrangement for detecting the maximum sharpness of an image including a photoluminescent element having a non-linear curve of response and means for measuring the average luminous intensity of such element.

**3,384,753**  
**PHOTOSENSITIVE MEANS FOR MEASURING A DIMENSION OF AN OBJECT**  
George Revesz, Bala Cynwyd, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware  
Filed Feb. 1, 1965, Ser. No. 429,488  
9 Claims. (Cl. 250-219)

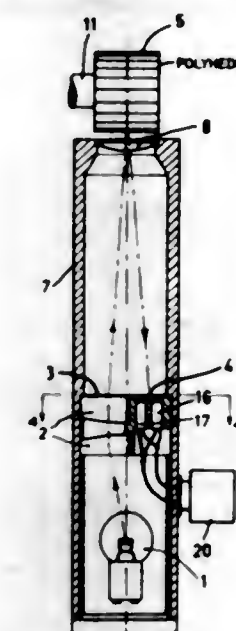


Electro-optical scanning means for detecting radiation signals indicative of the ends of an object are used to measure a dimension of the object. A train of discrete signals is generated throughout a scanning traverse in such a manner as to insure a fixed ratio between the number of pulses generated during the traverse and the distance scanned.

**3,384,754**  
**POSITION MEASURING DEVICE EMPLOYING A ROTATING REFLECTING POLYHEDRON TO SUPERIMPOSE THE REFLECTION OF A FIRST RASTER ONTO A SECOND RASTER, AND PHOTOCELLS FOR DETECTING THE RESULTANT MOVEMENT**  
Scato Albarda, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware  
Filed Dec. 29, 1964, Ser. No. 421,935  
Claims priority, application Netherlands, Jan. 11, 1964, 64-161  
5 Claims. (Cl. 250-224)

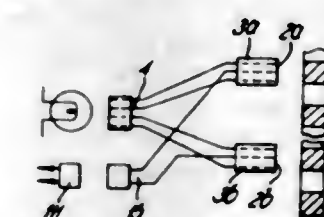
A position measuring device for indicating the rotation of a shaft is provided with a rotating reflecting polyhedron attached to the shaft and rotating therewith. A source of light passing through a fixed position causes a first raster pattern located at the fixed position to be

reflected from the polyhedron onto a second raster pattern. A bank of photocells is then employed to detect



the resulting interference pattern and thereby provide an electrical indication of the relative movement.

**3,384,755**  
**OPTICAL INSPECTION DEVICES**  
David T. N. Williamson, Douglas William Ballantyne Muir and Richard Graham Crosland, London, England, assignors to Molins Machine Company Limited, London, England, a corporation of Great Britain  
Filed July 28, 1966, Ser. No. 568,569  
Claims priority, application Great Britain, Aug. 4, 1965, 33,374/65  
16 Claims. (Cl. 250-227)



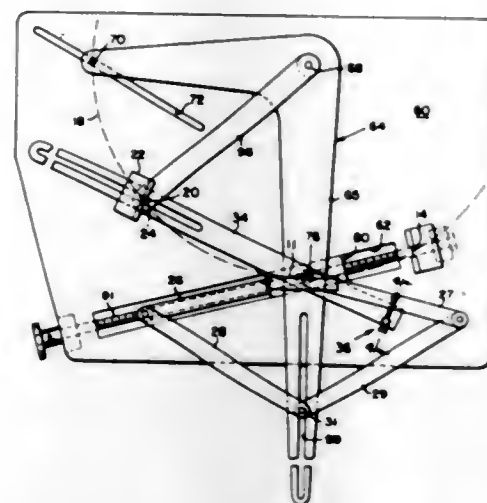
1. Measuring apparatus comprising a scale having band markings thereon and an inspection device, said device including a plurality of light-conducting fibres, a composite light-transmitting surface embodying one end of each of said fibres and confronting said scale, means holding the other ends of said fibres in such positions as to form at least two groups, further light-transmitting surfaces each embodying said other ends of the fibres forming a different one of said groups, an illuminator confronting one of said further surfaces, and a sensing device confronting each of the remaining further surfaces, the ends of the fibres in the composite surface being arranged in bands corresponding to the band markings on the scale, each of said bands containing the end of at least one fiber from said group confronted by an illuminator and at least one fiber from at least one of said remaining groups.

**3,384,756**  
**PEAKED MONOCHROMATOR HAVING A SHARPLY BLAZED DIFFRACTION GRATING WHICH IS ALWAYS OPERATED AT THE PEAK OF THE BLAZE**  
Maurice F. Hasler, Montecito, and James B. Nicholson, Goleta, Calif., assignors to Applied Research Laboratories, Inc., Glendale, Calif., a corporation of Delaware  
Filed Apr. 21, 1965, Ser. No. 449,781  
9 Claims. (Cl. 250-51.5)

A spectrometer having a sharply blazed diffraction grating is operated always at the peak of the blaze by



maintaining a difference equal to twice the blaze angle between the input angle and the output angle. For grazing incidence work with X-rays, the apparatus is also arranged



so that the input radiation strikes the blazed facets of the grating at an angle smaller than the critical angle of total external reflection.

3,384,757

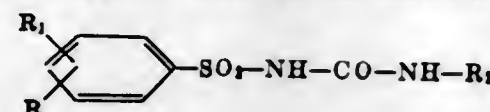
### BENZENE SULFONYL UREAS AND PROCESS FOR THEIR PREPARATION

Heinrich Ruschig, Bad Soden, Taunus, Walter Aumüller, Gerhard Korgner, Hans Wagner, and Josef Scholz, Frankfurt am Main, and Alfred Bänder, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 31, 1956, Ser. No. 601,107  
Claims priority, application Germany, Oct. 15, 1955,  
F 18,659

12 Claims. (Cl. 260-553)

1. Compounds selected from the group consisting of (1) benzenesulphonyl ureas of the formula



wherein R is selected from the group consisting of hydrogen, chlorine, bromine, methyl and methoxy, R<sub>1</sub> is selected from the group consisting of chlorine and bromine and R<sub>2</sub> is of 2 to 7 carbon atoms selected from the group consisting of alkyl-, alkenyl-, cycloalkyl- and cycloalkylalkyl atoms and (2) non-toxic basic addition salts thereof.

3,384,758

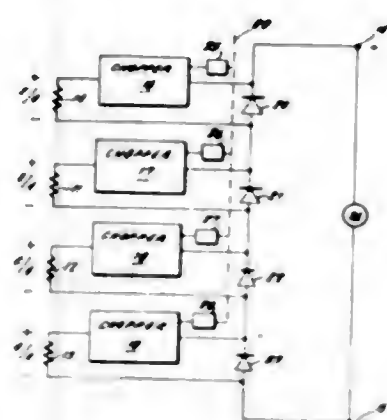
### REGULATION SYSTEM FOR MULTIPLE D-C SOURCES

Thomas R. Kelley, Audubon, N.J., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 28, 1965, Ser. No. 451,402  
8 Claims. (Cl. 307-77)

1. A D-C voltage regulator for regulating the output of a first and second D-C voltage source; said D-C voltage regulator circuit including a first and second voltage chopper and a first and second rectifier; said first D-C voltage source, said first voltage chopper and said first rectifier being connected in closed series relation with the polarity of said first rectifier in a direction to oppose current flow from said first D-C source; said second D-C voltage source, said second voltage chopper and said second rectifier being connected in closed series relation with the polarity of said second rectifier being in a direction to oppose current flow from said second D-C source; a

pair of output terminals; said first and second rectifier being connected in series with said pair of output terminals



CHOPPER "1" STARTS CONDUCTING AT "1"  
CHOPPER "2" STARTS CONDUCTING AT "2"  
CHOPPER "1" STARTS CONDUCTING AT "3"  
CHOPPER "2" STARTS CONDUCTING AT "4"  
CONDUCTION ANGLE OF ALL CHOPPERS  
VARIABLE FROM 0° TO 180°

and having a common polarity for permitting current flow in one direction between said pair of terminals.

### ERRATUM

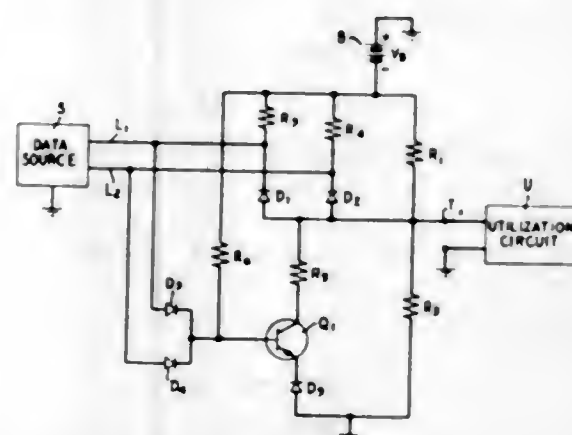
For Class 307-132 see:  
Patent No. 3,384,788

3,384,759

### ANTICOINCIDENCE CIRCUIT

Edward J. Aspell, Roselle, and John J. Kokinda, South Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 20, 1965, Ser. No. 457,280  
7 Claims. (Cl. 307-216)



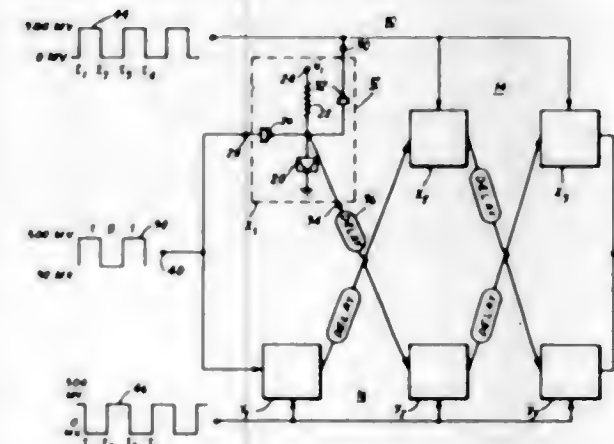
7. An anticoincidence circuit comprising, a source of direct current potential, a voltage divider connected across said source where said voltage divider comprises first and second serially connected resistors, a third resistor and a first diode connected in series across said first resistor with said first diode having one terminal connected to the junction between said first and second resistors and poled for easy current flow, a fourth resistor and a second diode connected in series across said first resistor with said second diode having one terminal connected to said junction and poled for easy current flow, a fifth resistor,

a transistor, means connecting said fifth resistor and the collector-to-emitter path of said transistor in series across said second resistor and biasing said transistor so that said transistor is normally conducting, first and second input terminals, means connecting said first and second input terminals to said first and second diode terminals not connected to said junction, respectively, means connecting said first and second input terminals to the base of said transistor, an output terminal, and means connecting said output terminal to said junction.

3,384,760

### SWITCHING SYSTEM INCLUDING INTERLACED GROUPS OF BISTABLE SWITCHING CIRCUITS

Michael Cooperman, Cherry Hill, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Dec. 17, 1964, Ser. No. 418,979  
5 Claims. (Cl. 307-221)



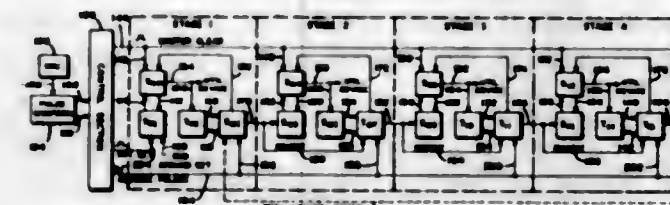
A switching system includes first and second rows of bistable switching circuits that are cross-coupled by means of delay storage circuits to form first and second interlaced groups. The first and second rows of bistable circuits are normally deenergized and nonconductive. First and second trains of complementary clock signals are applied respectively to the first and second rows of circuits to energize each of the bistable circuits in one row to enable them to be set upon receipt of input signals and to simultaneously deenergize each of the bistable circuits of the other row to unconditionally reset them. Input signals applied in common to the first circuit of each row are thereby transferred into the switching system at double the repetition rate of the clock energizing signals.

3,384,761

### ASYNCHRONOUS TIMING CHAIN EMPLOYING BISTABLE STAGES, EACH STAGE COMPRISING STORAGE FLIP-FLOP AND TRANSFER-TRAP FLIP-FLOP

Wayne R. Olson, St. Paul, and Richard M. Oman, Roseville, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 25, 1965, Ser. No. 466,965  
13 Claims. (Cl. 307-224)



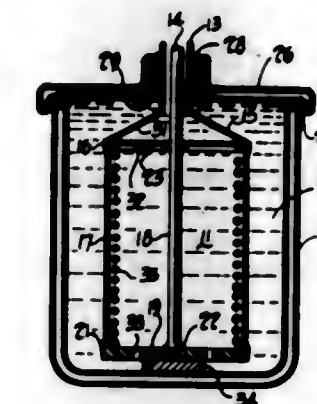
A signal responsive circuit having a plurality of indicating stages is described. The circuit includes between

each of the stages a temporary storage device, each of which is operable for simultaneously trapping an advance pulse, clearing the preceding stage, transferring the advance pulse for setting the next subsequent stage, and inhibiting the effectiveness of the advance pulse on all other stages.

3,384,762

### CRYOGENIC SWITCHING SYSTEMS FOR POWER TRANSMISSION LINES

Osman K. Mawardi, Cleveland Heights, Ohio, assignor to Case Institute of Technology, a corporation of Ohio  
Filed Mar. 11, 1966, Ser. No. 533,660  
12 Claims. (Cl. 307-245)



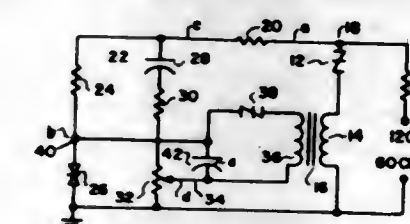
A tube composed of superconductive material is connected at one end to a concentric rod of ordinary conductor material and the remaining ends are connected to the conductors of a transmission line in a high-current pulse circuit to form a current cut off switch for the circuit. Quenching the superconductive material to normal state terminates the heavy current flow. In one embodiment self-magnetic field quenches the switch electromagnetically. In another heating is employed for quenching.

3,384,763

### POWER CONTROL CIRCUIT UTILIZING LOW RESISTANCE CONTROL

John R. Harris, Jr., Dallas, Tex., assignor to Hunt Electronics Company, Dallas, Tex., a corporation of Texas

Filed Feb. 5, 1965, Ser. No. 430,540  
4 Claims. (Cl. 307-252)



There is disclosed as the preferred embodiment of the present invention a switching device which can be switched from a normally high impedance state to a low impedance state when a control signal is applied thereto and which is adapted to be connected in series with a load and a source of alternating current supply voltage. There is also disclosed circuitry for generating control signals to be applied to the switching device to obtain phase control of the effective power flowing through the load and which utilizes a variable resistance having a relatively low resistance as compared to other phase control circuits. The circuitry for generating the control signal includes means for generating a square wave signal of the same frequency as the alternating current supply voltage and means for generating a saw tooth signal which is also of the same frequency as the alternating



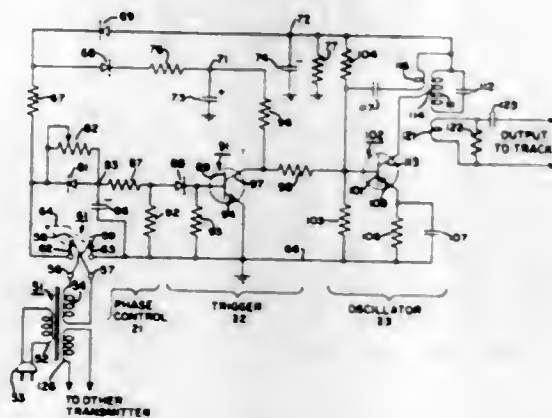
current supply voltage. The square wave signal has a substantially constant amplitude, but the peak amplitude of the saw tooth signal is varied as a function of the variable resistor. The square wave signal and the saw tooth signal are both applied for the purpose of charging a capacitor. When the charge on the capacitor attains a predetermined level, a control signal is applied to the switching device causing the device to switch to its low impedance state. By controlling the peak amplitude of the saw tooth signal, the time during the half-cycle of applied voltage at which the control signal is generated is controlled thereby controlling the power applied to the load.

3,384,764

# CONTROL SIGNAL TRANSMITTER INCLUDING COMPLEMENTARY TRIGGER AND OSCILLATOR TRANSISTORS

William L. Ferrigno, Jr., Barneveld, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 30, 1964, Ser. No. 341,366  
2 Claims. (Cl. 307-262)



A control signal transmitter including a trigger transistor having a phase control circuit associated therewith, the trigger transistor selectively triggering an oscillator transistor of an opposite conductivity type to the trigger transistor.

3,384,765

# BINARY SIGNAL VOLTAGE LEVEL STANDARDIZER

Thomas E. Gilligan, Havertown, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Continuation of application Ser. No. 303,029, Aug. 19, 1963. This application July 25, 1966, Ser. No. 567,683  
3 Claims. (Cl. 307-268)



1. A binary signal level standardizer comprising: a pair of serially connected resistors having a single common connection junction point and a first and a second end terminal, a power source connected to said first end terminal, a tunnel diode connected to said second end terminal, said tunnel diode to be normally conducting through said pair of serially connected resistors in a first voltage mode, a single source of binary pulses to provide a train of pulses each having a leading and a trailing edge, a further resistor connected between said single source

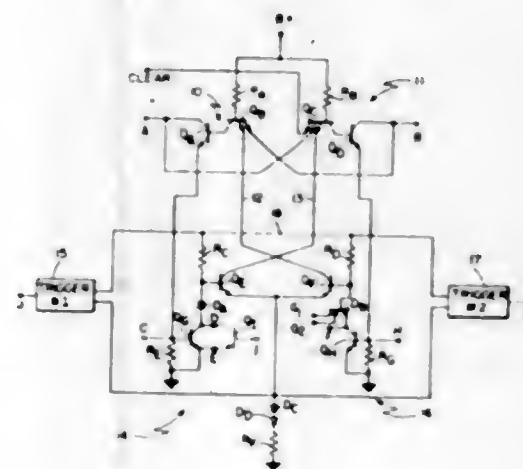
of binary signal pulses and said second end terminal of said pair of serially connected resistors, a transistor having an emitter, a base, and a collector electrode, said base electrode also connected to said second end terminal, said collector electrode connected to the single common connection junction point between said pair of serially connected resistors, said further resistor and the resistor connected between the base and collector electrodes having substantially equal resistance values, said emitter electrode connected to a reference potential, said tunnel diode being activated to a second voltage mode upon receipt of the leading edge of each pulse in said train of pulses from said binary source to cause said transistor to be responsively switched by said change in voltage mode of said tunnel diode and said tunnel diode being actively returned to its first voltage mode upon receipt of the trailing edge of each pulse to provide a standardizer capable of binary activation solely dependent upon the train of input pulses from said single source.

3,384,766

# BISTABLE LOGIC CIRCUIT

John J. Kardash, South Acton, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed June 17, 1966, Ser. No. 558,319  
17 Claims. (Cl. 307-292)



1. A control circuit including in combination switching means having a first output connection therefrom and first and second input connections thereto, said switching means producing a first signal condition at the output connection when in a first operating condition and producing a second signal condition at the output connection when in a second operating condition, control means connected to the first input connection to the switching means and having a control input connection thereto, said control means being operable in a high impedance condition in response to the presence of a first signal condition at the control input connection and being operable in a low impedance condition in response to a second signal condition at the control input connection, impedance means connected to the first input connection to the switching means, triggering signal means connected to the impedance means and to the second input connection to the switching means, said triggering signal means, said impedance means, and said control means include means for providing, biasing at the first and second input connections to the switching means biasing the switching means to the first operating condition during the absence of a signal at the triggering signal means, biasing at the first and second input connections to the switching

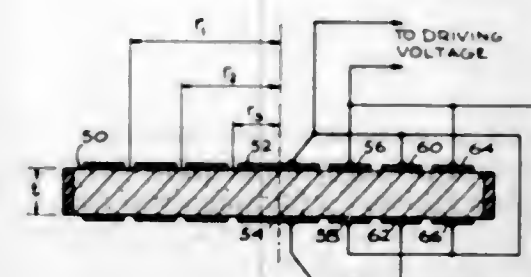
means biasing the switching means to the first operating condition during the presence of a signal at the triggering signal means when the control means is in the low impedance condition, and biasing at the first and second input connections to the switching means causing a charge to be stored in the switching means during the presence of a signal at the triggering signal means when the control means is in the high impedance condition, and said switching means being operable to employ the stored charge to cause operation of the switching means in the second operating condition in response to termination of the signal at the triggering signal means.

3,384,767

# ULTRASONIC TRANSDUCER

James S. Arnold, Palo Alto, and Vincent Salmon, Menlo Park, Calif., assignors to Stanford Research Institute, Menlo Park, Calif., a corporation of California

Filed May 11, 1964, Ser. No. 366,296  
3 Claims. (Cl. 310-8.5)



1. In an electromechanical transducer of the type having a solid cylindrical shape and having electrodes disposed on opposite flat surfaces thereof for enabling excitation in a radial vibration mode, the improvement comprising a plurality of electrodes disposed on opposite surfaces of said transducer, said electrodes being concentrically disposed and covering all of the opposed surfaces of said transducer except predetermined nodal circular regions on said opposite surfaces, means connecting alternate ones of said electrodes which are not opposite one another on said opposed surfaces together, means for connecting the remaining ones of said electrodes on opposed surfaces of said surfaces, and means for applying a driving signal to said connected electrodes.

3,384,768

# PIEZOELECTRIC RESONATOR

William Shockley, Los Altos, Calif., and Daniel R. Curran, Cleveland, Ohio, assignors to Clevite Corporation, a corporation of Ohio

Continuation of application Ser. No. 592,947, Nov. 8, 1966. This application Sept. 29, 1967, Ser. No. 672,422  
15 Claims. (Cl. 310-9.5)



This application discloses a resonator structure comprising a thin plate having electrodes on opposite major surfaces which coat with intervening piezoelectric material. The electroded region of the resonator is mass loaded whereby the electroded region of the resonator has a resonant frequency  $f_a$  related to the frequency of the non-electroded region  $f_b$  so that the ratio  $f_a/f_b$  is from 0.8 to .999. A vibratory mode originating in the electroded

region is attenuated in the surrounding non-electroded region. Reference is made to the claims for a legal definition of the invention.

3,384,769

# MODULAR MOTOR ASSEMBLY

Edward J. Schaefer, Alfred F. Refice, and Donald L. Ellenberger, Bluffton, Ind., assignors to Franklin Electric Co., Inc., Bluffton, Ind., a corporation of Indiana  
Filed Aug. 25, 1965, Ser. No. 482,491  
40 Claims. (Cl. 310-87)



1. A submersible modular motor assembly comprising at least two electric motor modules releasably connected together at their adjacent ends in vertically stacked end-to-end relation for operation in unison, an end termination member releasably connected to the remote end of one of said motor modules, all of the electric motor modules of said assembly being identical, means releasably connected to the remote end of the other of the motor modules for connecting the motor modules to a device to be driven, each of said motor modules and said end termination member having its own casing, said casings being sealed against entry of submersing fluid, whereby each motor module may be readily disconnected from the other motor module or from said means or from said end termination member to permit replacement of the motor module or the addition to or subtraction from the assembly of a motor module.

3,384,770

# ELECTROLUMINESCENT DISPLAY DEVICE HAVING FOLDED ELEMENTS

Vincent Vodicka, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York  
Filed July 18, 1966, Ser. No. 565,833  
6 Claims. (Cl. 313-108)

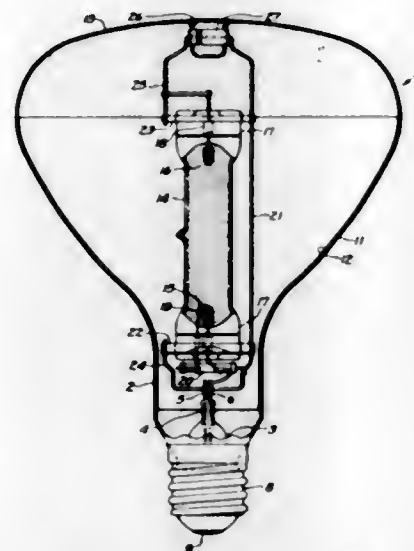


An electroluminescent display device has a back electrode and terminal contact subassembly comprised of an



organic plastic insulator sheet having a plurality of apertures and folded over upon itself, with one of its flat outer faces provided with a segmented back electrode layer consisting of a plurality of discrete electrode sections and its other flat outer face provided with a plurality of terminal contacts, the inner face of the folded insulator sheet being provided with a plurality of circuit leads, the electrode sections and terminal contacts and circuit leads all consisting of metal foil adhered to the respective faces of the insulator sheet and the circuit leads each being adhered to and electrically connected with a respective one of the electrode sections and with a respective one of the terminal contacts through respective ones of the apertures in the insulator sheet. An electroluminescent phosphor layer overlies the segmented electrode face of the back electrode subassembly, and a light-transmitting front electrode layer overlies the phosphor layer. The insulator sheet may be folded over an insulating organic plastic separator sheet which, in turn, may be folded around a metal foil insert sheet that serves as a water-vapor barrier for the back side of the display device. The front electrode layer may be in surface contact with a metal foil connector lead provided on the electrode carrying face of the folded insulator sheet and adhered to and electrically connected, through a respective aperture in the insulator sheet, with an additional metal foil circuit lead provided on the inner face of the insulator sheet and adhered to and electrically connected with a respective one of the metal foil terminal contacts through a respective aperture in the insulator sheet.

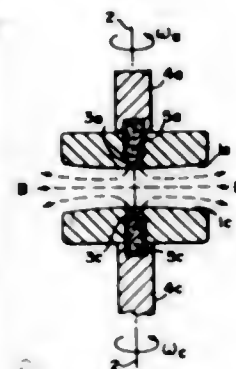
**3,384,771**  
**REFLECTOR DISCHARGE LAMP HAVING FROSTED ENVELOPE AND ARC TUBE**  
John M. Pomfrett, Kirtland, Ohio, assignor to General Electric Company, a corporation of New York  
Filed Feb. 8, 1965, Ser. No. 430,892  
2 Claims. (Cl. 313-116)



1. A reflector electric discharge lamp of the flood type comprising a glass bulb generally symmetrical about its longitudinal projection axis and having a tubular neck portion extending along said axis and opening into a flaring bowl portion closed by a light-transmitting convex end face, said bowl portion being coated with a light-reflecting layer approximately up to its region of maximum diameter, a quartz arc tube mounted within said glass bulb and extending along the projection axis on either side of the focus, said arc tube containing a discharge medium in which the arc discharge is constricted into a narrow cord whose cross section is but a small fraction of the cross section of the arc tube, said glass bulb being internally lightly frosted in both bowl and end

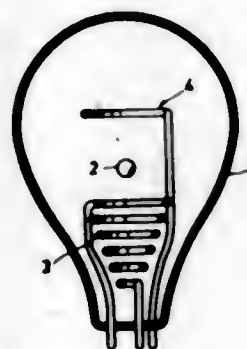
face portions, and the external surface of said arc tube being heavily frosted in order to expand the apparent size of said luminous cord to the overall size of said arc tube.

**3,384,772**  
**METHOD AND APPARATUS FOR CONTROLLING BREAKDOWN VOLTAGE IN VACUUM**  
Mario Rabinowitz, 403 Kingston Drive, Wilkins Township, Pittsburgh, Pa. 15235  
Filed Oct. 22, 1965, Ser. No. 501,782  
21 Claims. (Cl. 313-147)



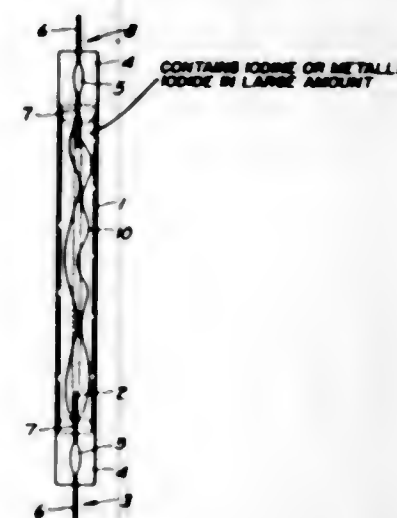
Apparatus and a method for controlling the breakdown voltage between a pair of spaced, electrically charged electrodes disposed within an evacuated housing are provided. The electrode faces are separated by a fixed distance and at least one of the electrodes is shiftably mounted on the housing so as to move relative to the other electrode without changing their separation. Magnetic means is provided to establish a magnetic field of a given magnitude and direction in the space between the electrodes. The breakdown voltage is affected by changing the relative positions of the electrode faces since this changes the local heating of the electrodes as well as gives rise to inertial forces on particles as they leave the moving electrode faces. Also the breakdown voltage is affected by the magnitude and direction of the magnetic field of the magnetic means.

**3,384,773**  
**ELECTRIC INCANDESCENT LAMP WITH LEVITATING INCANDESCENT BODY**  
Erhard Kauer, Aachen, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware  
Filed Mar. 4, 1965, Ser. No. 437,020  
Claims priority, application Germany, Mar. 12, 1964, N 24,613  
3 Claims. (Cl. 313-222)



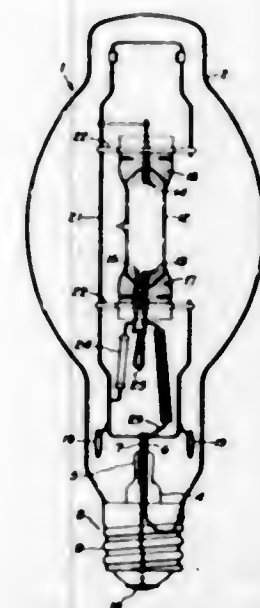
Electric incandescent lamp with a high frequency coil for producing levitation in an incandescent body, and additionally having a stabilizing counterturn located in said lamp and on the side opposite to said incandescent body from said coil.

**3,384,774**  
**DECORATIVE PULSATING FLAME INCANDESCENT LAMP**  
James F. English, Lakewood, Ohio, assignor to General Electric Company, a corporation of New York  
Filed July 9, 1965, Ser. No. 470,781  
8 Claims. (Cl. 313-222)



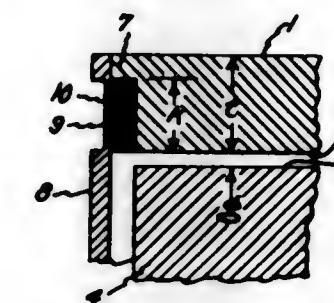
A luminous pulsating colored flame effect is produced by a vertically oriented tubular incandescent lamp containing a large amount of elemental iodine or vapor of various metallic iodides.

**3,384,775**  
**MERCURY METAL HALIDE DISCHARGE LAMP HAVING IODINE PRESENT IN STOICHIOMETRIC PROPORTIONS WITH RESPECT TO THE REACTIVE METALS**  
William E. Ishler, Lyndhurst, and Leo J. Smialek, Bedford, Ohio, assignors to General Electric Company, a corporation of New York  
Filed May 6, 1965, Ser. No. 453,676  
6 Claims. (Cl. 313-225)



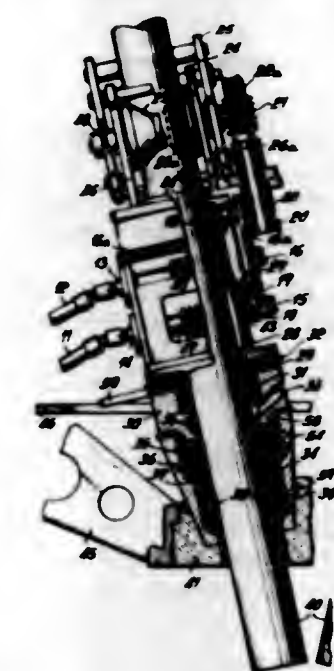
A high pressure mercury metal halide (sodium iodide) discharge lamp having thorium oxide activated electrodes. Improved maintenance and low starting voltage throughout life results from having the iodine present in stoichiometric proportions with respect to the reactive metals present in the discharge medium considered in their lowest valency state, but excluding mercury.

**3,384,776**  
**THERMIONIC TUBE HAVING A NOVEL ELECTRODE SUPPORT ARRANGEMENT**  
John M. Houston, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
Continuation-in-part of application Ser. No. 419,862, Dec. 21, 1964. This application Aug. 17, 1965, Ser. No. 480,285  
6 Claims. (Cl. 313-244)



1. A thermionic device comprising a first electrode having a first planar surface and having a rearward support base, a second electrode for operation at a high temperature having a second planar surface in spaced relation to said first planar surface, and a support for said second electrode extending from said support base and past said electrode surfaces to said second electrode where it is secured thereto behind its planar surface, wherein said support has a heat insulating section coextensive with at least a portion of said second electrode, said thin section providing a temperature drop away from said second electrode.

**3,384,777**  
**MEANS FOR ROTATING AND FEEDING ELECTRODES**  
Kurt Sennwald, Knapsack, near Cologne, Erich Schallus, Cologne-Klettenberg, Helmut Seifert, Hermulheim, near Cologne, and Ludwig Bender, Brühl, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany  
Filed Dec. 7, 1965, Ser. No. 512,122  
Claims priority, application Germany, Dec. 15, 1964, K 54,791  
16 Claims. (Cl. 314-40)



1. Apparatus for rotating and feeding consumable arc supporting electrodes comprising for each electrode means to hold an electrode including a supporting means electrically insulated therefrom, a rotation supporting means rotatably mounted on the supporting means and mounting means for holding, feeding and rotating the associated electrode and, for each electrode a pair of prime movers



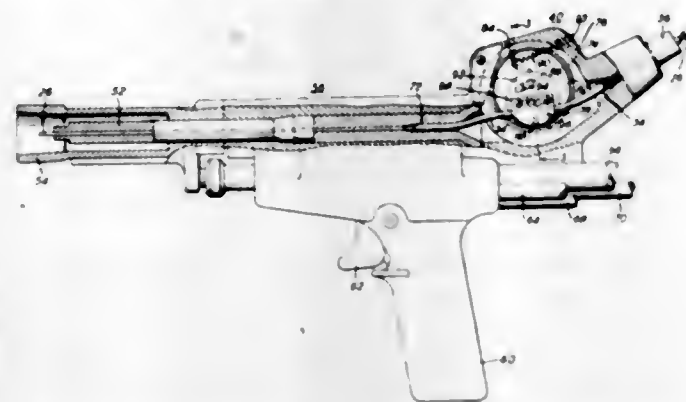
connected to a common differential gear unit from which the electrode rotating and feeding means are driven.

3,384,778

### TOUCH STARTING OF POWER ARCS WITH CONSUMABLE ELECTRODE

Joseph C. Jeannette, Union, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 31, 1964, Ser. No. 422,629  
12 Claims. (Cl. 314-68)



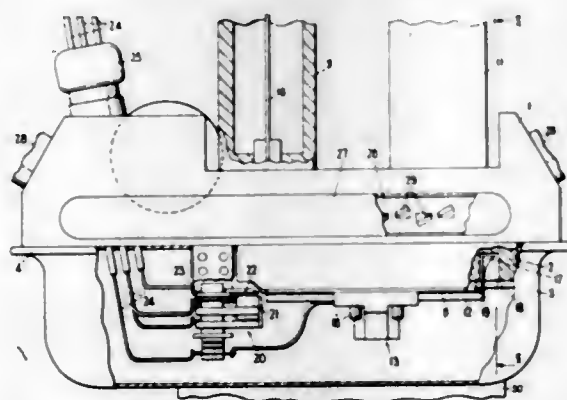
1. Apparatus for striking an arc between the arc supporting terminals of cooperating electrodes, one of which electrodes is a flexible wire continuously fed toward the other electrode, a movable guide member for said wire, said guide member being so shaped at some point along the course of the wire that movement of the said guide member substantially in the direction of the course of the wire imparts substantially identical accelerations to the wire and guide member, these two accelerating substantially as a unit without causing material relative motion of wire and guide member, said wire being sufficiently stiff to be moved by movement of said guide member and sufficiently flexible to be pushed through said guide member past said point where the guide member is so shaped, and means responsive to the touching together of said cooperating electrodes for moving the said guide member in the direction to move the wire away from the arc to retract the wire from the other electrode at a speed sufficient to more than offset the forward motion of the wire, thereby separating the said touching electrodes to strike an arc therebetween.

3,384,779

### COLLECTOR ELECTRODE SYSTEM FOR M-TYPE TRAVELLING WAVE TUBES

Alan Reddish, Pinner, and Donald William Ward, Watford, England, assignors to The General Electric Company Limited, London, England

Filed July 12, 1965, Ser. No. 471,107  
Claims priority, application Great Britain, July 31, 1964, 30,368/64  
6 Claims. (Cl. 315-3.5)



A collector electrode system for an M-type travelling wave tube in which the collector electrodes define a space in which the electrostatic field has a component parallel

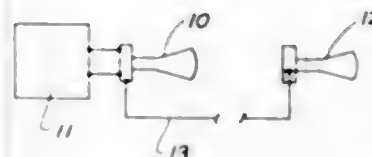
to the magnetic field so that electrons entering the space acquire components of velocity parallel to the magnetic field and are thereby caused to impinge on the surface of an electrode of the system.

3,384,780

### SLAVE OSCILLOSCOPE REMOTELY ACTIVATED BY MASTER OSCILLOSCOPE

Michael J. Hallinski, Arlington Heights, and Larry Wanschek, Chicago, Ill., assignors to Sun Electric Corporation, a corporation of Delaware

Filed Nov. 7, 1966, Ser. No. 592,601  
2 Claims. (Cl. 315-9)



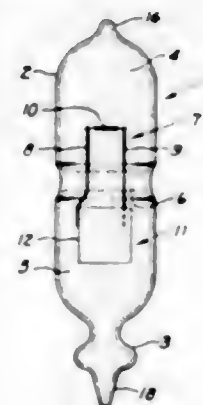
A monitoring oscilloscope system in which a monitoring oscilloscope is connected to a master oscilloscope to duplicate the master oscilloscope pattern at the remote location of the monitoring oscilloscope. The monitoring oscilloscope is turned on automatically whenever the master oscilloscope is turned on, in response to a control signal derived from the horizontal sweep circuit of the master oscilloscope. The connections between the pattern and control signal sources in the master oscilloscope and the control elements in the monitoring oscilloscope are made through individual cathode follower circuits having resistor elements which also serve as grid bias resistors for the monitoring oscilloscope amplifiers.

3,384,781

### SELF-CONTAINED BATTERY-POWERED ELECTRIC INCANDESCENT LAMP

Robert F. Holle, Lyndhurst, Ohio, assignor to General Electric Company, a corporation of New York

Filed Oct. 31, 1966, Ser. No. 590,795  
6 Claims. (Cl. 315-33)



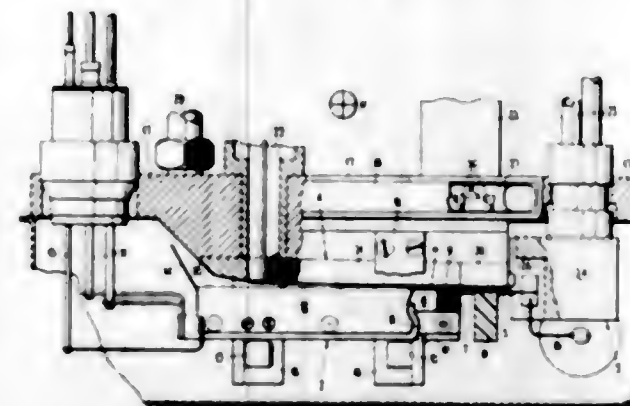
1. An electric lamp comprising a glass bulb having a pair of separate hermetically-sealed chambers, a water-activated deferred action battery disposed in one of said chambers, said battery comprising positive and negative electrode members separated by an interposed separator member; a filament disposed in the other of said chambers, and a pair of lead-in wires extending into each of said chambers and connected at their opposite ends to respective ends of said filament and to respective ones of the said electrode members, said bulb having a readily frangible glass section communicating with the said one chamber to provide an opening therein on fracture of said section.

3,384,782

### CROSSED FIELD ELECTRON DISCHARGE DEVICE HAVING A NON-UNIFORM INTERACTION SPACE

Alan Reddish, Pinner, England, assignor to The M-O Valve Company Limited, London, England, a British company

Filed Dec. 2, 1965, Ser. No. 511,036  
Claims priority, application Great Britain, Dec. 3, 1964, 49,296/64  
7 Claims. (Cl. 315-39.3)



1. An electron tube including: a thermionic cathode having an electron emissive surface; a further electrode having an operating surface which faces said emissive surface so that the cathode and the further electrode define a space for electron flow whose lateral boundaries are effectively constituted by said emissive surface and said operating surface, said space being of uniform cross-section in a set of planes perpendicular to a given plane and said operating surface being non-uniformly from said emissive surface such that in each cross-section the parameters L, D, S and X defined below satisfy the following conditions: L is greater than D; and over the range of values of X from zero to 0.9L, S is finite and increases with X such that the first differential coefficient  $dS/dX$  is never negative and is never greater than 1.8, the second differential coefficient  $d^2S/dX^2$  is never negative, and the value of S is not greater than 2D when X is equal to 0.6L and is not less than 1.5D when X is equal to 0.9L where, in that cross-section, L is the length of that part of the trace C of the emissive surface over which the normals to the trace C intersect the trace F of the operating surface; S is the distance between the trace C and the trace F at any point A on said part of C measured along the normal to C at that point A; X is the distance of any such point A measured along C from one of said part of C and D is the value of S when X is zero; means for establishing a magnetic field within said space perpendicular to all the planes of said set so that, in operation, with the further electrode held at a positive potential with respect to the cathode so as to establish an electrostatic field in said space, electrons emitted from the emissive surface are formed into a beam which travels generally along said space towards its narrower end; means for applying an input signal to modulate the electron beam within said space, and means for deriving an output signal by demodulation of the electron beam.

3,384,783

### MODE SUPPRESSION IN COAXIAL MAGNETRONS HAVING DIVERSE SIZE ANODE RESONATOR

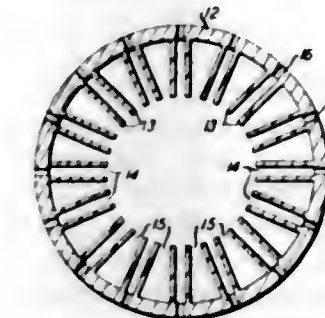
Hilding M. Olson, Jr., Mohnston, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 16, 1965, Ser. No. 514,356  
6 Claims. (Cl. 315-39.77)

1. In a coaxial cavity magnetron of the type having a substantially cylindrical cathode, a cylindrical anode wall surrounding the cathode, an outer annular resonator sur-

rounding the cathode, a plurality of anode vanes extending from the anode wall toward the cathode, and a plurality of slots in the anode wall for coupling energy to the outer annular resonator, the improvement comprising:

anode resonators defined between adjacent anode vanes which are alternately small and large, whereby the oscillatory modes of the anode resonators are separated into a lower frequency set and a higher frequency set;



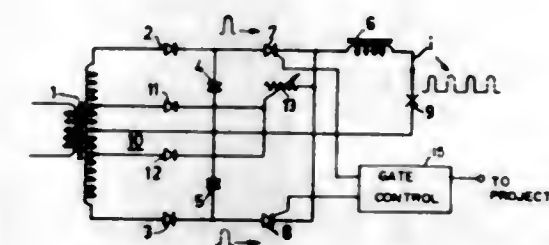
and means for tuning the outer resonator to a frequency that is intermediate the characteristic frequencies of the lower and higher frequency sets of anode resonator modes.

3,384,784

### FILM PROJECTOR

Piet Hoekstra, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,506  
Claims priority, application Netherlands, Sept. 24, 1964, 64-11,120  
5 Claims. (Cl. 315-227)



5. A lamp flashing circuit comprising, a high pressure arc discharge lamp having a pair of electrodes across which a counter voltage is developed which increases from a given low value at start-up to a given higher value at normal lamp operating conditions, a transformer having a primary winding connected to a source of AC voltage and a center tapped secondary winding having first and second terminals on opposite sides of said center tap and third and fourth terminals at intermediate tap points between said center tap and said first and second terminals, respectively, first and second diodes and first and second capacitors, means connecting said first capacitor and said first diode in series circuit between said first terminal and said center tap thereby to charge said first capacitor during one half cycle of said AC voltage, means connecting said second capacitor and said second diode in series circuit between said second terminal and said center tap thereby to charge said second capacitor during the opposite half cycle of said AC voltage, first and second semiconductor controlled rectifiers, an inductor, means connecting said first controlled rectifier, said inductor and said lamp in series circuit across said first capacitor, means connecting said second controlled rectifier, said inductor and said lamp in



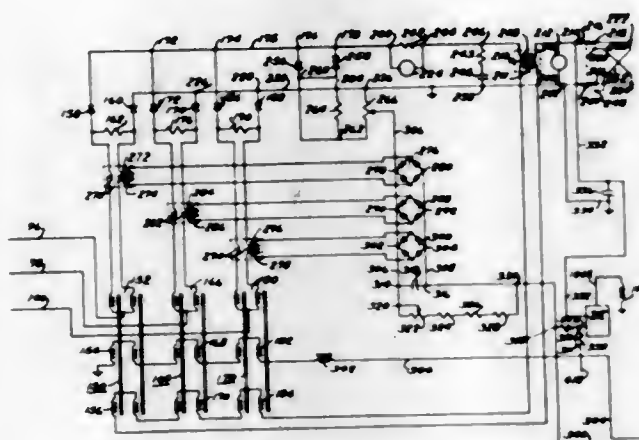
series circuit across said second capacitor, means for selectively operating said first and second controlled rectifiers so as to alternately discharge said capacitors across said lamp electrodes to pulse the lamp, and auxiliary circuit means for starting said lamp flashing comprising, third and fourth diodes, a variable resistor, means connecting said third diode, said variable resistor, said inductor and said lamp in series circuit between said third terminal and said center tap thereby to supply half wave current pulses to said lamp electrodes at a voltage level which is intermediate said start-up counter voltage value and said normal operating counter voltage value, and means connecting said fourth diode, said variable resistor, said inductor and said lamp in series circuit between said fourth terminal and said center tap thereby to supply half wave current pulses to said lamp electrodes at a voltage level which is intermediate said start-up counter voltage value and said normal operating counter voltage value, whereby said lamp electrodes are effectively disconnected from said third and fourth terminals upon reaching said normal operating conditions.

3,384,785

## CONTROL SYSTEMS

Charles E. Thomas, Jr., New Orleans, La., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 22, 1965, Ser. No. 427,394  
12 Claims. (Cl. 315—308)



An electric welder, which depends upon the flow of welding current to develop a feedback signal that will cause the variable output source of that electric welder to hold that welding current at pre-set levels, can tend to supply excessive amounts of energy to a workpiece during the time an arc is being established; because there will be no welding current and hence no feedback signal prior to the establishing of that arc. Such an electric welder can be kept from supplying excessive amounts of energy to a workpiece during the time an arc is being established by providing a feedback loop which is closed prior to the establishing of an arc and which will hold the output of that variable output source at a predetermined level until an arc has been established, and which will be open, after that arc has been established, to permit that variable output source to supply welding current at the said pre-set levels.

3,384,786

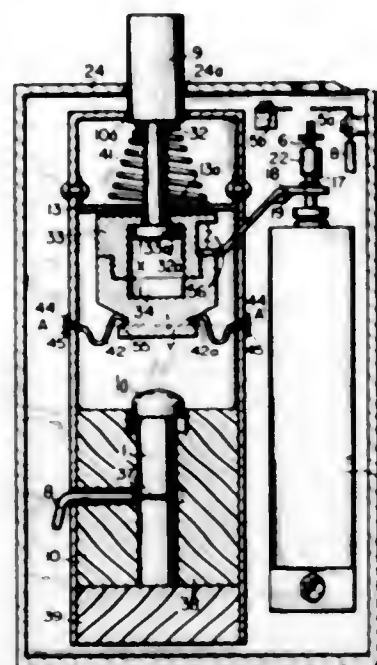
## MANUALLY OPERABLE PIEZOELECTRIC GAS LIGHTERS

Norio Oyamada and Kenjiro Goto, Tokyo, Japan, assignors to Mansel Kogyo Kabushiki Kaisha, Saitama-ken, Japan

Filed Dec. 28, 1965, Ser. No. 516,944  
9 Claims. (Cl. 317—81)

Liquefied gas fueled lighters having a piezoelectric igniting means. A fuel valve is operated by a pivoted lever

which is in turn actuated by movement of the piezoelectric member striking hammer. The hammer is spring biased away from the piezoelectric element by a pair of



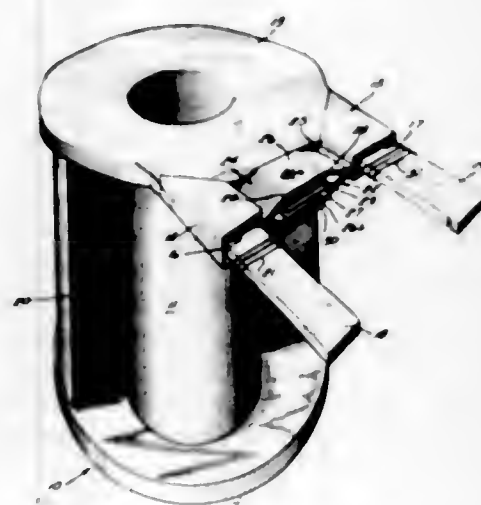
springs, one of which is reversible after initial movement of the hammer to impose a force accelerating the hammer toward the piezoelectric means.

3,384,787

## INTEGRATED SOLENOID COIL AND RECTIFIER ASSEMBLY

Samuel H. Schwartz, Morton Grove, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed July 15, 1965, Ser. No. 472,238  
10 Claims. (Cl. 317—123)



A selenium plate rectifier in series connection with a solenoid coil which is wound around a bobbin, and encapsulating means which enclose the rectifier integrally with the bobbin and coil.

3,384,788

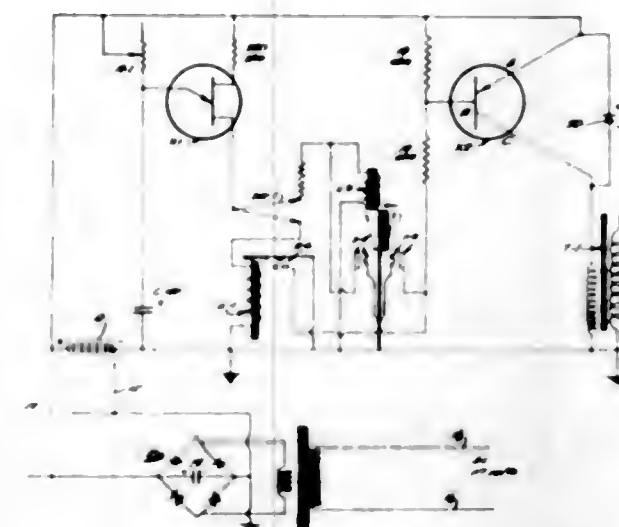
## ELECTRIC STOCK FENCER

Thomas E. Johnston, 605 N. Main, Shamrock, Tex. 79079

Filed July 13, 1964, Ser. No. 382,297  
3 Claims. (Cl. 307—132)

Electric stock fence charger having an RC circuit including a resistance and a capacitance connected to a

current supply, a trigger circuit to discharge the capacitor through a vibrator reed relay, and means to energize a



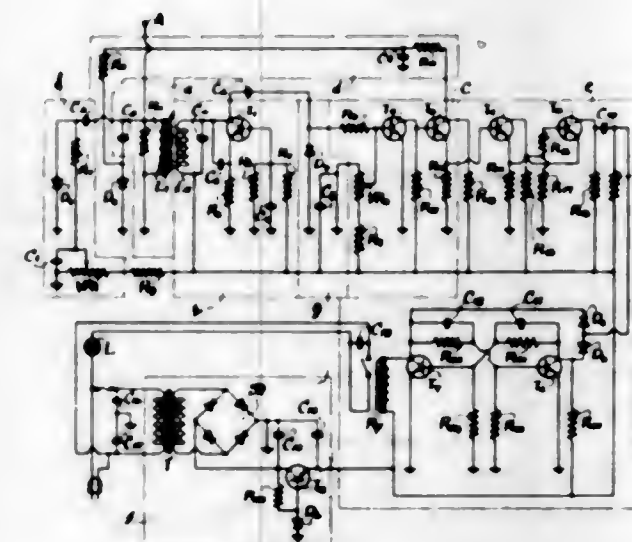
primary winding when the contacts of the vibrator are open and a shorting circuit for the winding.

3,384,789

## APPROACH SWITCH APPARATUS

Minoru Teshima, Tokyo, Japan, assignor of forty percent to James M. Morita, Honolulu, Hawaii, forty percent to Minoru Fukumitsu, and twenty percent to Minoru Teshima, both of Tokyo, Japan

Filed Oct. 19, 1964, Ser. No. 404,771  
1 Claim. (Cl. 317—146)



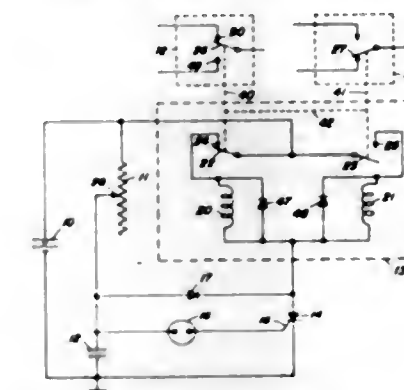
An approach switch having an oscillator circuit with a first inductor coil and a second coil inductively coupled to this first coil with a source of direct current being connected to the second coil and a voltage-sensitive variable capacitance diode also connected to the source of direct current and an ambient electrostatic capacity sensitive antenna means connected to the second inductor coil. A coupling capacitor connects the diode to the second inductor coil and a rectifier and switch circuit is connected to the oscillator circuit with an output means connecting the rectifier and switch means to the source of direct current. Further, a resistance capacitance delay device connects the switch circuit to the diode such that the capacitance of the diode varies during oscillation of the oscillating circuit for automatically adjusting the sensitivity of the diode. Finally, control apparatus is connected to the switch circuit for controlling the electrical load.

850 O.G.—83

3,384,790

TIMING CIRCUIT EMPLOYING SCR DIODE  
Victor P. Holec, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Sept. 27, 1965, Ser. No. 490,544  
12 Claims. (Cl. 317—148.5)



1. A multivibrator type circuit comprising:  
direct current voltage source means;  
capacitive impedance means comprising a capacitor and connected across said voltage source means;  
the series combination of an electron discharge device and a dual winding latching relay connected across said voltage source means;  
said electron discharge device comprising anode electrode means, cathode electrode means, and electron control electrode means;  
said dual winding latching comprising:  
first and second winding means each having a first and second terminal with the first terminal thereof connected to an electrode of said electron discharge device;  
and a plurality of contacts and armatures operable to connect the second terminal of one of said winding means to said voltage source means and to disconnect the second terminal of the other winding means from said voltage source means when said other of said winding means is energized;  
minimum threshold voltage breakdown means constructed to energize said electron discharge device when the potential across said capacitor reaches a predetermined value; and  
asymmetrical impedance means to provide a discharge for said capacitor through said electron discharge device when said electron discharge device is energized.

## ERRATUM

For Class 317—184 see:  
Patent No. 3,384,798

3,384,791

HIGH FREQUENCY SEMICONDUCTOR DIODE  
Michiro Aoki and Noriyoshi Kitagawa, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Sept. 9, 1965, Ser. No. 486,064  
Claims priority, application Japan, Sept. 10, 1964,  
39/51,653  
1 Claim. (Cl. 317—234)

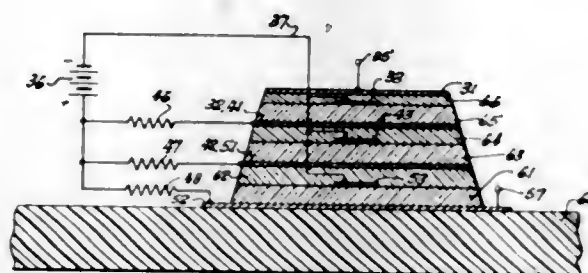


A semiconductor junction device having a reduced high resistivity region area in order to substantially improve the Q value of the device at high frequencies without affecting the other characteristics of the device.



3,384,792

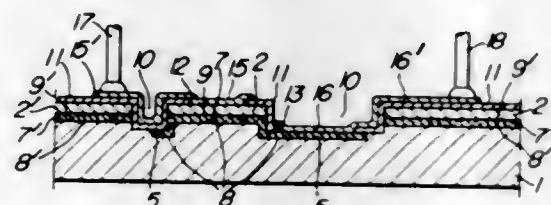
**STACKED ELECTRODE FIELD EFFECT TRIODE**  
Benjamin Kazan, Pasadena, and John S. Winslow, Altadena, Calif., assignors to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California  
Filed June 1, 1965, Ser. No. 460,194  
1 Claim. (Cl. 317—235)



Insulated gate field effect transistor structures wherein thin film electrodes are arranged in overlying layers, a small area source electrode being disposed between larger area drain and gate electrodes, the drain and source film electrodes being on opposite sides of a semiconductor layer whereby the drain-source electrode spacing is determined solely by the semiconductor layer thickness.

3,384,793

**SEMICONDUCTOR DEVICE WITH NOVEL ISOLATED DIFFUSED REGION ARRANGEMENT**  
Kyoji Moriyama and Kolchiro Shoda, Suita-shi, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan  
Filed Mar. 8, 1966, Ser. No. 532,606  
Claims priority, application Japan, Mar. 10, 1965, 40/14,143  
2 Claims. (Cl. 317—235)



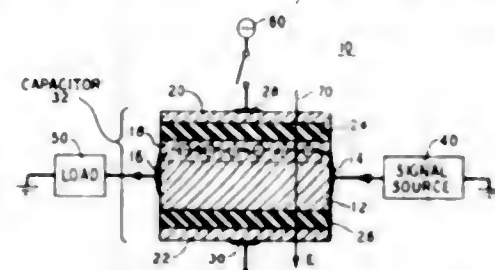
A semiconductor device comprising a semiconductor substrate, a first diffused region on the top surface of the substrate having the conductivity type opposite to that of the substrate, a second diffused region on the first diffused region having the conductivity type opposite to that of the first diffused region, and a third diffused region having the same conductivity type as and being contiguous to the first diffused region, the junctions between the regions being cut by a closed looped groove to expose the edges of the junctions, whereby the breakdown voltages of the junctions are improved and the capacity between the base and the collector is diminished.

3,384,794

**SUPERCONDUCTIVE LOGIC DEVICE**  
Willard S. Boyle, Summit, and George E. Smith, Murray Hill, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Filed Mar. 8, 1966, Ser. No. 532,676  
4 Claims. (Cl. 317—235)

A superconductive logic device includes a superconductive layer in a portion of which superconductivity is induced by establishing a majority carrier density gradient in the layer while simultaneously maintaining constant therein the total carrier concentration. The transition temperature increases above the ambient temperature of the layer in the portion of the layer in which the majority

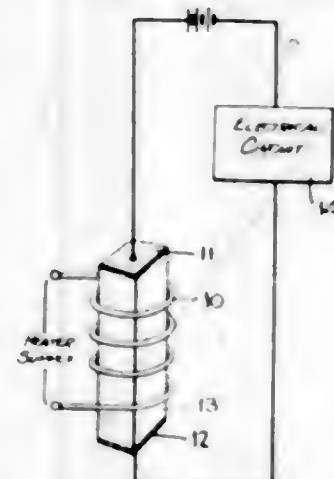
carrier concentration is increased. Consequently that portion, which was initially in a normal resistive state,



switches to a superconducting state. The logic device has application as a switch, a memory element and a level detector.

3,384,795

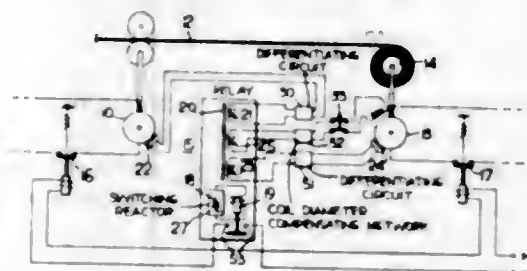
**FERRO-PLASTIC CONTROL DEVICES**  
Raymond D. Lochner, Annapolis, Md., assignor to Trident Engineering Associates, Inc., Annapolis, Md., a corporation of Maryland  
Continuation-in-part of application Ser. No. 217,655, Aug. 17, 1962. This application June 10, 1966, Ser. No. 556,771  
7 Claims. (Cl. 317—262)



1. The method of changing the electrical conductivity of a ferro-plastic device formed by a mixture of carbonyl iron particles in a resin solution, comprising the steps of subjecting the mixture in the ungelled state to an electromagnetic field to orient the particles therein, curing the treated mixture to form a device having high conductivity, and subjecting the device to shock to render it non-conductive.

3,384,796

**STRIP BREAK CONTROL TO STOP DRIVE MOTORS**  
Ramesh P. Shah, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.  
Filed May 6, 1965, Ser. No. 453,748  
4 Claims. (Cl. 318—7)

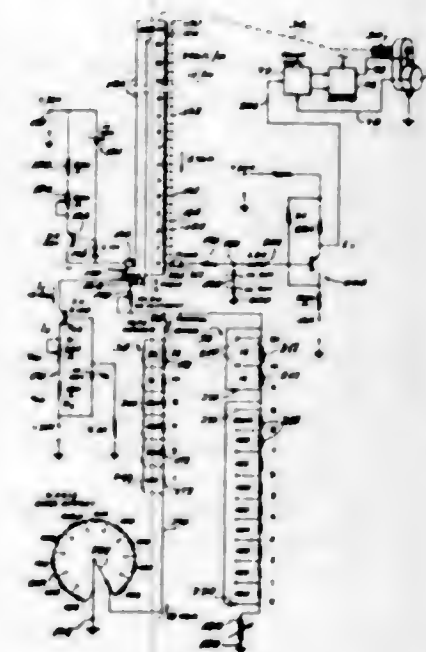


A control for stopping the drive motor of a rolling mill in the event of a break in the rolled strip comprises a magnetic amplifier relay with multiple input windings on a square loop core, first tachometer means coupled to one input winding of the relay for deriving a signal which is a measure of the rate of change of speed of the mill

drive motor, second tachometer means coupled to a second input winding of the relay for deriving a signal which is a measure of the rate of change of speed of the reel motor, means coupled to a third input winding of the relay for deriving a signal which is a function of the build-up of strip material on the reel, and means coupled to the output winding of the relay and responsive to a predetermined unbalance between the signals to the relay input windings and including a silicon control rectifier for disconnecting the drive motors from the source of power if the strip being rolled breaks.

3,384,797

**POSITIONING APPARATUS WITH CONTROLS EMPLOYING RESISTOR INCREMENTS**  
Robert C. Benton, State College, Pa., assignor to Chemcut Corporation, a corporation of Pennsylvania  
Filed Dec. 24, 1964, Ser. No. 420,872  
18 Claims. (Cl. 318—18)



1. A control system for operating a machine element to be controlled positionally in accordance with a numerical code, comprising:  
power means for moving said element;  
follower means to operate said power means and having control means, said control means including a machine-element position-responsive potentiometer and a reference contactor element therefor connected to said follower means;  
current source means in circuit with the potentiometer for flowing current from end to end thereof to establish a voltage gradient which includes a zero voltage; and  
an impedance creating circuit connecting one end of the potentiometer through impedance to a zero potential ground, the voltage level of the potentiometer shifting in dependence upon the magnitude of impedance present in said circuit and establishing the zero voltage at a desired point along the potentiometer at which the potentiometer is to be in contact with the reference contactor element.

3,384,798

**HIGH PRESSURE SATURATION VAPOR SODIUM LAMP CONTAINING MERCURY**  
Kurt Schmidt, Cleveland Heights, Ohio, assignor to General Electric Company, a corporation of New York  
Filed Apr. 26, 1966, Ser. No. 545,449  
5 Claims. (Cl. 313—184)

1. A high intensity sodium vapor discharge lamp comprising a tubular elongated envelope of material resistant

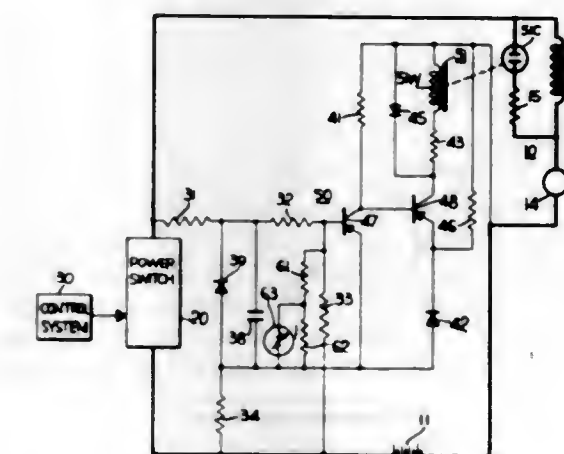
to the attack of sodium vapor at high temperatures, a pair of electrodes sealed into opposite ends, an ionizable medium within said envelope comprising an inert starting gas and a quantity of a sodium-mercury amalgam in excess of that vaporized in operation of said lamp, the atomic fraction of sodium in the excess amalgam being



in the range from 0.5 to 0.9 whereby a partial pressure of sodium may be developed in the range of 30 to 1000 torr along with a partial pressure of mercury in the range of 0.1 to 5 atmospheres when the excess amalgam in said lamp envelope is maintained in liquid form at a temperature in the range of 600 to 950° C. at the coldest place in said lamp envelope.

3,384,799

**SYSTEM FOR CONTROLLING FIELD SHUNTING OF DIRECT CURRENT SERIES MOTOR**  
Tom N. Thiele, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.  
Filed Aug. 2, 1965, Ser. No. 476,293  
8 Claims. (Cl. 318—249)



A system for controlling speed of a DC series motor over a wide range includes pulse width modulation means for varying the effective voltage delivered to the motor and static means for connecting a resistance in shunt to the motor field winding when the motor current is below a first predetermined level and for disconnecting the shunting resistance when the motor current is above another level greater than said first predetermined level.

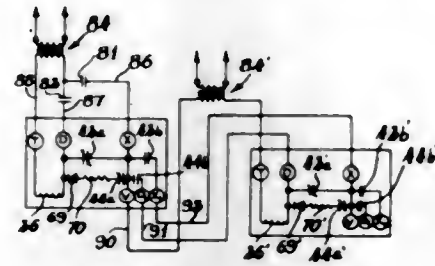


3,384,800

**DAMPER MOTOR ASSEMBLY**

John W. Norris, Marshalltown, and Wayne F. Steverding, Union Grove Lake, Iowa, assignors to Lennox Industries Inc., a corporation of Iowa

Filed Jan. 18, 1965, Ser. No. 426,180  
10 Claims. (Cl. 318—265)

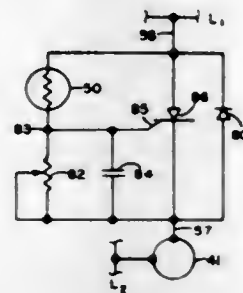


A damper motor assembly having a shaft selectively positionable at one of three positions by means including an A-C motor having a rectifier in circuit therewith, with spring means operative on the shaft to return it to a starting position.

3,384,801

**CONDITION RESPONSIVE MOTOR SPEED CONTROL CIRCUITS**

Gerald L. Rodgers, Worthington, Ohio, assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio  
Continuation of application Ser. No. 350,186, Mar. 9, 1964. This application Apr. 6, 1967, Ser. No. 629,032  
7 Claims. (Cl. 318—334)



A heat pump system including first and second heat exchangers, a blower means operable to direct a flow of air over one of the exchangers and which includes an induction motor energized from an AC power supply to drive a blower member, and circuitry for controlling the speed of the induction motor in response to sensed temperature including a temperature sensing circuit having a temperature responsive resistor in heat exchange relationship with the one heat exchanger and operable to provide an instantaneous voltage at a point in the circuitry having an amplitude which varies according to the temperature sensed by the temperature responsive resistor, a capacitor connected in the control circuitry and charged at a rate controlled by the instantaneous voltage at the point in the sensing circuit, and semi-conductor switch means coupled to the capacitor so that the capacitor is operable to render the switch means conductive upon discharge thereof to control the speed of the induction motor in accordance with the sensed temperature.

3,384,802

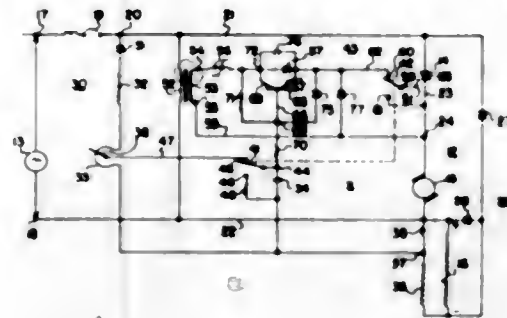
**MOTOR CONTROL CIRCUIT SUPPLIED WITH RECTIFIED POWER AND CONTROLLED FIRING ANGLE**

Kenneth L. Shrider, Mayfield Heights, Ohio, and Elmo E. Moyer, Saratoga Springs, N.Y., assignors to Reliance Electric and Engineering Company, a corporation of Ohio

Filed Mar. 30, 1965, Ser. No. 443,893  
23 Claims. (Cl. 318—345)

The disclosure shows a motor control circuit which is exceptionally simplified yet with good speed regulation. A

semi-conductor amplifier controls the reset current for a saturable reactor, in turn controlling the firing angle of a thyristor supplying half wave energy to a direct current motor. The saturable reactor reset circuit is simplified with only a single winding on the saturable reactor and the control voltage supplied to the semi-conductor amplifier is applied through the cathode-gate path of the thyristor. A



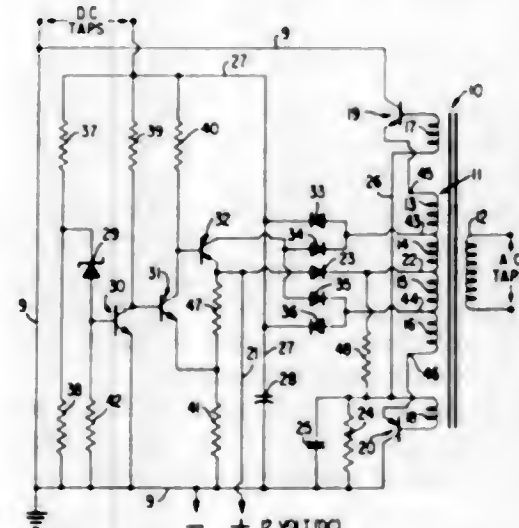
bleeder resistor provides supplementary reset current to the reactor during the time of conductive carryover of the armature current. A main circuit breaker is not used, instead a switch has two poles, one of which shorts the gate to the cathode of the thyristor during off conditions and the other pole discharges a capacitor during off conditions, and during on conditions the capacitor is charged to establish a speed reference voltage.

3,384,803

**COMBINED AC AND DC POWER SUPPLY WITH TRANSFORMER TAP CHANGING REGULATION**

James T. Hardin and Rodger T. Lovrenich, Lambertville, Mich., assignors to Ekra Corporation, Toledo, Ohio, a corporation of New York

Filed Oct. 15, 1965, Ser. No. 496,463  
9 Claims. (Cl. 321—2)



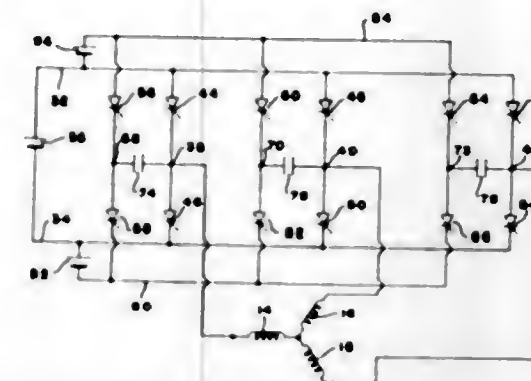
A voltage inverter for supplying a regulated AC and DC voltage from a low voltage DC power supply. A two-transistor, push-pull oscillator circuit is connected to the end of the primary winding of a power transformer. Two intermediate taps on the primary winding are connected to a full wave bridge rectifier. The outputs of the bridge rectifier are connected to the collector and base of a normally non-conducting control transistor. The emitter of the control transistor is operatively connected to the oscillator, thus forming a normally open circuit between each of the intermediate taps and the oscillator circuit. A transistor switching circuit is operatively connected to the base of the control transistor for rendering the control transistor conductive when the bridge rectifier output voltage is above or below predetermined values, thus shifting the apparent primary center tap during each half cycle of the oscillator.

3,384,804

**CONTROLLED RECTIFIER INVERTER HAVING SHUTOFF POWER SUPPLIES**

Jalal T. Salhi, Santa Barbara, Calif., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 20, 1965, Ser. No. 457,367  
11 Claims. (Cl. 321—5)



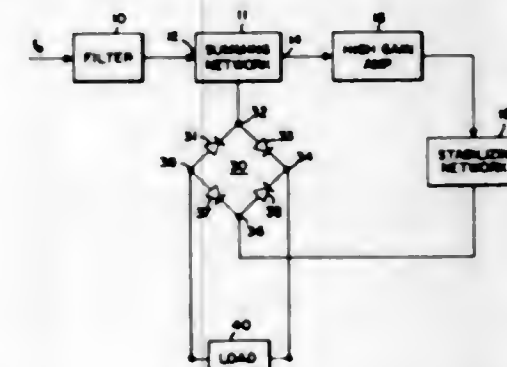
This invention relates to an inverter for supplying alternating current to an electrical load from a source of direct current. The inverter utilizes a plurality of power controlled rectifiers for controlling the connection of the source of direct current and the electrical load. The controlled rectifiers are turned off by commutating capacitors and direct current shutoff power supplies connected with shutoff controlled rectifiers. The turnoff circuit for a power controlled rectifier excludes the terminals of the main source of direct current and the shutoff power supplies are shunted by a diode and a capacitor.

3,384,805

**RMS MEASURING CIRCUIT**

Kenneth W. Exworthy, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Dec. 23, 1965, Ser. No. 515,823  
5 Claims. (Cl. 321—9)



Apparatus for accurately converting an AC signal into a DC signal which is proportional to the RMS value of the AC signal. A harmonic filter is provided to remove the harmonics from the input AC signal and the resulting signal is rectified by an amplifier-bridge circuit to give an output which is not limited by the bridge diode characteristics.

3,384,806

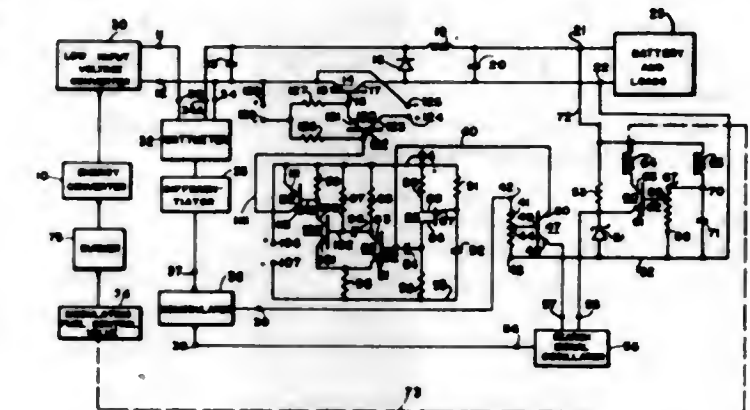
**POWER CONDITIONING SYSTEM**

David J. Hartman, Minneapolis, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Oct. 16, 1964, Ser. No. 404,281  
10 Claims. (Cl. 322—2)

An adaptive system for maximum electric power transfer from a source of electric power to an electric load. A switching element is provided between the source and the load and is periodically switched between its conductive and non-conductive states. The ratio of the con-

ductive time to the non-conductive time is controlled as a function of the derivative of the output power with ref-



erence to output current to achieve maximum power transfer from the source to the load.

**ERRATUM**

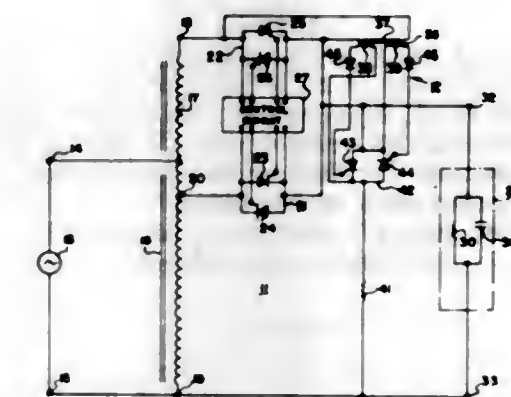
For Class 323—4 see:  
Patent No. 3,384,812

3,384,807

**LEADING CURRENT CIRCUIT**

Richard J. Klein and William R. Archer, Cuba, and Gordon W. Cromwell, Belfast, N.Y., assignors to Acme Electric Corporation, Cuba, N.Y., a corporation of New York

Filed Nov. 10, 1964, Ser. No. 410,200  
19 Claims. (Cl. 323—22)



A pair of opposed rectifiers supplies a D.C. load from an A.C. source. When the load is capacitive and requires a leading current, the load current must reverse polarity before the load voltage does and the opposite rectifier cannot be turned on for conduction because of this wrong polarity. Accordingly another pair of rectifiers alternately are triggered into conduction to pass load current directly or through a transformer through a bleeder impedance during this latter portion of each half cycle when the load current reverses.

3,384,808

**D.C. VOLTAGE REGULATOR WITH RESISTIVE RESTARTING MEANS**

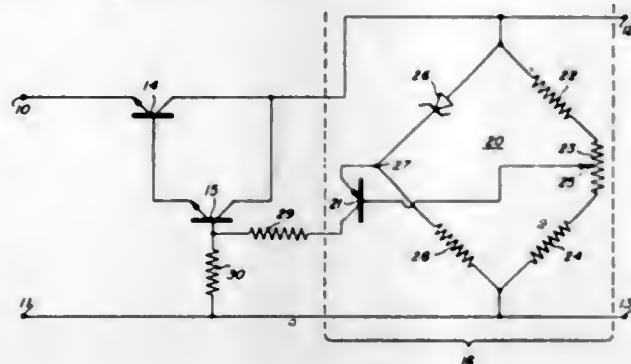
Hans J. Luettge and Chandra K. Bajpai, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Mar. 11, 1966, Ser. No. 533,508  
7 Claims. (Cl. 323—22)

1. A D.C. voltage regulator circuit comprising:  
(a) first and second input terminals for connection to a source of D.C. voltage;  
(b) first and second output terminals for connection to a load;



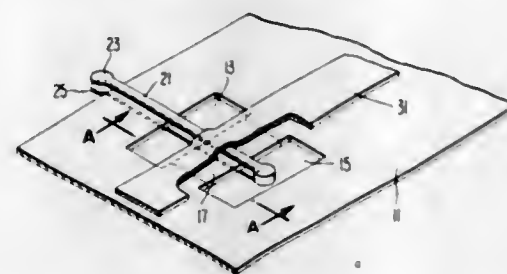
- (c) a series transistor having base, emitter and collector electrodes of which the emitter and collector electrodes are connected to the first input and output terminals respectively;
- (d) a driver transistor having base, emitter and collector electrodes of which the emitter electrode is coupled to the base electrode of said series transistor, and of which the collector electrode is connected to one of said output terminals;



- (e) an output sensing stage connected to said output terminals for applying to the base electrode of said driver transistor an error current signal responsive to deviation of the voltage across said output terminals from a preselected value; and
- (f) electrical resistance means connected between the base electrode of said driver transistor and said second input terminal for providing a minimum drive current to the base electrode of said series transistor to cause conduction thereof independently of said error current signal.

3,384,809

**CONTROLLED INDUCTANCE DEVICE UTILIZING AN APERTURED SUPERCONDUCTIVE PLANE**  
 Albert J. Meyerhoff, Wynnewood, and Charles B. Hebel, King of Prussia, Pa., and Chien C. Huang, Stamford, Conn., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan  
 Filed July 17, 1964, Ser. No. 383,431  
 16 Claims. (Cl. 323-44)

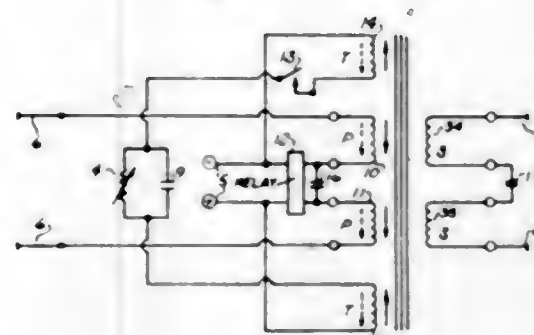


Apparatus is disclosed for controlling the self-inductance of a conductor between two extreme values or for controlling the mutual inductance between two electrically independent circuits. A plane of superconducting material is employed as a magnetic shield and a control magnetic field is provided for destroying the plane's superconductivity and thus its shielding qualities. The superconducting plane is provided with an aperture bridged with a superconductor of lower critical field than the rest of the plane. This bridge material is switched to its resistive state by a controlled magnetic field provided by an energized conductor placed near or around the bridge. In one application, the superconducting plane may be placed adjacent to a conductor for controlling the self-inductance of that conductor. In another application, the superconducting plane may be placed between two conductors for controlling the mutual inductance therebetween.

### 3,384,810 TRANSFORMER CIRCUIT WITH DIRECT CURRENT FLUX CANCELLATION

Ernest S. Kelsey, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Mar. 4, 1964, Ser. No. 349,384  
 5 Claims. (Cl. 323-48)



A transformer circuit from which direct current is supplied to a modulating means and thus which is expected to carry a direct current component and an alternating current component of an input signal. A direct current supply is also connected through a tertiary winding on the transformer; the primary winding and tertiary winding being wound in such direction and connected to the direct current supply, and input circuit, such that flux caused by the alternating current component of the input signal is aided, while flux caused by direct current in the transformer is substantially cancelled.

3,384,811

### MEASUREMENT OF ELECTRICAL EARTH CURRENTS BY SEISMIC WAVE MODULATION THEREOF

Kurt Ikraht, Elberon, and Wilhelm A. Schneider, Fair Haven, N.J., assignors to the United States of America as represented by the Secretary of the Army  
 Filed Oct. 3, 1966, Ser. No. 584,025  
 6 Claims. (Cl. 324-1)



The apparatus includes means for setting up a standing seismic wave in a portion of earth in which it is desired to measure the electrical current. A pair of electrodes is located at two nodes of the standing wave. The earth current picked up by the electrodes will be modulated at the frequency of the seismic standing wave and the same alternating current generator which produced the seismic wave is used to coherently demodulate the electrode current. By heterodyning the generator in frequency, any alternating current frequency component of earth current may be coherently detected.

3,384,812

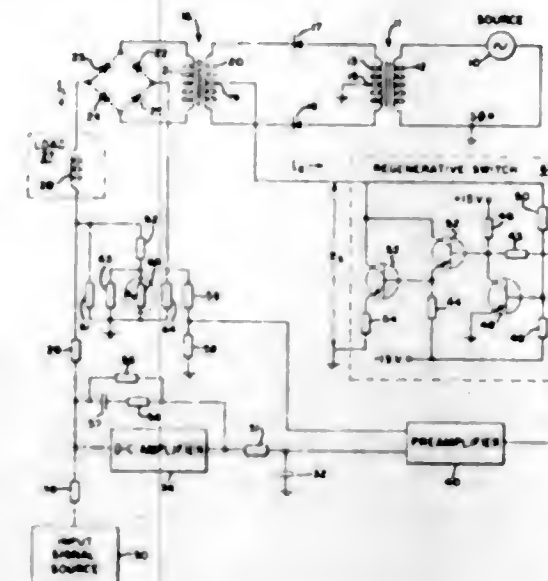
### PRECISION POWER SUPPLY FOR HIGH CURRENTS OR VOLTAGES

Robert C. Ivy and Morton P. Woodward, Jr., Vestal, N.Y., assignors to General Electric Company, a corporation of New York

Filed Apr. 5, 1966, Ser. No. 540,256  
 7 Claims. (Cl. 323-4)

4. A control circuit comprising:  
 (a) a transformer having a center-tapped winding coupling a source of A-C power to a load;

- (b) connecting means arranged so that power flows through the respective halves of the center-tapped winding only during alternate half-cycles;
- (c) a regulating switch for controlling the time-ratio of applied power by producing an open circuit condition when the desired power for each half-cycle is delivered including:

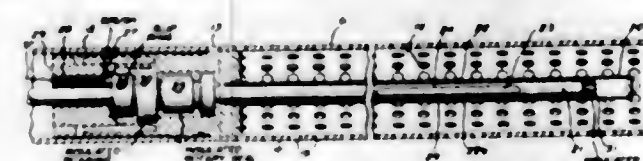


- (1) a solid-state amplifying device, for completing a circuit substantially directly coupled to said center tap, being thereby placed in series with the halves of said winding in respect to the applied power;
- (2) a control element, for operating said solid-state switch in accordance with the desired time-ratio and connected so that said switch automatically opens in response to excessive current in the load.

3,384,813

### CHARGE DENSITY METER

Irwin Ginsburgh, Morton Grove, and Lawrence T. Wright, Homewood, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana  
 Filed Aug. 24, 1965, Ser. No. 482,206  
 4 Claims. (Cl. 324-32)



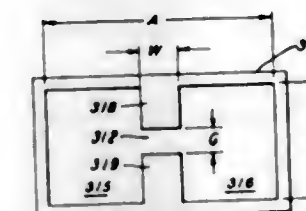
1. A device for measuring the density of electrostatic charges accumulated in a liquid, comprising a grounded, hollow, metal outer cylinder, having a plurality of apertures, said outer cylinder coaxially surrounding, and in close proximity to an electrically insulated metal inner cylinder, said inner cylinder also having a plurality of apertures positioned with respect to said apertures of said outer cylinder to alternately expose said inner cylinder to said charged liquid and screen it by said outer cylinder, said inner cylinder being capable of rotation within said outer cylinder in order to generate the electrical signal from an electrically charged liquid by induction, driving means to rotate the inner cylinder, means to connect the inner cylinder and the driving means, means to support the outer cylinder coaxially with respect to the inner cylinder, means connected to said inner cylinder for determining the magnitude of the induced signal, and an electrically grounded sleeve-like element coaxially surrounding and connected to said outer cylinder at such distance as will provide an annular space between the

sleeve-like element and outer cylinder, said sleeve-like element containing a plurality of openings, permitting said liquid to flow from the exterior of said sleeve-like element into said annulus without generating additional charge in the liquid and without discharging said liquid, while maintaining the electrically grounded condition of the sleeve-like element.

3,384,814

### RIDGE WAVEGUIDE RESONANT CAVITY FOR MEASURING DIELECTRIC CONSTANTS

Harold E. Stinebelfer, Livingston, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
 Filed Sept. 25, 1963, Ser. No. 311,588  
 6 Claims. (Cl. 324-58)

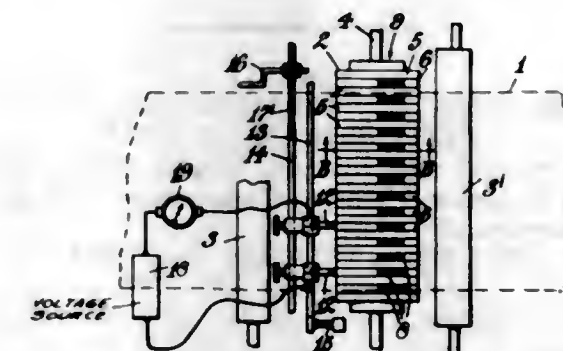


1. A resonant cavity to operate in the TE<sub>10</sub> mode for measuring dielectric properties of solid materials, said cavity comprising a section of ridge waveguide having a length approximating an integral number of one-half waveguide wavelengths at the desired test frequency and a ridge gap extending the full length of said section; the cross section of the waveguide being dimensioned so that the test frequency is greater than the cross section cutoff frequency and less than the self-resonant frequency of the TE<sub>20</sub> mode, an end wall on each end of said waveguide section, an opening of square cross section through one of said walls in alignment with the gap to receive a test specimen having substantially the same cross section dimensions as said opening so that said specimen may be guided into and completely fill said gap, means for filling said cavity with a liquid dielectric material, a coupling means for exciting said cavity with electric energy, and means for coupling a detector to said cavity to measure the amplitude and frequency of the resonant energy in said cavity.

3,384,815

### MOISTURE CONTENT MEASURING METHOD AND APPARATUS INCLUDING A ROLLER FOR PERIODICALLY CONTACTING A FLEXIBLE TRAVELLING SHEET MEMBER

Brian Lyall and Frederick Albert Edward Baker, Bridgwater, Somerset, England, assignors to British Cellophane Limited, Bridgwater, Somerset, England, a British company  
 Filed Nov. 19, 1963, Ser. No. 324,637  
 Claims priority, application Great Britain, Nov. 23, 1962, 44,477/62  
 6 Claims. (Cl. 324-65)



This invention relates to apparatus for measuring the moisture content of a selected portion of a flexible travel-



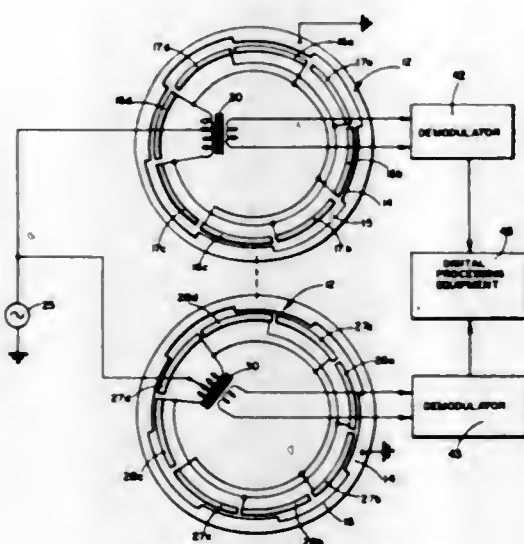
ing sheet material. The sheet material passes over an arc of the surface of a freely rotatable electrically insulating roller, there being two electrically conducting segments spaced from each other in the surface of the roller and two corresponding contact members spaced from the electrically conducting segments, each being electrically connected to a corresponding segment. Two stationary brushes are arranged to make contact with the two contact members only during the period that the two conducting segments are passing through the sheet-supporting arc so that the electrical current supplied through the brushes can be measured with a current meter, this being a measure of the moisture content of the sheet material.

3,384,816

## ANGULAR MEASUREMENT DEVICE

Edgar B. Romberg, Whittier, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Feb. 13, 1962, Ser. No. 173,026  
13 Claims. (Cl. 324-70)



1. In a capacitive pickoff device, a hollow cylindrical member having a plurality of tooth-like projections formed around the circumference of the inner wall thereof, means for rotatably supporting said cylindrical member, first and second pairs of similar ring-shaped members having a plurality of similar tooth-like projections formed around the circumference of the outer walls thereof, means for fixedly supporting said ring-shaped members within said cylindrical member and in concentricity therewith with said ring-shaped member projections proximate to said cylindrical member projections, a separate transformer connected to each of said pairs of ring-shaped members, an A-C reference source connected between said transformers and said cylindrical member, a demodulator connected to receive the output of each of said transformers, and digital processing means connected to receive the outputs of said demodulators.

3,384,817

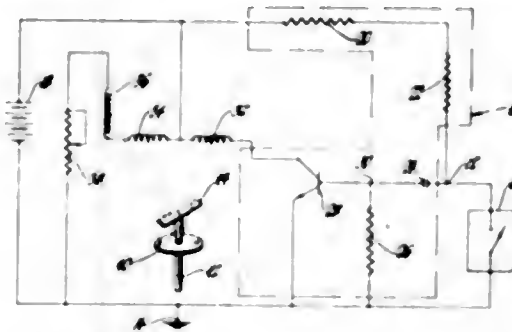
## FREQUENCY METER USING TRANSISTOR SWITCHED FIELD COIL

John A. Stewart and John R. Ziegler, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 2, 1965, Ser. No. 469,191  
3 Claims. (Cl. 324-70)

Frequency meter circuits of the type using field coils, at least one of which receives a variable current. To produce the variable current, an input switch opens and closes at the rate to be metered to charge and discharge a capacitor which controls the conductivity of a transistor con-

nected in series with the coil and a DC source. In an alternate embodiment, a second transistor operates comple-



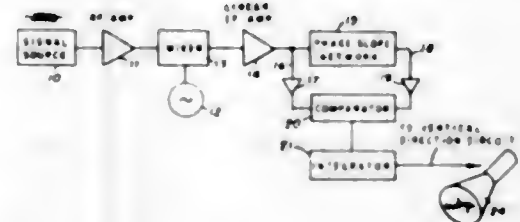
mentally with the first to vary current through a second coil.

3,384,818

## SYSTEM FOR DETECTING AND MEASURING DOPPLER FREQUENCY VARIATION IN A SINGLE PULSE OF ALTERNATING CURRENT

Ernest P. Longerich, Chatsworth, Calif., Donald J. O'Brien, Detroit, Mich., and Erland W. Rudy, Granada Hills, Calif., assignors to The Bendix Corporation, a corporation of Delaware

Continuation of application Ser. No. 330,344, Dec. 13, 1963. This application Jan. 30, 1967, Ser. No. 612,734  
8 Claims. (Cl. 324-82)



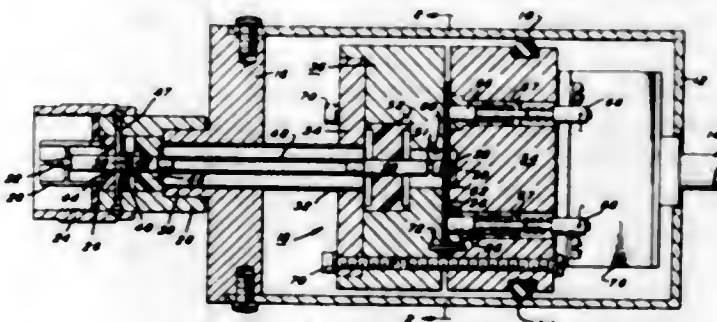
A system for detecting carrier frequency shifts due to Doppler effect in pulses received at a receiver wherein the transmitted signal consists of a series of pulses each containing many cycles of the carrier, the system including a radio frequency amplifier, a mixer stage with a local oscillator and an intermediate frequency amplifier whose output is split, one part passing through a phase slope network or delay line whose phase shift is essentially linear with frequency changes before being connected to a multivibrator comparator and the other part being supplied to the comparator. The output of the comparator, after integration, is a voltage varying in magnitude with the phase difference between the signals supplied to the comparator, and this variation is displayed on a cathode ray tube.

3,384,819

## MICROWAVE POWER CALORIMETER USING A THIN-FILM THERMOPILE LOAD

Sherman A. Rinkel, Bethpage, N.Y., assignor to General Microwave Corporation, a corporation of New York

Filed Mar. 19, 1965, Ser. No. 441,155  
20 Claims. (Cl. 324-95)



A microwave power calorimeter using a thin-film thermopile load includes a boron nitrile bead between the

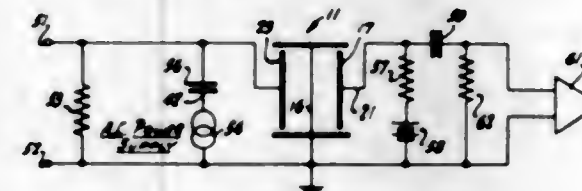
inner and outer conductors of a coaxial mount for maintaining the inner cold junction portions of the thermopile at the same temperature as the outer cold junction, so that substantially the same temperature difference is developed between each hot junction and the associated cold junction portion. The cold junction portions of the thermopile are mounted to be located inside the space between the inner and outer conductors, whereby the current paths for microwave and low frequency currents are substantially the same, and the power of the low frequency currents may be used to calibrate measurements of microwave power.

3,384,820

## VIBRATING ELEMENT ELECTROMETER WITH OUTPUT SIGNAL MAGNIFIED OVER INPUT SIGNAL BY A FUNCTION OF THE MECHANICAL Q OF THE VIBRATING ELEMENT

John Dimeff, San Jose, and Grant W. Coon, Palo Alto, Calif., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed May 17, 1965, Ser. No. 456,581  
14 Claims. (Cl. 324-120)



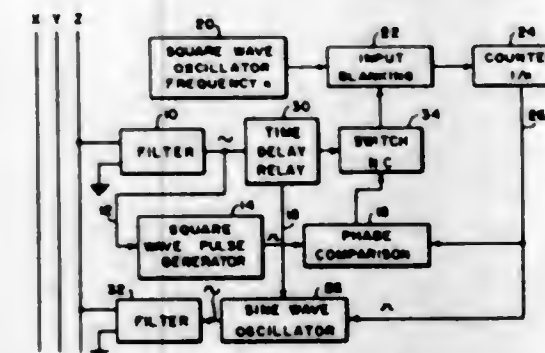
A vibrating element electrometer comprising a vibratory element disposed between fixed forcing and detecting plates. The vibrating element is electrostatically driven by a voltage containing (1) an alternating voltage at the resonant frequency of the element and in quadrature with the element's displacement, and (2) the DC input voltage. With such an input applied to the forcing plate, the vibratory element vibrates at its resonant frequency. The motion of the vibrating element is magnified by the mechanical Q of the element, whereby the output signal, at the detecting plate also is magnified over the DC input by a fraction of the mechanical Q of the vibratory element to provide the arrangement with high conversion gain.

3,384,821

## FIXED FREQUENCY PHASE MEMORY APPARATUS

William H. Beck, Pittsburgh, Pa., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 3, 1965, Ser. No. 476,919  
6 Claims. (Cl. 325-13)



Described is apparatus for generating a signal having the same frequency and phase relationship as an input signal, which apparatus includes an oscillator having a frequency equal to  $n$  times the frequency of the input signal, a counter operatively connected to the output of the oscillator for producing an output signal for every

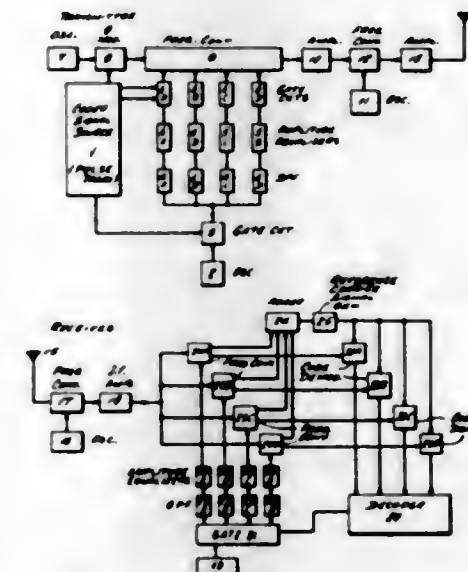
$n$  cycles of the oscillator, means coupled to the output of the counter for comparing the phase of the signal from the counter with the phase of said input signal, and means coupled to the phase comparing means for blanking pulses from the output of the oscillator to said counter until the phase of the signal at the output of the counter is substantially the same as the phase of the input signal.

3,384,822

## FREQUENCY-SHIFT-KEYING PHASE-MODULATION CODE TRANSMISSION SYSTEM

Masahisa Miyagi, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Mar. 19, 1965, Ser. No. 441,223  
Claims priority, application Japan, Mar. 21, 1964,  
39/15,540  
9 Claims. (Cl. 325-30)



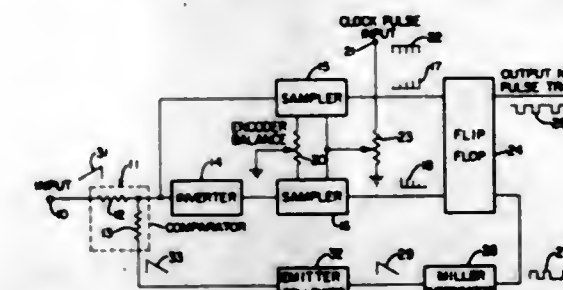
A code transmission and receiving system of high transmission efficiency which employs a transmitter for frequency-shift-keying code transmission of at least two carrier frequencies whereby a plurality of codes is transmitted as a single code, and a receiver for demodulation in which a reference signal is produced and employed for synchronization detection.

3,384,823

## HIGH SPEED DIGITAL PHASE MODULATION ENCODER

Glen R. Southworth, Boulder, Colo., assignor to Ball Brothers Research Corporation, Boulder, Colo., a corporation of Colorado

Filed Nov. 26, 1963, Ser. No. 326,084  
8 Claims. (Cl. 325-38)



A high speed digital phase modulation encoder wherein the oscillations of a flip-flop circuit are modulated in 180° increments by modulating the amplitude of timing pulses with the output from a comparator circuit receiving an input signal and an integrated output from the flip-flop circuit. A second flip-flop circuit can also be provided with gated inputs controlled by the timing



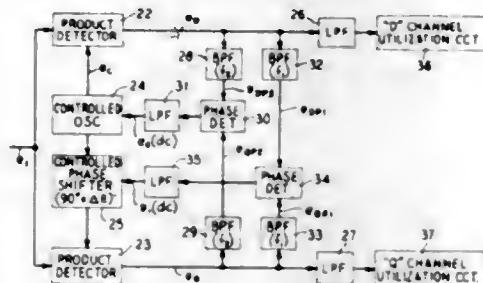
pulses, the output from one said gate providing the output to an integrator to produce pulse trains free of undesirable modulations.

3,384,824

# PHASE QUADRATURE TRANSMISSION SYSTEM WITH RECEIVER DETECTORS CONTROLLED IN RESPONSE TO PRESENCE OF PILOT WAVES APPEARING AS CROSSTALK

Thomas J. Grenier, Mine Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 14, 1965, Ser. No. 513,776  
4 Claims. (Cl. 325-49)

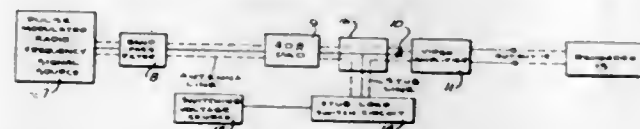


1. In a suppressed carrier quadrature modulation system having a pilot signal at a first frequency in its direct channel and a pilot signal at a second frequency in its quadrature related channel, a receiver comprising controllable means generating a pair of nominally quadrature related waves, first and second modulating means modulating said quadrature related waves, respectively, with input signals to said receiver to produce first and second outputs, respectively, means responsive to signals at said second frequency from at least one of said outputs to control the frequency of said quadrature related waves to reduce to a minimum level said second frequency signals in said first output, means responsive to signals at said first frequency from at least one of said outputs to control the phase difference between said quadrature related waves to reduce to a minimum level said first frequency signal in said second output, output terminals, and means connecting said output terminals to said first and second modulating means.

3,384,825

# FREQUENCY DETERMINING CRYSTAL-VIDEO RECEIVER SYSTEM WITH ANALOG READOUT

Richard A. Tauson, Bradfordwoods, and Everard M. Williams, Pittsburgh, Pa., assignors to the United States of America as represented by the Secretary of the Army  
Filed Jan. 5, 1965, Ser. No. 423,614  
3 Claims. (Cl. 325-332)

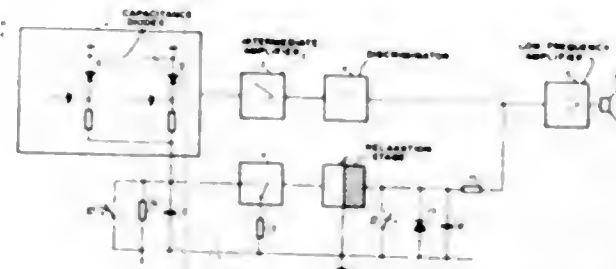


The present invention pertains to a modification of crystal-video receivers for analog readout of radio frequency signals by the utilization of a stub line terminated in two different impedance loads and switching means therefor for switching the different loads into the circuit. An impedance matching pad is connected between the radio frequency input and the stub line to balance the insertion losses produced by the stub line. A detector, an amplifier and a recorder are coupled to the output of the circuit for recording the received signals.

## 3,384,826 AUTOMATIC SWEEP TUNING ARRANGEMENT USING CAPACITANCE DIODES

Kurt Schurig, Allena, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 12, 1964, Ser. No. 366,814  
Claims priority, application Germany, May 14, 1963, G 37,742  
8 Claims. (Cl. 325-422)



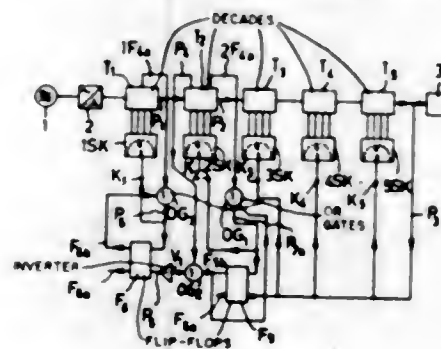
An automatic station searching mechanism using capacitance diodes, in which the capacitance diodes receive the variable voltage as applied to a capacitor, which is quickly charged during the seeking operation, and in which the switch initiating the seek operation is controlled by the receiver discriminator via a relaxation stage which is designed to respond as soon as the discriminator voltage has reached a predetermined threshold level, or the seeking operation is initiated manually.

3,384,827

## ADJUSTABLE FREQUENCY DIVIDER

Johannes Noordanus and Marinus Anton Bos, Hilversum, and Leonardus Maria van der Hart, Apeldoorn, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 23, 1964, Ser. No. 406,056  
Claims priority, application Netherlands, Oct. 24, 1963, 299,710  
5 Claims. (Cl. 328-42)



1. An adjustable frequency divider comprising a plurality of cascade connected frequency dividing stages, each of said stages comprising an input terminal, an output terminal, a plurality of setting conductors, and a setting terminal, each of said stages having a plurality of stable states whereby pulses applied to an input terminal of a stage change the states of said stage in a predetermined continuous sequence and a change from one predetermined state results in the production of an output pulse at the output terminal of the respective stage, each of said stages further comprising switching means for selectively connecting said setting terminal to said setting conductors, whereby a pulse applied to a setting terminal sets the respective stage to a state determined by the position of said switching means, a given dividing stage other than the last dividing stage comprising means for providing a time marking pulse corresponding to a predetermined change of state of said given stage, and means responsive to the occurrence of an output pulse at the output terminal of the last of said stages for applying a pulse

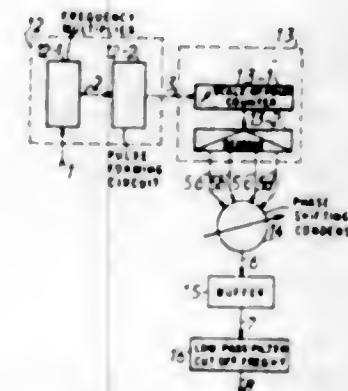
to each of said setting terminals, said last mentioned means comprising a bistable circuit, means connected to said bistable circuit and responsive to an output pulse from the last dividing stage for setting said bistable circuit to one stable state, AND gate means, means for applying said time marking pulse and an output of said bistable circuit to said gate means as input signals, means for applying the output of said gate means to said bistable circuit for setting said bistable circuit to its other stable state, and means for applying said output of said gate means to the setting terminal of said given dividing stage whereby said given dividing stage is reset in response to an output pulse from the last dividing stage only at a predetermined instant in the count of said given dividing stage.

3,384,828

## PHASE SHIFTING CIRCUITS

Jacques Barthelemy Pierre, Meudon, and Marc Jules Theodore Schneider, Versailles, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 16, 1965, Ser. No. 487,835  
Claims priority, application France, Sept. 23, 1964, 988,963, Patent 1,422,125  
9 Claims. (Cl. 328-155)



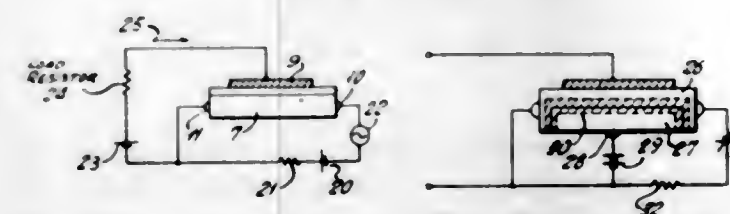
An input sine-wave signal having a frequency  $F$  is frequency multiplied by a factor  $N$ , squared, differentiated and rectified to produce short duration pulses having a frequency  $4F$ . These pulses control a binary counter to produce  $N$  square wave signals each having a frequency  $F$  phase shifted with respect to each other by  $360^\circ/N$ . These  $N$  signals are combined in an  $N$ -phase phase shifting condenser whose output signal shock excites a low pass filter having a cut-off frequency  $F$  to produce a sine-wave signal having a frequency  $F$  whose phase is controlled by the angular position of the shaft of the condenser.

3,384,829

## SEMICONDUCTOR VARIABLE CAPACITANCE ELEMENT

Akihiko Sato, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Jan. 28, 1964, Ser. No. 340,656  
Claims priority, application Japan, Feb. 8, 1963, 38/6,559  
6 Claims. (Cl. 330-7)



A variable capacitance semiconductor device similar to the varactor. A semiconductor wafer is provided with an

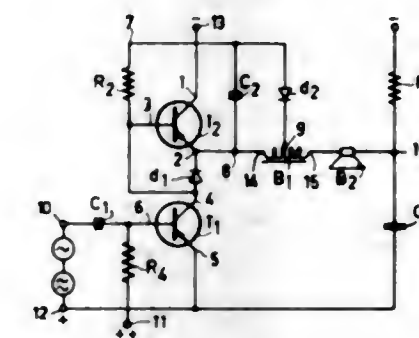
electrode on a major surface of the wafer and two ohmic contacts at spaced points on the edge of the wafer. A relatively high rate of capacitance change is produced between the electrode and the contacts when a relatively small change in bias potential is applied between the contacts.

3,384,830

## AMPLIFYING ARRANGEMENT HAVING TWO TRANSISTORS

Edmond de Niet, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 21, 1965, Ser. No. 465,285  
Claims priority, application Netherlands, June 20, 1964, 64-7,073  
12 Claims. (Cl. 330-18)



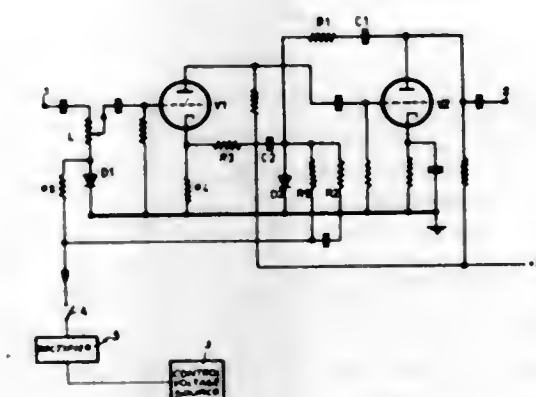
1. An amplifying arrangement having two transistors the emitter-collector circuits of which are connected to the supply voltage in series with a diode included between the collector of the first transistor and the emitter of the second transistor, a control signal being applied to the base of the first transistor, a load being connected to the emitter of the second transistor, and the collector of the first transistor together with the base of the second transistor being connected to one end of a common resistor, characterized in that the other end of the common resistor is connected to a rectifying circuit comprising a capacitor and a second diode and connected to the load circuit.

3,384,831

## SWITCHING SYSTEM FOR SWITCHING THE OPERATING MODES OF AN AMPLIFIER FOR RECORDING APPARATUS

Friedrich Knochenhauer, Allena, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed June 9, 1965, Ser. No. 462,511  
Claims priority, application Germany, June 30, 1964, St 22,323  
5 Claims. (Cl. 330-51)



1. A switching system for switching the operating modes of an amplifier for recording apparatus, comprising:



an amplifier, including  
a volume control, and  
a negative feedback circuit;  
said volume control being operative and said  
negative feedback circuit being inoperative  
during recording;  
a source of control voltage;  
means responsive to said control voltage for disabling  
said volume control and for enabling said feedback  
circuit; and  
switching means for applying said control voltage to  
said disabling and enabling means during playback.

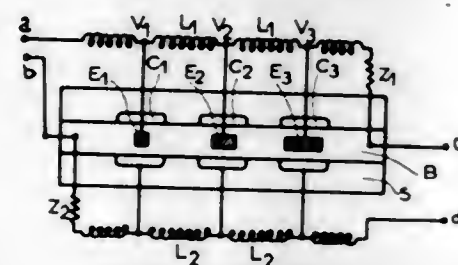
3,384,832

### EXTRA-WIDE BAND SEMI-CONDUCTOR AMPLIFYING DEVICE

Jean-Pierre Mayeur, 13 Ave. de Wagram,  
Paris, France

Filed Oct. 23, 1964, Ser. No. 406,030  
Claims priority, application France, Oct. 25, 1963,  
951,843

17 Claims. (Cl. 330-54)



A wide band amplifying device in the form of two transmission lines including active elements and passive elements, means for coupling the transmission lines by current transfer based upon the transistor effect, the lines having in common a connecting line operable to transmit high frequency currents, at least a portion of the connecting line consisting of a semiconductor layer of one of the active elements, the value of the electric characteristics of the passive elements, the dimensions of the active elements and the biasing voltages applied to the active elements being adjusted in such a manner that the velocity of the propagation of a signal along the transmission line is the same, the signal being transmitted by both lines without distortion as a function of the frequency.

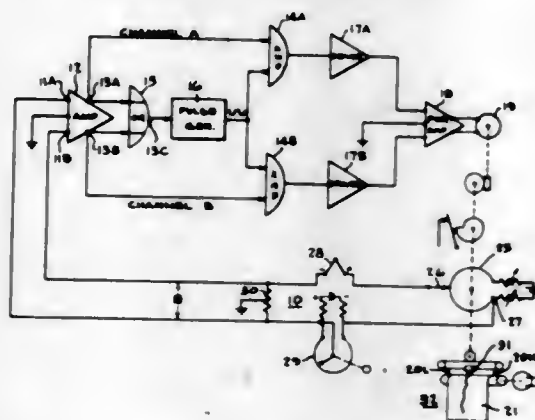
3,384,833

### HIGH-POWER AMPLIFIER SYSTEMS

James J. Hitt, Willow Grove, Pa., assignor to Leeds &  
Northrup Company, a corporation of Pennsylvania

Filed July 12, 1965, Ser. No. 471,165

9 Claims. (Cl. 330-9)



1. A power-amplifier system for excitation of a load in dependence upon the magnitude of a DC error-signal comprising

pulse-generating means having an input circuit to which the error-signal is applied and producing output pulses one of whose characteristics frequency and width is a function of the magnitude of the applied error-signal,  
an AND-gate having one input enabled by the output pulses of said pulse-generating means and another input enabled by the error-signal to extent dependent upon the magnitude thereof, and  
a power-amplifier having an input circuit excited via said AND-gate to minimize the power-dissipation in said power-amplifier and to deliver to the load current pulses whose amplitude and the ratio of whose ON-OFF times both depend upon the magnitude of the error-signal.

3,384,834

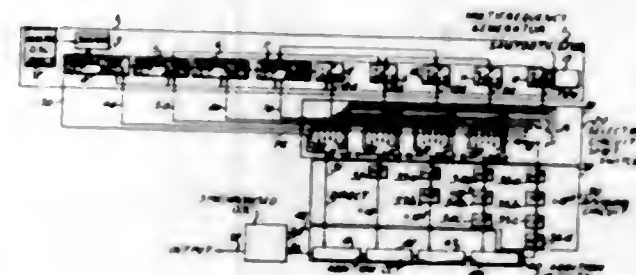
### FREQUENCY SYNTHESIZER

Cyril Gordon Treadwell, Kings Langley, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 25, 1966, Ser. No. 552,947

Claims priority, application Great Britain, Aug. 27, 1965,  
136,918/65

11 Claims. (Cl. 331-47)



A frequency synthesizer having a single fixed frequency master oscillator and which utilizes division, multiplication, addition and subtraction circuits for operating on sawtooth or stepped waveforms which are internally generated from the master oscillator. The output signal is adjustable in decades and no filter or modulator circuits are required.

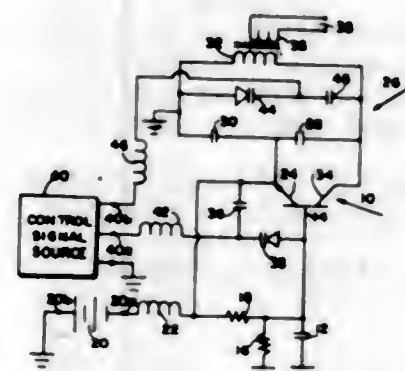
3,384,835

### AMPLITUDE AND FREQUENCY SERVOCONTROL

Joseph E. Racy, 29 Burnside St., Nashua, N.H. 03060

Filed Sept. 8, 1966, Ser. No. 577,962

7 Claims. (Cl. 331-109)



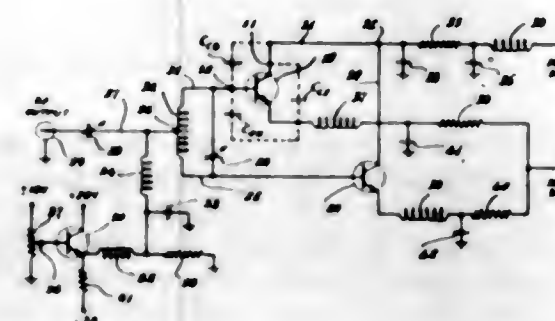
The present invention pertains to electronic circuits, and more particularly to oscillator circuits, employing varactors for the purpose of controlling the amplitude and/or frequency characteristics thereof. The varactor is employed in the circuit in conjunction with a source of control signals, whereby the control signals are able to

### 3,384,836 TRANSISTOR MICROWAVE OSCILLATOR HAVING SECOND HARMONIC OUTPUT

Benjamin F. Gregory, Tampa, Fla., assignor to Trak  
Microwave Corporation, Tampa, Fla.

Filed Apr. 10, 1967, Ser. No. 630,179

4 Claims. (Cl. 331-117)



This application discloses a solid-state microwave radio frequency oscillator employing a matched pair of transistors having their base terminals connected back-to-back across a tuned oscillatory tank circuit in a manner to produce push-push oscillatory action. The disclosed circuit takes radio frequency power at the second harmonic of the oscillatory frequency from a center tap on the oscillatory tank circuit. The fundamental frequency, and all odd harmonics thereof, are cancelled out, while the second harmonic is accentuated. By this means substantial amounts of microwave energy are produced at a frequency twice that at which the transistors are forced to oscillate, thus creating a solid state oscillator capable of operation at twice the upper frequency limit heretofore imposed by the inherent characteristics of transistors. Also disclosed is a transistor operated current control circuit for turning the frequency output of the oscillator, and thereby enabling the oscillator output signal to be frequency modulated.

3,384,837

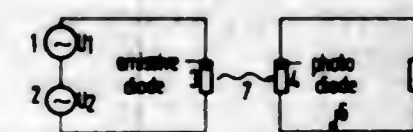
### MODULATOR WITH EMISSIVE DIODE AND PHOTODIODE FOR THE MODULATION OF A CARRIER OSCILLATION WITH A SIGNAL OSCILLATION

Hans-Norbert Tossaint, Munich, and Reginald Pospischil, Grafelfing, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Jan. 21, 1965, Ser. No. 427,183

Claims priority, application Germany, Jan. 27, 1964,  
S 89,239

9 Claims. (Cl. 332-3)



An arrangement for the modulation of a carrier oscillation with a signal oscillation using an emissive diode optically coupled to a photodiode, in which the carrier oscillation and the signal oscillation can be fed as desired into the emissive diode circuit and/or the photodiode circuit,

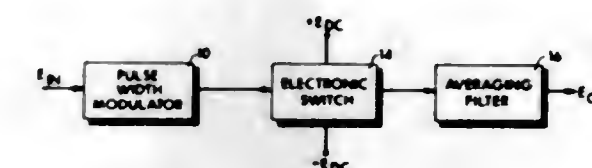
3,384,838

### PHASE REVERSIBLE SWITCHING POWER AMPLIFIER

Thorleif Knutrud, Sudbury, Mass., assignor to Sylvania  
Electric Products Inc., a corporation of Delaware

Filed Mar. 19, 1965, Ser. No. 441,190

3 Claims. (Cl. 332-9)



Phase reversible direct current switching power amplifier. Input signals to be amplified are pulse-width modulated by pulse-width modulating apparatus to produce a series of bipolar pulses of width proportional to the magnitude of the input pulses. In response to a pulse of a negative polarity being produced by the modulation apparatus, a first transistor switch connects a source of negative direct current potential to an output connection whereby a negative pulse is applied to the output connection. For a pulse of positive polarity produced by the modulation apparatus, a second transistor switch connected to the first transistor switch connects a source of positive direct current potential to the output connection whereby a positive pulse is applied to the output connection. The pulses resulting from the alternate connections of the direct current sources are averaged whereby to produce an output signal which is linearly proportional to the input signals.

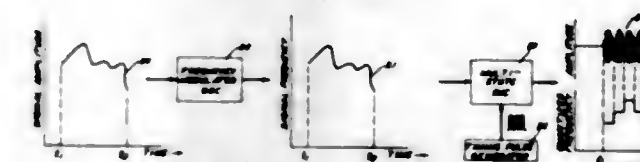
3,384,839

### PULSE CODE MODULATOR INCLUDING A MULTIFREQUENCY OSCILLATOR

Stewart E. Miller, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 24, 1965, Ser. No. 489,958

4 Claims. (Cl. 332-14)



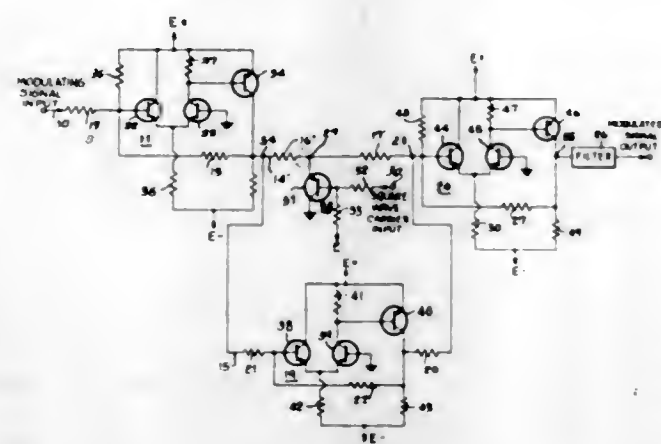
1. A pulse code modulation system comprising:  
a frequency modulated oscillator;  
means including an amplitude-varying signal for frequency modulating said oscillator over a range of frequencies in response to said signal;  
a multistate oscillator adapted to oscillate at any one of a multiplicity of different discrete frequencies within said range of frequencies in response to excitation by wave energy near said one frequency;  
means for pulsing said multistate oscillator on and off at prescribed intervals;  
means for applying wave energy samples from said frequency modulated oscillator to the input of said multistate oscillator;  
and means for extracting wave energy at said discrete



frequencies during the on periods of said multistate oscillator.

### 3,384,840 BALANCED MODULATOR HAVING SUPPRESSION MEANS

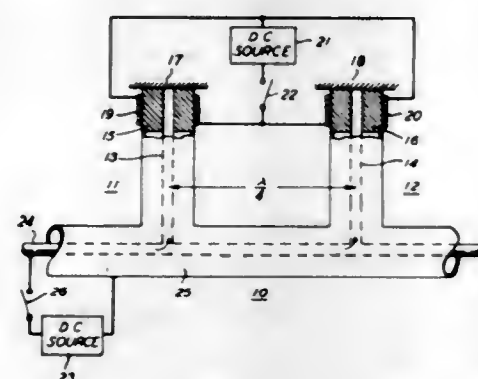
Jerry L. Holsinger, Bedford, Mass., assignor, by mesne assignments, to Teldata Corporation, Santa Barbara, Calif., a corporation of Delaware  
Filed July 14, 1965, Ser. No. 471,897  
9 Claims. (Cl. 332-44)



1. A balanced modulator comprising modulating signal source means for providing a modulating signal having a varying amplitude, carrier signal source means for providing a carrier signal, switching means connected to said modulating signal source means and said carrier signal source means and output circuit means connected to said modulating signal source means and said switching means for producing a modulated output signal having an amplitude that varies in response to the amplitude of said modulating signal and being pulsed at the frequency of said carrier signal and wherein said output circuit means includes an operational amplifier for amplifying said modulated output signal.

### 3,384,841 FERRITE PHASE SHIFTER HAVING LONGITUDINAL AND CIRCULAR MAGNETIC FIELDS APPLIED TO THE FERRITE

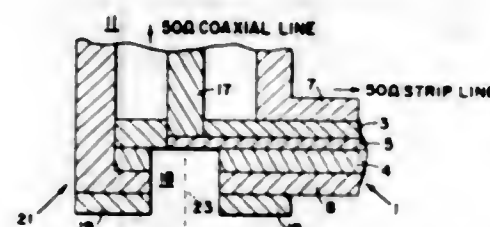
Gerald C. Di Piazza, Randolph Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Filed Mar. 10, 1966, Ser. No. 533,308  
3 Claims. (Cl. 333-31)



This application describes a coaxial line phase shifter utilizing ferrite elements to change the impedance of a pair of stubs spaced a quarter wavelength apart along the line. By placing the ferrite around the inner conductor of the coaxial line, the interaction between the signal field and the magnetic biasing fields are maximized, reducing the amplitude of the biasing field required.

### 3,384,842 RIGHT ANGLE COAXIAL TO STRIP LINE TRANSITION

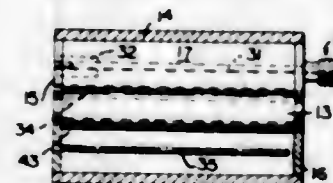
John Mattern, Baltimore, and Joseph A. Kempic, Ellicott City, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army  
Filed Apr. 23, 1965, Ser. No. 451,102  
7 Claims. (Cl. 333-33)



A circular hole is provided in the dielectric and ground plane of a strip line. The hole has its radius about a center line drawn through the center conductor of a coaxial line joined to the strip line. The radius of the hole is in general a little less than one-half of the inside radius of the coaxial line and will cause a compensating E field reflection.

### 3,384,843 SELECTIVE TRANSMISSION APPARATUS

Harry F. Chapell, Maynard, Mass., assignor to Sage Laboratories, Inc., East Natick, Mass., a corporation of Massachusetts  
Filed Dec. 4, 1964, Ser. No. 415,910  
7 Claims. (Cl. 333-73)



An interdigital filter includes an inner conductor and an outer conductor defining an annular cavity between a pair of end plates. A conducting plate extends between the end plates in a radial plane between the inner and outer conductors and is immediately adjacent to and separates input and output coaxial terminal pairs, one pair being in one end plate and the other pair being in the other end plate so that energy exchanged between the terminal pairs travels circumferentially about the inner conductor along a path whose projection on any of the end plates is subtended by an angle of slightly less than 360° with respect to a vertex coincident with the common axis of the inner and outer conductors. The annular volume between inner and outer conductors includes a number of conducting rods generally parallel to the inner conductor for coaxing with the rest of the structure to provide a desired frequency sensitive transmission characteristic.

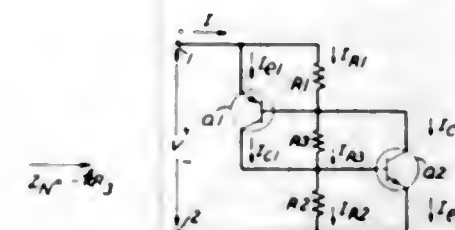
### 3,384,844 NEGATIVE IMPEDANCE DEVICE

Larned A. Meacham, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Filed June 14, 1965, Ser. No. 463,601  
7 Claims. (Cl. 333-80)

Each one of two transistors of opposite conductivity has its base electrode connected to the collector electrode of the other transistor and has its emitter electrode connected to a respective opposite one of two input terminals of a constant current source. A biasing network including an impedance connected from the base electrode to the emitter electrode of each respective transistor and a

control impedance connected between the base electrodes biases each transistor in its linear operating region to

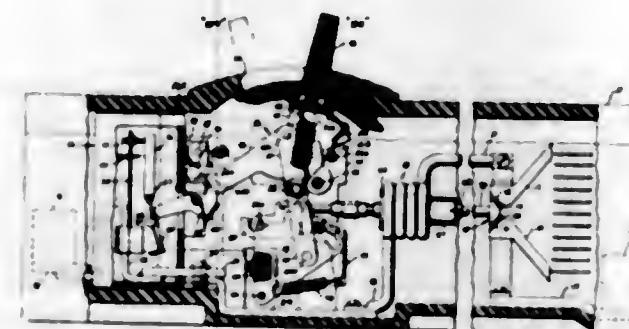
member in contact opening direction substantially independently of said contact operating means.



provide a negative impedance proportional to the resultant current through the control impedance.

### 3,384,845 CURRENT-LIMITING ELECTRIC CIRCUIT BREAKER

Joseph F. Johnson, Plainville, and Robert W. Laubenthal, Farmington, Conn., assignors to General Electric Company, a corporation of New York  
Filed Nov. 23, 1966, Ser. No. 596,637  
6 Claims. (Cl. 335-23)

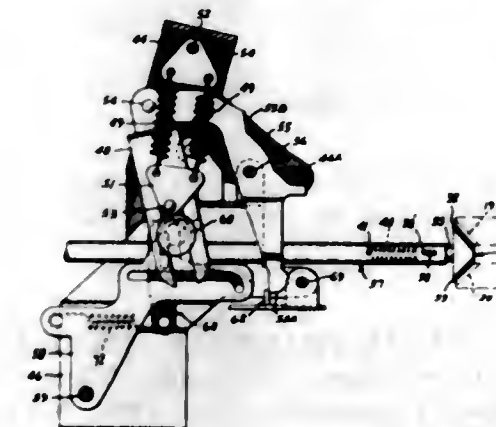


1. A current-limiting electric circuit breaker comprising:

- a support;
- at least one pair of relatively movable contacts supported on said support;
- contact operating means supported on said support;
- connecting means connecting said contact operating means to said relatively movable contacts for operating said contacts between open and closed circuit positions;
- said connecting means comprising a driving member operably connected to said contact operating means and a driven member operably connected to said relatively movable contacts;
- means releasably interconnecting said driving and driven members comprising detent means carried by one of said driving and driven members and latching means connected to the other of said driving and driven members, said latching means having a portion engaging said detent means when said latching means is in a predetermined normal position;
- a pivot pin supporting said latching means for pivotal movement away from said normal position upon the exertion of predetermined force exerted on said driven member in contact-opening direction said pivot pin being fixed with respect to both said driving and driven members, and
- current responsive means for exerting said predetermined force on said driven member in contact opening direction upon the occurrence of predetermined current conditions through said contacts, said latching means moving out of engagement with said detent means upon the occurrence of said predetermined force and permitting movement of said driven

### 3,384,846 CURRENT LIMITING CIRCUIT BREAKER MECHANISM

Eldon B. Heft, West Hartford, Conn., assignor to General Electric Company, a corporation of New York  
Filed Nov. 23, 1966, Ser. No. 596,692  
18 Claims. (Cl. 335-16)



3. A current-limiting circuit breaker comprising:

- a support;
- at least one pair of relatively movable contacts supported on said support;
- contact operating means supported on said support;
- connecting means connecting said contact operating means to said relatively movable contacts for operating said contacts between open and closed circuit positions;
- said connecting means comprising a driving member operably connected to said contact operating means and a driven member operably connected to said relatively movable contacts;
- means releasably interconnecting said driving and driven members comprising detent means carried by one of said driving and driven members and latching means connected to the other of said driving and driven members, said latching means having a portion engaging said detent means when said latching means is in a predetermined normal position, and
- means supporting said latching means for movement away from said normal position upon the exertion of predetermined force exerted on said driven member in contact-opening direction;
- spring biasing means biasing said latching means toward said normal position at all times, a current responsive means acting on said latching means to move said latching means away from said normal position, said spring biasing means acting on said driven member through the medium of said latching means following disengagement of said latching means from said detent means to assist movement of said driven member toward open circuit position.

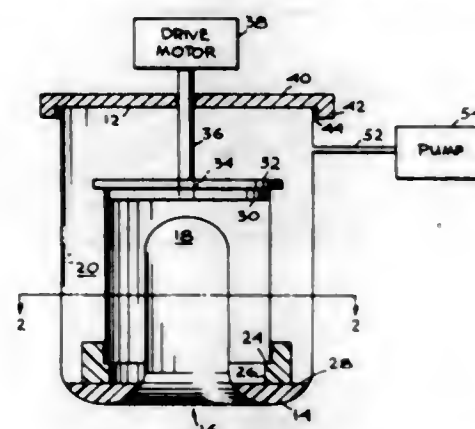
### 3,384,847 APPARATUS FOR EXCLUDING MAGNETIC FIELDS

Lorin L. Vant-Hull, Pasadena, Calif., assignor to California Institute Research Foundation, Pasadena, Calif., a corporation of California  
Filed Apr. 7, 1965, Ser. No. 446,273  
8 Claims. (Cl. 335-216)

1. An apparatus for substantially excluding a magnetic field from a specified region comprising a hollow container having a wall defining an inwardly projecting protuberance; a hollow conductive cylinder defining said specified region and supported within said container



around said protuberance and substantially concentric therewith; means for rotating said cylinder to induce eddy

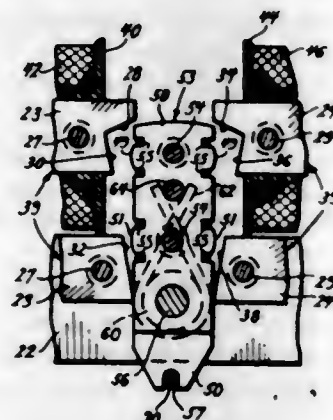


currents therein; and means for cooling said cylinder within said container to a superconducting state.

### 3,384,848 ELECTROMAGNETIC DEVICE

Leland Clay Weathers, Plymouth, Mich., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 27, 1966, Ser. No. 560,628  
14 Claims. (Cl. 335-268)

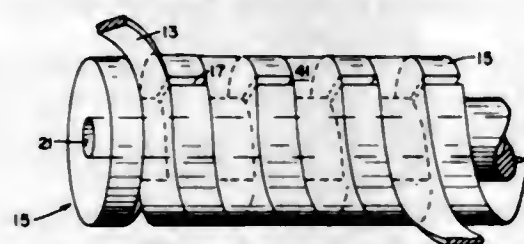


A solenoid has a stator, has two selectively-energizable windings on that stator, has an armature that is movable in one direction by one of those windings and that is movable in the opposite direction by the other of those windings, has a generally linear magnetic gap adjacent one end of one side of that armature and an inverse magnetic gap adjacent the other end of that side of that armature, has a second generally linear magnetic gap adjacent one end of the other side of that armature and an inverse magnetic gap adjacent the other end of that other side of that armature, and has a spring that normally "centers" that armature between those generally linear gaps.

### 3,384,849 CRYOGENIC FLUX CONCENTRATOR

Habib Brechna, Paris, France, and David A. Hill, Summit, N.J., assignors to the United States Atomic Energy Commission

Filed May 27, 1966, Ser. No. 554,290  
4 Claims. (Cl. 335-299)



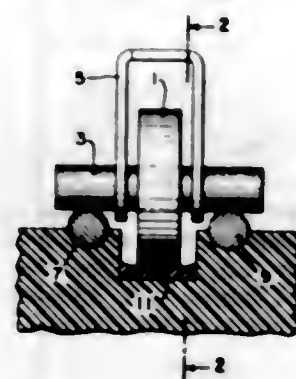
A flux concentrator magnet having primary and secondary windings for producing a high magnetic field in the

bore thereof having stacked discs forming radial slits sequentially spaced in progressive rotation from each other, and having removable, pre-fabricated coils between each disc.

### 3,384,850 PARTIALLY ROLLING, PARTIALLY SLIDING CONTACTOR FOR ELECTRICAL SLIDEWIRES

James D. Cameron and Arthur E. Geak, Philadelphia, Pa., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Nov. 14, 1966, Ser. No. 593,785  
7 Claims. (Cl. 338-158)

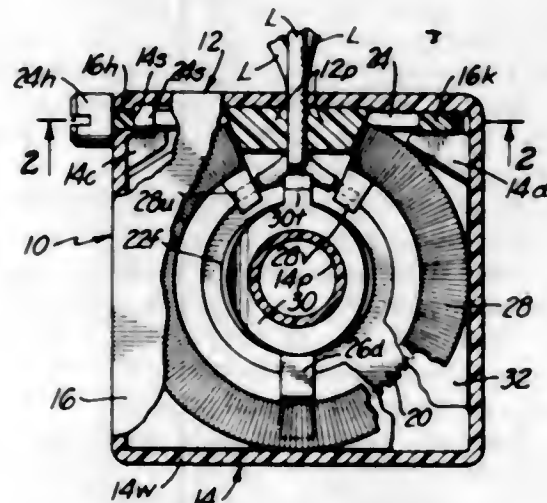


A partially rolling, partially sliding contact between a contactor and a resistive slidewire is provided by a rotating cylindrical surface means which is driven by a second larger cylindrical surface means. The first smaller cylindrical surface means, which constitutes the actual contactor, is driven at a translational velocity determined by the peripheral velocity of the second cylindrical surface means and rotates at the same angular velocity as the second cylindrical surface means.

### 3,384,851 GEAR-ADJUSTED POTENTIOMETER

William H. King, Riverside, Calif., assignor to Bourns, Inc., a corporation of California

Filed Sept. 16, 1966, Ser. No. 580,044  
5 Claims. (Cl. 338-174)



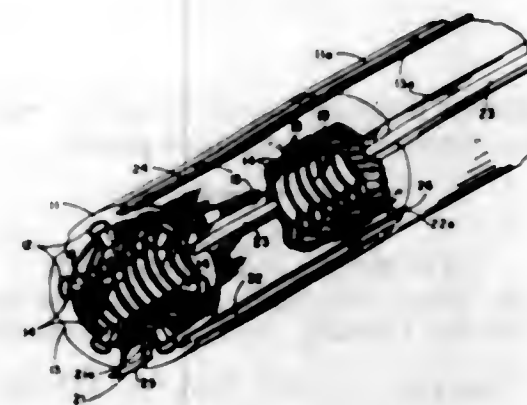
A gear-adjusted potentiometer having an arcuate resistance element and a rotatable contact arranged to rotatively brush along the element between limits established by stops, gearing means for rotating the contact, the gear means comprising a gear wheel having teeth on its periphery and a generally cylindrical hub, the hub having longitudinal serrations and the contact having opposed curved arms embracing the generally cy-

lindrical surface of the hub and the contact arms having respective corrugations engaging the serrations of the hub, and the potentiometer comprising housing means for supporting and housing the aforementioned components, whereby a yielding drive for rotating the contact is established to permit harmless continued rotation of the gear wheel following arrestment of the contact by the stops.

### 3,384,852 HIGH TEMPERATURE ELECTRICAL FURNACE

Jacob Howard Beck, Newton, and Robert B. Bogosh, Burlington, Mass., assignors to BTU Engineering Corporation, Waltham, Mass., a corporation of Delaware

Filed Feb. 16, 1966, Ser. No. 527,992  
5 Claims. (Cl. 338-316)

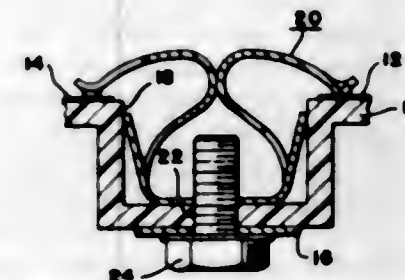


A high temperature electrical furnace having a resistance coil supported by ceramic spacers in slots. The ceramic spacers are free to move in the slots when there is thermal expansion of the coil during operation.

### 3,384,853 PRINTED CIRCUIT TERMINAL NUT

Richard J. Rademacher, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 16, 1965, Ser. No. 448,742  
8 Claims. (Cl. 339-17)



In the preferred form, an improved terminal nut providing an electrical connection between spaced apart electrical conductors through leg portions of the terminal nut which cooperate with each other to prevent electrical disengagement of the leg portion from one of the electrical conductors.

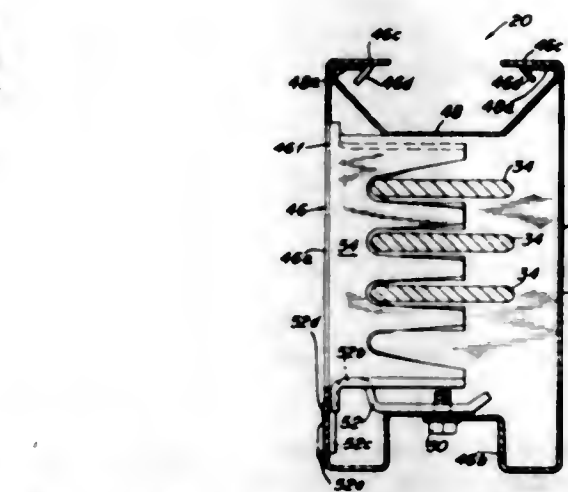
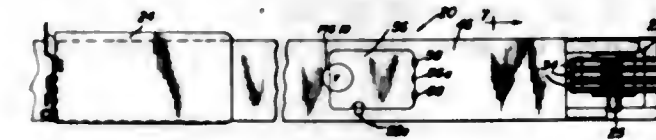
### 3,384,854 PLUG-IN BUS DUCT

George N. Jorgensen and Harris I. Stanback, Lexington, Ky., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Jan. 6, 1966, Ser. No. 519,095  
14 Claims. (Cl. 339-22)

The duct has a housing capacity for four bus bars, the bus bars being accessible for plug-in connections from both sides of the duct. Each duct section has a joint struc-

ture at one end to permit connection to an adjoining section with adequate insulation and proper spacing between

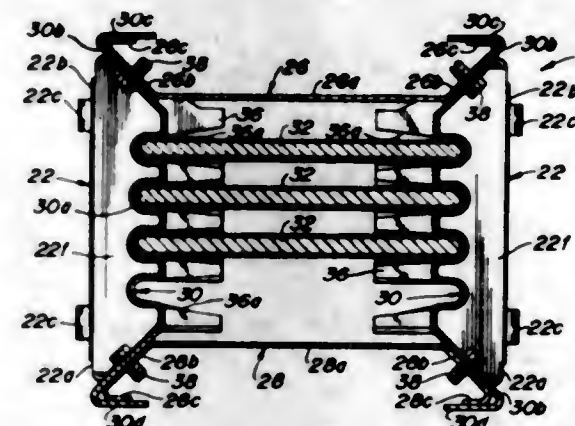


the bus bars. The housing is shaped to facilitate the mounting of plug-in units and the suspension of the duct.

### 3,384,855 PLUG-IN BUS DUCT HAVING CORRUGATED SIDEWALLS

George N. Jorgensen and Harris I. Stanback, Lexington, Ky., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Apr. 15, 1966, Ser. No. 542,826  
8 Claims. (Cl. 339-22)



A four-piece housing of rectangular cross-section containing flatwise stacked bus bars has reoccurring side openings which facilitate parallel connection of two ducts by providing adjacent openings through which splice plates of a joint structure extend to effect edgewise electrical interconnection of corresponding bus bars. Each duct housing has corrugated side wall portions structurally engaging the opposite edges of the bus bars. For use as a single duct, 45° flange portions extending from the edge portions of the four housing walls are held together by four rows of bolts.

### 3,384,856 MULTI-PHASE ELECTRIC POWER DISTRIBUTION SYSTEM

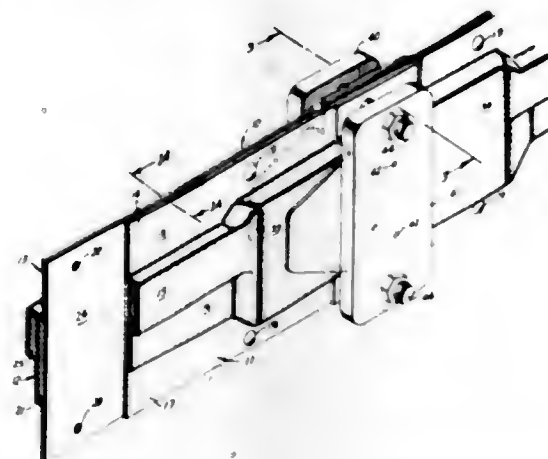
Lawrence E. Fisher, West Hartford, Conn., assignor to General Electric Company, a corporation of New York

Filed Apr. 15, 1966, Ser. No. 542,925  
12 Claims. (Cl. 339-22)

An enclosed electric power busway system, the busbars of which comprise a closely stacked busbar assembly including an inner pair of relatively thin and wide busbars

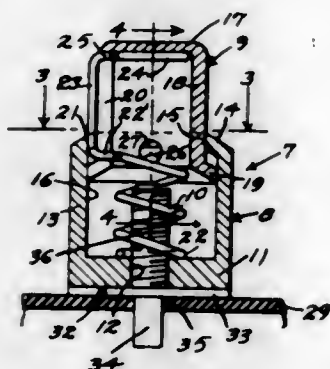


and an outer pair of relatively thick and narrow busbars, enclosed in a thin, closely fitting, metallic housing, which is in electrically insulated but good thermally conducting relation with the outer bars and also with side surfaces of the inner bars at the portions thereof projecting beyond the outer bars in the width-wise direction.



Portions of the housing are deformed outwardly to provide pockets affording access to the busbars by contact probes for power take-off purposes. Since the inner bars are wider than the outer bars, portions thereof are available for contact, so that contact can be made to all bars by such contact probes.

**3,384,857**  
**COMBINATION BATTERY TERMINAL**  
Guy H. Stoutenburgh, 1200 S. Dixie Highway,  
Delray Beach, Fla. 33444  
Filed May 17, 1966, Ser. No. 550,777  
6 Claims. (Cl. 339—32)

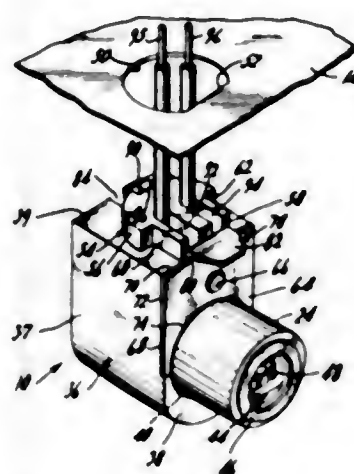


A terminal for an electric battery which is capable of functioning in any one of three ways to replace any one of three different types of terminals normally employed with the battery, depending upon the manner in which the battery is intended to be used.

**3,384,858**  
**LAMPHOLDER FOR FLUORESCENT LAMPS**  
George Johnson, Bronxville, N.Y., assignor to Kulka Electric Corporation, Mount Vernon, N.Y., a corporation of New York  
Filed Apr. 9, 1965, Ser. No. 446,972  
12 Claims. (Cl. 339—52)

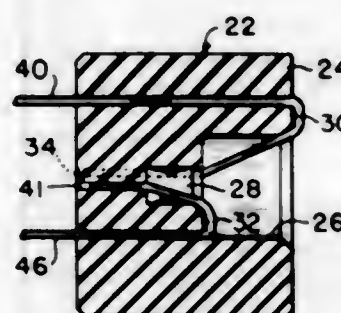
A fluorescent lampholder of the tombstone type having at its lower end self-contained mounting means for snap-locking securement of the lampholder to a fixture wall from one side thereof. The bottom wall of the lampholder has a depending base portion of reduced cross-sectional area and sized to fit snugly within a mounting opening in the fixture wall when the bottom wall rests flush against the outer surface of said fixture wall, while a retaining flange projecting from the lower end of the lampholder engages the inner surface of the fixture wall

and a spring clip secured to the lampholder remote from the retaining flange snaps through the mounting opening



and engages the inner surface of the fixture wall to rigidly hold the lampholder in mounted position.

**3,384,859**  
**ELECTRICAL CONNECTOR**  
Guenther H. Loose, Bradford, Pa., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York  
Filed June 14, 1966, Ser. No. 557,507  
3 Claims. (Cl. 339—59)



1. An electrical connector comprising
  - a first resilient dielectric member having a first circular aperture formed therein defined by a sidewall and a base portion, and a second circular aperture of a diameter smaller than said first aperture formed substantially concentrically with said first aperture within said base portion, said second aperture also being defined by a sidewall and a base portion,
  - a first substantially U shaped wire-like terminal having one end fixedly connected to the base portion adjacent the sidewall defining said first aperture along a first radial axis of said member and extending out of said first aperture and through said member beyond said first aperture along a second radial axis of said member displaced from said first axis by an angle of up to about 90°,
  - a second substantially U shaped wire-like terminal having one end fixedly connected to the base portion adjacent the sidewall defining said second aperture along a third radial axis of said member and extending out of said second aperture and through said base portion defining said first aperture along a fourth radial axis of said member displaced from said third radial axis by an angle of up to about 90°,
  - a second dielectric member,
  - a first electrically conductive member extending through said second dielectric member for mating engagement with said second terminal within said second aperture, and

a second electrically conductive member concentrically surrounding said first electrically conductive member in a spaced relationship therewith for engagement with said first terminal within said first aperture simultaneously with the engagement of said first conductive member with said second conductive terminal.

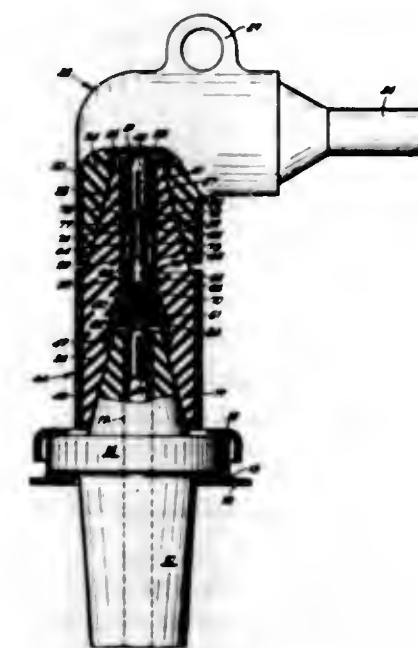
**3,384,860**  
**SEALED ELECTRICAL CONNECTOR**  
Edward J. Schaefer and Donald L. Ellenberger, Bluffton, Ind., assignors to Franklin Electric Co., Inc., Bluffton, Ind., a corporation of Indiana  
Filed Oct. 20, 1965, Ser. No. 498,805  
3 Claims. (Cl. 339—94)



This disclosure deals with an electrical connector designed for use while submersed in a high pressure liquid. The connector includes a resilient insulating member made of an incompressible material, which is placed under initial compression by the parts. A portion of the member is left exposed to the high pressure liquid, and the member is shaped such that pressure of the liquid increases the effectiveness of the seal.

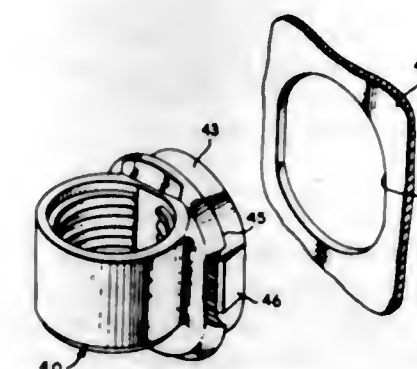
**3,384,861**  
**LOADBREAK DEVICE**  
Davis M. Phillips, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware  
Filed Aug. 25, 1966, Ser. No. 575,154  
9 Claims. (Cl. 339—111)

1. A loadbreak device for use with a cable termination having a terminal conductor comprising a coupling portion with a passageway adapted to slidably receive said termination terminal conductor; a sleeve portion of arc-extinguishing insulating material surrounding and partially defining said passageway and extending axially from the entrance to said passageway; a tubular conductor member axially spaced from the entrance of said passageway by said sleeve portion and partially defining said passageway; a follower means of insulating material carried by said coupling portion with at least a portion thereof axially movable within said passageway; biasing means urging said follower means toward the entrance of said passageway; stop means limiting travel of said follower means towards said entrance of said passageway to a first position with a portion of said follower concentrically received within said sleeve whereby said follower means is depressed against said biasing means when



ductor is withdrawn from said passageway and means for preventing movement of said follower means to its first position until said terminal conductor is withdrawn a predetermined distance outwardly of said passageway.

**3,384,862**  
**SNAP-IN ELECTRICAL RECEPTACLE FOR A PANEL**  
Larry L. Shroyer, Kendallville, Ind., assignor to Lyall Electric, Inc., Albion, Ind., a corporation of Indiana  
Filed Aug. 11, 1966, Ser. No. 571,814  
3 Claims. (Cl. 339—126)



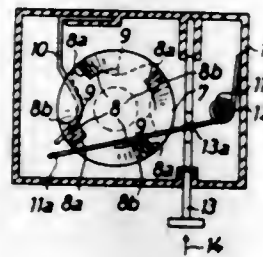
A snap-in receptacle is provided with two triangular projections, each having one face that is long and sloped at a small angle and a second face that is short and sloped at a steep angle. These projections permit a rigid receptacle to be snapped into an opening in a panel.

**3,384,863**  
**PHOTOGRAPHIC FLASH UNIT**  
Alfred Winkler, Munich, Karl Bammesberger, Munich-Untermenzing, and Erwin Fischer, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany  
Filed Sept. 21, 1966, Ser. No. 580,982  
Claims priority, application Germany, Sept. 22, 1965, A 24,436  
10 Claims. (Cl. 339—147)

A flash unit wherein the housing accommodates a socket which can be coupled with a multiple flash bulb container.



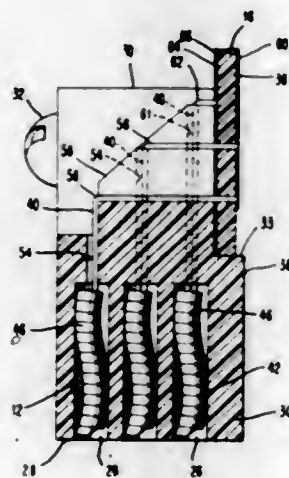
The socket is rotatable with the container to place the flash bulbs into an optimum position for illumination of the subject. The means for rotating the socket comprises a torsion spring which can be deformed by a manually op-



erated member to overcome the resistance of an indexing spring for the socket and to abruptly propel the socket from one of a series of predetermined positions to the next position.

3,384,864

**ELECTRICAL CONNECTOR ASSEMBLY**  
Leon Schwartz, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware  
Filed Nov. 15, 1965, Ser. No. 507,787  
6 Claims. (Cl. 339-176)



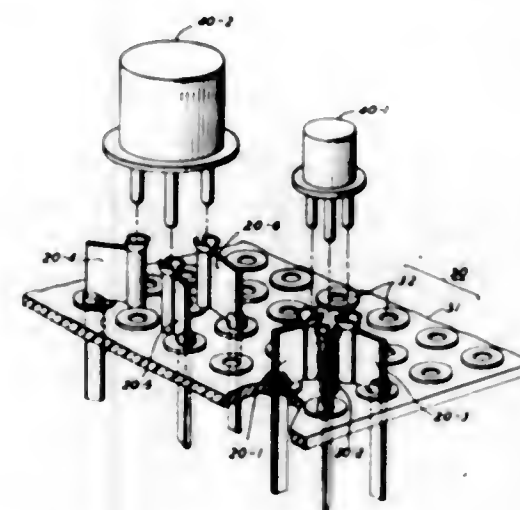
A miniaturized connector assembly for an electronic circuit board is disclosed. A connector assembly includes a connector block secured along one edge of the circuit board. The block contains a plurality of sockets each of which is formed from a flat spring wire stock wound in a helical manner and further shaped so that the helical spring follows a serpentine path. The spring has a tail section that extends through the connector block and is soldered to the circuit board wiring. The sockets cooperate with a series of rectangular pin connectors which are carried by a second block and arranged so that the pins can be inserted in the sockets to form a good reliable electrical connection between the pins and the sockets.

3,384,865

**MOUNTING OF CIRCUIT COMPONENTS**  
Raymond H. Bosworth, Watchung, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Filed Jan. 4, 1966, Ser. No. 518,644  
1 Claim. (Cl. 339-193)

Flexibility in the mounting of circuit components is achieved by employing individual socket clips in conjunction with a multiapertured chassis. Each clip includes a

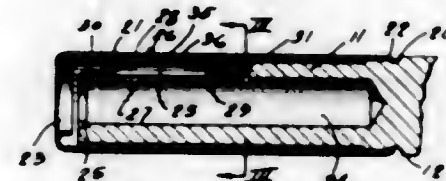
stem and an offset sleeve and is rotatably mounted on the chassis. By rotating a group of clips slightly in selected



apertures the offset sleeves can be aligned to receive circuit elements of varying sizes.

3,384,866

**CONTACT PRESSURING MEANS FOR AN ELECTRICAL CONNECTOR**  
Joseph A. Nava, Villa Park, Ill., assignor to The Pyle National Company, Chicago, Ill., a corporation of New Jersey  
Filed Sept. 3, 1965, Ser. No. 484,890  
8 Claims. (Cl. 339-256)



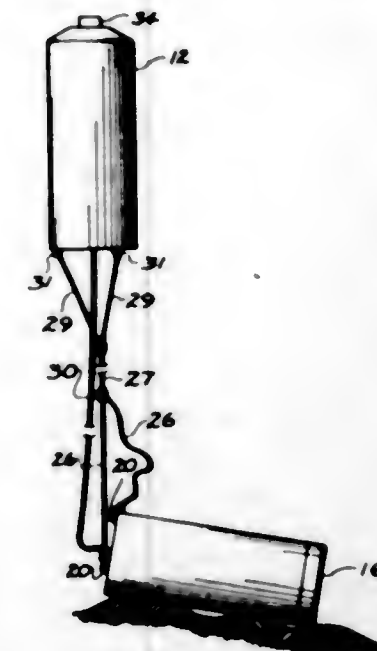
An electrical connector having female socket portions and an opening formed in the wall of the socket portions for positioning a contact spring therein. The opening has flat surfaces on opposite sides thereof, and the contact spring has a beam section and reversely turned integral spring arms. The beam section contacts the flat surfaces of the opening and the reversely turned integral spring arms engage a shroud which is fitted over the socket portion.

3,384,867

**UNDERWATER TRANSPONDER ASSEMBLY INCLUDING FLOTATION UNIT**  
Robert M. Bridges, Northridge, Calif., assignor to The Bendix Corporation, a corporation of Delaware  
Filed July 30, 1965, Ser. No. 476,086  
4 Claims. (Cl. 340-2)

An underwater transponder assembly including a cylindrical anchor housing containing a battery; a transducer and electrical means connected to the transducer; a cylindrical lightweight housing providing a free-flooding flotation assembly for supporting the transducer essentially vertically in the water, the flotation being supplied essentially by hollow glass spheres arranged in tiers in the assembly; electrical and tethering cables connecting the anchor housing to the flotation assembly; a third cylindrical housing containing the electrical and tethering cables connected between the anchor assembly

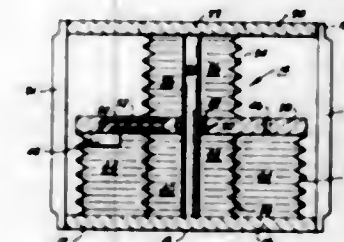
and the flotation housing to maintain the entire transponder assembly in the form of a single cylindrical unit, detectors for governing the permissible proceed time for the signal in accordance with traffic conditions. A detec-



tor in the ramp between the signal and the highway is used at times to restore the signal to stop.

3,384,868

**MARINE VIBRATOR DEVICE**  
Graydon L. Brown and Delbert W. Fair, Ponca City, Okla., assignors to Continental Oil Co., a corporation of Delaware  
Filed Jan. 5, 1967, Ser. No. 607,551  
11 Claims. (Cl. 340-8)

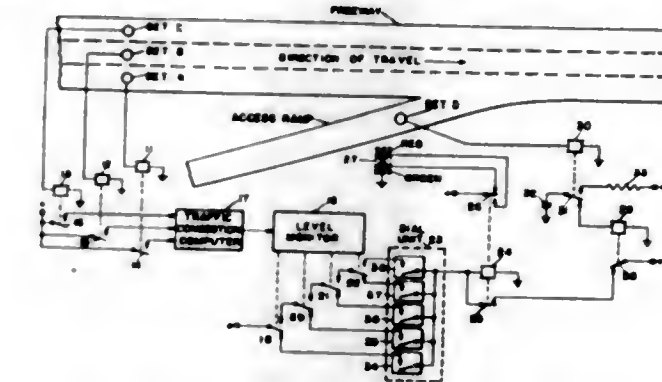


An apparatus for the generation of seismic energy waves within a water medium which consists of a rigid frame member and suspension attachments, the frame member movably securing a piston plate between upper and lower sealed bellows which are alternately pressurized by reciprocal oil flow to vibrate the piston plate relative to the frame member; the apparatus also including the employ of an additional bellows which is sealed between the piston plate and frame member to receive varying air pressure to thereby maintain static pressure balance.

3,384,869

**SYSTEM FOR FREEWAY ACCESS RAMP TRAFFIC CONTROL**  
Leslie F. Waldron, Rochester, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 346,177, Feb. 20, 1964. This application Jan. 17, 1966, Ser. No. 521,184  
10 Claims. (Cl. 340-36)

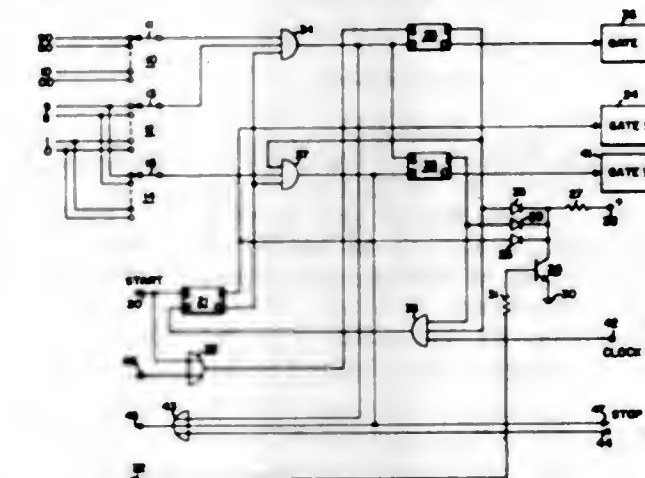
A system for controlling a signal governing ramp traffic into a controlled access highway having detectors in the highway and metering timer means controlled by the



tor in the ramp between the signal and the highway is used at times to restore the signal to stop.

3,384,870

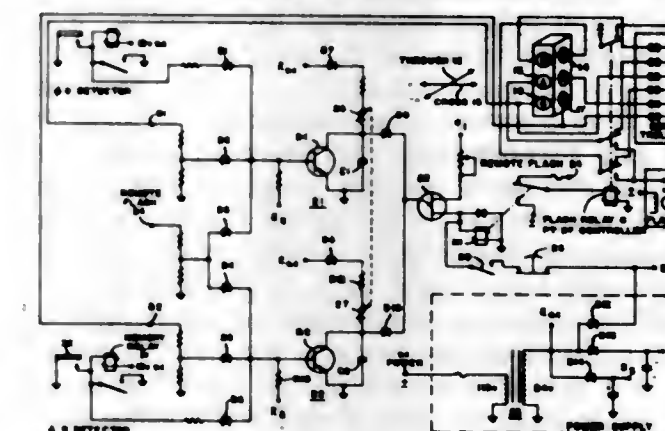
**CONTROL APPARATUS**  
Dennis L. Hogan, Largo, Fla., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware  
Filed Sept. 17, 1965, Ser. No. 488,127  
14 Claims. (Cl. 340-37)



A modular digital intersection traffic controller is illustrated wherein each module controls one function and control of the intersection is transferred to other modules at the end of the timing interval of a particular module's function.

3,384,871

**SOLID STATE AUXILIARY CONTROLLERS**  
John V. Selzer, 410 Linden Blvd. 11203, and Philip Cane, 697 E. 22nd St. 11215, both of Brooklyn, N.Y.  
Filed Oct. 22, 1965, Ser. No. 502,248  
14 Claims. (Cl. 340-41)



1. Traffic control apparatus responsive to signal control failure for producing a cautioning control signal comprising: a source of a cautioning signal,



a source of a first set of control signals directing traffic along a first direction and a second set of control signals directing traffic along a second direction that intersects with said first direction,  
 an output semiconductor device coupled to said cautioning signal source and capable of assuming a first state and a second state which second state activates said cautioning signal source,  
 first and second semiconductor timing circuits coupled to said source of control signals and responsive to normal operation of said first set of control signals and said second set of control signals for continuously providing said output semiconductor device with a disabling signal that normally maintains said output semiconductor device in said first state when both said first set of control signals and said second set of control signals occur in normal sequence, said first and second timing circuits being responsive to the abnormal occurrence of said first set of control signals and said second set of control signals respectively by providing an enabling signal to said output semiconductor device to change the latter device to said second state and thereby activate said source of a cautioning signal.

## ERRATUM

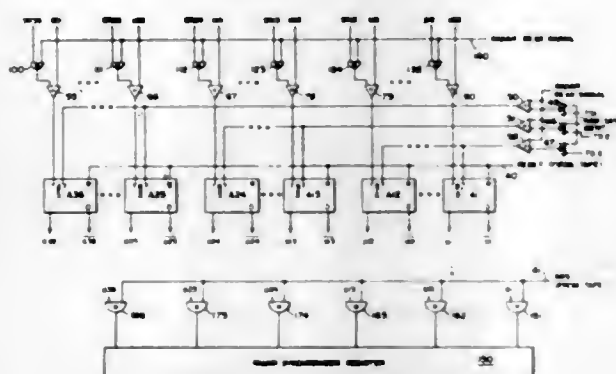
For Class 340—146.1 see  
 Patent No. 3,384,902

3,384,872

## LOGIC DESIGN FOR A MAGNETIC-TAPE-TO-RADAR BUFFERING UNIT

David L. Jones, Kensington, and Sylvester C. Tabisz, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Apr. 22, 1964, Ser. No. 361,919  
 3 Claims. (Cl. 340—146.2)



1. A comparison system comprising: a first set of registers, each register including an output designated as logic "a" and a second output designated logic "not a," a two input AND gate set input and a reset input; a second set of registers, each register including an output designated as logic "b" and a second output designated as logic "not b"; a first gate network connected to an input of said set inputs of said first set of registers; a second gate network connected to the other input of said set inputs of said first set of registers; a synchronizer register; means for providing simulated radar input data; a plurality of AND gates equal in number to the number of registers in said first set of registers connecting said logic "a" outputs to inputs of said synchronizer register; a "read" signal line connected to an input of each of said AND gates; means for providing predicted output data as input data to said second set of registers; and means for comparing the outputs of said sets of registers for indicating any differences between the outputs of said first set of registers and said second set of registers.

3,384,873  
**SELECTIVE CALLING SYSTEM**  
 Roshan Lal Sharma, Tustin, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Jan. 22, 1965, Ser. No. 427,384  
 5 Claims. (Cl. 340—146.1)



A selective calling system including means for generating an address recognition code followed by an address code, with both of said codes being of the cyclical, or redundant, type. At the receiver, means are provided to receive and identify the address recognition code and then to energize an address generating circuit at the receiver which functions to generate the address unique to that receiver. The receiver also receives the transmitted address code and in response to the address recognition code functions to compare the address code generated at the receiver with the received address code to determine the degree of coincidence. If coincidence is sufficiently high the address is presumed correct.

3,384,874  
**SUPERVISORY SYSTEM HAVING REMOTE STATION SELECTION BY THE NUMBER OF PULSES TRANSMITTED**

William J. Morley, Wheat Ridge, and Richard M. Garrett, Denver, Colo., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Mar. 4, 1963, Ser. No. 262,555  
 2 Claims. (Cl. 340—163)



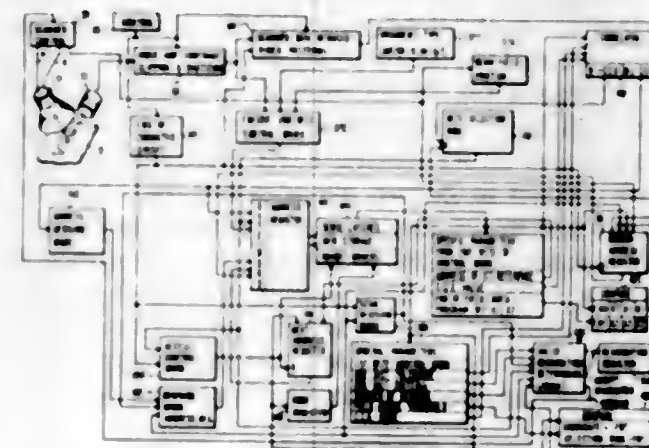
1. In a supervisory system including a central monitor station and at least one remote station, a remote station comprising:  
 receiving means having an output for receiving a train of electrical pulses from the central monitor station;

contour means connected to the output of said receiver means and adapted to provide an electrical output at a predetermined count of the said received electrical pulses;  
 a pulse generator means responsive to the output of the counter means;  
 transmitter means;  
 electrical delay means connected to an input of the transmitter means; and  
 switch means for selectively directing the output of the pulse generator directly to the said transmitter means or to the delay means, said switch means normally directing said pulse generator output to the transmitter means and being responsive to an alarm condition to direct the said pulse generator output to the delay means.

3,384,875

## REFERENCE SELECTION APPARATUS FOR CROSS CORRELATION

Jack F. Bene and Paul E. Nelson, Rochester, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
 Filed Sept. 27, 1965, Ser. No. 490,244  
 9 Claims. (Cl. 340—172.5)



A control word includes a first byte of data for generally controlling the cross correlation process. The remaining bytes of the control word are selectable through an encoding means which develops a second byte address according to indications of types of unknown data sets. The selected second byte of the control word contains the address for the first reference word to be used in the cross correlation process. Each reference word contains an address of another reference word. Means are provided to generate a last reference signal in response to control bits in the control word being matched by control bits within a reference. A decision word is scanned in response to the last reference signal. If a valid identification is made, then the cross correlation process terminates. However, if the unknown data set has not been identified, the cross correlation process continues with a reference identified either by the next address taken from the last reference or an address taken from a branch address register.

3,384,876

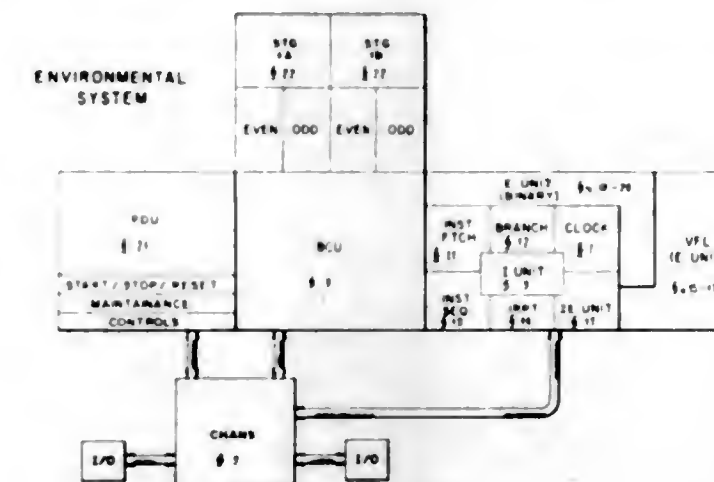
## OVERLAPPED FIELD HANDLING IN A DATA PROCESSING SYSTEM

Olin L. MacSorley, Lake Katrine, and Robert A. Nelson, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 445,304, Apr. 5, 1965. This application Jan. 13, 1967, Ser. No. 609,240  
 6 Claims. (Cl. 340—172.5)

The specification discloses an illustrative embodiment for the invention comprising a large scale data processing

ing system of the type which is composed of a plurality of quasi-independent units. The environmental data processing system includes a central processing unit or portion, which is herein referred to as a CPU, a plurality of storage units, a plurality of input/output control devices referred to herein as channels, as well as control and maintenance facilities which are found in a power distribution unit, herein referred to as a PDU. The CPU of the environmental system includes a control or instruction unit hereinafter referred to as an I unit, and an arithmetic and logic or execution unit, hereinafter referred to as an E unit. The I unit includes controls for instruction fetching, branching, interruption handling, com-



munication with the input/output channels, and other related functions. The E unit of the environmental system can perform algebraic and logical operations, moving, shifting, and other functions. A pair of registers is provided to present source and result operands, each of said registers being capable of holding a plurality of operands. Substitution of one storage word as a source of operands in place of another storage word may be accomplished by transferring operand source control from one register to another register. The exhaustion of one storage word as a source can be separated from the exhaustion of the same storage word as a result, and the storage word may be maintained in an available status for use as either a source or a result.

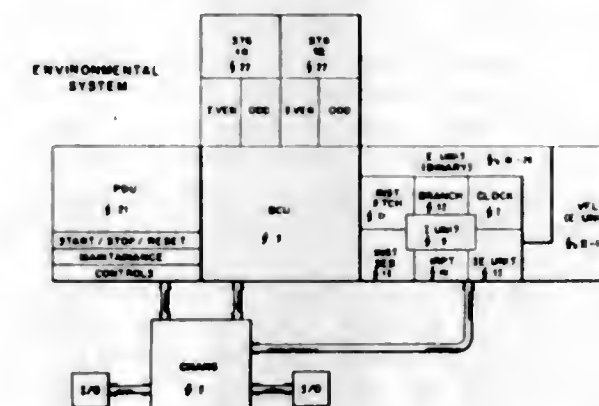
3,384,877

## FLEXIBLE REGISTER APPARATUS

Alan R. Geller and Leo J. Hasbrouck, Poughkeepsie, Olin L. MacSorley, Lake Katrine, and Wesley C. Stetler, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 445,314, Apr. 5, 1965. This application Jan. 13, 1967, Ser. No. 609,247

12 Claims. (Cl. 340—172.5)



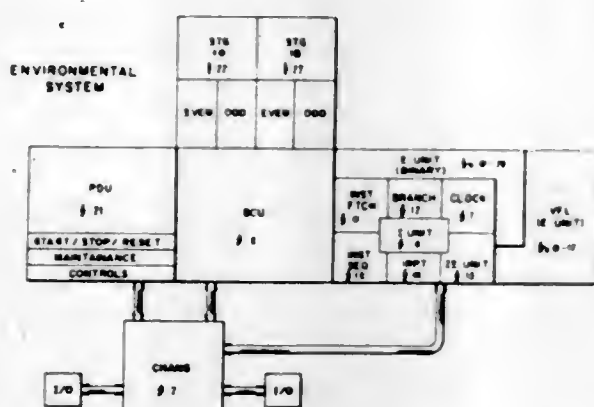
The specification discloses an illustrative embodiment for the invention comprising a large scale data processing



system of the type which is composed of a plurality of quasi-independent units. The environmental data processing system includes a central processing unit or portion, which is herein referred to as a CPU, a plurality of storage units, a plurality of input/output control devices referred to herein as channels, as well as control and maintenance facilities which are found in a power distribution unit, herein referred to as a PDU. The CPU of the environmental system includes a control or instruction unit hereinafter referred to as an I unit, and an arithmetic and logic or execution unit, hereinafter referred to as an E unit. The I unit includes controls for instruction fetching, branching, interruption handling, communication with the input/output channels, and other related functions. The E unit of the environmental system can perform algebraic and logical operations, moving, shifting, and other functions. A particular data register may be connected with a data bus in dependence upon the condition which has selected the register for transmission of data, rather than being dependent upon the register selected, or the destination of the data manifestations within the register.

**3,384,878**  
**DATA FLOW IN A DATA PROCESSING SYSTEM**  
 Robert A. Nelson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
 Continuation-in-part of application Ser. No. 445,322, Apr. 5, 1965. This application Jan. 13, 1967, Ser. No. 609,251

3 Claims. (Cl. 340-172.5)

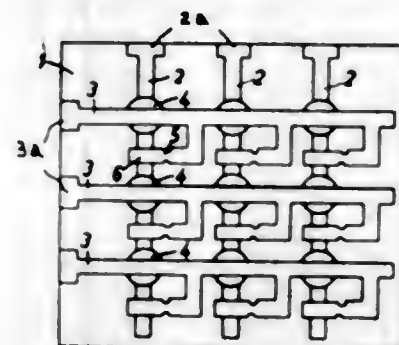


The specification discloses an illustrative embodiment for the invention comprising a large scale data processing system of the type which is composed of a plurality of quasi-independent units. The environmental data processing system includes a central processing unit or portion, which is herein referred to as a CPU, a plurality of storage units, a plurality of input/output control devices referred to herein as channels, as well as control and maintenance facilities which are found in a power distribution unit, herein referred to as a PDU. The CPU of the environmental system includes a control or instruction unit hereinafter referred to as an I unit, and an arithmetic and logic or execution unit, hereinafter referred to as an E unit. The I unit includes controls for instruction fetching, branching, interruption handling, communication with the input/output channels, and other related functions. A pointer is provided which is capable of selecting successive characters from a register. The pointer is provided with two stable sections, and an incrementing means between the sections. This permits utilization of one of the sections for controlling one portion of the data flow while utilizing the other section for controlling another portion of data flow. The E unit of the environmental system can perform algebraic and logical operations, moving, shifting, and other functions.

**3,384,879**  
**DIODE-MATRIX DEVICE FOR DATA STORING AND TRANSLATING PURPOSES**

Kurt Stahl, Hobensachsen, and Ruth Vogel, Jürgen Langer, and Hans Kielgas, Mannheim, Germany, assignors to Brown, Boveri & Cie, Aktiengesellschaft, Mannheim-Käfertal, Germany, a German corporation

Filed Mar. 12, 1965, Ser. No. 439,381  
 Claims priority, application Germany, Mar. 13, 1964, B 75,886; Mar. 14, 1964, B 75,912  
 14 Claims. (Cl. 340-173)



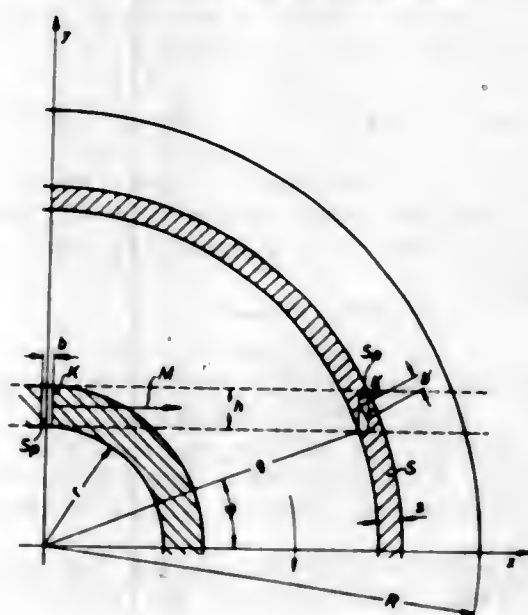
Diode-matrix for data processing includes an insulating substrate having a surface area, a number of diodes distributed in matrix arrangement on the area, the diodes having respective controllable connector means for selectively controlling the individual diodes to be active and inactive respectively in the matrix arrangement, the connector means being electrically in series with the respective diodes and either having each a locality of constricted cross section to permit evaporating the constricted locality by a current surge or comprising each of a photosensitive resistor on the substrate area controllable by illumination, whereby the connection with the diode is severable to inactivate the diode, the entire matrix arrangement including the diodes and the connector means being deposited and joined on the substrate.

**3,384,880**  
**DISC MEMORY STORAGE COMPRISING MAGNETIC HEADS ARRANGED OBLIQUELY TO THE TRACK**

Simon Duinker, Hamburg, Bahrenfeld, and Gerhard Haas, Hamburg, Germany, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 30, 1964, Ser. No. 400,443  
 Claims priority, application Germany, Oct. 16, 1963, P 32,785

6 Claims. (Cl. 340-174.1)

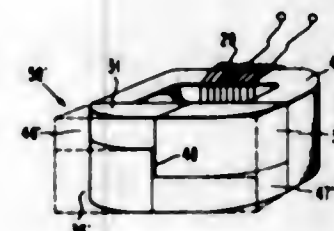


A magnetic disc storage device for providing a substantially constant bit capacity and sequence frequency

over a plurality of concentric storage tracks is provided with a displaceable magnetic head having a gap positioned with respect to the tangent of the innermost magnetic track at an angle of somewhere between 0 and 90 degrees. The angle will vary in accordance with the radius of the innermost track and the next sequential track from the common center of the tracks. The angular shift of the head for two successive tracks will decrease with an increase in radius to the second of the two successive tracks.

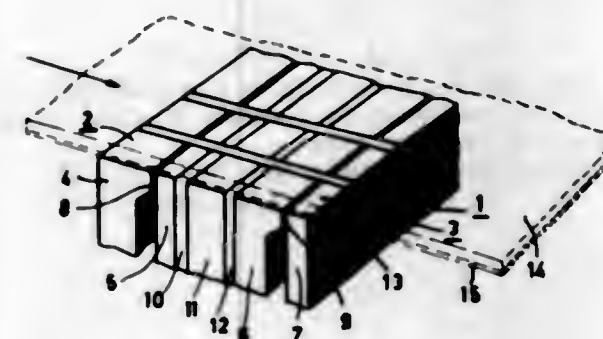
**3,384,881**  
**MAGNETIC TRANSDUCER HEAD ASSEMBLY WITH OFFSET POLE PIECES**  
 William Thomas Frost, Los Gatos, and Elbert Troy Hatley, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 6, 1964, Ser. No. 401,943  
 8 Claims. (Cl. 340-174.1)



An electromagnetic transducer for increased density in the tracking dimension is obtained despite limitations in presently available materials by offsetting the pole pieces in the tracking dimension to reduce the width of contiguous gap faces to a transverse dimension substantially less than the breadth or transverse dimensions of the pole pieces themselves.

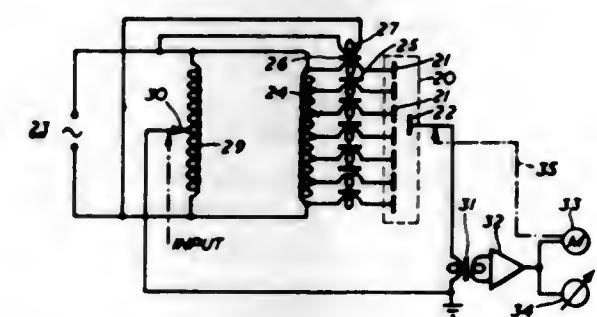
**3,384,882**  
**ASYMMETRICALLY GAPPED MULTIPLE MAGNETIC HEAD**  
 Jan Albert Geurst and George Ludwig Walther, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware  
 Filed Mar. 1, 1965, Ser. No. 436,063  
 Claims priority, application Netherlands, Mar. 4, 1964, 64-2,216  
 2 Claims. (Cl. 340-174.1)



A multiple magnetic head having first and second gaps arranged along the same track transversely to the direction of movement of a record carrier has a reduced level of relative influence by arranging each of the gaps asymmetrically with respect to the shield separating each of the magnetic circuits containing the gaps.

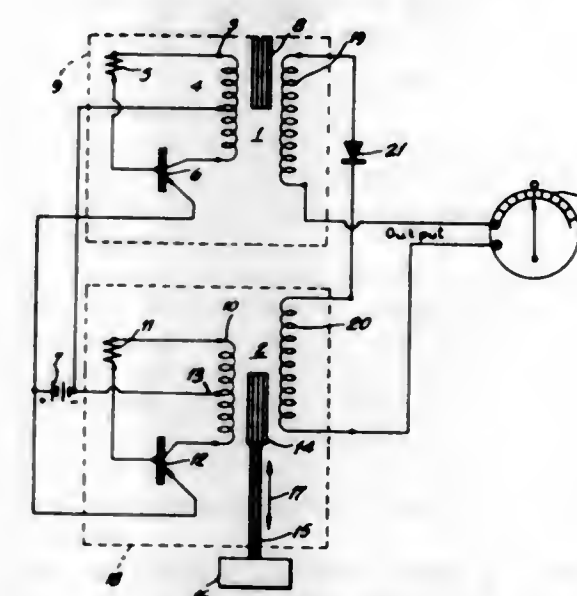
**3,384,883**  
**CAPACITIVE POTENTIOMETER REBALANCING SYSTEM**

Caleb Frederick Wolfendale, Great Brickhill, near Bletchley, England, assignor to Sogenique (Electronics) Limited  
 Continuation of application Ser. No. 140,874, Sept. 26, 1961, now Patent No. 3,287,716, dated Nov. 22, 1966.  
 This application June 2, 1966, Ser. No. 554,705  
 Claims priority, application Great Britain, Sept. 27, 1960, 33,144/60  
 3 Claims. (Cl. 340-187)



The application discloses an automatically balancing bridge including a capacitive potentiometer comprising a line of discrete stator electrodes coupled electrostatically to a movable pick-off electrode, a manually settable reference potential divider, a servo responsive to the potential difference between the reference divider tap and the pick-off electrode, and a correction transformer having secondary windings connected in the leads to the stator electrodes to inject small potentials for correcting the electrostatic field distribution.

**3,384,884**  
**MOVABLE CORE DIFFERENTIAL TRANSFORMER POSITION SENSOR**  
 Paul Frank Var, R.R. 1, P.O. Box 255, Petersburg, N.Y. 12138  
 Filed Oct. 15, 1965, Ser. No. 496,534  
 7 Claims. (Cl. 340-196)



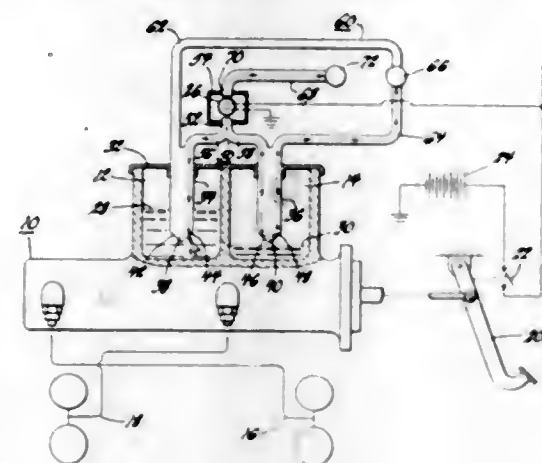
A position sensor in which a magnetic core of high permeability operating within a resonant circuit is rigidly attached to and manipulated by any convenient prime mover resulting in a corresponding electronic output signal which, when applied to a microammeter or other suitable indicator, provides an accurate indication of the true position of the prime moving object or any microscopic deviation therefrom. Likewise, by observation of initial readout data, the prime mover object can be returned to any predetermined position.



### 3,384,885 MULTIPLE LIQUID RESERVOIR LIQUID LEVEL INDICATOR

Lothrop M. Forbush, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 21, 1966, Ser. No. 529,118  
5 Claims. (Cl. 340-244)

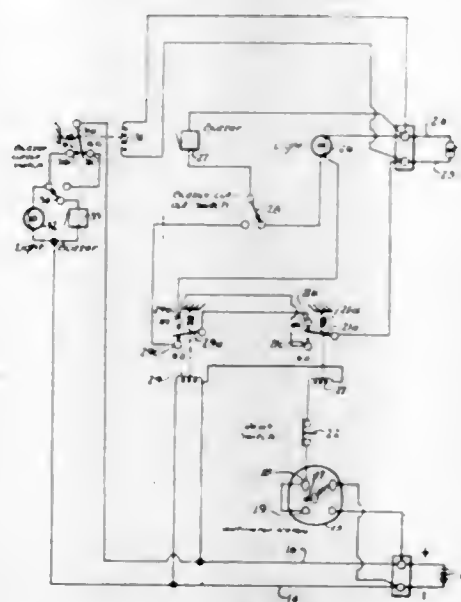


A liquid level indicator system for separate liquid reservoirs in which a light-transmitting probe is inserted in each reservoir, and light from a selectively energizable light source is transmitted through a branch of an optical fiber circuit to each probe and is refracted into the liquid in the associated reservoir if the liquid level is sufficiently high. If the liquid level in any reservoir is sufficiently low, the light is reflected back through the probe in that reservoir and into another branch of the optical fiber circuit to visual indicator means. Appropriate light reflectors may be utilized to transmit a colored light when the light is reflected and to cause another color of light to be reflected back into the probe when the light is refracted into the liquid.

### 3,384,886 ALARM FOR EMERGENCY LIGHTING SYSTEM

Leonildo Serra, Newtown, Conn., assignor to Dual-Lite Company, Inc., Newtown, Conn., a corporation of Connecticut

Filed June 10, 1964, Ser. No. 373,985  
2 Claims. (Cl. 340-253)



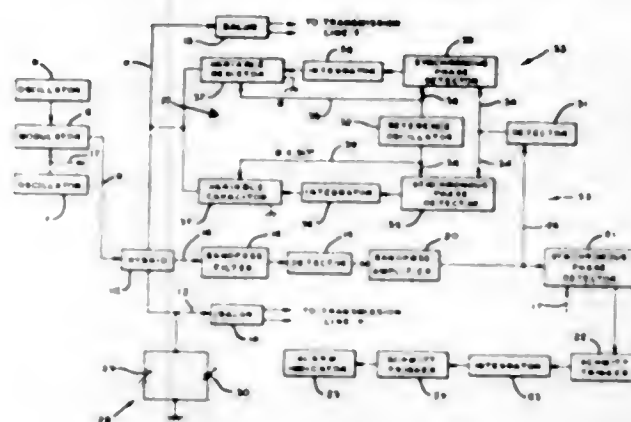
A double supervision circuit including means to warn of loss of power from the main source, a relay to monitor the availability of an emergency source, a voltage-measuring relay to indicate the voltage of the emergency source, and a relay controlled by the voltage-measuring relay and having contacts connected to contacts of the relay that monitors the availability of the emergency

source and to a warning device that includes both audible and visual warning means and switch means to connect them in parallel or to connect the audible warning means so as to indicate return of the emergency source to a proper voltage level.

### 3,384,887 INTRUDER DETECTION SYSTEM

Melvin E. Trimble, Saratoga, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Sept. 3, 1965, Ser. No. 484,958  
12 Claims. (Cl. 340-258)



1. In an intruder detection system including a two-wire transmission line bounding an area to be protected and a first detector circuit responsive to signals on the transmission line for detecting and indicating intrusion of the protected area, an impedance control circuit comprising:

a second detector circuit having an input connected to the transmission line and having an output, said second detector circuit rectifying signals on the transmission line,

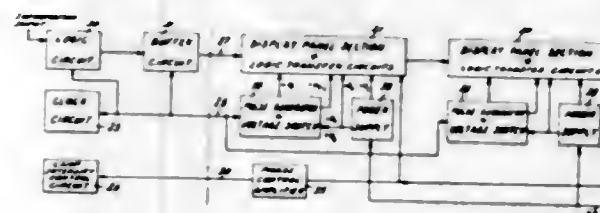
an oscillator having an output, variable impedance means having an output connected to the transmission line, having a first input connected to the output of said oscillator for modulating the value of said variable impedance means and the value of the transmission line characteristic impedance, and having a second input,

means for detecting the output of said second detector as a function of the output of said oscillator, and means for summing the output of said detecting means, said summing means having an output connected to the second input to said variable impedance means for varying the effective value thereof and the effective value of the transmission line characteristic impedance.

### 3,384,888 OPTICAL APPARATUS

John D. Harnden, Jr., Schenectady, and Clifford M. Jones, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 30, 1964, Ser. No. 422,227  
12 Claims. (Cl. 340-339)



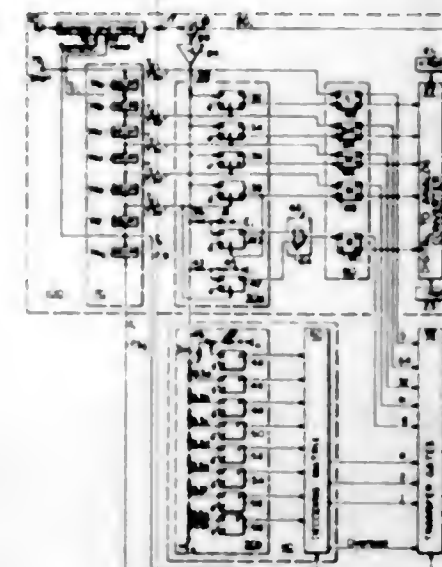
Solid state controlled conducting devices are connected in circuit relationship with lamps arranged in rows and columns on an electric display sign. A logic switching circuit controls the conduction states of the solid state de-

ices and switches the conduction states column-by-column to obtain a traveling message defined by particular successively illuminated lamps in each row on the sign.

### 3,384,889 HYBRID ANALOG TO DIGITAL CONVERTER

Paul G. Lucas, Magnolia, Mass., assignor to Adage, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Dec. 23, 1964, Ser. No. 420,538  
7 Claims. (340-347)



A high speed bi-polar analog to digital converter for converting an analog signal to binary form which utilizes the combination of a sequential feedback converter for the higher order digits and a simultaneous converter using parallel threshold decoding for the lower order digits. The output signal from the summing junction of the sequential feedback converter is supplied as the input signal to the simultaneous converter and the complete output signal is made available only after the sequential feedback converter has completed a complete conversion. A complete conversion of an analog signal into eight binary bits has been completed in one microsecond in one embodiment of an analog to digital converter incorporating the invention.

### 3,384,890 VARIABLE APERTURE VARIABLE POLARIZATION HIGH GAIN ANTENNA SYSTEM FOR A DISCRIMINATION RADAR

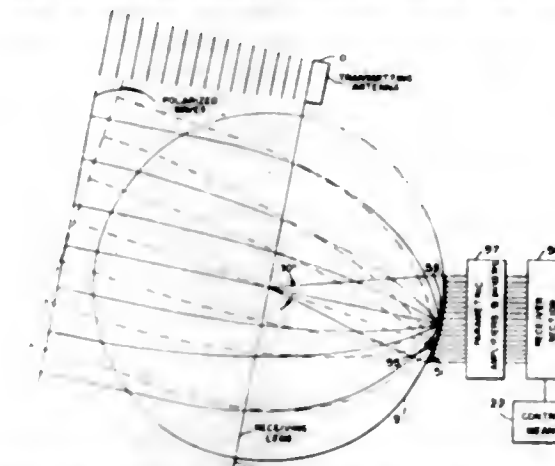
William F. List, Linthicum Heights, and Conway A. Bok, Jr., Pasadena, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Oct. 7, 1965, Ser. No. 495,029  
1 Claim. (Cl. 343-5)



Discrimination radar transmit and receive antennas are mounted on a U shaped gimbal support and have parallel

lines of sight. The receive antenna is basically a Luneberg lens having multiple feeds, thereby allowing continuous

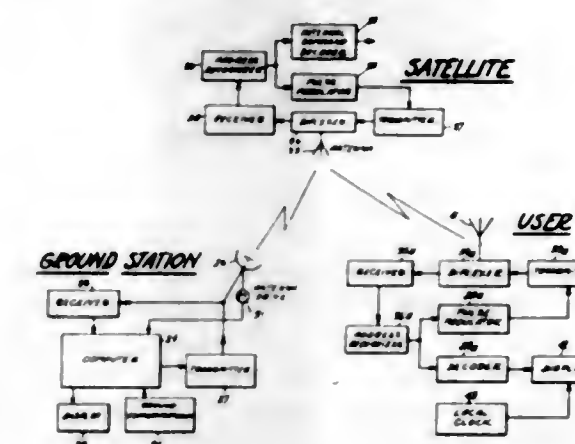


surveillance and angular resolution of fragments in a moving cloud of fragments.

### 3,384,891 METHOD AND SYSTEM FOR LONG DISTANCE NAVIGATION AND COMMUNICATION

Roy E. Anderson, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 11, 1965, Ser. No. 431,897  
18 Claims. (Cl. 343-6.5)



1. A method for locating the position of a craft with respect to the earth comprising the steps of placing a vehicle provided with a receiver and transmitter in a path above the earth which may be accurately determined, transmitting ranging-signals by line-of-sight communication from a ground station located substantially at the surface of the earth to the vehicle at a known position thereof, receiving the ranging-signals and automatically retransmitting the received signals simultaneously from the vehicle back to the ground station and by line-of-sight communication to a craft whose position is to be located with respect to the earth, receiving the retransmitted ranging-signals at the ground station and at the craft and automatically retransmitting the received signals from the craft back to the vehicle, receiving the craft-retransmitted ranging-signals at the vehicle and automatically retransmitting such signals from the vehicle back to the ground station, measuring the time interval at the ground station between the reception of the vehicle's two retransmissions of the ranging-signals whereby the range from the known position of the vehicle to the craft may be determined, repeating the step of transmitting ranging-signals from the ground station to the vehicle at a time subsequent to the earlier transmission such that the vehicle is at a second known position considerably removed from the earlier known position and repeating the



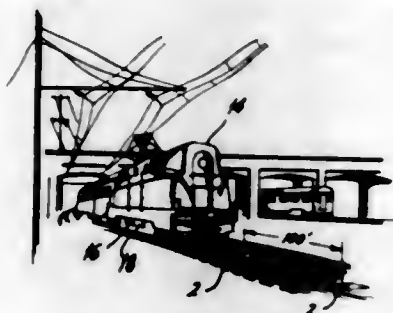
steps of receiving and retransmitting the subsequent transmission at the vehicle and craft whereby a measurement of the time interval at the ground station between reception of the vehicle's two retransmissions of the subsequently transmitted ranging-signals determines the range from the second known position of the vehicle to the craft, and locating the position of the craft by employing the two determined ranges from the two known positions of the vehicle to the craft to describe two circles of position that intersect at two points, one of which is the craft's position.

3,384,892

### INTERROGATOR-RESPONDER SIGNALLING SYSTEM

Monroe H. Postman, Sunnyvale, Calif., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Nov. 7, 1966, Ser. No. 592,591  
7 Claims. (Cl. 343-6.5)



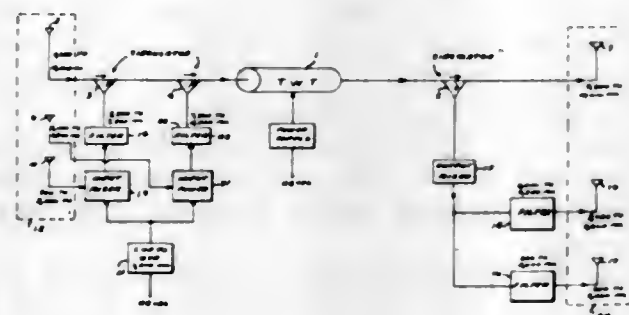
An interrogator-responder signalling system having a plurality of responder devices each of which generates a response signal the frequency of which is a harmonic of the interrogator signal. Each responder device consists of a generally U shaped sheet of conductive material with a capacitor and a diode serially connected across the open end of the conductive material.

3,384,893

### RADAR AUGMENTATION SYSTEM

Franklin H. Prestwood, Valparaiso, Fla., assignor to the United States of America as represented by the Secretary of the Air Force

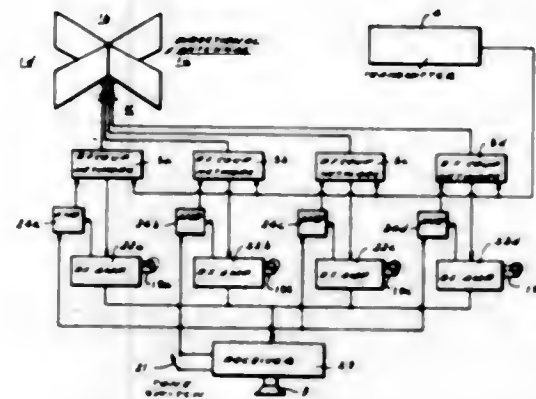
Filed Mar. 21, 1967, Ser. No. 625,565  
1 Claim. (Cl. 343-6.8)



This invention relates to a radar amplifier system located at a remote target. The purpose of this amplifier system is to amplify the signals received at the remote target and retransmit the amplified signal back to its source. A novel heterodyning technique is employed in the amplifier system to permit the system to amplify signals that lay outside the normal band pass of the amplifier circuit employed in the system.

### 3,384,894 COMMUNICATIONS SYSTEM FOR SIMULTANEOUS COMMUNICATIONS ON A SINGLE CHANNEL

Robert G. Clark, Austin, Tex., assignor to Mobilradio Incorporated, a corporation of Texas  
Filed Nov. 1, 1966, Ser. No. 591,284  
9 Claims. (Cl. 343-100)



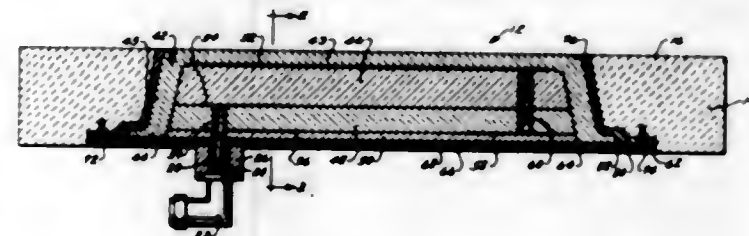
A communications system for simultaneous communications on a single channel, including a plurality of directional antennae, each receiving and radiating communications signals in exclusive directions, a receiver linked to each antenna and producing an audio output, and a transmitter. Each receiver and the transmitter are alternatively connected to one of the antennae by an RF coupling network which includes shielded RF sections, each connected to one of said antennae, receivers, or transmitter. The RF sections have movable partitions between them to allow RF coupling between sections. The partitions are moved by solenoids so that when reception is desired from a specific direction a receiver is coupled to the appropriate antenna, and when transmission is desired in that direction only the transmitter is coupled to the antenna. Tone switches may be employed in the receivers so only certain tone signals unmute the receiver. Also, these tone signals and incoming RF signals can be used to cause the solenoids to switch so that the transmitter is automatically switched to the particular antenna on which a desired signal was received upon completion of the incoming call.

3,384,895

### NOSE CONE MOUNTED HEAT-RESISTANT ANTENNA

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Arthur Dorne, Sea Cliff, and Eugene E. Shube, Elmont, N.Y.

Filed Jan. 19, 1966, Ser. No. 521,754  
5 Claims. (Cl. 343-708)



1. An antenna adapted to be mounted in the heat shield of a spacecraft comprising:
  - a plurality of adjacent layers of dielectric material;
  - a radiating element embedded between the outermost layer and the second layer of said dielectric material;
  - a feed element embedded between said second layer and a third layer;

input means connected to a source of electrical signals for coupling said electrical signals to said feed element comprising an input connector secured to one of said layers;

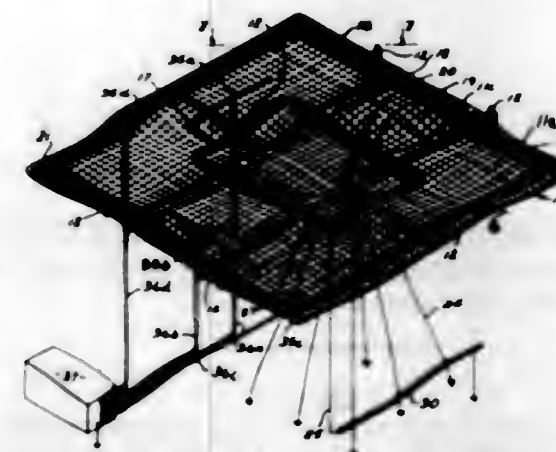
a heat sink secured to said layers and spaced therefrom for reflecting radiative heat away from said spacecraft, said spacing providing an insulating layer between the innermost layer and said heat sink; and means embedded in said layers for matching said input means to said antenna.

3,384,896

### VERTICAL MONOPOLE WITH SPIRAL-SHAPED TOP LOADING

Karl H. Kriz, Northridge, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed June 28, 1965, Ser. No. 467,399  
14 Claims. (Cl. 343-713)



1. A radio antenna comprising
  - a vertical antenna section,
  - a top-loading antenna section connected to one end of said vertical antenna section, comprising a substantially horizontally oriented generally spirally wound wire portion,
  - means for supporting said top-loading section comprising a frame member, a webbing fabricated of electrically insulating material strung on said frame member, means for attaching said top-loading antenna section to said webbing portion, and means for supporting said frame member substantially horizontally over the ground, and
  - means for coupling said antenna to a radio frequency device,
- whereby said vertical antenna section and said top-loading section as combined resonate at a predetermined operating frequency with substantially all the electromagnetic radiation of said antenna being radiated from said vertical antenna section.

3,384,897

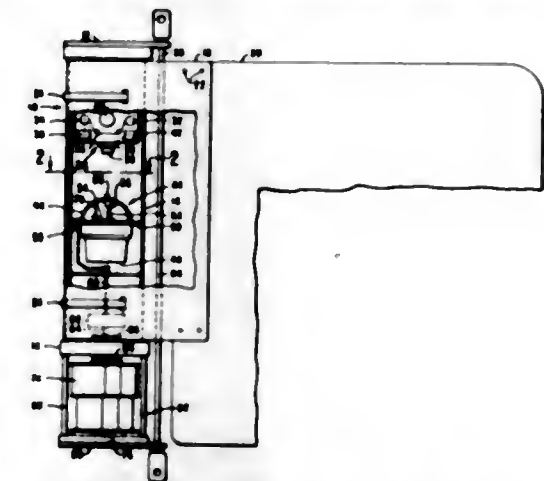
### HISTOGRAM CURRENT METER

Edward C. Brainard II, and Robert L. Sundblad, Marion, Mass., assignors to Braincon Corporation, Marion, Mass., a corporation of Massachusetts

Filed Feb. 3, 1966, Ser. No. 524,921  
13 Claims. (Cl. 346-8)

An instrument for providing a histogram film record of the amplitude of the output signal from data sensors for a period of time where the data sensor has an output indicating member which changes position mechanically to indicate the magnitude of the output. The indicating member is made radiative and a film is arranged to be exposed a sufficient time to show that the film has an image of both the position and the change of position of the member during the measurement time. By using a

film which has a linear characteristic of change of density with exposure duration, the resulting trace can indicate



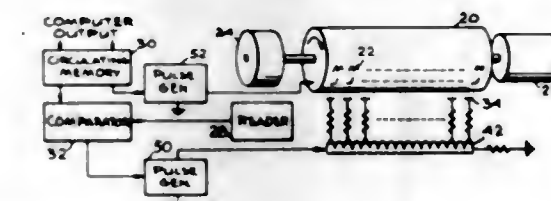
not only the change of position but the rate of change of position of the indicating member.

3,384,898

### HIGH SPEED PRINTER ADDRESSING APPARATUS UTILIZING MULTI-TAPPED DELAY LINE

Albert Macovski, Palo Alto, and Hugh F. Frohlich, Sunnyvale, Calif., assignors to Stanford Research Institute, Palo Alto, Calif., a corporation of California

Filed Dec. 30, 1963, Ser. No. 334,364  
5 Claims. (Cl. 346-74)



An arrangement for electrostatically printing at a high speed uses a drum having type characters arranged in rows around the periphery thereof. At a printing position spaced from the type characters are a plurality of aligned electrodes. Paper to be printed on is passed between the electrodes and surface of the drum. The electrodes are connected to a means for successively applying a voltage pulse thereto having an amplitude less than that required to exceed the threshold voltage required for causing a discharge between the electrodes and a type character on the drum. A second pulse, which, combined with the previously applied pulse exceeds the electrostatic discharge threshold, is applied to the electrodes selectively, as required, to cause a print out of the characters in accordance with data provided from a convenient source.

3,384,899

### MAGNETIC TAPE RECORDING UTILIZING A MAGNETIC CODE WHEEL

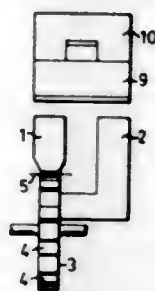
Karl Åke Lagerqvist, Bandhagen, Sweden, assignor to Hugin Kassarregister Aktiebolag, a corporation of Sweden

Filed Dec. 22, 1964, Ser. No. 420,348  
12 Claims. (346-74)

Apparatus is provided for use with such devices as cash registers and accounting machines which provides for the registration of the transactions of the devices on magnetic tape and which includes a soft magnetic circuit with two gaps, a permanent magnet movable from an open position opening one of said gaps to a closed position closing the gap, and with the second gap having one side defined by a counter-pole and the opposite side



defined by a soft magnetic support adjustable with respect to the counter-pole and forming part of the soft magnetic circuit, the support having a plurality of different character-shaped soft poles on the surface thereof, and a

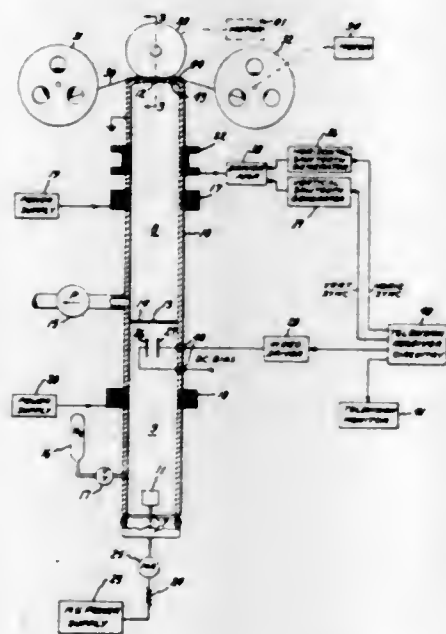


magnetizable tape disposed and movable in the second gap for the marking thereon of a selected one of the soft character-shaped poles in response to the movement of the permanent magnet to closed position.

**3,384,900**  
**ELECTRON BEAM RECORDING SYSTEM WITH RECORDING MEDIUM AND PRESSURE WHEEL AS CONTINUOUS VACUUM SEAL**

Erwin C. Buschmann, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 3, 1967, Ser. No. 606,625  
10 Claims. (Cl. 346—110)



A system for recording information by impinging a controllable electron beam on the surface of a recording medium. The beam is contained in a vacuum, while the medium, situated outside the vacuum, is moved past a slot through which the beam passes to impinge on the medium. By bringing a resilient wheel to bear against the medium, a gas-tight seal is maintained around the periphery of the slot, thereby retaining the required vacuum even when the recording medium is moved out of contact with the slot periphery.

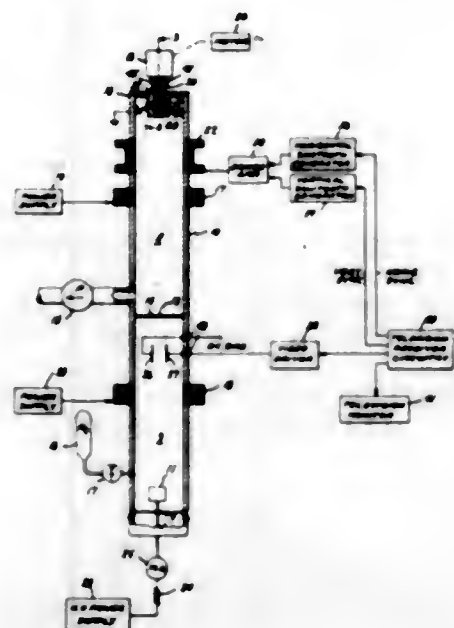
**3,384,901**  
**ELECTRON BEAM RECORDING SYSTEM WITH RECORDING MEDIUM AS VACUUM SEAL**

Sterling P. Newberry, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 3, 1967, Ser. No. 606,626  
10 Claims. (Cl. 346—110)

A system for recording information by impinging a controllable electron beam on the surface of a recording

medium. The beam is contained in a vacuum, while the medium, situated outside the vacuum, is moved past a slot through which the beam passes to impinge on the

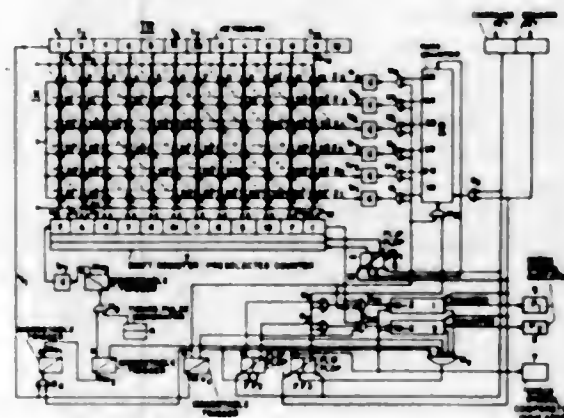


medium. By applying pressure to the medium, a gas-tight seal is maintained around the periphery of the slot, thereby retaining the required vacuum.

**3,384,902**  
**CIRCUIT ARRANGEMENT FOR DETECTING ERRORS IN GROUPS OF DATA BY COMPARISON OF CALCULATED CHECK SYMBOLS WITH A REFERENCE SYMBOL**

Jürgen Schröder and Uwe Betram, Hamburg, Germany, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 27, 1964, Ser. No. 385,127  
Claims priority, application Germany, July 27, 1963, P 32,291  
3 Claims. (Cl. 340—146.1)

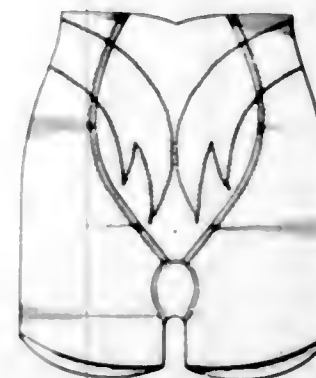


A circuit for indicating the correctness of groups of data bits including a keyboard for entering a group of data bits into a ferrite core memory matrix. A preselection counter receives the data word from the memory and is designed to run forward or backward to position the check symbols within the word into a first check symbol counter. A second set of check symbols is generated into the preselection counter by pulsing the memory matrix. The preselection counter is then read out into a second check symbol counter and the two check symbol counter contents are compared with a reference check symbol initially provided with the data word. A coincidence indicates an error-free data group.

## DESIGNS

MAY 21, 1968

**211,075**  
**PANTY GIRDLE**  
Sallyann Z. Salisky, Garfield, N.J., assignor to Sarong, Inc., Dover, Del., a corporation of Delaware  
Original design application Apr. 13, 1966, Ser. No. 1,872, now Patent No. 208,900, dated Oct. 17, 1967. Divided and this application Feb. 23, 1967, Ser. No. 8,452  
Term of patent 14 years  
(Cl. D2—4)



**211,076**  
**REFLECTIVE SAFETY VEST OR SIMILAR ARTICLE**

Gus W. Speridon, 113 Arroyo Drive, South San Francisco, Calif. 94127  
Filed Jan. 16, 1967, Ser. No. 5,442  
Term of patent 14 years  
(Cl. D2—27)



**211,077**  
**SWIMMING CAP**  
Philip A. Wilson-Haffenden, Deal, Kent, England, assignor to W. W. Haffenden Limited, Richborough Rubber Works, Kent, England, a company of Great Britain  
Filed Mar. 29, 1967, Ser. No. 6,437  
Claims priority, application Great Britain Feb. 8, 1967  
Term of patent 3½ years  
(Cl. D2—236)



**211,078**  
**BATHING HAT**  
David Atkin, London, England, assignor to The Cannon Rubber Manufacturers Limited, London, England  
Filed Dec. 2, 1966, Ser. No. 4,903  
Claims priority, application Great Britain July 9, 1966  
Term of patent 3½ years  
(Cl. D2—238)



**211,079**  
**COMBINED DECANTER AND CLOSURE THEREFOR**  
Ernest L. Du Pree, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware  
Filed Aug. 10, 1967, Ser. No. 8,215  
Term of patent 14 years  
(Cl. D9—122)



**211,080**  
**CAR WASH BUILDING**  
Richard J. Shelstad, Brookfield, Wis., assignor to Edick Laboratories, Inc., Milwaukee, Wis., a corporation of Wisconsin  
Filed Jan. 5, 1967, Ser. No. 5,315  
Term of patent 7 years  
(Cl. D13—1)

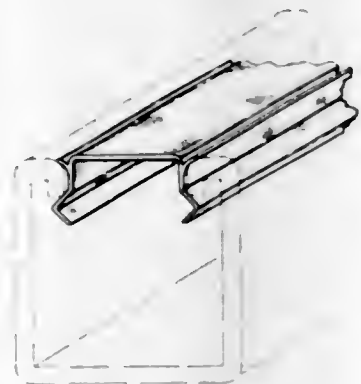




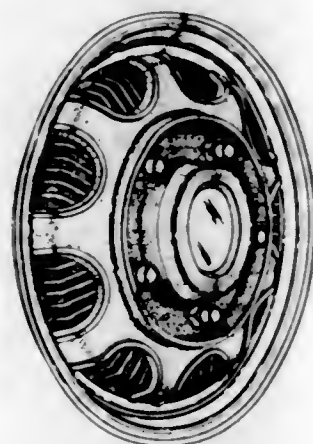
**211,081**  
**PORTABLE TOILET**  
 Eugene W. Barnhart, R.R. 13, Box 321,  
 Vanderburgh County, Ind. 46011  
 Filed Sept. 15, 1967, Ser. No. 8,608  
 Term of patent 14 years  
 (Cl. D13—1)



**211,082**  
**EXTRUDED PROTECTIVE CLOSURE STRIP  
 FOR A SLOTTED CHANNEL ELEMENT**  
 Carl Henry La Londe, Warren, Ohio, assignor to The  
 Youngstown Sheet and Tube Company, Mohoning,  
 Ohio, a corporation of Ohio  
 Filed Dec. 26, 1967, Ser. No. 9,915  
 Term of patent 14 years  
 (Cl. D13—1)



**211,083**  
**WHEEL COVER**  
 Charles L. Burson, Ypsilanti, Mich., assignor to Gar  
 Wood Industries, Inc., Wayne, Mich., a corporation  
 of Michigan  
 Filed June 5, 1967, Ser. No. 7,356  
 Term of patent 14 years  
 (Cl. D14—30)



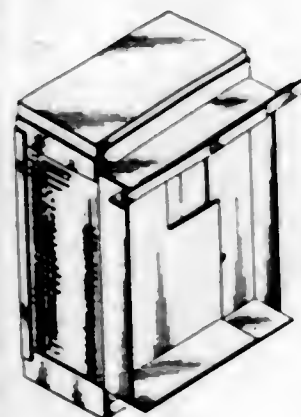
**211,084**  
**DRY-CHEMICAL FIRE EXTINGUISHER**  
 Robert D. Kahn, Rockville Centre, N.Y., assignor to  
 Fedtro, Inc., Rockville Centre, N.Y., a corporation  
 of New York  
 Filed Dec. 19, 1966, Ser. No. 5,120  
 Claims priority, application Japan Oct. 1, 1966  
 Term of patent 14 years  
 (Cl. D16—2)



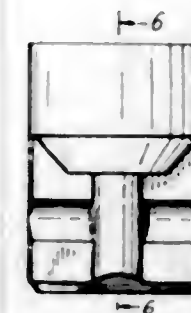
**211,085**  
**SOLENOID CONTROLLED VALVE**  
 Lawrence D. Padula, New Britain, Conn., assignor to  
 Skinner Precision Industries, Inc., New Britain, Conn.,  
 a corporation of Connecticut  
 Filed July 19, 1967, Ser. No. 7,878  
 Term of patent 14 years  
 (Cl. D23—19)



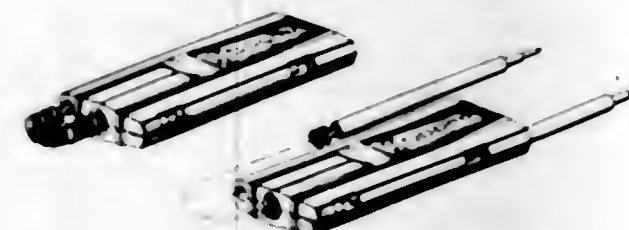
**211,086**  
**HOUSING FOR AN EVAPORATIVE AIR COOLER**  
 Alfred B. Christopher, Kern, Calif.  
 (2150 Orange St., Rosamond, Calif. 93560)  
 Filed May 9, 1967, Ser. No. 7,040  
 Term of patent 14 years  
 (Cl. D23—141)



**211,087**  
**ADAPTOR FOR A CAPLESS ELECTRIC LAMP**  
 Thomas Hammond, Cobham, England, assignor to Rival  
 Lamps Limited, Weybridge, England, a British company  
 Filed May 22, 1967, Ser. No. 7,215  
 Claims priority, application Great Britain Dec. 30, 1966  
 Term of patent 14 years  
 (Cl. D26—1)



**211,088**  
**VOLTAGE TESTER**  
 Harvey A. Schwartz, Merrick, N.Y., and Richard J. Carter,  
 Orchard Lake, Mich., assignors to Soss Manufacturing  
 Company, Detroit, Mich., a corporation of Nevada  
 Filed Mar. 23, 1967, Ser. No. 6,352  
 Term of patent 14 years  
 (Cl. D26—1)



**211,089**  
**TRANSMISSION TOWER**  
 Henry Dreyfus, South Pasadena, Calif., assignor to  
 Southern California Edison Company, Los Angeles,  
 Calif., a corporation of California  
 Filed Oct. 12, 1967, Ser. No. 8,981  
 Term of patent 14 years  
 (Cl. D26—12)



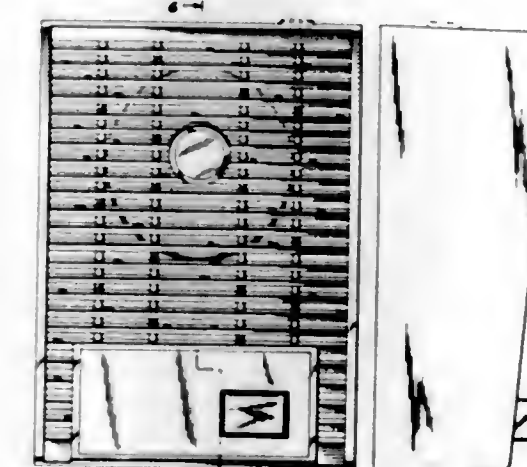
**211,090**  
**COMBINED SAFETY FLASHER SWITCH AND IN-  
 DICATOR LIGHT FOR THE CONVERSION OF  
 THE FRONT AND REAR AUTO LIGHTS INTO  
 SAFETY SIGNAL FLASHERS**  
 Robert D. Kahn, Rockville Centre, N.Y., assignor to  
 Fedtro, Inc., Rockville Centre, N.Y., a corporation  
 of New York  
 Filed May 24, 1967, Ser. No. 7,253  
 Term of patent 14 years  
 (Cl. D26—13)



**211,091**  
**LOUDSPEAKER CABINET**  
 Dallas Richard Wilder, 1253 W. Diversey Parkway,  
 Chicago, Ill. 60614  
 Filed May 2, 1966, Ser. No. 2,096  
 Term of patent 14 years  
 (Cl. D26—14)

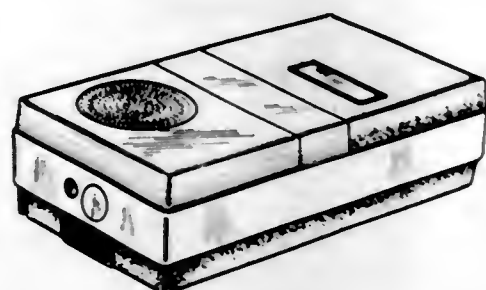


**211,092**  
**INTERCOM UNIT**  
 Robert D. Kahn, Rockville Centre, N.Y., assignor to  
 Fedtro, Inc., Rockville Centre, N.Y., a corporation  
 of New York  
 Filed Apr. 28, 1967, Ser. No. 6,876  
 Term of patent 14 years  
 (Cl. D26—14)

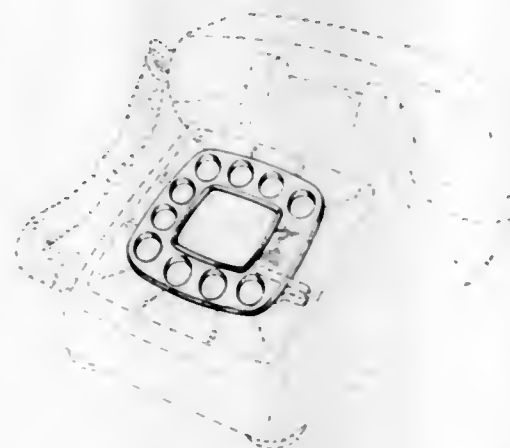




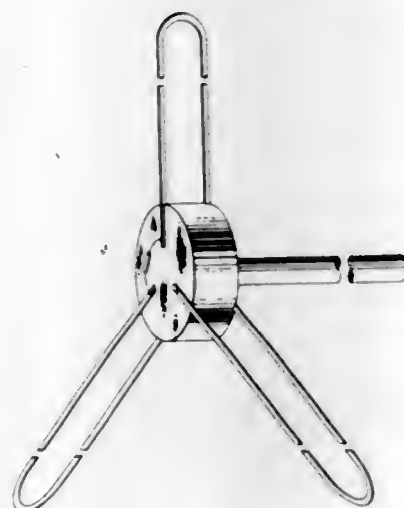
**211,093**  
**POCKET DICTATING MACHINE**  
 Rebertus Van der Poel, Eindhoven, Netherlands, assignor  
 to North American Philips Co., Inc.  
 Filed May 23, 1967, Ser. No. 7,243  
 Claims priority, application Switzerland Dec. 30, 1966  
 Term of patent 14 years  
 (Cl. D26—14)



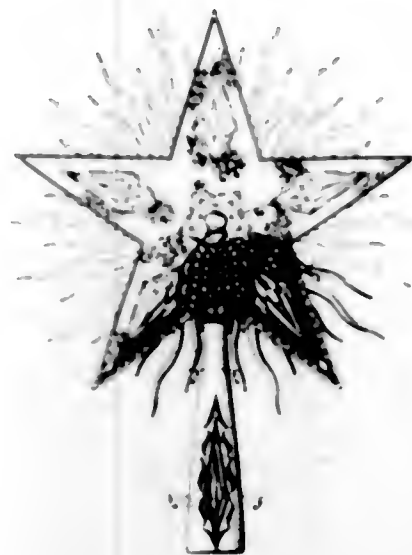
**211,094**  
**TELEPHONE DIAL**  
 Graham S. Laing and Wesley N. Willis, London, Ontario,  
 Canada, assignors to Northern Electric Company,  
 Limited, Montreal, Quebec, Canada  
 Filed Aug. 22, 1967, Ser. No. 8,346  
 Term of patent 14 years  
 (Cl. D26—14)



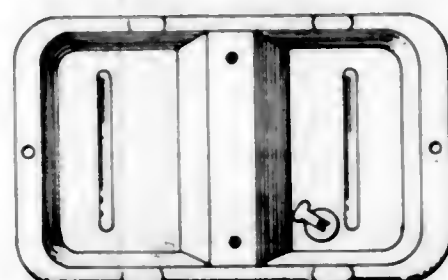
**211,095**  
**TELEVISION ANTENNA**  
 Jack W. Weston, 112 Fir St., Hendersonville, N. C. 28739  
 Filed Nov. 2, 1967, Ser. No. 9,251  
 Term of patent 14 years  
 (Cl. D26—14)



**211,096**  
**CHRISTMAS ORNAMENT**  
 Dario Moranduzzo, Via Aretina 161, Florence, Italy  
 Filed May 9, 1967, Ser. No. 7,030  
 Term of patent 14 years  
 (Cl. D29—1)



**211,097**  
**ANIMAL WATER PAN**  
 Sheldon Strauss, 1478 NE. 130th St.,  
 North Miami, Fla. 33161  
 Filed Aug. 28, 1967, Ser. No. 8,402  
 Term of patent 14 years  
 (Cl. D30—16)



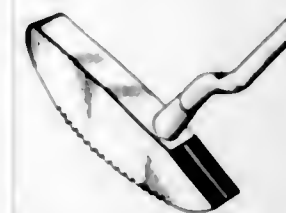
**211,098**  
**SEAT AND DESK COMBINATION**  
 Chester J. Barecki, Grand Rapids, and Carl W. Sundberg  
 and Montgomery Ferar, Southfield, Mich., assignors to  
 American Seating Company, Grand Rapids, Mich., a  
 corporation of Delaware  
 Filed Dec. 2, 1966, Ser. No. 4,896  
 Term of patent 14 years  
 (Cl. D33—11)



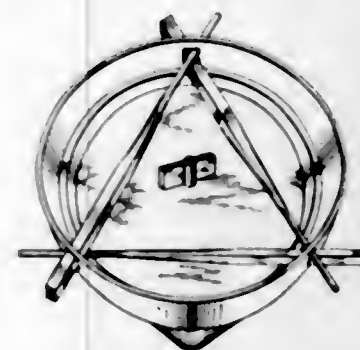
**211,099**  
**TABLE OR THE LIKE**  
 Norman Clayton Jenkins, 214 Thomas Ave.,  
 Nutter Fort, W. Va. 26301  
 Original design application Nov. 1, 1965, Ser. No. 87,971,  
 now Patent 208,311, dated Aug. 15, 1967. Divided and  
 this application July 26, 1967, Ser. No. 7,993  
 Term of patent 14 years  
 (Cl. D33—14)



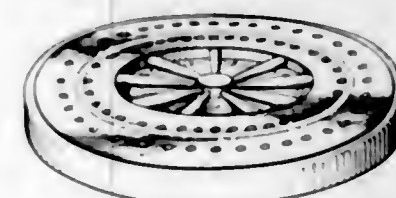
**211,100**  
**GOLF CLUB**  
 Chester G. Baker, 733 Pearl St.,  
 Columbus, Ind. 47201  
 Filed Mar. 20, 1967, Ser. No. 6,298  
 Term of patent 14 years  
 (Cl. D34—5)



**211,101**  
**COMBINED ROTATABLE BOWL AND ACCESSORY  
 STICKS FOR A GAME OR SIMILAR ARTICLE**  
 Harry Zelenko, 10 E. 54th St., New York, N.Y. 10022  
 Filed Apr. 5, 1967, Ser. No. 6,540  
 Term of patent 3½ years  
 (Cl. D34—5)



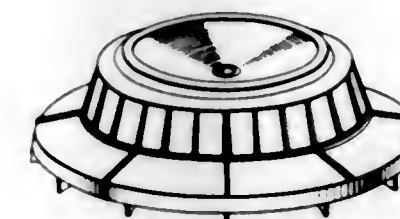
**211,102**  
**GAME BOARD**  
 Stephen E. Kindelan, 85 Chestnut St.,  
 Weston, Mass. 02193  
 Filed Aug. 25, 1967, Ser. No. 8,394  
 Term of patent 14 years  
 (Cl. D34—5)



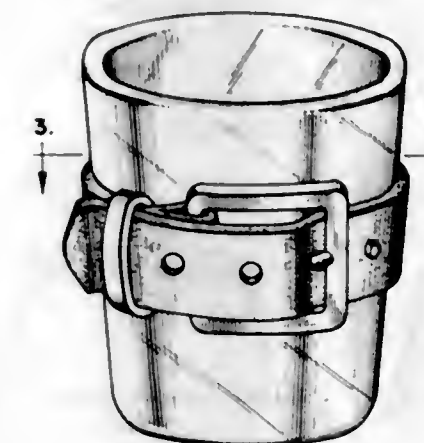
**211,103**  
**GOLF PUTTER HEAD**  
 Raymon W. Cook, 1026 Mt. Eden,  
 San Antonio, Tex. 78213  
 Filed Dec. 6, 1967, Ser. No. 9,653  
 Term of patent 14 years  
 (Cl. D34—5)



**211,104**  
**TOY FLYING SAUCER OR THE LIKE**  
 Rufus F. Steadman, Harker Heights, Tex.  
 (P.O. Box 23, Killen, Tex. 76541)  
 Filed Mar. 6, 1967, Ser. No. 6,092  
 Term of patent 14 years  
 (Cl. D34—15)



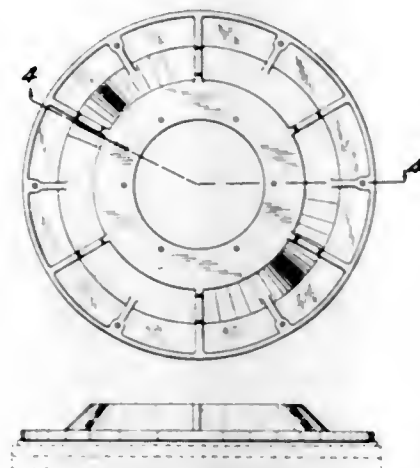
**211,105**  
**TUMBLER OR THE LIKE**  
 Raymond Swenson, 109 W. School St.,  
 Grayslake, Ill. 60030  
 Filed Oct. 17, 1967, Ser. No. 9,026  
 Term of patent 14 years  
 (Cl. D36—8)





**211,106**  
**DRIVING PAD RISER FOR DISC FLOOR**  
**SURFACING MACHINE**

John R. Anderson, Maplewood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware  
Filed Nov. 23, 1966, Ser. No. 4,792  
Term of patent 14 years  
(Cl. D37-1)



**211,107**  
**FILE**

Elwin Theobald, 4631 Solano Way, Fair Oaks, Calif. 95628, and Phillip R. Andrews, 3640 53rd St., Sacramento, Calif. 95820  
Filed Mar. 29, 1967, Ser. No. 6,423  
Term of patent 14 years  
(Cl. D37-1)

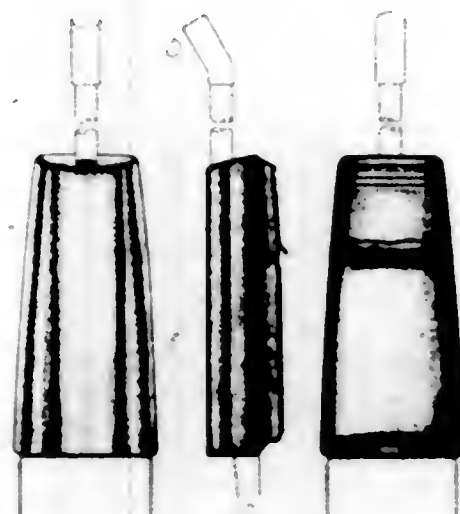


**211,108**  
**FLOOR AND CARPET TREATING MACHINE**  
Carroll M. Gantz, North Canton, Ohio, and Robert H. Hose, Mountainside, N.J., assignors to The Hoover Company, North Canton, Ohio, a corporation of Ohio  
Filed Nov. 15, 1966, Ser. No. 4,674  
Term of patent 14 years  
(Cl. D37-3)

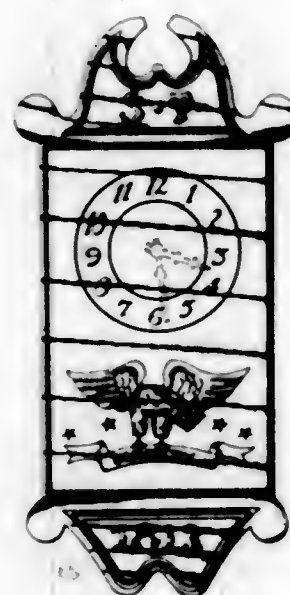


**211,109**  
**LIQUID DISPENSER FOR A FLOOR AND**  
**CARPET TREATING MACHINE**

Carroll M. Gantz, North Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio  
Filed Nov. 15, 1966, Ser. No. 4,679  
Term of patent 14 years  
(Cl. D37-4)



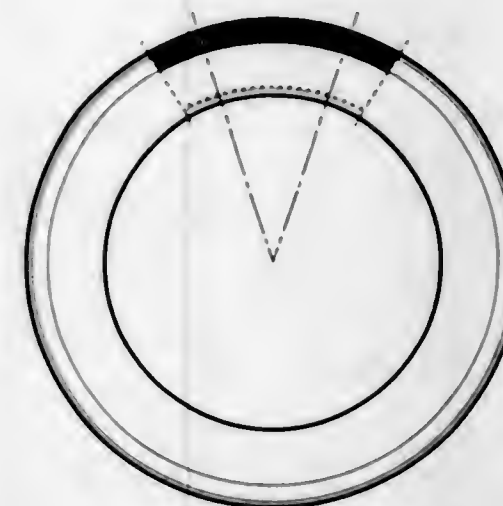
**211,110**  
**CLOCK**  
William Conlin, Freeport, N.Y. (% General Time Corporation, High Ridge Park, Stamford, Conn. 06905)  
Filed May 26, 1967, Ser. No. 7,335  
Term of patent 14 years  
(Cl. D42-7)



**211,111**  
**CLOCK CASING**  
Monte L. Levin, New York, N.Y., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware  
Filed Nov. 8, 1967, Ser. No. 9,323  
Term of patent 14 years  
(Cl. D42-7)



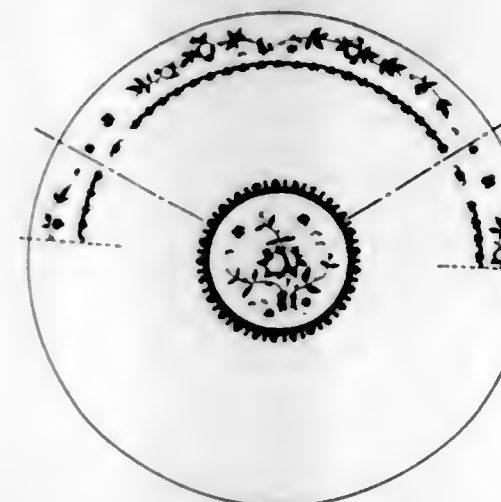
**211,112**  
**PLATE OR SIMILAR ARTICLE**  
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan  
Filed Oct. 9, 1967, Ser. No. 8,905  
Term of patent 7 years  
(Cl. D44-15)



**211,113**  
**PLATE OR SIMILAR ARTICLE**  
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan  
Filed Oct. 9, 1967, Ser. No. 8,906  
Term of patent 14 years  
(Cl. D44-15)



**211,114**  
**PLATE OR SIMILAR ARTICLE**  
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan  
Filed Oct. 9, 1967, Ser. No. 8,907  
Term of patent 3 1/2 years  
(Cl. D44-15)

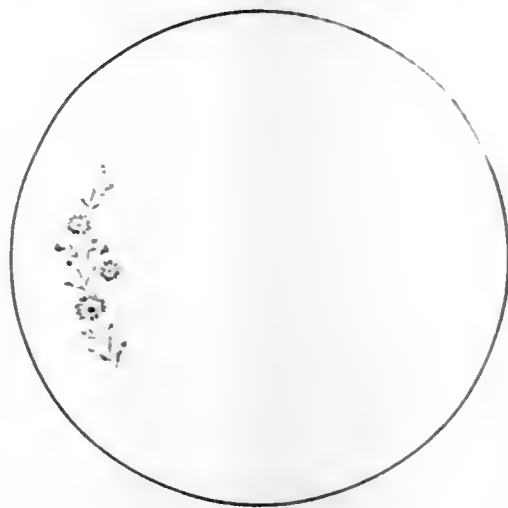


**211,115**  
**PLATE OR SIMILAR ARTICLE**  
Ryotaro Takeoka, 221 Kitayamoto-cho, Nishikasugai-gun, Aichiken, Japan  
Filed Oct. 9, 1967, Ser. No. 8,908  
Term of patent 7 years  
(Cl. D44-15)

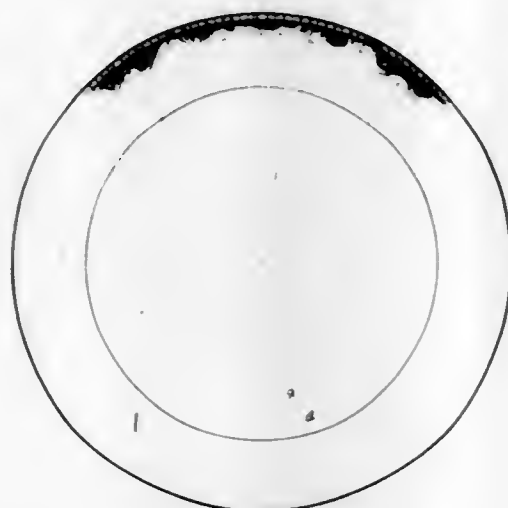




**211,116**  
**PLATE OR SIMILAR ARTICLE**  
 Ryotaro Takeoka, 221 Kitayamoto-cho,  
 Nishikasugai-gun, Aichiken, Japan  
 Filed Oct. 9, 1967, Ser. No. 8,917  
 Term of patent  $3\frac{1}{2}$  years  
 (Cl. D44—15)



**211,117**  
**PLATE OR SIMILAR ARTICLE**  
 Ryotaro Takeoka, 221 Kitayamoto-cho,  
 Nishikasugai-gun, Aichiken, Japan  
 Filed Oct. 9, 1967, Ser. No. 8,924  
 Term of patent 7 years  
 (Cl. D44—15)



**211,118**  
**PLATE OR SIMILAR ARTICLE**  
 Ryotaro Takeoka, 221 Kitayamoto-cho,  
 Nishikasugai-gun, Aichiken, Japan  
 Filed Oct. 9, 1967, Ser. No. 8,925  
 Term of patent 7 years  
 (Cl. D44—15)



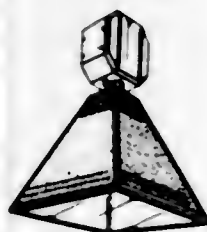
**211,119**  
**PLATE OR SIMILAR ARTICLE**  
 Ryotaro Takeoka, 221 Kitayamoto-cho,  
 Nishikasugai-gun, Aichiken, Japan  
 Filed Oct. 9, 1967, Ser. No. 8,928  
 Term of patent  $3\frac{1}{2}$  years  
 (Cl. D44—15)



**211,120**  
**LANTERN HOLDER**  
 Delmar D. Sherbert, 902 N. 11th St.,  
 Salina, Kans. 67401  
 Filed Sept. 19, 1967, Ser. No. 8,654  
 Term of patent 14 years  
 (Cl. D48—4)



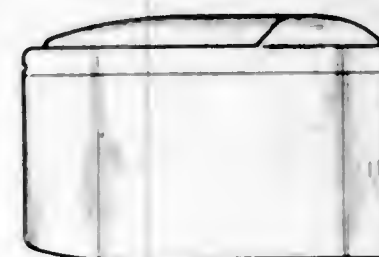
**211,121**  
**SUSPENDED COMBINATION TRANSFORMER  
 AND LIGHT FIXTURE**  
 Buell Moore, Houston, Tex., assignor to Esquire, Inc.,  
 New York, N.Y., a corporation of Delaware  
 Filed Aug. 3, 1966, Ser. No. 3,347  
 Term of patent 14 years  
 The portion of the term of the patent subsequent to  
 Jan. 21, 1978, has been disclaimed  
 (Cl. D48—20)



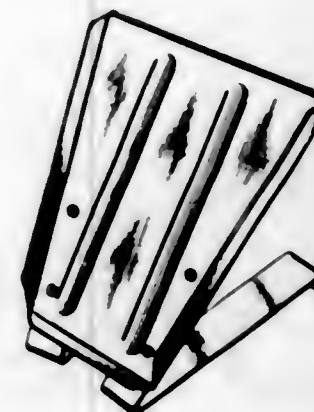
**211,122**  
**COMBINED CURBSIDE LAMP AND  
 METER PEDESTAL**  
 Louis A. Hinz, 1731 Jewel Drive,  
 Longmont, Colo. 80501  
 Filed May 17, 1967, Ser. No. 7,168  
 Term of patent 14 years  
 (Cl. D48—20)



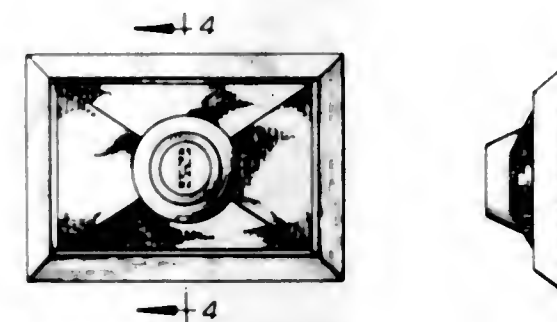
**211,123**  
**LIGHTER**  
 Jean Genoud, St. Cyr-au-Mont-d'Or, Rhone, France,  
 assignor to Etablissement Genoud & Cie, Venissieux,  
 Rhone, France  
 Filed Aug. 25, 1966, Ser. No. 3,584  
 Claims priority, application France Mar. 9, 1966  
 Term of patent 7 years  
 (Cl. D48—27)



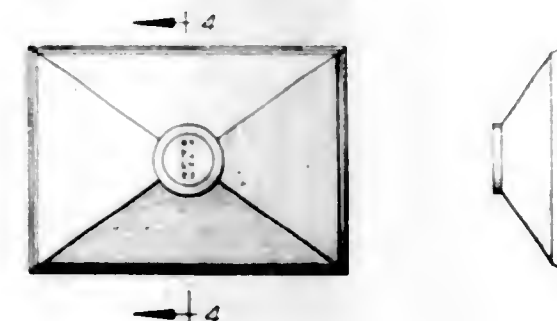
**211,124**  
**PRESSING IRON SUPPORT**  
 Jack P. Echols, Dallas, Tex.  
 (107 S. Interurban, Richardson, Tex. 75080)  
 Filed Sept. 18, 1967, Ser. No. 8,645  
 Term of patent 14 years  
 (Cl. D49—6)



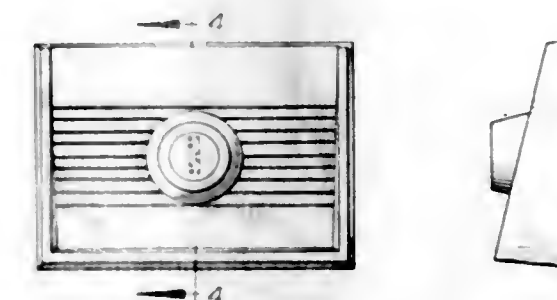
**211,125**  
**COIN BOX DOOR FRONT FOR VENDING  
 MACHINES OR THE LIKE**  
 Robert K. Unter, Rockford, Ill., assignor to National Lock  
 Co., Rockford, Ill., a corporation of Delaware  
 Filed Sept. 1, 1967, Ser. No. 8,481  
 Term of patent 14 years  
 (Cl. D52—3)



**211,126**  
**COIN BOX DOOR FRONT FOR VENDING  
 MACHINES OR THE LIKE**  
 Robert K. Unter, Rockford, Ill., assignor to National Lock  
 Co., Rockford, Ill., a corporation of Delaware  
 Filed Sept. 1, 1967, Ser. No. 8,482  
 Term of patent 14 years  
 (Cl. D52—3)

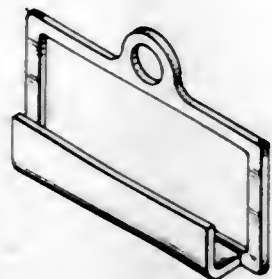


**211,127**  
**COIN BOX DOOR FRONT FOR VENDING  
 MACHINES OR THE LIKE**  
 Robert K. Unter, Rockford, Ill., assignor to National Lock  
 Co., Rockford, Ill., a corporation of Delaware  
 Filed Sept. 1, 1967, Ser. No. 8,483  
 Term of patent 14 years  
 (Cl. D52—3)





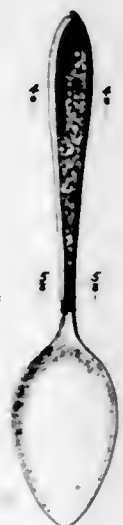
**211,128**  
**HOOK FOR GARMENT BAG DISPLAY**  
 Daniel E. Gelles, 1140 Broadway,  
 Kerhonkson, N.Y. 10001  
 Filed July 12, 1967, Ser. No. 7,783  
 Term of patent 14 years  
 (Cl. D54-1)



**211,129**  
**SPOON OR SIMILAR ARTICLE**  
 Frank R. Perry, Oneida, N.Y., assignor to Oneida Ltd.,  
 Oneida, N.Y., a corporation of New York  
 Filed Apr. 12, 1967, Ser. No. 6,650  
 Term of patent 14 years  
 (Cl. D54-12)



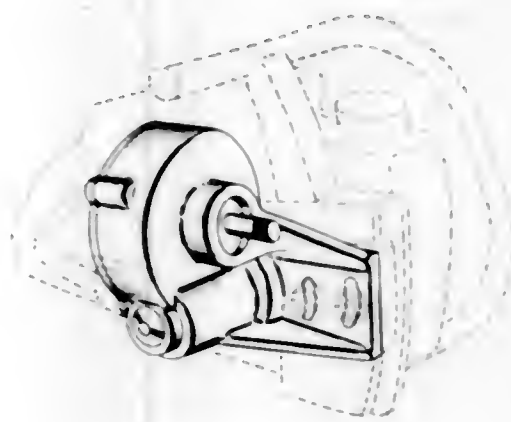
**211,130**  
**SPOON OR SIMILAR ARTICLE**  
 Frank R. Perry, Oneida, N.Y., assignor to Oneida Ltd.,  
 Oneida, N.Y., a corporation of New York  
 Filed Apr. 26, 1967, Ser. No. 6,846  
 Term of patent 14 years  
 (Cl. D54-12)



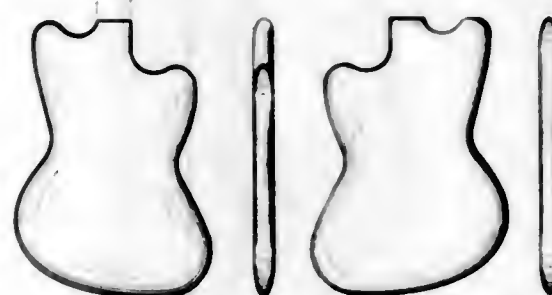
**211,131**  
**BOTTLE GRIPPER FOR FILLING MACHINES**  
 Albert Saffanoff, 30707 Rue de la Pierre,  
 Palos Verdes Peninsula, Calif. 90274  
 Filed Mar. 16, 1967, Ser. No. 6,243  
 Term of patent 14 years  
 (Cl. D55-1)



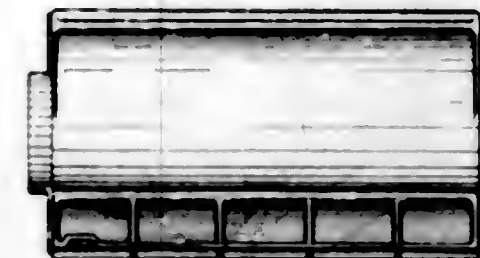
**211,132**  
**POWER TAKE-OFF FOR CHAIN SAWS**  
 Robert B. Huxtable, 4109 W. Saginaw,  
 Lansing, Mich. 48917  
 Filed Mar. 13, 1967, Ser. No. 6,204  
 Term of patent 14 years  
 (Cl. D55-1)



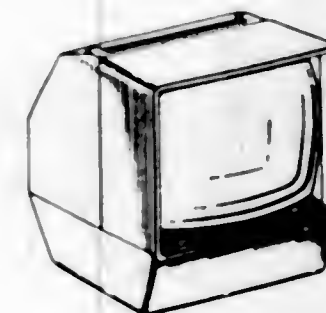
**211,133**  
**GUITAR BODY OR SIMILAR ARTICLE**  
 Louis S. Holly, Highland Park, N.J., assignor, by mesne  
 assignments, to The Danelectro Corporation, Neptune  
 City, N.J., a corporation of New York  
 Filed June 27, 1967, Ser. No. 7,618  
 Term of patent 14 years  
 (Cl. D56-1)



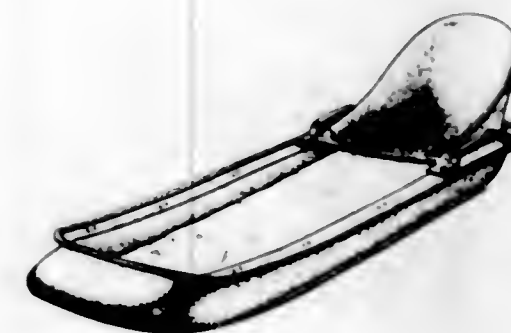
**211,134**  
**PHOTOGRAPHIC ROLL FILM CASSETTE**  
**OR SIMILAR ARTICLE**  
 Daniel H. Robbins and Robert H. Powers, Rochester,  
 N.Y., assignors to Itak Corporation, Lexington,  
 Mass., a corporation of Delaware  
 Filed July 27, 1966, Ser. No. 3,220  
 Term of patent 14 years  
 (Cl. D61-1)



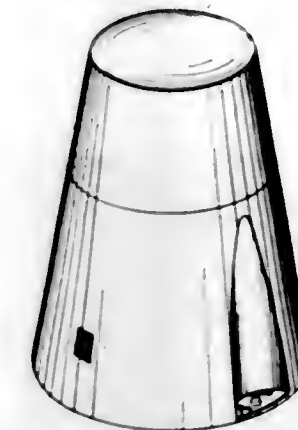
**211,135**  
**PHOTOGRAPHIC SLIDE VIEWER**  
 Cheng Cho Tan, 9th Floor, 51 Bedford Road,  
 Tai Kok Tsui, Hong Kong  
 Filed Sept. 20, 1966, Ser. No. 4,048  
 Term of patent 7 years  
 (Cl. D61-1)



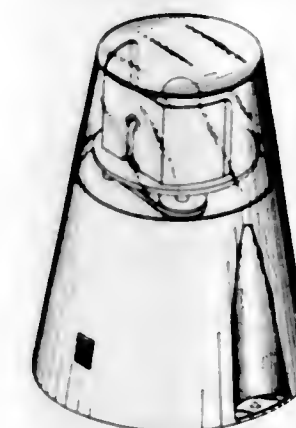
**211,136**  
**SPORT VEHICLE**  
 Ferdinand Alexander Porsche, Doffingen,  
 Boblingen, Germany  
 Filed Nov. 17, 1966, Ser. No. 4,712  
 Term of patent 14 years  
 (Cl. D71-1)



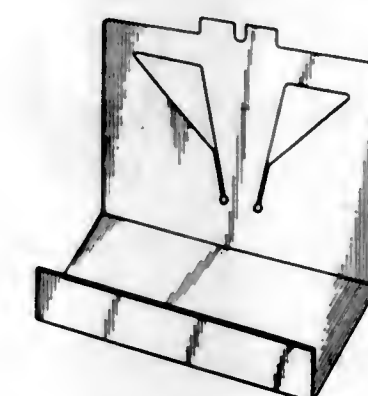
**211,137**  
**EMERGENCY WARNING LAMP**  
 Robert D. Kahn, Rockville Centre, N.Y., assignor to  
 Fedtro, Inc., Rockville Centre, N.Y., a corporation of  
 New York  
 Filed May 23, 1967, Ser. No. 7,233  
 Term of patent 14 years  
 (Cl. D72-1)



**211,138**  
**EMERGENCY WARNING LAMP**  
 Robert D. Kahn, Rockville Centre, N.Y., assignor to  
 Fedtro, Inc., Rockville Centre, N.Y., a corporation of  
 New York  
 Filed May 23, 1967, Ser. No. 7,234  
 Term of patent 14 years  
 (Cl. D72-1)

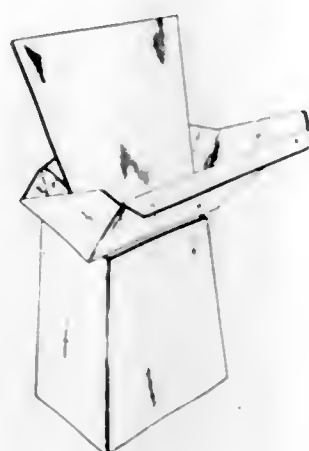


**211,139**  
**CARD HOLDER FOR MERCHANDISE DISPLAY**  
**STANDS OR THE LIKE**  
 William W. Nowak, Broadview Heights, Ohio, assignor to  
 American Greetings Corporation  
 Filed Nov. 1, 1966, Ser. No. 4,500  
 Term of patent 14 years  
 (Cl. D60-9)

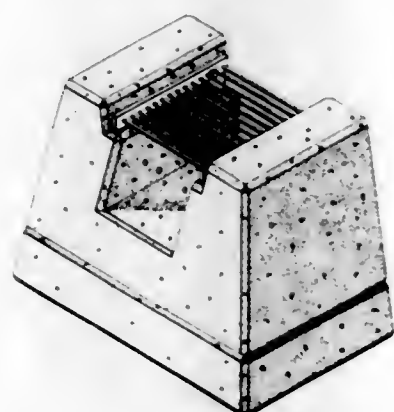




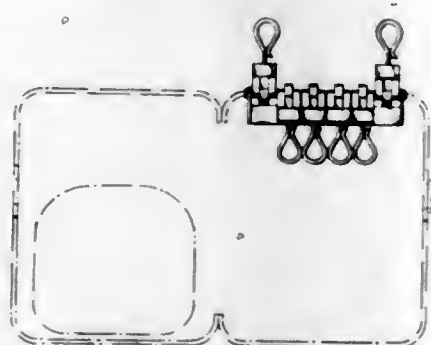
**211,140**  
**DISPLAY STAND**  
 Morris Bernhardt, 3200 Lakewood Ave. SW.,  
 Atlanta, Ga. 30310  
 Filed Nov. 25, 1966, Ser. No. 4,806  
 Term of patent 14 years  
 (Cl. D80-9)



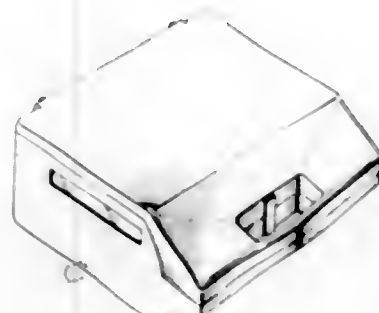
**211,141**  
**BARBECUE**  
 Peter D. Donlon, 149 Beechwood Drive,  
 Oakland, Calif. 94618  
 Filed Feb. 24, 1967, Ser. No. 5,942  
 Term of patent 14 years  
 (Cl. D81-10)



**211,142**  
**KEY HOLDING ATTACHMENT FOR KEY CASES**  
 Charles W. Elsenheimer and Douglas J. Broughton,  
 Meriden, Conn., assignors to Prentice Corporation,  
 Kensington, Conn., a corporation of Connecticut  
 Filed July 8, 1966, Ser. No. 2,989  
 Term of patent 14 years  
 (Cl. D87-3)



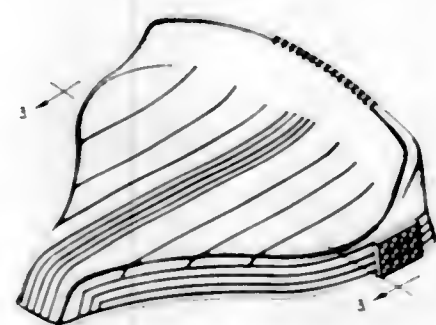
**211,143**  
**ATTACHE CASE**  
 Roy L. Lawson, 2085 Sutter St.,  
 San Francisco, Calif. 94115  
 Continuation-in-part of design application Ser. No. 5,561,  
 Jan. 25 1967. This application Oct. 4, 1967, Ser. No.  
 8,865  
 Term of patent 14 years  
 (Cl. 87-5)



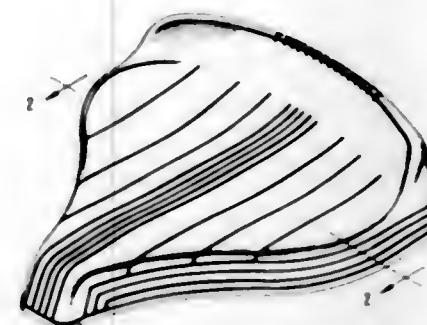
**211,144**  
**BICYCLE HANDLEBAR**  
 Ruben L. Pawsat, Maysville, Ky., assignor to Wald Manu-  
 facturing Company, Inc., Maysville, Ky., a corpora-  
 tion of Kentucky  
 Filed Nov. 7, 1967, Ser. No. 9,317  
 Term of patent 14 years  
 (Cl. D90-11)



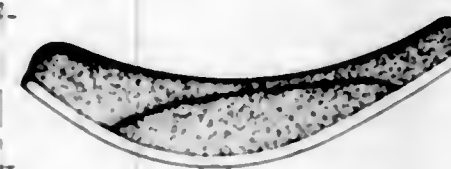
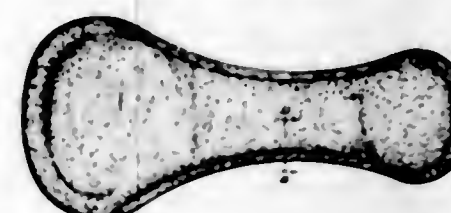
**211,145**  
**VELOCIPEDE SADDLE**  
 Harry Golden, New York, N.Y., assignor to Ideas For  
 Auto and Bike Specialties, Inc., New York, N.Y., a  
 corporation of New York  
 Filed July 31, 1967, Ser. No. 8,066  
 Term of patent 14 years  
 (Cl. D90-16)



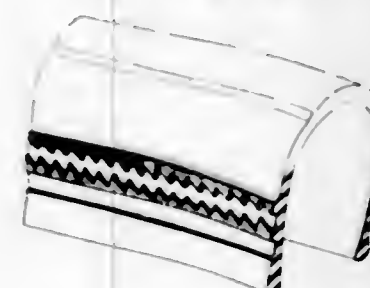
**211,146**  
**VELOCIPEDE SADDLE**  
 Harry Golden, New York, N.Y., assignor to Ideas For  
 Auto and Bike Specialties, Inc., New York, N.Y., a  
 corporation of New York  
 Filed July 31, 1967, Ser. No. 8,067  
 Term of patent 14 years  
 (Cl. D90-16)



**211,147**  
**SADDLE FOR UNICYCLES**  
 Frank P. Brilando, Niles, and Anton J. Panzica, Hinsdale,  
 Ill., assignors to Schwinn Bicycle Company, Chicago,  
 Ill., a corporation of Illinois  
 Filed Aug. 24, 1967, Ser. No. 8,382  
 Term of patent 14 years  
 (Cl. D90-16)



**211,148**  
**TIRE**  
 Yukio Ueno, Osaka, Japan, assignor to Kyowa Rubber  
 Industry Co., Ltd., Osaka, Japan  
 Continuation of design applications Ser. No. 5,026, and  
 Ser. No. 5,029, Dec. 14, 1966. This application Sept. 7,  
 1967, Ser. No. 9,065  
 Claims priority, application Japan July 12, 1966  
 21,732/66, 21,734/66  
 Term of patent 14 years  
 (Cl. D90-20)



**211,149**  
**TEXTILE FABRIC**  
 Lester Harold Lavers and Inga Rosten Nielsen, both of  
 321 Water St., Vancouver 3, British Columbia, Canada  
 Filed May 18, 1967, Ser. No. 7,181  
 Claims priority, application Canada Mar. 13, 1967  
 Term of patent 14 years  
 (Cl. D92-1)



**211,150**  
**ELECTRIC KNIFE HANDLE OR SIMILAR ARTICLE**  
 Austin E. Cox, Medina, Ohio, assignor to Dominion  
 Electric Corporation, a corporation of Ohio  
 Filed Dec. 19, 1966, Ser. No. 5,099  
 Term of patent 14 years  
 (Cl. D95-3)





# LIST OF REISSUE PATENTEEES

TO WHOM

## PATENTS WERE ISSUED ON THE 21ST DAY OF MAY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Associated Electrical Industries Ltd.: See—  
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TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF MAY, 1968

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- Benz, Donald E., D. A. Doughty, and S. J. Tibbetts, to Honeywell Inc. Ultraviolet gas analysis apparatus and detector circuit integrating means having both short and long constants. 3,384,746, 5-21-68, Cl. 250—43.5.
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- Blee, Sidney J. Illuminable fracture-resistant baton. 3,384,741, 5-21-68, Cl. 240—6.42.
- Biel, John H., H. B. Hoppes, and H. Bader, to Aldrich Chemical Co., Inc. 2-methylene-3-quinolidones. 3,384,641, 5-21-68, Cl. 260—294.7.
- Bien, Alfred A., to Chrysler Corp. Identification plate. 3,383,784, 5-21-68, Cl. 40—2.2.
- Bihlmaier, Oskar, to Voigtlander A.G. Photographic camera with disengageable electronic flash unit. 3,383,994, 5-21-68, Cl. 95—11.5.
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- Bingham, Alan E., and G. V. Watts, to Vickers-Armstrongs (Engineers) Ltd. Air cushion borne vehicles with flexible skirts. 3,384,197, 5-21-68, Cl. 180—117.
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- Boggs, Beryl A., to Allied Chemical Corp. Ring-drop assembly and latch means therefor. 3,383,848, 5-21-68, Cl. 57—54.
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- Booth, Franklin W. Condenser-separator. 3,383,878, 5-21-68, Cl. 62—281.
- Boothe, Malcolm M. Game device. 3,384,374, 5-21-68, Cl. 273—110.
- Bopp, Achim, and G. Krause, to Fernseh G.m.b.H. Correction of timing errors in a television signal produced from a magnetic tape record thereof. 3,384,707, 5-21-68, Cl. 178—6.6.
- Bopp, Harold F., J. E. Megies, and J. W. Morrissey, to Corning Glass Works. Method of glazing semicrystalline glass-ceramic articles and resultant intermediate layer composite. 3,384,504, 5-21-68, Cl. 117—123.
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- Agouri, Elias R., and H. Muller, to W. R. Grace & Co. Stabilization of polyamides. 3,384,615, 5-21-68, Cl. 260-45.9.
- Ahmed, Viquar, to Aerol Co., Inc. Tow bar attachment. 3,384,387, 5-21-68, Cl. 280-103.
- Abrabi, Robert B., to Oil Center Research, Inc. Plastic modeling composition. 3,384,498, 5-21-68, Cl. 106-38.5.
- Atello, Ronald E., and J. C. Bauernfeind, to Hoffman-La Roche Inc. Infectable aqueous emulsions of fat soluble vitamins. 3,384,545, 5-21-68, Cl. 167-81.
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- Ammann, Paul R., R. F. Baddour, and T. W. Mix, to Avco Corp. Method of and means for converting coal. 3,384,467, 5-21-68, Cl. 48-65.
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- Anderson, Richard N., to V. E. Anderson Mfg. Co. Door structure. 3,383,799, 5-21-68, Cl. 49-397.
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- Parrish, Robert G., to E. I. du Pont de Nemours and Co. Flat-  
tened ultra-microcellular structure and method for making  
same. 3,384,531, 5-21-68, Cl. 161-159.
- Passer Fastener Corp.: *See*—  
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- Passer, La Roy B., to Passer Fastener Corp. Replacement  
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- Patrick, Robert F., and T. M. Wehrenberg, to Corhart Re-  
fractories Co., Inc. Refractory. 3,384,500, 5-21-68, Cl.  
106-59.
- Patterson, Earl, Jr. to Char-Lynn Co. Drive mechanism.  
3,383,931, 5-21-68, Cl. 74-63.
- Patterson, Warren R., and J. D. Torrence, to Allis-Chalmers  
Mfg. Co. Spiderless gyratory crusher having frictionless  
bearings. 3,384,312, 5-21-68, Cl. 241-208.
- Patzner, Norman E. Sign display for vehicles. 3,383,788, 5-21-  
68, Cl. 40-129.
- Pavlich, Joseph P., and J. L. Elbel, to The Dow Chemical Co.  
Method of plugging wellbore casing perforations. 3,384,-  
175, 5-21-68, Cl. 166-42.
- Peace, James B., to Acheson Industries, Inc. Graphite dis-  
persions. 3,384,580, 5-21-68, Cl. 252-29.
- Peace, James B., to Acheson Industries, Inc. Solid lubricant  
and pigment dispersions. 3,384,581, 5-21-68, Cl. 252-29.
- Pearson, Reinhold A. Case packing machine. 3,383,833, 5-21-  
68, Cl. 53-247.
- Peet, Nick P., to Esso Research and Engineering Co. Oil shale  
retorting. 3,384,569, 5-21-68, Cl. 208-11.
- Pekarek, Joseph L.: *See*—  
Goodwin, Robert J., and Pekarek. 3,384,192.
- Pekarek, Joseph L., and P. W. Schaub, to Gulf Research &  
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- Pelley, Richard B.: *See*—  
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- Pennisi, Joseph M., to General Dynamics Corp. Relief valve.  
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- Pennsalt Chemicals Corp.: *See*—  
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- King, James P. 3,384,604.
- Saraceno, Anthony J. 3,384,605.
- Peoples Development Inc.: *See*—  
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- Percy, Allan W., to Union Oil Co. of California. Dynamic  
shock absorber tester and method. 3,383,909, 5-21-68, Cl.  
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- Perkins, B. F. & Sons, Inc.: *See*—  
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- Perkins, Lee E., to Halliburton Co. Pressure balanced testing  
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- Perkins, Michael B.: *See*—  
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- Perkins, Richard H.: *See*—  
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- Perlman, Henry S.: *See*—  
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- Perlman, Paul E. and H. S., to Hill-Shaw Co. Coffee maker.  
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- Perron, Robert R., to Arthur D. Little, Inc. Electromagnetic  
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sociation Inc. Gas oven system. 3,384,068, 5-21-68, Cl.  
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- Peters, Leo. Refrigerated butter patty dish. 3,383,880, 5-21-  
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- Pfizer, Chas., & Co., Inc.: *See*—  
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- Philbrick, Herbert S., Jr., to John Mohr & Sons. Apparatus  
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- Revesz, George. 3,384,753.
- Phillips, Davis M., to McGraw-Edison Co. Loadbreak device.  
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- Phillips, James W., to Robertshaw Controls Co. Pneumatic  
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- Phillips, Norman W. F., and F. W. Southam, to Aluminium  
Laboratories Ltd. Aluminium refining. 3,384,475, 5-21-68,  
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- Phillips Petroleum Co.: *See*—  
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- Engel, John H. 3,384,571.
- Gragson, James T., and Bosse. 3,384,585.
- Kelley, Carl S., Cabanaw, and Cawl. 3,384,570.
- Louthan, Rector P. 3,384,671.
- Owen, Joe D. 3,384,750.
- Parker, Harry W. 3,384,171.
- Price, Clifford W. 3,384,601.
- Stapp, Paul R. 3,384,678.
- Strobel, Charles W. 3,384,629.
- Piber, Earl T., to Cutler-Hammer, Inc. All speed lever lock.  
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- Pierre, Jacques B., and M. J. T. Schneider, to International  
Standard Electric Corp. Phase shifting circuits. 3,384,828,  
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- Pillerault, Jean: *See*—  
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- Pillon, Daniel, and P. Poignant, to Societe dite: Pechiney-  
Progil. Derivatives of N-phenyl-N-benzoyl ureas as herbi-  
cides. 3,384,473, 5-21-68, Cl. 71-120.
- Pioneer Trust and Savings Bank: *See*—  
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- Pirelli Ltd.: *See*—  
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- Pitney-Bowes, Inc.: *See*—  
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- Pittman, Allen G., and W. L. Wasley, to United States of  
America, Agriculture. Fluorinated ester compounds and use  
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- Pitzel, Bernard H. Self-locking clamp. 3,383,739, 5-21-68,  
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- Placke, Dale L., and K. C. Flint, to The National Cash Reg-  
ister Co. Cycle control mechanism for business machines.  
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- Plasencia, Armand J.: *See*—  
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- Plastic Textile Accessories Ltd.: *See*—  
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- Pleass, Charles M.: *See*—  
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- Pneumo Dynamics Corp.: *See*—  
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- Poch, Alfred B., to Sperry Rand Corp. Switch actuating mech-  
anism (momentary type) for pin-plunger type electrical  
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- Point, Marcel A. R., Sames, Societe Anonyme de Machines  
Electrostatiques. Electrostatic coating system. 3,384,050,  
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- Polcer, Charles R., to Continental Can Co., Inc. Jar capping  
machine. 3,383,835, 5-21-68, Cl. 53-331.5.
- Polley, Edward J., Jr., to Nova Products of California, Inc.  
Combination kickstand and footrest for motorcycles. 3,384,-  
389, 5-21-68, Cl. 280-295.
- Pomfrett, John M., to General Electric Co. Reflector discharge  
lamp having frosted envelope and arc tube. 3,384,771, 5-21-  
68, Cl. 313-116.
- Popkin, Alexander H., to Esso Research and Engineering Co.  
Amine-phosphates as multi-functional fuel additives. 3,384,-  
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- Popper, Peter: *See*—  
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- Pospischil, Reginhard: *See*—  
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boat and air suspension car combination. 3,384,827, 5-21-  
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- Postman, Monroe, to Philco-Ford Corp. Interrogator-responder  
signalling system. 3,384,892, 5-21-68, Cl. 343-6.5.
- Potocnik, Kurt, to Didier-Werke A.G. Lattice-work blocks  
for regenerator chambers. 3,384,850, 5-21-68, Cl. 263-61.
- Potter, Archibald L., Jr., M. L. Belote, and H. K. Burr, to  
United States of America, Agriculture. Snack food in the  
shape of a scoop having a flat blade and a cylindrical hol-  
low handle. 3,384,495, 5-21-68, Cl. 99-100.
- Potter Instrument Co., Inc.: *See*—  
Klang, Daniel M. 3,384,210.
- Powell, Edgar R., to D. W. Zimmerman Mfg., Inc. Pneumati-  
cally-operated device for manipulating heavy loads. 3,384,-  
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- Powell, John William, to Westwind Turbines, Ltd. Air driven  
turbines. 3,383,805, 5-21-68, Cl. 51-124.5.
- Prast, Gijbert: *See*—  
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- Pratt, Henry, Co.: *See*—  
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- Prestwood, Franklin H., to United States of America, Air  
Force. Radar augmentation system. 3,384,893, 5-21-68, Cl.  
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- Prevallat, David N.: *See*—  
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- Price, Clifford W., to Phillips Petroleum Co. Method for re-  
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- Procter & Gamble Co., The: *See*—  
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- Properzi, Mario. Continuous rolling mill. 3,383,806, 5-21-68,  
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- Propper Mfg. Co., Inc.: *See*—  
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- Pulman, Prockter T., to Rainbow Valve Co., Ltd. Shutoff  
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- Pyle-National Co., The: See—  
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- Quinlan, Robert V., to International Telephone and Telegraph Corp. Transmission time-bandwidth reduction system and method. 3,384,709, 5-21-68, Cl. 178-6.8.
- R O Products, Inc.: See—  
Broderoon, Dean E., Gronemeyer, and Freudenthal. 3,384,166.
- Rabinowitz, Mario. Method and apparatus for controlling breakdown voltage in vacuum. 3,384,772, 5-21-68, Cl. 313-147.
- Racy, Joseph E. Amplitude and frequency servocontrol. 3,384,835, 5-21-68, Cl. 331-109.
- Rademacher, Richard J., to General Motors Corp. Printed circuit terminal nut. 3,384,853, 5-21-68, Cl. 839-17.
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- Rallko Ltd.: See—  
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- Raines, Donald B., to Task Corp. External cross strap elastic pivot. 3,384,424, 5-21-68, Cl. 308-2.
- Rajchel, Richard J., D. N. Prevaillet, G. D. Olson, and G. Randa, to Borg-Warner Corp. Hydrostatic transmission mechanism. 3,383,857, 5-21-68, Cl. 60-68.
- Ranco Inc.: See—  
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- Randa, Gerald: See—  
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- Randall, David I.: See—  
Freyermuth, Harlan B., and Randall. 3,384,044.
- Rasch, Arthur A.: See—  
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- Raschke, Herbert A., to E. D. Bullard Co. Safety hat suspension system. 3,383,705, 5-21-68, Cl. 2-3.
- Ratliff, Jack. Fertilizer applicator implement. 3,384,039, 5-21-68, Cl. 111-7.
- Ratti, Michele. Method for fixing one or more previously twisted or coiled yarns or the like during unwinding thereof, particularly applicable to alteration of texturized yarn. 3,383,850, 5-21-68, Cl. 57-157.
- Rautiola, Norman A., and J. M. Diehl, said Diehl assor. to said Rautiola. Acoustic sleep induction apparatus. 3,384,074 5-21-68, Cl. 128-1.
- Rawald, Kenneth E., and C. E. Buerki, to Norria-Thermador Corp. Forced air cooling and ventilating system for self-cleaning oven. 3,384,067, 5-21-68, Cl. 126-21.
- Raymond, Hilbert W. 10% to Jim Campbell, 20% to Herbert C. Martin, and 70% to Herbert C. Martin, as trustee. Apparatus for brick cleaning. 3,384,065, 5-21-68, Cl. 125-26.
- Raymond, Robert E., to Hydro-Kinetics. Hydraulic pumping apparatus. 3,384,029, 5-21-68, Cl. 103-178.
- Read Corp.: See—  
Messely, Gary A., and Royer. 3,384,218.
- Reddish, Alan, and D. W. Ward, to The General Electric Co. Ltd. Collector electrode system for M-type travelling wave tubes. 3,384,779, 5-21-68, Cl. 315-3.5.
- Reddish, Alan, to The M-O Valve Co. Ltd. Crossed field electron discharge device having a non-uniform interaction space. 3,384,782, 5-21-68, Cl. 315-39.3.
- Reed, Carl G., to IRC, Inc. Tensioner. 3,384,822, 5-21-68, Cl. 242-156.2.
- Reed Roller Bit Co.: See—  
Justman, Dan B. 3,383,946.  
Schumacher, Percy W., Jr. 3,384,426.  
Schumacher, Percy W., Jr., and Justman. 3,384,191.
- Rees, William W., to Eastman Kodak Co. Vacuum deposited silver halide photographic element. 3,384,490, 5-21-68, Cl. 96-110.
- Reeves Bros., Inc.: See—  
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- Regents of the University of California: See—  
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- Rehrer, Kenneth. Sport fishing device. 3,384,043, 5-21-68, Cl. 114-16.
- Reichneider, Walter, to The Dow Chemical Co. Thioether ethers. 3,384,670, 5-21-68, Cl. 260-609.
- Reimchuessel, Herbert K., to Allied Chemical Corp. Polyamide polymerization products of derivatives of epallone-caprolactam. 3,384,625, 5-21-68, Cl. 260-78.
- Reiners & Wiggemann Maschinenfabrik: See—  
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- Reiss, Jochen: See—  
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- Reithel, Raymond F., to Eastman Kodak Co. Photoconductive developing solutions containing quaternary ammonium salt anti-shortening agents. 3,384,660, 5-21-68, Cl. 204-18.
- Rekewitz, Rudolf: See—  
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- Reliance Electric and Engineering Co.: See—  
Shrider, Kenneth L., and Moyer. 3,384,802.
- Remley, Donald E. Water sport game apparatus. 3,384,047, 5-21-68, Cl. 115-12.
- Renner, Thomas, to Merchants' Metal Trimming Co. Handle mounting. 3,384,208, 5-21-68, Cl. 190-58.
- Research-Cottrell, Inc.: See—  
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- Research, Inc.: See—  
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- Revesz, George, to Philco-Ford Corp. Photosensitive means for measuring a dimension of an object. 3,384,753, 5-21-68, Cl. 250-219.
- Rexall Drug and Chemical Co.: See—  
Erchak, Michael, Jr., Carrock, and Koch. 3,384,682.  
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- Rey-Bellet, Gerald, and H. Spiegelberg, to Hoffmann-La Roche Inc. 5-tertiaryaminoalkylidene dibenzocycloheptadiene compounds, and salts thereof. 3,384,663, 5-21-68, Cl. 260-570.8.
- Reynolds, Joseph E., Jr., A. J. Kelly, R. H. Perkins, and B. W. Crow, to W. R. Grace & Co. Continuous multistep process for preparing granular mixed fertilizers. 3,384,470, 5-21-68, Cl. 71-35.
- Rheem Mfg. Co.: See—  
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- Rhein Stahl Wannebau G.m.b.H.: See—  
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- Rhodes, Harold B., to Columbia Broadcasting System, Inc. Apparatus for mounting a tone generator and for positioning the same relative to a transducer. 3,384,699, 5-21-68, Cl. 84-1.14.
- Rice, Harold W.: See—  
Body, William K., Locascio, Rice, and Scott. 3,384,071.
- Richard, John L.: See—  
Harper, Sydney, Anderson, and Richard. 3,384,517.
- Richter, Horst P. Optical apparatus for measuring material damping, dynamic young's modules and creep by photographic means. 3,383,980, 5-21-68, Cl. 88-14.
- Richter, Walter, to Hudson Machine & Tool Corp. Fin tube unit with curled collar. 3,384,168, 5-21-68, Cl. 165-182.
- Riddle, Lavis A. H.: See—  
Jones, Richard S., Summers, and Riddle. 3,384,198.
- Riedel, Otto: See—  
Helligrath, Fritz, Riedel, and Zlems. 3,384,006.
- Rietdijk, Johan A., and G. Prast, to North American Philips Co., Inc. Apparatus for transporting cold to a remote location using an expansion ejector. 3,383,871, 5-21-68, Cl. 62-6.
- Riley, Gilbert N., to Pitney-Bowes, Inc. Carriage restoring mechanism. 3,384,302, 5-21-68, Cl. 235-60.41.
- Rink, Robert J., to Nordberg Mfg. Co. Flexible and circumferential seal for rotating shafts and the like. 3,384,382, 5-21-68, Cl. 277-59.
- Rinkel, Sherman A., to General Microwave Corp. Microwave power calorimeter using a thin-film thermopile load. 3,384,819, 5-21-68, Cl. 324-95.
- Rioux, Jacques, and M. Rodot, to Centre National de la Recherche Scientifique. Goniometric supports for supporting crystal during crystal analysis and subsequent cutting. 3,384,748, 5-21-68, Cl. 250-51.5.
- Ripert, Roger L., to Velan Engineering Ltd. Ball valve seat. 3,384,341, 5-21-68, Cl. 251-315.
- Ritson, Daniel D., and R. E. Layman, Jr., to American Cyanamid Co. Paper coated with reaction product of ester resin with amine-aldehyde resin. 3,384,509, 5-21-68, Cl. 117-155.
- Riva, Charles P., Jr.: See—  
Fox, William A., and McMills. 3,383,738.
- Robert, Andre, P. Traynard, and O. Martin-Borret, to L'Air Liquide, Societe Anonyme Pour l'Etude et l'Exploitation des Procédes Georges Claude. Delignification and bleaching of chemical and semichemical cellulose pulps with oxygen and catalyst. 3,384,533, 5-21-68, Cl. 162-65.
- Roberts, Baron G.: See—  
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- Robertshaw Controls Co.: See—  
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- Robinson, Alfred J., to Engelhard Minerals & Chemicals Corp. Bonded molecular sieve catalysts and preparation of the same. 3,384,602, 5-21-68, Cl. 252-455.
- Robinson, Radcliffe F., R. Fine, W. H. Lehmacher, and D. R. Davis, to Colgate Palmolive Co. Apple product. 3,384,496, 5-21-68, Cl. 99-204.
- Rocha-Miranda, Carlos E., E. Oswaldo-Cruz, and F. L. K. Neyts, to United States of America, Department of Health, Education, and Welfare. Stereotaxic oriented macrotome device. 3,384,086, 5-21-68, Cl. 128-305.
- Rocker, Paula B. Combination maternity back support and garter suspender. 3,384,092, 5-21-68, Cl. 128-520.
- Rockwell-Standard Corp.: See—  
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- Rocky Mountain Dental Products Co.: See—  
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- Rodgers, Gerald L., to Ranco Inc. Condition responsive motor speed control circuits. 3,384,801, 5-21-68, Cl. 318-334.
- Rodot, Michel: See—  
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- Roe, Sheldon F., Jr., to Owens-Illinois Inc. Method for mixing plastic compositions. 3,384,693, 5-21-68, Cl. 264-211.
- Rohde, Robert F., to Sperry Rand Corp. Method of electrolytically detecting imperfections in oxide passivation layers. 3,384,556, 5-21-68, Cl. 204-1.
- Rohe, Frederick W.: See—  
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- Roher-Bohm Ltd.: See—  
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- Rollins, Harry E., to North American Rockwell Corp. Flexible wing vehicle apex. 3,384,330, 5-21-68, Cl. 244-46.
- Rolls-Royce Ltd.: See—  
Freeman, Frederick, and Smith. 3,383,855.  
Halls, Gordon A., and Davies. 3,384,846.  
Taylor, John. 3,384,563.
- Romberg, Edgar B., to North American Rockwell Corp. Angular measurement device. 3,384,816, 5-21-68, Cl. 324-70.
- Rontgen, Erwin, to Hoerbiger Ventilwerke Aktiengesellschaft. Valve assembly for reciprocating compressors. 3,384,298, 5-21-68, Cl. 280-281.



- Rope, Barton W.: *See*—  
Myers, Claude G., Rope, and Garwood. 3,384,572.
- Rosemount Engineering Co.: *See*—  
Werner, Frank D. 3,383,916.
- Rosen, Leo. Facsimile privacy apparatus. 3,384,705, 5-21-68, Cl. 178-5.1.
- Rosenwald, Robert H., to Universal Oil Products Co. Synergistic antiosonant mixture. 3,384,614, 5-21-68, Cl. 260-45.9.
- Ross, George H.: *See*—  
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- Ross Scientific Co. Ltd.: *See*—  
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- Ross, William J., and A. R. Bolton, to Ross Scientific Co. Ltd. Washing containers. 3,384,100, 5-21-68, Cl. 134-166.
- Rosser, Bernard P.: *See*—  
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- Rothenbach, Ernst, to Stramax Aktiengesellschaft. Radiant heating and cooling device. 3,384,158, 5-21-68, Cl. 165-49.
- Rotvand, Georges, to Savas. Method and apparatus for extinguishing fires utilizing a single aqueous solution of a salt and a foaming agent. 3,384,182, 5-21-68, Cl. 169-1.
- Rouet, Jean: *See*—  
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- Rowe, Blaine F. Vertically adjustable sunshade with locking pivoted brace. 3,383,814, 5-21-68, Cl. 52-83.
- Royer, Wayne H.: *See*—  
Messers, Gary A., and Royer. 3,384,218.
- Royet, Jean, to Compagnie Generale d'Electricite. Cryostat. 3,383,874, 5-21-68, Cl. 62-45.
- Rubenstein, David. Method of making composite decorative structural elements. 3,384,522, 5-21-68, Cl. 156-242.
- Rubenstein, Helena, Inc.: *See*—  
Palmerio, Maria A., Wetterhahn, and Masters. 3,384,547.
- Rudy, Erland W.: *See*—  
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# CLASSIFICATION OF PATENTS

ISSUED MAY 21, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

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| 67 : 3,384,551       | 2 : 3,384,248         | 43.5 : 3,384,745     | 464 : 3,384,655       | 388 : 3,384,415       | 23 : 3,384,845      |
| 177-3 : 3,384,193    | 6 : 3,384,249         | 44 : 3,384,746       | 482 : 3,384,656       | 299-16 : 3,384,416    | 216 : 3,384,847     |
| 178-5.1 : 3,384,705  | 11 : 3,384,250        | 51.5 : 3,384,748     | 488 : 3,384,657       | 82 : 3,384,417        | 268 : 3,384,848     |
| .4 : 3,384,706       | 302 : 3,384,251       | 83 : 3,384,749       | 507 : 3,384,658       | 300-21 : 3,384,418    | 299 : 3,384,849     |
| 6.6 : 3,384,707      | 305 : 3,384,252       | 3 : 3,384,750        | 515 : 3,384,659       | 302-14 : 3,384,419    | 338-158 : 3,384,850 |
| 3,384,708            | 501 : 3,384,253       | 106 : 3,384,751      | 541 : 3,384,660       | 17 : 3,384,420        | 174 : 3,384,851     |
| 3,384,709            | 512 : 3,384,254       | 213 : 3,384,752      | 553 : 3,384,661       | 28 : 3,384,421        | 316 : 3,384,852     |
| 3,384,710            | 652 : 3,384,255       | 219 : 3,384,753      | 562 : 3,384,662       | 303-24 : 3,384,422    | 339-17 : 3,384,853  |
| 7.87 : 3,384,712     | 778 : 3,384,256       | 224 : 3,384,754      | 563 : 3,384,663       | 307-77 : 3,384,423    | 22 : 3,384,854      |
| 70 : 3,384,711       | 215-1 : 3,384,257     | 227 : 3,384,755      | 570 : 3,384,664       | 132 : 3,384,424       | 3,384,855           |
| 179-2 : 3,384,713    | 100 : 3,384,258       | 251-9 : 3,384,336    | 577 : 3,384,665       | 216 : 3,384,425       | 32 : 3,384,857      |
| 3 : 3,384,714        | 219-10.73 : 3,384,730 | 172 : 3,384,337      | 583 : 3,384,666       | 221 : 3,384,426       | 52 : 3,384,858      |
| 15 : 3,384,715       | 57 : 3,384,731        | 205 : 3,384,338      | 585 : 3,384,667       | 224 : 3,384,427       | 59 : 3,384,859      |
| 27 : 3,384,716       | 97 : 3,384,732        | 291 : 3,384,339      | 593 : 3,384,668       | 245 : 3,384,428       | 94 : 3,384,860      |
| 100 : 3,384,717      | 109 : 3,384,733       | 307 : 3,384,340      | 597 : 3,384,669       | 252 : 3,384,429       | 111 : 3,384,861     |
| 146 : 3,384,718      | 125 : 3,384,734       | 315 : 3,384,341      | 609 : 3,384,670       | 262 : 3,384,430       | 126 : 3,384,862     |
| 162 : 3,384,719      | 442 : 3,384,195       | 357 : 3,384,342      | 631 : 3,384,671       | 268 : 3,384,431       | 147 : 3,384,863     |
| 180-6.2 : 3,384,194  | 456 : 3,384,735       | 357 : 3,384,342      | 644 : 3,384,672       | 292 : 3,384,432       | 176 : 3,384,864     |
| 79.2 : 3,384,196     | 460 : 3,384,737       | 252-12 : 3,384,578   | 644 : 3,384,673       | 308-2 : 3,384,433     | 193 : 3,384,865     |
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| 128 : 3,384,198      | 17 : 3,384,260        | 29 : 3,384,580       | 667 : 3,384,675       | 10 : 3,384,435        | 340-2 : 3,384,867   |
| 181-33 : 3,384,199   | 21 : 3,384,261        | 3,384,581            | 683.15 : 3,384,676    | 135 : 3,384,436       | 8 : 3,384,868       |
| 36 : 3,384,200       | 47 : 3,384,262        | 3,384,582            | 2 : 3,384,677         | 187.1 : 3,384,437     | 36 : 3,384,869      |
| 182-148 : 3,384,201  | 60 : 3,384,263        | 3,384,583            | 830 : 3,384,678       | 237 : 3,384,438       | 37 : 3,384,870      |
| 188-73 : 3,384,202   | 71 : 3,384,264        | 3,384,584            | 857 : 3,384,679       | 310-8.5 : 3,384,439   | 41 : 3,384,871      |
| 3,384,203            | 97 : 3,384,265        | 3,384,585            | 874 : 3,384,680       | 9.5 : 3,384,440       | 146.1 : 3,384,873   |
| 3,384,204            | 221-86 : 3,384,270    | 4 : 3,384,587        | 898 : 3,384,681       | 87 : 3,384,441        | 2 : 3,384,872       |
| 78 : 3,384,205       | 90 : 3,384,266        | 42.1 : 3,384,588     | 938 : 3,384,682       | 312-343 : 3,384,442   | 163 : 3,384,874     |
| 80 : 3,384,206       | 201 : 3,384,267       | 62.54 : 3,384,589    | 961 : 3,384,683       | 313-108 : 3,384,443   | 172.5 : 3,384,875   |
| 210 : 3,384,207      | 5 : 3,384,268         | 70 : 3,384,590       | 966 : 3,384,684       | 116 : 3,384,444       | 3,384,876           |
| 190-58 : 3,384,208   | 101 : 3,384,271       | 117 : 3,384,591      | 966 : 3,384,685       | 147 : 3,384,445       | 3,384,877           |
| 192-3.33 : 3,384,209 | 189 : 3,384,272       | 135 : 3,384,592      | 857 : 3,384,686       | 184 : 3,384,446       | 3,384,878           |
| 12 : 3,384,210       | 332 : 3,384,273       | 137 : 3,384,593      | 874 : 3,384,687       | 222 : 3,384,447       | 173 : 3,384,879     |
| 33 : 3,384,211       | 383 : 3,384,274       | 161 : 3,384,594      | 898 : 3,384,688       | 225 : 3,384,448       | 174.1 : 3,384,880   |
| 54 : 3,384,212       | 474 : 3,384,275       | 187 : 3,384,595      | 938 : 3,384,689       | 244 : 3,384,449       | 3,384,881           |
| 84 : 3,384,213       | 479 : 3,384,276       | 301.4 : 3,384,596    | 961 : 3,384,690       | 314-40 : 3,384,450    | 3,384,882           |
| 87.11 : 3,384,214    | 223-57 : 3,384,347    | 3,384,597            | 9                     |                       |                     |



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| 253 : 3,384,886     | 6.5 : 3,384,891    | 713 : 3,384,896     | 346-110 : 3,384,901 | 238 : 3,384,436     | 66 : 3,384,440      |
| 258 : 3,384,887     | 3,384,892          | 346- 8 : 3,384,897  | 350-125 : 3,384,432 | 352-124 : 3,384,437 | 95 : 3,384,441      |
| 339 : 3,384,888     | .8 : 3,384,893     | 74 : 3,384,898      | 150 : 3,384,433     | 401-139 : 3,384,438 | 264 : 3,384,442     |
| 347 : 3,384,889     | 100 : 3,384,894    | 3,384,899           | 208 : 3,384,434     |                     |                     |

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| 27 : 211,076      | 12 : 211,089      | 211,102           | 211,115           | D54- 1 : 211,128 | 211,140           |
| 236 : 211,077     | 13 : 211,090      | 211,103           | 211,116           | 12 : 211,129     | D81- 10 : 211,141 |
| 238 : 211,078     | 14 : 211,091      | 15 : 211,104      | 211,117           | 211,130          | D87- 3 : 211,142  |
| D 9-122 : 211,079 | 211,092           | D36- 8 : 211,105  | 211,118           | D55- 1 : 211,131 | 5 : 211,143       |
| D13- 1 : 211,080  | 211,093           | D37- 1 : 211,106  | 211,119           | 211,132          | D90- 11 : 211,144 |
| 211,081           | 211,094           | 211,107           | D48- 4 : 211,120  | D56- 1 : 211,133 | 16 : 211,145      |
| 211,082           | 211,095           | 3 : 211,108       | 20 : 211,121      | D61- 1 : 211,134 | 211,146           |
| D14- 30 : 211,083 | D29- 1 : 211,096  | 4 : 211,109       | 211,122           | 211,135          | 211,147           |
| D16- 2 : 211,084  | D30- 16 : 211,097 | D42- 7 : 211,110  | 27 : 211,123      | D71- 1 : 211,136 | 20 : 211,148      |
| D23- 19 : 211,085 | D33- 11 : 211,098 | 211,111           | D49- 6 : 211,124  | D72- 1 : 211,137 | D92- 1 : 211,149  |
| 141 : 211,086     | 14 : 211,099      | D44- 15 : 211,112 | D52- 3 : 211,125  | 211,138          | D95- 3 : 211,150  |
| D26- 1 : 211,087  | D34- 5 : 211,100  | 211,113           | 211,126           |                  |                   |



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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

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| 1 : 3,383,859 | 6 : 3,384,174 | 6 : 3,384,804 | 9 : 3,384,845  | 17 : 3,383,838 | 17 : 3,384,577 |
| 3,383,860     | 3,384,179     | 3,384,816     | 3,384,846      | 3,383,842      | 3,384,614      |
| 3,383,893     | 3,384,181     | 3,384,818     | 3,384,856      | 3,383,843      | 3,384,646      |
| 3,384,057     | 3,384,184     | 3,384,820     | 3,384,886      | 3,383,856      | 3,384,647      |
| 3,384,252     | 3,384,185     | 3,384,847     | 3,384,503      | 3,383,875      | 3,384,672      |
| 3,384,374     | 3,384,188     | 3,384,851     | 3,384,531      | 3,383,882      | 3,384,676      |
| 3,384,407     | 3,384,201     | 3,384,867     | 3,384,591      | 3,383,886      | 3,384,689      |
| 3,384,501     | 3,384,216     | 3,384,873     | 3,384,593      | 3,383,888      | 3,384,719      |
| 3,384,516     | 3,384,247     | 3,384,881     | 3,384,594      | 3,383,905      | 3,384,735      |
| 3,384,665     | 3,384,272     | 3,384,887     | 3,384,612      | 3,383,909      | 3,384,736      |
| 2 : 3,384,001 | 3,384,273     | 3,384,892     | 3,384,650      | 3,383,917      | 3,384,780      |
| 4 : 3,383,739 | 3,384,280     | 3,384,896     | 3,384,696      | 3,383,938      | 3,384,787      |
| 3,383,758     | 3,384,287     | 3,384,898     | 3,383,903      | 3,383,940      | 3,384,813      |
| 3,383,989     | 3,384,288     | 3,383,769     | 3,383,922      | 3,383,941      | 3,384,825      |
| 3,384,269     | 3,384,320     | 3,384,170     | 3,383,997      | 3,384,004      | 3,384,866      |
| 5 : 3,384,260 | 3,384,329     | 3,384,332     | 3,384,111      | 3,384,034      | 18 : 3,383,731 |
| 6 : 3,383,705 | 3,384,330     | 3,384,368     | 3,384,895      | 3,384,048      | 3,383,768      |
| 3,383,721     | 3,384,338     | 3,384,643     | 3,384,263      | 3,384,064      | 3,383,776      |
| 3,383,738     | 3,384,349     | 3,384,717     | 3,383,743      | 3,384,089      | 3,383,808      |
| 3,383,754     | 3,384,366     | 3,384,723     | 3,383,755      | 3,384,095      | 3,383,857      |
| 3,383,787     | 3,384,371     | 3,384,747     | 3,383,783      | 3,384,103      | 3,383,901      |
| 3,383,792     | 3,384,377     | 3,384,823     | 3,384,058      | 3,384,104      | 3,383,949      |
| 3,383,795     | 3,384,378     | 3,384,874     | 3,384,075      | 3,384,132      | 3,383,952      |
| 3,383,811     | 3,384,384     | 3,383,726     | 3,384,112      | 3,384,138      | 3,383,953      |
| 3,383,821     | 3,384,386     | 3,383,733     | 3,384,239      | 3,384,145      | 3,384,000      |
| 3,383,835     | 3,384,387     | 3,383,736     | 3,384,240      | 3,384,156      | 3,384,113      |
| 3,383,854     | 3,384,389     | 3,383,790     | 3,384,277      | 3,384,195      | 3,384,234      |
| 3,383,858     | 3,384,415     | 3,383,891     | 3,384,326      | 3,384,207      | 3,384,303      |
| 3,383,879     | 3,384,424     | 3,384,022     | 3,384,339      | 3,384,209      | 3,384,372      |
| 3,383,890     | 3,384,477     | 3,384,141     | 3,384,352      | 3,384,214      | 3,384,396      |
| 3,383,899     | 3,384,493     | 3,384,270     | 3,384,436      | 3,384,220      | 3,384,429      |
| 3,383,902     | 3,384,495     | 3,384,283     | 3,384,592      | 3,384,232      | 3,384,442      |
| 3,383,919     | 3,384,505     | 3,384,284     | 3,384,600      | 3,384,242      | 3,384,524      |
| 3,383,925     | 3,384,522     | 3,384,290     | 3,384,741      | 3,384,259      | 3,384,546      |
| 3,383,962     | 3,384,541     | 3,384,294     | 3,384,836      | 3,384,292      | 3,384,610      |
| 3,383,975     | 3,384,628     | 3,384,302     | 3,384,857      | 3,384,340      | 3,384,709      |
| 3,383,980     | 3,384,684     | 3,384,304     | 3,384,870      | 3,384,348      | 3,384,769      |
| 3,383,990     | 3,384,685     | 3,384,334     | 3,384,893      | 3,384,353      | 3,384,860      |
| 3,384,030     | 3,384,686     | 3,384,402     | 3,383,772      | 3,384,357      | 3,384,862      |
| 3,384,031     | 3,384,699     | 3,384,411     | 3,383,799      | 3,384,362      | 19 : 3,384,109 |
| 3,384,045     | 3,384,708     | 3,384,509     | 3,384,552      | 3,384,376      | 3,384,367      |
| 3,384,047     | 3,384,711     | 3,384,550     | 3,384,233      | 3,384,403      | 3,384,790      |
| 3,384,059     | 3,384,712     | 3,384,557     | 17 : 3,384,394 | 3,384,404      | 3,384,800      |
| 3,384,067     | 3,384,715     | 3,384,561     | 3,383,756      | 3,384,414      | 20 : 3,383,851 |
| 3,384,071     | 3,384,729     | 3,384,562     | 3,383,763      | 3,384,430      | 3,384,002      |
| 3,384,091     | 3,384,738     | 3,384,633     | 3,383,775      | 3,384,431      | 3,384,069      |
| 3,384,107     | 3,384,756     | 3,384,653     | 3,383,807      | 3,384,457      | 3,384,070      |
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| 3,384,142     | 3,384,768     | 3,384,702     | 3,383,815      | 3,384,512      | 21 : 3,384,098 |
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3,383,715<br>3,383,720<br>3,383,725<br>3,383,750<br>3,383,759<br>3,383,764<br>3,383,784<br>3,383,785<br>3,383,789<br>3,383,791<br>3,383,798<br>3,383,800<br>3,383,814<br>3,383,818<br>3,383,826<br>3,383,876<br>3,383,880<br>3,383,933<br>3,383,939<br>3,383,945<br>3,383,950<br>3,383,954<br>3,383,955<br>3,383,956<br>3,384,020<br>3,384,055<br>3,384,061<br>3,384,074<br>3,384,118<br>3,384,119<br>3,384,123<br>3,384,200<br>3,384,202 | 26 : 3,384,204<br>3,384,221<br>3,384,224<br>3,384,229<br>3,384,255<br>3,384,267<br>3,384,275<br>3,384,278<br>3,384,310<br>3,384,321<br>3,384,350<br>3,384,388<br>3,384,394<br>3,384,397<br>3,384,398<br>3,384,423<br>3,384,465<br>3,384,472<br>3,384,491<br>3,384,492<br>3,384,515<br>3,384,543<br>3,384,596<br>3,384,603<br>3,384,670<br>3,384,673<br>3,384,803<br>3,384,817<br>3,384,848<br>3,384,853<br>3,384,885<br>27 : 3,383,742<br>3,383,774<br>3,383,829<br>3,383,841<br>3,383,916<br>3,383,924<br>3,383,927<br>3,383,931<br>3,384,063<br>3,384,261<br>3,384,301<br>3,384,317<br>3,384,328<br>3,384,369<br>3,384,413<br>3,384,420<br>3,384,526<br>3,384,556<br>3,384,590<br>3,384,725<br>3,384,746<br>3,384,761<br>3,384,805<br>3,384,806<br>3,384,875<br>29 : 3,383,812<br>3,384,008<br>3,384,018<br>3,384,186<br>3,384,227<br>3,384,262<br>3,384,266<br>3,384,279<br>3,384,595<br>3,384,677<br>3,384,720<br>3,384,727<br>30 : 3,383,727<br>3,384,037<br>3,384,152<br>31 : 3,383,767<br>3,384,039<br>33 : 3,383,744<br>3,384,256<br>3,384,835<br>34 : Re. 26,391<br>3,383,713<br>3,383,760<br>3,383,770<br>3,383,793<br>3,383,822<br>3,383,823<br>3,383,825<br>3,383,853<br>3,383,861<br>3,383,862<br>3,383,907<br>3,383,912<br>3,383,934<br>3,383,936<br>3,384,007<br>3,384,017<br>3,384,026<br>3,384,049<br>3,384,073<br>3,384,096<br>3,384,134<br>3,384,140<br>3,384,143<br>3,384,146<br>3,384,167<br>3,384,237 | 34 : 3,384,263<br>3,384,285<br>3,384,375<br>3,384,406<br>3,384,449<br>3,384,466<br>3,384,474<br>3,384,485<br>3,384,496<br>3,384,511<br>3,384,513<br>3,384,534<br>3,384,545<br>3,384,572<br>3,384,573<br>3,384,574<br>3,384,602<br>3,384,608<br>3,384,617<br>3,384,620<br>3,384,625<br>3,384,627<br>3,384,637<br>3,384,652<br>3,384,656<br>3,384,667<br>3,384,674<br>3,384,675<br>3,384,682<br>3,384,691<br>3,384,700<br>3,384,733<br>3,384,749<br>3,384,758<br>3,384,759<br>3,384,760<br>3,384,778<br>3,384,794<br>3,384,811<br>3,384,814<br>3,384,824<br>3,384,839<br>3,384,841<br>3,384,844<br>3,384,865<br>36 : 3,383,710<br>3,383,719<br>3,383,777<br>3,383,819<br>3,383,820<br>3,383,839<br>3,383,840<br>3,383,849<br>3,383,870<br>3,383,885<br>3,383,904<br>3,383,914<br>3,383,921<br>3,383,932<br>3,383,960<br>3,383,977<br>3,383,982<br>3,383,984<br>3,383,993<br>3,383,995<br>3,383,996<br>3,383,998<br>3,383,999<br>3,384,014<br>3,384,015<br>3,384,027<br>3,384,040<br>3,384,041<br>3,384,066<br>3,384,076<br>3,384,080<br>3,384,083<br>3,384,084<br>3,384,088<br>3,384,101<br>3,384,102<br>3,384,106<br>3,384,154<br>3,384,164<br>3,384,166<br>3,384,168<br>3,384,183<br>3,384,208<br>3,384,210<br>3,384,212<br>3,384,217<br>3,384,219<br>3,384,222<br>3,384,223<br>3,384,244<br>3,384,296<br>3,384,318<br>3,384,327<br>3,384,337<br>3,384,342<br>3,384,343<br>3,384,360<br>3,384,385 | 36 : 3,384,401<br>3,384,405<br>3,384,427<br>3,384,435<br>3,384,450<br>3,384,459<br>3,384,480<br>3,384,483<br>3,384,486<br>3,384,487<br>3,384,488<br>3,384,489<br>3,384,490<br>3,384,497<br>3,384,508<br>3,384,523<br>3,384,527<br>3,384,537<br>3,384,542<br>3,384,547<br>3,384,560<br>3,384,564<br>3,384,565<br>3,384,566<br>3,384,576<br>3,384,588<br>3,384,597<br>3,384,599<br>3,384,622<br>3,384,632<br>3,384,635<br>3,384,649<br>3,384,657<br>3,384,664<br>3,384,710<br>3,384,713<br>3,384,718<br>3,384,742<br>3,384,743<br>3,384,745<br>3,384,751<br>3,384,764<br>3,384,776<br>3,384,807<br>3,384,812<br>3,384,819<br>3,384,858<br>3,384,869<br>3,384,871<br>3,384,877<br>3,384,878<br>3,384,884<br>3,384,888<br>3,384,891<br>3,384,900<br>3,384,901<br>37 : 3,383,778<br>3,383,809<br>3,384,124<br>3,384,228<br>3,384,236<br>3,384,322<br>3,384,507<br>3,384,695<br>39 : 3,383,708<br>3,383,711<br>3,383,766<br>3,383,773<br>3,383,796<br>3,383,797<br>3,383,816<br>3,383,827<br>3,383,864<br>3,383,877<br>3,383,887<br>3,383,900<br>3,383,928<br>3,383,964<br>3,383,969<br>3,383,991<br>3,384,029<br>3,384,051<br>3,384,068<br>3,384,072<br>3,384,092<br>3,384,097<br>3,384,114<br>3,384,122<br>3,384,144<br>3,384,149<br>3,384,162<br>3,384,193<br>3,384,203<br>3,384,211<br>3,384,213<br>3,384,225<br>3,384,230<br>3,384,231<br>3,384,293<br>3,384,306<br>3,384,307<br>3,384,355<br>3,384,370 | 39 : 3,384,438<br>3,384,453<br>3,384,468<br>3,384,469<br>3,384,479<br>3,384,494<br>3,384,499<br>3,384,502<br>3,384,536<br>3,384,567<br>3,384,578<br>3,384,586<br>3,384,598<br>3,384,613<br>3,384,679<br>3,384,690<br>3,384,693<br>3,384,697<br>3,384,701<br>3,384,728<br>3,384,730<br>3,384,732<br>3,384,762<br>3,384,770<br>3,384,771<br>3,384,774<br>3,384,775<br>3,384,781<br>3,384,798<br>3,384,801<br>3,384,802<br>3,384,802<br>40 : 3,383,729<br>3,383,881<br>3,384,171<br>3,384,172<br>3,384,458<br>3,384,570<br>3,384,585<br>3,384,601<br>3,384,629<br>3,384,671<br>3,384,678<br>3,384,750<br>3,384,868<br>41 : 3,384,023<br>3,384,024<br>3,384,196<br>3,384,393<br>42 : 3,383,707<br>3,383,709<br>3,383,723<br>3,383,748<br>3,383,771<br>3,383,804<br>3,383,831<br>3,383,834<br>3,383,844<br>3,383,897<br>3,383,920<br>3,383,944<br>3,383,965<br>3,383,970<br>3,383,971<br>3,383,985<br>3,384,013<br>3,384,035<br>3,384,043<br>3,384,053<br>3,384,082<br>3,384,085<br>3,384,110<br>3,384,117<br>3,384,133<br>3,384,155<br>3,384,159<br>3,384,165<br>3,384,176<br>3,384,177<br>3,384,189<br>3,384,192<br>3,384,218<br>3,384,226<br>3,384,249<br>3,384,265<br>3,384,268<br>3,384,300<br>3,384,358<br>3,384,381<br>3,384,434<br>3,384,441<br>3,384,506<br>3,384,510<br>3,384,604<br>3,384,605<br>3,384,644<br>3,384,658<br>3,384,660<br>3,384,680<br>3,384,703<br>3,384,704<br>3,384,731<br>3,384,753<br>3,384,765 | 42 : 3,384,772<br>3,384,783<br>3,384,797<br>3,384,809<br>3,384,821<br>3,384,833<br>3,384,850<br>3,384,859<br>3,384,864<br>44 : 3,383,847<br>3,383,947<br>3,384,314<br>45 : 3,383,746<br>3,384,315<br>3,384,444<br>47 : 3,384,046<br>3,384,636<br>48 : 3,383,717<br>3,383,728<br>3,383,794<br>3,383,863<br>3,383,913<br>3,383,946<br>3,383,948<br>3,384,052<br>3,384,065<br>3,384,105<br>3,384,169<br>3,384,175<br>3,384,178<br>3,384,190<br>3,384,191<br>3,384,297<br>3,384,323<br>3,384,351<br>3,384,373<br>3,384,392<br>3,384,419<br>3,384,426<br>3,384,445<br>3,384,460<br>3,384,463<br>3,384,540<br>3,384,569<br>3,384,571<br>3,384,575<br>3,384,587<br>3,384,655<br>3,384,659<br>3,384,666<br>3,384,668<br>3,384,669<br>3,384,763<br>3,384,788<br>3,384,894<br>49 : 3,383,714<br>3,384,187<br>50 : 3,383,986<br>51 : 3,383,830<br>3,383,848<br>3,384,016<br>3,384,108<br>3,384,147<br>3,384,246<br>3,384,324<br>3,384,692<br>3,384,705<br>52 : 3,383,878<br>53 : 3,383,833<br>3,383,959<br>3,384,137<br>3,384,333<br>54 : 3,384,624<br>55 : 3,383,765<br>3,383,788<br>3,383,892<br>3,383,943<br>3,383,951<br>3,383,957<br>3,383,963<br>3,383,988<br>3,384,012<br>3,384,025<br>3,384,036<br>3,384,056<br>3,384,135<br>3,384,163<br>3,384,215<br>3,384,241<br>3,384,276<br>3,384,312<br>3,384,382<br>3,384,478<br>3,384,626<br>3,384,641<br>3,384,740<br>3,384,796<br>3,384,799<br>3,384,843<br>3,384,861<br>56 : 3,383,935<br>3,384,062 |
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## GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

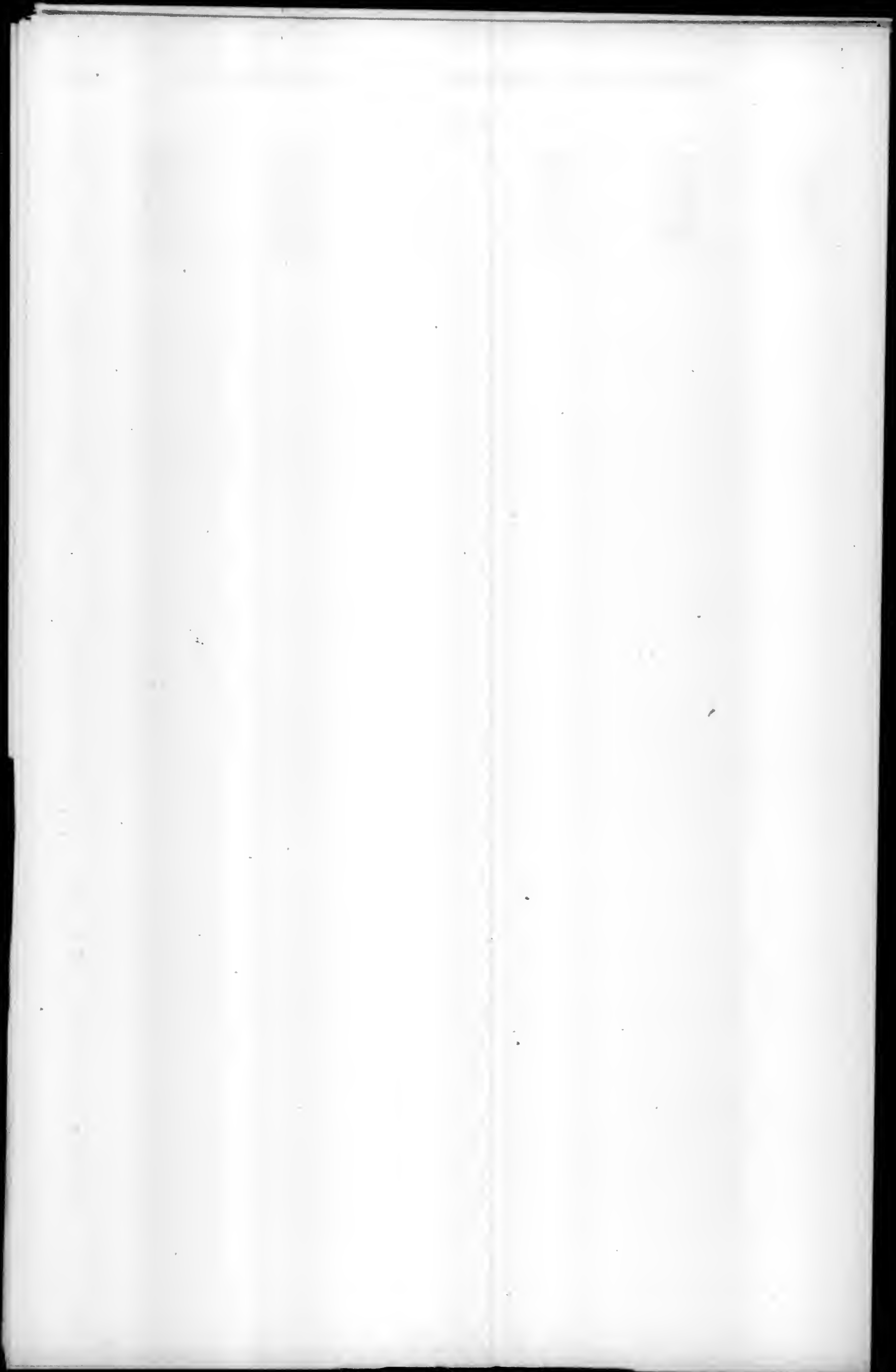
## Design Patents

|             |              |              |              |              |              |
|-------------|--------------|--------------|--------------|--------------|--------------|
| 6 : 211,076 | 12 : 211,097 | 20 : 211,120 | 36 : 211,084 | 36 : 211,134 | 39 : 211,139 |
| 211,086     | 13 : 211,140 | 21 : 211,144 | 211,088      | 211,137      | 211,150      |
| 211,089     | 17 : 211,091 | 25 : 211,102 | 211,090      | 211,138      | 42 : 211,087 |
| 211,107     | 211,105      | 26 : 211,083 | 211,092      | 211,145      | 48 : 211,103 |
| 211,131     | 211,125      | 211,098      | 211,101      | 211,146      | 211,104      |
| 211,141     | 211,126      | 211,132      | 211,110      | 37 : 211,095 | 211,121      |
| 211,143     | 211,127      | 27 : 211,106 | 211,111      | 39 : 211,082 | 211,124      |
| 8 : 211,122 | 211,147      | 34 : 211,075 | 211,128      | 211,108      | 54 : 211,099 |
| 9 : 211,085 | 18 : 211,081 | 36 : 211,133 | 211,129      | 211,109      | 55 : 211,080 |
| 211,142     | 19 : 211,100 |              | 211,130      |              |              |









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U.S. DEPARTMENT OF COMMERCE  
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

May 21, 1968

Volume 850

Number 3

TRADEMARKS  
NOTICES

**Purchase of Copies of International Classification of  
Trademarks and Supplement**

In the notice entitled "Publication of International Classification" appearing in the OFFICIAL GAZETTE of January 30, 1968 (846 O.G. T.M. 184) announcing the availability of the English edition of the "International Classification of Goods and Services to Which Trademarks Are Applied," at the British Patent Office at 10 shillings (\$1.20) per copy, it was stated that payment may be made by money order or check payable to the Comptroller-General, Patent Office.

Certain modifications and additions to the Classification were made at the Geneva meeting in April 1967 of the Committee of Experts set up under the Nice Agreement. The English version of these amendments was published as a Supplement to the British Trade Mark Journal of November 15, 1967 and is available from the British Office at one shilling (12¢) per copy which includes postage by surface mail.

We are advised by the British Patent Office that most orders for the first mentioned publication have been accompanied by checks for \$1.20 but such checks, upon conversion to Sterling (after deduction of bank charges) leaves a balance of only eight shillings and five pence. Accordingly, the British Patent Office has had to write for the balance.

The British Patent Office advises that the best methods of payment are (a) by International Money Order or (b) by Bankers' draft payable in Sterling and drawn on a British bank.

In either of these cases the British Patent Office would receive 10 shillings and there would be no delay in filling orders.

If a check is sent for the International Classification it should be for \$1.45. Persons desiring the Supplement should send one shilling by method (a) or (b), or alternatively, 15 cents.

Orders, as indicated in the original Notice, may be sent to:

Sale Branch, The Patent Office  
Block C, Station Square House  
St. Mary Cray, Orpington, Kent, England

EDWIN L. REYNOLDS,  
First Assistant Commissioner.

Apr. 18, 1968.

**Trademark Suits**

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 707,656 (AMWAY), Amway Sales Corp., Waxes and polishes, particularly furniture polishes and floor waxes; Reg. No. 716,128, same, Water purifying and softening apparatus; Reg. No. 716,672, same, Cleaners and cleaning compounds, specifically abrasive and polishing cleaners; Reg. No. 724,666, same, All purpose cleaning concentrates, detergents and soaps in liquid, powder and solid form; Reg. No. 727,367, same, Bleaches and germicides; Reg. No. 731,260 (AMWAY FORMULA 1886 AND DESIGN), same, Hair color restorative; Reg. No. 736,656 (AMWAY), same, Prefabricated

**CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1968**

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 17,367  
Date of oldest new application..... May 10, 1967  
Date of oldest amended application (filing date)..... Aug. 20, 1964

| C. M. WENDT, Director, Trademark Examining Operation  |  | Oldest Application |          |
|---|--|--------------------|----------|
| TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION  |  | New                | Amended  |
| (I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B..... |  | 5-10-67            | 10-20-65 |
| (II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....                                    |  | 6-21-67            | 8-20-64  |
| (III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36.....   |  | 6-1-67             | 9-27-65  |
| (IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....    |  | 5-15-67            | 1-5-65   |
| Renewals (All Classes).....   |  |                    |          |
| Sec. 12(c) Publications (All Classes).....  |  |                    |          |

Applications filed during the month of March 1968—2,462

Registrations Issued ..... 438—No. 849,199 to No. 849,636  
Renewals Issued ..... 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.



survival shelters, particularly steel shelters, designed for sub-surface installation; Reg. No. 753,002, same, Protective and decorative coatings—namely, an anti-soil coating material for rugs, upholstery, painted surfaces and draperies; Reg. No. 753,004, same, Fire extinguishers; Reg. No. 754,700, same, Clothing—namely, hosiery; Reg. No. 757,767, same, Cleaning and maintenance equipment—namely, rug and upholstery shampoo applicators; Reg. No. 760,330, same, Oils and greases—namely, a multi-use spray for lubricating, water-proofing, corrosion retardation and prevention of surface condensation; Reg. No. 772,910 (AMWAY AND DESIGN), same, Waxes and polishes, particularly for furniture, floors, automobiles and shoes, and cleaners and cleaning compounds, specifically those of the abrasive and polishing type; Reg. No. 772,943 (AMWAY), same, Bathroom freshener attachment for use in conjunction with bathroom fixtures; Reg. No. 772,944 (AMWAY AND DESIGN), same; Reg. No. 774,000, same, Fire extinguishers; Reg. No. 774,194, same, Clothing—namely, hosiery; Reg. No. 774,373, same, All-purpose cleaning concentrates, cleaners, detergents and soaps in liquids, powder and solid form; Reg. No. 777,446, same, Chemicals and chemical compositions, particularly bleaches, germicides, air deodorants, moth proofing compounds, and insect repellents; Reg.

No. 777,704, same, Multi-use spray for lubricating, water-proofing, corrosion retardation and prevention of surface condensation; Reg. No. 779,297 (AMWAY), same, Coin-operated bleach and detergent vending machines; Reg. No. 804,184, same, Plastic toys; Reg. No. 804,185 (AMWAY AND DESIGN), same; Reg. No. 804,313 (AMWAY), same, Laundry appliances—namely, ironing board covers; Reg. No. 804,313 (AMWAY AND DESIGN), same; Reg. No. 810,730, same, Protective and decorative coatings—namely, an anti-soil coating material for rugs, upholstery, painted surfaces, and draperies; Reg. No. 812,413 (AMWAY), same, Medicated baby oils and ointments and antiseptics in an aerosol container; Reg. No. 812,414 (AMWAY AND DESIGN), same; Reg. No. 815,530 (AMWAY), same, Iron-on patches; Reg. No. 815,530 (AMWAY AND DESIGN), same; Reg. No. 830,000 (AMWAY), same, Recordings; Reg. No. 830,000, same, Chinaware—namely, plates, cups, saucers, platters and bowls; Reg. No. 830,000, same, Electric vibrating massagers; Reg. No. 837,904, same, Sample cases and briefcases; Reg. No. 838,005 (AMWAY AND DESIGN), same, Cleaning and maintenance equipment—namely, rug and upholstery shampoo applicators, filed Feb. 14, 1968, D.C., E.D. Mich. (Detroit), Doc. 30874, *Amway Corporation v. Amway Catering, Inc.*



# MARKS PUBLISHED FOR OPPOSITION

## SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 766. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 228,733. Merchandising International S.A., Geneva, Switzerland. Filed Oct. 16, 1965.



**MISTER MINIT SERVICES**

Applicant disclaims the word "Services" apart from the mark as shown. Owner of Swiss Reg. No. 209,864, dated Apr. 1, 1965.

### Class 32—Furniture and Upholstery

For Store Installations—Namely, Counters, Stalls, Stands, and Fixtures (Int. Cl. 20).

### Class 50—Merchandise Not Otherwise Classified

For Signs (Int. Cl. 19).

SN 228,124. J. P. Stevens & Co., Inc., New York, N.Y. Filed Feb. 4, 1966.



The mark consists of a stylized "S." Applicant does not claim exclusive right to use of the word "Chemicals" apart from the mark as shown. Owner of Reg. Nos. 738,264, 742,014, and others.

### Class 5—Adhesives

For Film-Forming Type Adhesives—Namely, Acrylic Emulsion, Urethane Solvent, and Vinyl Chloride (Int. Cl. 1). First use on or about Aug. 6, 1964.

### Class 6—Chemicals and Chemical Compositions

For Chemicals—Namely, Acrylics, Amides, Sulfonates, and Ethyloxylates for Use as Crosslinking Resins, Softeners, Catalysts, Solvent Emulsions, Dyeing Aids, Film-Forming Hand Builders, and Fixing Agents (Int. Cl. 1).

First use on or about July 29, 1964.

SN 242,529. N. P. Benson Optical Company, Minneapolis, Minn., assignee of Benson Opticians, Inc., Minneapolis, Minn. Filed Apr. 4, 1966.



Applicant disclaims the exclusive right to the representation of merely an ordinary pair of eyeglasses in connection with the goods and services recited, apart from the mark as shown.

### Class 26—Measuring and Scientific Appliances

For Optical Lenses, Eye Glasses and Parts Thereof (Int. Cl. 9).

### Class 100—Miscellaneous

For Optician Services (Int. Cl. 42).

First use May 1960.

SN 246,014. A.E.I. Corporation, Bethlehem, Pa., assignee of Allen Electronics, Inc., Bethlehem, Pa. Filed May 19, 1966.

**SAV-REE-PAK**

Owner of Reg. Nos. 762,276, 775,079, and others.

### Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Operated Machines for Heating, Cooling, and Dispensing Water (Int. Cl. 11).

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Vending Machines (Int. Cl. 9).

### Class 45—Soft Drinks and Carbonated Waters

For Soft Drinks in Powdered Form (Int. Cl. 32).

### Class 46—Foods and Ingredients of Foods

For Coffee, Tea, Chocolate, and Soups in Powdered Form (Int. Cl. 30).

### Class 50—Merchandise Not Otherwise Classified

For Kits Consisting of Water Heaters or Coolers, Soups, Stirrers and Packages of Dry Powdered Food Products, Such as Coffee, Tea, Chocolate, Soups and Beverages (Int. Cl. 30).

First use Aug. 23, 1961.

SN 252,140. United States Avtex Company, Niles, Mich. Filed Aug. 10, 1966.

**fix-pak**

### Class 6—Chemicals and Chemical Compositions

For Automotive Chemicals—Namely, Chemical Preparation for Melting Ice on Windshields and Viscosity Index Additive (Int. Cl. 1).

### Class 15—Oils and Greases

For Crank Case Additives, Upper Cylinder Lubricants, Penetrating Oil, Diesel Engine Starting Fluid and Gas Line Anti-Freeze (Int. Cls. 1 and 4).

### Class 52—Detergents and Soaps

For Choke Cleaner (Int. Cl. 3).

First use July 28, 1966.



same, Bathroom freshener attachment for use in conjunction with bathroom fixtures; Reg. No. 772,044 (AMWAY AND DESIGN), same; Reg. No. 774,000, same, Fire extinguishers; Reg. No. 774,104, same, Clothing—namely, hosiery; Reg. No. 774,372, same, All-purpose cleaning concentrates, cleaners, detergents and soaps in liquids, powder and solid form; Reg. No. 777,044, same, Chemicals and chemical compositions, particularly bleaches, germicides, air deodorants, moth proofing compounds, and insect repellents; Reg.

WAY AND DESIGN), same; Reg. No. 800,000 (AMWAY), same, Recordings; Reg. No. 800,000, same, Chinaware—namely, plates, cups, saucers, platters and bowls; Reg. No. 800,000, same, Electric vibrating massagers; Reg. No. 807,004, same, Sample cases and briefcases; Reg. No. 808,000 (AMWAY AND DESIGN), same, Cleaning and maintenance equipment—namely, rug and upholstery shampoo applicators, filed Feb. 14, 1968, D.C., E.D. Mich. (Detroit), Doc. 30874, Amway Corporation v. Amway Catering, Inc.

Switzerland. Filed Oct. 10, 1965.



**MISTER MINT SERVICES**

Applicant disclaims the word "Services" apart from the mark as shown. Owner of Swiss Reg. No. 209,864, dated Apr. 1, 1965.

#### Class 32—Furniture and Upholstery

For Store Installations—Namely, Counters, Stalls, Stands, and Fixtures (Int. Cl. 20).

#### Class 50—Merchandise Not Otherwise Classified

For Signs (Int. Cl. 10).

SN 238,124. J. P. Stevens & Co., Inc., New York, N.Y. Filed Feb. 4, 1966.



The mark consists of a stylized "S." Applicant does not claim exclusive right to use of the word "Chemicals" apart from the mark as shown. Owner of Reg. Nos. 738,264, 742,014, and others.

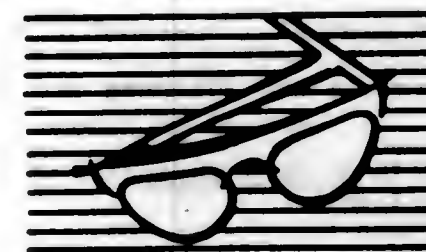
#### Class 5—Adhesives

For Film-Forming Type Adhesives—Namely, Acrylic Emulsion, Urethane Solvent, and Vinyl Chloride (Int. Cl. 1). First use on or about Aug. 6, 1964.

#### Class 6—Chemicals and Chemical Compositions

For Chemicals—Namely, Acrylics, Amides, Sulfonates, and Ethyloxylates for Use as Crosslinking Resins, Softeners, Catalysts, Solvent Emulsions, Dyeing Aids, Film-Forming Hand Builders, and Sizing Agents (Int. Cl. 1). First use on or about July 29, 1964.

SN 242,529. N. P. Benson Optical Company, Minneapolis, Minn., assignee of Benson Opticians, Inc., Minneapolis, Minn. Filed Apr. 4, 1966.



Applicant disclaims the exclusive right to the representation of merely an ordinary pair of eyeglasses in connection with the goods and services recited, apart from the mark as shown.

For Optical Lenses, Eye Glasses and Parts Thereof (Int. Cl. 9).

#### Class 100—Miscellaneous

For Optician Services (Int. Cl. 42).

First use May 1960.

SN 246,014. A.E.I. Corporation, Bethlehem, Pa., assignee of Allen Electronics, Inc., Bethlehem, Pa. Filed May 19, 1966.

## SAV-REE-PAK

Owner of Reg. Nos. 762,276, 775,079, and others.

#### Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Operated Machines for Heating, Cooling, and Dispensing Water (Int. Cl. 11).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Vending Machines (Int. Cl. 9).

#### Class 45—Soft Drinks and Carbonated Waters

For Soft Drinks in Powdered Form (Int. Cl. 32).

#### Class 46—Foods and Ingredients of Foods

For Coffee, Tea, Chocolate, and Soups in Powdered Form (Int. Cl. 30).

#### Class 50—Merchandise Not Otherwise Classified

For Kits Consisting of Water Heaters or Coolers, Soups, Stirrers and Packages of Dry Powdered Food Products, Such as Coffee, Tea, Chocolate, Soups and Beverages (Int. Cl. 30).

First use Aug. 28, 1961.

SN 252,140. United States Avlex Company, Niles, Mich. Filed Aug. 10, 1966.

**fix-pak**

#### Class 6—Chemicals and Chemical Compositions

For Automotive Chemicals—Namely, Chemical Preparation for Melting Ice on Windshields and Viscosity Index Additive (Int. Cl. 1).

#### Class 15—Oils and Greases

For Crank Case Additives, Upper Cylinder Lubricants, Penetrating Oil, Diesel Engine Starting Fluid and Gas Line Anti-Freeze (Int. Cls. 1 and 4).

#### Class 52—Detergents and Soaps

For Choke Cleaner (Int. Cl. 3).

First use July 28, 1966.



SN 252,508. Eaton Yale & Towne Inc., Cleveland, Ohio.  
Filed Aug. 17, 1966.

## EATON

Owner of Reg. No. 398,796 and others.

### Class 14—Metals and Metal Castings and Forgings

For Permanent Mold and Shell Molded Gray Iron Castings (Int. Cl. 6).

First use on or about Aug. 31, 1960.

### Class 19—Vehicles

For Vehicle Springs, Vehicle Brakes, Vehicle Brake Assemblies and Parts Thereof, Vehicle Power Steering Pumps and Parts Thereof, Vehicle Heaters and Parts Thereof, Stamped Closures for Tanks and Cooling Systems for Vehicles, Vehicle Air Conditioners and Parts Thereof, Heat Exchangers for Marine Engines (Int. Cls. 7 and 12).

First use on or about Dec. 21, 1923.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Drive Axles for Vehicles—Namely, Motor Trucks; Vehicle Drive Axle Parts—Namely, Shafts, Differentials and Housings, Air and Electric Shift Controls for Vehicle Drive Axles, Internal Combustion Engines and Parts Thereof, Marine Drives and Parts Thereof, and Valve Springs for Internal Combustion Engines, Valve Lifters and Valves (Int. Cl. 12).

First use on or about Dec. 21, 1923.

### Class 31—Filters and Refrigerators

For Water Filters (Int. Cl. 11).

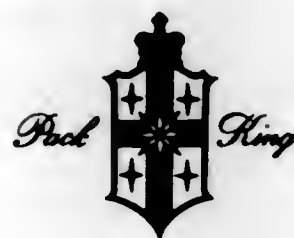
First use on or about Sept. 23, 1964.

### Class 34—Heating, Lighting, and Ventilating Apparatus

For Apparatus for Moisture Conditioning Air and Controls Thereof (Int. Cl. 11).

First use on or about Aug. 5, 1964.

SN 256,371. Packing Materials Corporation, Chicago, Ill.  
Filed Oct. 13, 1966.



Applicant disclaims exclusive rights to the term "Pack" apart from the mark as shown.

### Class 2—Receptacles

For Containers—Namely, Set-Up and Folding Boxes and Bags Made of Paper, Polyethylene, Foil Vapor Barrier, Cushioned Mailing, Grocery and Cushioned Bags (Int. Cl. 16).

### Class 37—Paper and Stationery

For Packaging Paper Products and Materials—Namely, Kraft Papers in Rolls and Sheets, Waterproof Vapor, Waxed Paper, Vapor Phase Inhibitor Paper, Corrugated Paper and Sheets in Rolls, Shock Absorbent Paper in Sheets, Rolls and Pads and Chip-Board (Int. Cl. 16).

First use March 1962.

SN 258,272. International Flavors & Fragrances Inc., New York, N.Y. Filed Nov. 9, 1966.

## CAPTIF

### Class 6—Chemicals and Chemical Compositions

For Aromatic Chemicals, Essential Oils and Fragrance Ingredients in Encapsulated Form for Use in the Manufacture of Perfumes (Int. Cls. 1 and 3).

First use Oct. 14, 1966.

### Class 46—Foods and Ingredients of Foods

For Food Flavors in Encapsulated Form (Int. Cl. 30).

First use June 13, 1966.

### Class 51—Cosmetics and Toilet Preparations

For Encapsulated Cosmetics—Namely, Perfumes and Talcum Powders (Int. Cl. 3).

First use Apr. 4, 1966.

SN 258,722. Reed-Joseph Company, Greenville, Miss. Filed Nov. 15, 1966.



### Class 2—Receptacles

For Grain Storage Bins (Int. Cl. 6).

First use February 1964.

### Class 100—Miscellaneous

For Designing of Grain Storage and Drying Installations (Int. Cl. 42).

First use on or about Sept. 15, 1962.

### Class 103—Construction and Repair

For Constructing Storage Bins and Steel Buildings (Int. Cl. 37).

First use on or about Sept. 15, 1962.

SN 259,487. Tomos Tovarna Motornih Vosil, Koper, Yugoslavia. Filed Nov. 25, 1966.



Owner of Yugoslavian Reg. No. 16,404, dated Dec. 24, 1964.

### Class 19—Vehicles

For Motorcycles and Passenger Cars (Int. Cl. 12).

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Outboard Motors and Water Pumps (Int. Cl. 7).

SN 260,095. Takara Company, New York, Inc., Brooklyn, N.Y. Filed Dec. 5, 1966.

## TAKARA

The mark "Takara" means "treasure" in Japanese.

### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Shampoo Bowls and Fixtures (Int. Cl. 21).

First use Aug. 1, 1965.

### Class 32—Furniture and Upholstery

For Beauty Parlor Chairs and Barber Shop Chairs (Int. Cl. 20).

First use Nov. 1, 1957.

### Class 44—Dental, Medical, and Surgical Appliances

For Hair Dryers (Int. Cl. 7).

First use Sept. 1, 1952.

SN 261,556. Tomos Tovarna Motornih Vosil, Koper, Yugoslavia. Filed Nov. 25, 1966.



Owner of Yugoslavian Reg. No. 16,405, dated Dec. 24, 1964.

### Class 19—Vehicles

For Motorcycles and Passenger Cars (Int. Cl. 12).

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Outboard Motors and Water Pumps (Int. Cl. 7).

SN 263,294. Scientific Control Corporation, Dallas, Tex. Filed Jan. 25, 1967.



### Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers, Commutators, Electronic Switches and Multiplexers, and Analog-to-Digital and Digital-to-Analog Converters (Int. Cl. 9).

### Class 26—Measuring and Scientific Appliances

For Electronic Computers and Parts Thereof and Peripheral Equipment, and Telemetry Systems and Parts Thereof (Int. Cl. 9).

First use on or about Feb. 21, 1966.

SN 264,761. Scientific Control Corporation, Dallas, Tex. Filed Feb. 15, 1967.

## SCC

### Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers, Commutators, Electronic Switches and Multiplexers, and Analog-to-Digital and Digital-to-Analog Converters (Int. Cl. 9).

### Class 26—Measuring and Scientific Appliances

For Electronic Computers and Parts Thereof and Peripheral Equipment, and Telemetry Systems and Parts Thereof (Int. Cl. 9).

First use on or about Feb. 21, 1966.

SN 265,662. Tandbergs Radlofabrikk A/S, Oslo, Norway. Filed Feb. 28, 1967.

## HULDRA

Owner of Norwegian Reg. No. 27,354, dated Sept. 11, 1939.

### Class 21—Electrical Apparatus, Machines, and Supplies

For Radios, Amplifiers, Television Sets, Loudspeakers, Microphones, and Electrical Supervision Apparatus for Use in Teaching (Int. Cl. 9).

### Class 26—Measuring and Scientific Appliances

For Language Laboratory Teaching Unit Comprising a Control Panel, Microphone, Intercom, Recorder With Headset and Playback (Int. Cl. 9).

### Class 36—Musical Instruments and Supplies

For Magnetic Tape Recorders (Int. Cl. 9).

SN 268,744. Liberty Distributors, Des Plaines, Ill. Filed Apr. 10, 1967. COLLECTIVE MARK.

## SPORTMASTER

Owner of Reg. Nos. 667,988, 747,824, and 786,836.

### Class 19—Vehicles

For Adult's Bicycles and Sleds (Int. Cl. 12).

### Class 22—Games, Toys, and Sporting Goods

For Children's Bicycles, Tricycles and Children's Wagons and Sleds (Int. Cl. 28).

First use Sept. 15, 1966.

SN 268,840. Jackson & Perkins Company, Medford, Ore. Filed Apr. 11, 1967.

## J&P

### Class 1—Raw or Partly Prepared Materials

For Plants—Namely, Roses, Lilacs, Amaryllis, Chrysanthemums and Dianthus, Strawberries, Clematis and Bulbs (Int. Cl. 31).

First use at least as early as 1939.

### Class 6—Chemicals and Chemical Compositions

For Insecticides, Herbicides and Fungicides (Int. Cl. 5).

First use 1948.

### Class 10—Fertilizers

For Fertilizers—Namely, Rose Food (Int. Cl. 1).

First use 1948.

SN 268,841. Jackson & Perkins Company, Medford, Ore. Filed Apr. 11, 1967.

## JACKSON & PERKINS

### Class 1—Raw or Partly Prepared Materials

For Plants—Namely, Roses, Lilacs, Amaryllis, Chrysanthemums and Dianthus, Strawberries, Clematis and Bulbs (Int. Cl. 31).

First use at least as early as 1900.

### Class 6—Chemicals and Chemical Compositions

For Insecticides, Herbicides and Fungicides (Int. Cl. 5).

First use 1948.

### Class 10—Fertilizers

For Fertilizers—Namely, Rose Food (Int. Cl. 1).

First use 1948.

SN 270,181. Automata Corporation, Richland, Wash. Filed Apr. 28, 1967.

## DATA DOT



**Class 26—Measuring and Scientific Appliances**

For Marking Feature of Machines for Automatically Scoring Response Indications Such as Student Examinations (Int. Cl. 9).

**Class 38—Prints and Publications**

For Printed Forms for Recording Indications To Be Scored by Automatic Scoring Machines (Int. Cl. 16).

First use Nov. 28, 1966.

SN 270,799. Mid-Continent, Inc., West Memphis, Ark. Filed May 5, 1967.

## MID-CONTINENT TRUCK STOP

No exclusive rights are claimed for the words "Truck Stop" apart from the mark as shown.

**Class 100—Miscellaneous**

For Motel and Restaurant Services (Int. Cl. 42).

**Class 103—Construction and Repair**

For Repairs, Road Services and Maintenance of Long Distance Haulers (Int. Cl. 37).

First use Jan. 6, 1961.

SN 274,162. William R. Howell, d.b.a. The Cragmoor Craftsmen, Cragmoor, N.Y. Filed June 19, 1967.

## NATURE UNDER GLASS

**Class 12—Construction Materials**

For Panels for Trays and Room Dividers, Ceiling Panels (Int. Cl. 19).

First use Nov. 21, 1960.

**Class 34—Heating, Lighting, and Ventilating Apparatus**

For Ceiling Light Panels, Lamp Shades (Int. Cl. 11).

First use Sept. 15, 1962.

**Class 37—Paper and Stationery**

For Paper Weights (Int. Cl. 16).

First use Nov. 14, 1960.

**Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor**

For Place-Mats, Hot Pads (Int. Cl. 24).

First use Nov. 21, 1960.

SN 276,057. Beneke Corporation, Columbus, Miss. Filed July 17, 1967.

## BENEKE

Owner of Reg. No. 607,550.

**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

For Toilet Seats (Int. Cl. 11).

First use January 1953.

**Class 32—Furniture and Upholstery**

For Vanity Benches (Int. Cl. 20).

First use January 1966.

SN 276,058. Paper Impressions Incorporated, Des Moines, Iowa. Filed July 17, 1967.

## IMAGE WEAR

**Class 28—Jewelry and Precious-Metal Ware**

For Novelty Paper Items for Advertising Purposes Simulating Jewelry Accessories—Namely, Earrings, Bracelets and Cufflinks (Int. Cl. 16).

**Class 39—Clothing**

For Novelty Wearing Apparel of Paper for Men and Women for Advertising Purposes—Namely, Dresses, Coats, Vests, Aprons, Jackets, Blouses and Shirts (Int. Cl. 25).

**Class 50—Merchandise Not Otherwise Classified**

For Dropcloths of Paper for Advertising Purposes (Int. Cl. 16).

First use May 1, 1967.

SN 276,059. Thermoplastics Corporation, Charlotte, N.C. Filed July 17, 1967.

**Class 5—Adhesives**

For Cements and Adhesives (Int. Cl. 1).

First use June 15, 1959.

**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

For Plastic Pipes (Int. Cl. 17).

First use Jan. 25, 1967.

SN 276,495. King Refrigerator Corporation, Glendale, N.Y. Filed July 21, 1967.

## WORTH ITS WEIGHT IN COLD

Owner of Reg. Nos. 436,068, 602,167, and others.

**Class 31—Filters and Refrigerators**

For Electric Refrigerators (Int. Cl. 11).

First use 1938.

**Class 34—Heating, Lighting, and Ventilating Apparatus**

For Air Conditioners (Int. Cl. 11).

First use Mar. 23, 1954.

SN 280,748. Air Tool Corporation of America, Los Angeles, Calif. Filed Sept. 20, 1967.



No claim is made to the representation of the goods apart from the mark as shown.

**Class 13—Hardware and Plumbing and Steam-Fitting Supplies** SN 280,909. Hicklin GM Diesel, Inc., Des Moines, Iowa. Filed Sept. 22, 1967.

For Mechanical Clamps (Int. Cl. 6).

First use February 1965.

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Filer-Sander Machines, Sander Machines, Paint Mixer Machines and Parts of the Foregoing Machines, and Sanding Shoes and Burnishing Shoes for Attachment to Filing and Sanding Machines (Int. Cl. 7).

First use September 1964.

**Class 29—Brooms, Brushes, and Dusters**

For Wire Brushes for Attachment to Filing and Sanding Machines (Int. Cl. 7).

First use February 1966.



Owner of Reg. No. 697,798.

**Class 21—Electrical Apparatus, Machines, and Supplies**

For Rebuilt Equipment—Namely, Starters, Generators, Alternators and Voltage Regulators (Int. Cl. 7).

**Class 103—Construction and Repair**

For Maintaining, Modifying and Servicing Diesel Engines and Related Parts (Int. Cl. 37).

First use July 1, 1965.

## SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

**Class 1—Raw or Partly Prepared Materials**

SN 244,947. Hume Corporation, Columbus, Ohio. Filed May 5, 1966.

## FIBERFLAKE

For Reinforced Resin (Int. Cl. 1).

First use Oct. 11, 1965.

SN 245,382. The Budd Company, Philadelphia, Pa. Filed May 11, 1966.



Owner of Reg. Nos. 528,554, 670,748, and others.  
For Cellulose, Mica, Plastic, and Synthetic Rubber in Sheet, Tube, or Rod Form for General Use in the Industrial Arts (Int. Cl. 17).

First use in or about 1956, about 1914 as to "Budd."

SN 258,775. Better Turf Seed Company, Inc., Bound Brook, N.J. Filed Nov. 16, 1966.

## BACK YARD

For Grass Seed (Int. Cl. 31).

First use on or about Apr. 1, 1966.

SN 261,063. Rexall Drug and Chemical Company, Los Angeles, Calif., assignee of Fibrafil, Inc., Evansville, Ind. Filed Dec. 19, 1966.

## STYRACON

Owner of Reg. Nos. 723,481 and 770,144.

For Chopped Glass-Fiber Roving or Strand Impregnated With Less Than 35 Percent Styrene Polymer for Mixture With Additional Thermoplastic Resin To Form a Glass-Reinforced Injection Molding Compound (Int. Cl. 1).

First use Nov. 29, 1966.

SN 264,976. Shell Oil Company, New York, N.Y. Filed Feb. 17, 1967.

## THERM-L

For Thermoplastic Rubber (Int. Cl. 17).

First use Dec. 6, 1966.

SN 266,214. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Mar. 8, 1967.

## SEIBERLING

Owner of Reg. Nos. 172,808, 530,824, and others.  
For Tire Casing Dusting Powders and Soapstone for Use in Industrial Arts (Int. Cl. 1).

First use Feb. 1, 1965.

SN 270,125. General Latex and Chemical Corporation, Cambridge, Mass. Filed Apr. 27, 1967.

## VULTAFOAM

For Foamable Urethane Resins (Int. Cl. 1).

First use Mar. 29, 1960.

SN 270,126. General Latex and Chemical Corporation, Cambridge, Mass. Filed Apr. 27, 1967.

## VULTATHANE

For Non-Foamable Poly-Urethane Resins (Int. Cl. 1).

First use June 1, 1964.

SN 273,793. Rexall Drug and Chemical Company, d.b.a. Rexall Chemical Company, Los Angeles, Calif. Filed June 13, 1967.

## STABS

For Polystyrene (Int. Cl. 1).

First use Mar. 10, 1967.

SN 274,524. Isocyanate Products, Inc., New Castle, Del. Filed June 22, 1967.

## CASTOCURE

For Polyurethane Resins (Int. Cl. 1).

First use May 22, 1967.

SN 274,543. Reichhold Chemicals, Inc., White Plains, N.Y. Filed June 22, 1967.

## PADLOC

For Synthetic Resins (Int. Cl. 1).

First use June 16, 1967.



SN 274,582. Bates Manufacturing Company, Incorporated, Lewiston, Maine. Filed June 23, 1967.

## PHOENIX

Owner of Reg. No. 825,936.  
For Resin Polymers, Polyesters and Synthetic Fibers (Int. Cls. 1 and 22).  
First use Dec. 14, 1965.

SN 274,583. Bates Manufacturing Company, Incorporated, Lewiston, Maine. Filed June 23, 1967.



For Resin Polymers, Polyesters and Synthetic Fibers (Int. Cls. 1 and 22).  
First use Dec. 14, 1965.

SN 274,597. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed June 23, 1967.

## TROLITAN

Owner of German Reg. No. 395,911, dated Oct. 17, 1928.  
For Synthetic Resin Molding Compositions and Synthetic Resin Injection Molding Compositions (Int. Cl. 1).

SN 291,810. Du Pont of Canada Limited, Montreal, Quebec, Canada. Filed Feb. 26, 1968.

## SCLAIR

Owner of Canadian Reg. No. 121,938, dated Apr. 21, 1961.  
For Polyolefin Resins (Int. Cl. 1).

## Class 2 — Receptacles

SN 251,537. The Greif Bros. Cooperage Corporation, Delaware, Ohio. Filed Aug. 2, 1966.

## PLAST-I-LINER

For Linings for Shipping Containers and Fibre and/or Steel Drums (Int. Cls. 6 and 20).  
First use Feb. 12, 1965.

SN 253,052. Reynolds Metals Company, Richmond, Va. Filed Aug. 24, 1966.

## REYNOLDS

Owner of Reg. Nos. 545,767, 765,763, and others.  
For Metallic Receptacles and Laminated Containers—Namely, Pressurizable Keg-Like Containers, Metallic Cans, Drinking Tumblers, Nestable Bulk Containers, and Containers of Aluminous Metal Foil Either Unsupported or Laminated to Paper or Plastic (Int. Cls. 6 and 21).  
First use at least as early as February 1946.

SN 261,667. Mobil Oil Corporation, New York, N.Y. Filed Dec. 29, 1966.

## CANGARD

For Plastic Bags Used as Liners for Containers (Int. Cl. 22).  
First use July 15, 1966.

SN 272,757. Sweetheart Plastics, Inc., Wilmington, Mass. Filed May 31, 1967.

## GUILD FOAM

The word "Foam" is disclaimed apart from the mark as shown.  
For Disposable Plastic Cups and Containers (Int. Cl. 21).  
First use Feb. 9, 1967.

SN 276,332. Masury-Columbia Company, Melrose Park, Ill. Filed July 19, 1967.

## QUANTI-PAK

For Receptacle Used in Packaging Pre-Measured Portions of Chemical Preparations Used as Disinfectants, Fungicides, Tuberculocides, Cleaners, Deodorizers for Floors, Walls and Equipment (Int. Cl. 20).  
First use Apr. 21, 1967.

SN 276,860. Poloron Products, Inc., New Rochelle, N.Y. Filed July 26, 1967.

## POLORON

Owner of Reg. No. 434,558.  
For Receptacles—Namely, Jugs, and Picnic Boxes (Int. Cl. 21).  
First use at least as early as May 1935.

SN 279,190. The Greif Bros. Cooperage Corporation, Delaware, Ohio. Filed Aug. 28, 1967.

## NORCO

For Barrels, Kegs, Drums and Bags (Int. Cls. 20 and 22).  
First use Jan. 15, 1934.

SN 280,320. Martin Marietta Corporation, New York, N.Y. Filed Sept. 14, 1967.

## MARTIN MARIETTA

For Industrial Bins and Parts and Accessories Therefor Sold as a Unit (Int. Cl. 20).  
First use in or before January 1962.

SN 280,322. Martin Marietta Corporation, New York, N.Y. Filed Sept. 14, 1967.

## MARIETTA

For Silos for Silage Storage and Parts and Accessories Therefor Sold as a Unit (Int. Cl. 19).  
First use in or before 1935.

SN 281,092. Maryland Cup Corporation, Owings Mills, Md. Filed Sept. 25, 1967.

## HYGEIA-PAKS

For Containers for Slender Articles (Int. Cl. 20).  
First use on or about Aug. 21, 1967.

SN 283,016. G. B. Lewis Company, Watertown, Wis. Filed Oct. 20, 1967.

## FIXIT

For Material-Handling Container (Int. Cl. 20).  
First use Aug. 4, 1967.

SN 283,125. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Oct. 23, 1967.

## PLANS-A-PARTY

Owner of Reg. No. 738,237.  
For Paper Plates, Cups, and Card Holders (Int. Cls. 21 and 16).  
First use Feb. 10, 1961.

SN 283,618. Brookpark-Royalton, Inc., Sebring, Ohio. Filed Oct. 30, 1967.

## PERMACLEAN

For Plastic Dinnerware and Drinking Vessels (Int. Cl. 21).  
First use on or about Mar. 31, 1961.

SN 284,192. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Nov. 6, 1967.

## E-Z IN E-Z OUT

For Plastic Meat and Produce Trays (Int. Cl. 20).  
First use Oct. 7, 1967.

SN 284,566. American Can Company, New York, N.Y. Filed Nov. 13, 1967.

## MENU WARE

For Plastic Knives, Forks and Spoons (Int. Cl. 8).  
First use Oct. 19, 1967.

SN 289,457. Nutter Engineering Company, Tulsa, Okla. Filed Jan. 24, 1968.

## V-GRID

For Fluid Contact Trays and Associated Accessories (Int. Cl. 6).  
First use on or about Jan. 11, 1968.

## Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 214,258. Gem-Dandy, Inc., Madison, N.C. Filed Mar. 16, 1965.

## DANBURY

Owner of Reg. Nos. 737,940 and 756,406.  
For Wallets (Int. Cl. 18).  
First use at least as early as February 1964.

SN 273,043. Continental-Vogue Luggage Co., San Francisco, Calif. Filed June 5, 1967.

## VOGUE

OF CALIFORNIA

The words "Of California" are disclaimed apart from the mark as a whole. Owner of Reg. No. 423,144.  
For Luggage and Trunks (Int. Cl. 18).  
First use Oct. 16, 1935.

SN 277,937. Sirco Products Company, Inc., Mount Vernon, N.Y. Filed Aug. 9, 1967.

## FRAME-A-RAMA

For Clutch Purses and Wallets (Int. Cl. 18).  
First use Aug. 3, 1967.

## Class 4 — Abrasives and Polishing Materials

SN 271,739. United States Diamond Wheel Co., Aurora, Ill. Filed May 17, 1967.

## METACLAD

For Abrasive Cutting Wheels and Grinding Wheels (Int. Cl. 7).  
First use Mar. 7, 1967.

SN 281,403. Strobel Products Company, Incorporated, Louisville, Ky. Filed Sept. 28, 1967.



For Aerosol Product for Shining Shoes (Int. Cl. 3).  
First use May 15, 1957.

SN 288,585. Armour and Company, Chicago, Ill. Filed Jan. 11, 1968.

## BRIGHT IDEA

For Detergent Washable Self-Polishing Floor Wax (Int. Cl. 3).  
First use on or prior to Dec. 15, 1967.

## Class 5 — Adhesives

SN 247,749. Tlox-Tinten- und Klebstoffwerk Gesellschaft m.b.H., Vienna, Austria. Filed May 17, 1966.

## TIXO RAPID

Owner of Austrian Reg. No. 55,531, dated Aug. 26, 1965.  
For Self-Adhesive Tapes (Int. Cl. 17).

SN 291,662. Diamond Shamrock Corporation, d.b.a. Nopco Chemical Company, Cleveland, Ohio. Filed Feb. 23, 1968.

## NOPCOBOND

Owner of Reg. Nos. 121,927, 816,506, and others.  
For Textile Bonding and Foam Rebonding Adhesives (Int. Cl. 1).  
First use May 5, 1967.

SN 291,953. The Quaker Oats Company, Chicago, Ill. Filed Feb. 27, 1968.

## FAREA

For Foundry Core Binders (Int. Cl. 1).  
First use Sept. 5, 1963.



**Class 6—Chemicals and Chemical Compositions**

SN 253,825. Bison Corporation, Canton, Ohio. Filed Sept. 1, 1966.



No claim is made to the word "Corporation" apart from the mark.

For Trichlorethylene, Triethane, Perchloroethylene, Chromic Acid, Phosphoric, Nitric, Sulfuric and Muriatic Acids, Plating Brighteners, Chromate Solutions, Nickel Sulfate, Zinc and Copper Cyanides, and Xylol, Toluol and Acetone Solvents All Used in the Metal Finishing and Metal Plating Industry (Int. Cl. 1).

First use 1955.

SN 259,188. Texise Chemicals, Inc., Greenville, S.C. Filed Nov. 21, 1966.

**BEACON**

For Liquid Bleach Having Incidental Disinfectant-Deodorant Properties (Int. Cl. 3).

First use Oct. 13, 1956.

SN 262,964. Omi Tech, Inc., Santa Monica, Calif. Filed Jan. 20, 1967.

**OMNI TECH**

For Chemical Laboratory Test Kits Containing Diagnostic Reagents and Solutions for Laboratory Use (Int. Cl. 1).

First use Feb. 5, 1961.

SN 265,790. Calgon Corporation, Pittsburgh, Pa. Filed Mar. 2, 1967.

**COP-R-GUARD**

For Composition for Controlling Corrosion of Copper Plumbing and Preventing Green or Blue Staining of Plumbing Fixtures (Int. Cl. 1).

First use Jan. 12, 1967.

SN 267,607. Calgon Corporation, Pittsburgh, Pa. Filed Mar. 27, 1967.

**SAVED**

For Composition in Liquid Form—Namely, a Water Softener, for Use in the Laundry (Int. Cl. 3).

First use Mar. 2, 1967.

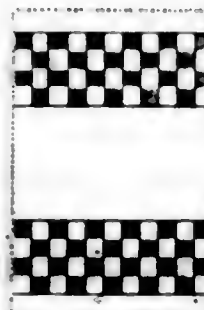
SN 270,865. Allied Compositions Co., Inc., Maspeth, N.Y. Filed May 8, 1967.

**CEMENTROL**

For Concrete Additive for Controlling Setting Time, Plasticity and Strength of Concrete (Int. Cl. 1).

First use Jan. 2, 1953.

SN 272,307. Ralston Purina Company, St. Louis, Mo. Filed May 24, 1967.



The drawing is lined for red but no claim is made to color. The mark consists of two 4-row checkerboard design bands. Owner of Reg. Nos. 35,569, 686,958, and others.

For Proteins for General Use in the Industrial Arts (Int. Cl. 1).

First use July 7, 1959.

SN 273,340. Universal Oil Products Company, Des Plaines, Ill. Filed June 8, 1967.

**KONIFIRAN**

For Aroma Chemical (Int. Cl. 1).

First use Apr. 7, 1967.

SN 273,341. Universal Oil Products Company, Des Plaines, Ill. Filed June 8, 1967.

**KETOFIROL**

For Aroma Chemical (Int. Cl. 1).

First use Apr. 7, 1967.

SN 274,846. Armour Agricultural Chemical Company, Atlanta, Ga. Filed June 27, 1967.

**RED X**

For Insecticides for Use on Tobacco Crops (Int. Cl. 5).

First use May 17, 1967.

SN 275,015. Fosco International Limited, Birmingham, England. Filed June 29, 1967.

**FERRUX**

Priority claimed under Sec. 44(d) on British Reg. No. 906,706, dated Mar. 14, 1967. Owner of U.S. Reg. No. 779,270. For Compositions To Retard Cooling Used To Delay the Setting of Metal in the Feeding Heads of Castings, Used in the Metal Casting Industries in the Production of Metal Castings and Ingots (Int. Cl. 17).

SN 277,016. Calgon Corporation, Pittsburgh, Pa. Filed July 28, 1967.

**BRAMINE**

For Volatile Alkaline Corrosion Inhibitor for Use in Marine Steam Condensate Systems (Int. Cl. 1).

First use May 11, 1967.

SN 277,017. Calgon Corporation, Pittsburgh, Pa. Filed July 28, 1967.

**FL-20**

For Corrosion Inhibitor for Water Systems, Particularly Boiler Condensate Lines (Int. Cl. 1).

First use June 14, 1967.

SN 277,018. Calgon Corporation, Pittsburgh, Pa. Filed July 28, 1967.

**FL-125**

For Corrosion Inhibitor for Water Systems, Particularly Boiler Condensate Lines (Int. Cl. 1).

First use Mar. 8, 1967.

SN 277,019. Calgon Corporation, Pittsburgh, Pa. Filed July 28, 1967.

**NL-100**

For Volatile Alkaline Corrosion Inhibitor for Use in Steam Condensate Systems (Int. Cl. 1).

First use May 31, 1967.

SN 277,274. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. Filed Aug. 1, 1967.

**NIBODUR**

Owner of German Reg. No. 790,160, dated May 15, 1964. For Chemical Preparations for Plating Objects of All Kinds With Metal (Int. Cl. 1).

SN 277,310. Sterwin Chemicals Inc., New York, N.Y. Filed Aug. 1, 1967.

**DEGELL**

For Rubber Processing Agent Used as a Plasticizer, Softener, and Viscosity Reducing Agent in Rubber Processing (Int. Cl. 1).

First use Nov. 5, 1957.

SN 277,482. Sou-Tex Chemical Company Incorporated, Mount Holly, N.C. Filed Aug. 3, 1967.

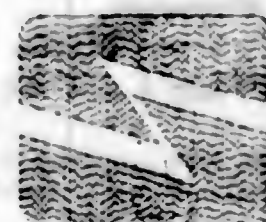
**CASSULFON**

Owner of Reg. No. 801,625.

For Dyestuffs (Int. Cl. 2).

First use May 5, 1967.

SN 277,941. Statikil, Inc., Cleveland, Ohio. Filed Aug. 9, 1967.



The drawing is lined for violet or purple. Owner of Reg. No. 598,353.

For Anti-Static Compositions (Int. Cl. 1).

First use July 21, 1967.

SN 288,262. Purux Corporation, Ltd., Lakewood, Calif. Filed Jan. 8, 1968.



For Fabric Softener Used in the Laundering of Clothes (Int. Cl. 3).

First use Dec. 18, 1967.

**Class 8—Smokers' Articles, Not Including Tobacco Products**

SN 258,853. Jack de Guingand (Agencies) Limited, Hounslow, Middlesex, England. Filed Sept. 6, 1966.

**TITAN**

Owner of British Reg. No. 880,953, dated June 18, 1965. For Smokers' Pipes (Int. Cl. 34).

SN 277,760. Amway Corporation, Ada, Mich. Filed Aug. 8, 1967.

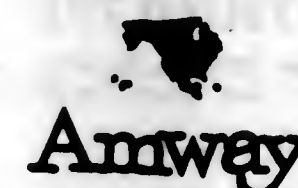
**AMWAY**

Owner of Reg. Nos. 707,656, 777,704, and others.

For Smoker's Articles—Namely, Cigarette Lighters (Int. Cl. 34).

First use on or about June 27, 1967.

SN 277,761. Amway Corporation, Ada, Mich. Filed Aug. 8, 1967.



Owner of Reg. Nos. 707,656, 779,397, and others. For Smoker's Articles—Namely, Cigarette Lighters (Int. Cl. 34).

First use on or about June 27, 1967.

**Class 9—Explosives, Firearms, Equipments, and Projectiles**

SN 275,770. MB Associates, San Ramon, Calif. Filed July 11, 1967.

**TELEJET**

For Sub-Miniature Ballistic Rockets for Use in Anti-Personnel and/or Anti-Material Operations (Int. Cl. 13).

First use on or about Feb. 24, 1967.

SN 277,604. Technical Tooling, Inc., Minneapolis, Minn. Filed Aug. 7, 1967.

**TECTO**

For Portable Loading Kits for Hand Loading Pistol and Rifle Cartridges, Bullets for Pistol and Rifle Cartridges, Shell Holders for Performing Loading Operations on Pistol Cartridges, De-Burring Tools for Pistol and Rifle Cartridges and Presses for Hand Loading Pistol, Rifle and Shotgun Cartridges (Int. Cl. 13).

First use July 17, 1967.

SN 278,948. Canadian Safety Fuse Company Limited, Montreal, Quebec, Canada. Filed Aug. 24, 1967.

**WEATHERCORD**

Owner of Canadian Reg. No. 152,173, dated July 21, 1967. For Detonating Fuse for Use in Cloud Seeding Operations (Int. Cl. 13).

SN 279,676. Carl Pedro and Sons, Inc., St. Paul, Minn. Filed Sept. 5, 1967.

**GUN-HO**

For Weapon Cases Such as for Firearms (Int. Cl. 18).

First use on or about Jan. 15, 1966.



SN 279,677. Carl Pedro and Sons, Inc., St. Paul, Minn. Filed Sept. 5, 1967.



For Weapon Cases Such as for Firearms (Int. Cl. 13).  
First use on or about Jan. 15, 1966.

SN 283,118. Firearms International Corporation, Washington, D.C. Filed Oct. 23, 1967.

### "BRONCO"

For Rifles and Shotguns (Int. Cl. 13).  
First use Oct. 13, 1967.

SN 284,758. Thiokol Chemical Corporation, Bristol, Pa. Filed Nov. 13, 1967.

### THIOLITE

Owner of Reg. Nos. 273,385, 781,584, and others.  
For Signal Flares and Flare Illuminating Compositions (Int. Cl. 13).  
First use July 1967.

SN 291,122. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Feb. 15, 1968.



For Shotguns and Rifles (Int. Cl. 13).  
First use at least as early as Dec. 29, 1965.

### Class 10—Fertilizers

SN 276,528. The Borden Company, New York, N.Y. Filed July 21, 1967.

### GOOD LAWNS MAKE GOOD NEIGHBORS

For Fertilizer (Int. Cl. 1).  
First use Nov. 23, 1966.

### Class 12—Construction Materials

SN 249,944. Burke Rubber Company, Inc., San Jose, Calif. Filed July 11, 1966.



For Flooring Products—Namely, Molded Rubber Cove Bases (Butt-Cove, Tap Set, Carpet Bases, End Stops and Corners) (Int. Cl. 27).  
First use at least as early as October 1957.

SN 254,564. Spring Hill Fuel Co., d.b.a. Aluminum Detail Products, Seattle, Wash. Filed Sept. 15, 1966.

### ANOBRONZE

For Metal Building Materials—Namely, Metal Sheets and Extrusions Formed and Fabricated for Application to Buildings, Doors, Windows and Screens for Doors and Windows (Int. Cl. 6).  
First use Sept. 9, 1966.

SN 265,303. The Glidden Company, Cleveland, Ohio. Filed Feb. 23, 1967.

### PANDURA

Owner of Reg. No. 388,641.  
For Surface Panels and Sandwich Panels Suitable for Interior and Exterior Use in Architectural Structures—Namely, Flat Surface Products Alone or Bonded as a Facing to a Hollow or Solid Core, and Including Plywood, Tempered Hardboard, Cement, Asbestos Board and Gypsum Wall Board, to Which Products Has Been Applied to One or Both Sides a Cladding for Decoration and Reinforcement (Int. Cl. 19).  
First use July 29, 1963.

SN 265,326. Palmer Products Incorporated, Worcester, Pa. Filed Feb. 23, 1967.

### DURAPOX

For Resinous Coating Composition for Repairing Non-Skid Coated Surfaces (Int. Cl. 19).  
First use March 1966.

SN 271,127. California Products Corporation, Cambridge, Mass. Filed May 10, 1967.

### MASCO

Owner of Reg. Nos. 406,571 and 426,610.  
For Patching Underlayment and Cement Consisting of a Mixture of Portland Cement, Silica and a Latex Binder (Int. Cl. 19).  
First use March 1939.

SN 272,315. Nello L. Teer Company, Durham, N.C. Filed May 24, 1967.



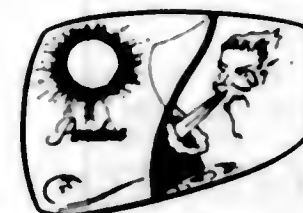
For Lightweight Fly Ash Aggregate for Use in Concrete, Masonry Units and Other Concrete Structures (Int. Cl. 19).  
First use on or about Dec. 31, 1966.

SN 272,330. Mason Appelt Space Structures, Houston, Tex. Filed May 25, 1967.



For Building Framework and Support Structures Especially Built-Up Girder Systems, Box Girders, Building Towers and the Like (Int. Cl. 19).  
First use Apr. 3, 1967.

SN 273,956. The Glidden Company, Cleveland, Ohio. Filed June 15, 1967.



Applicant disclaims the representation of the goods apart from the mark as shown. Owner of Reg. No. 388,641.

For Surface Panels and Sandwich Panels Suitable for Interior and Exterior Use in Architectural Structures—Namely, Flat Surface Products Alone or Bonded as a Facing to a Hollow or Solid Core, and Including Plywood, Tempered Hardboard, Cement, Asbestos Board and Gypsum Wallboard, to Which Products Has Been Applied to One or Both Sides a Cladding for Decoration and Reinforcement (Int. Cl. 19).  
First use May 19, 1967; July 29, 1963, as to "Pandura."

SN 274,249. Douglas T. Silver, d.b.a. Silver Metal Products Co., Hayward, Calif. Filed June 19, 1967.



Applicant disclaims "Metal Products Co." apart from the mark as shown.

For Joist Hangers, Post Anchors, Post Caps, Framing Anchors, Angle Clips, Form Ties, Wedges, Column Bases, Steel Wall Braces, Metal Cross Bridging, Post Straps, Plate Straps, Framing Connectors (Int. Cl. 6).  
First use Dec. 23, 1964.

SN 279,659. Lockheed Distributing Co., Overland, Mo. Filed Sept. 5, 1967.

### HANDY MART

For Prefabricated Buildings for Use as Convenience Stores (Int. Cl. 19).  
First use on or about June 15, 1967.

SN 279,787. General Refractories Company, Philadelphia, Pa. Filed Sept. 7, 1967.

### DIBOND

For Refractory Basic Brick (Int. Cl. 19).  
First use Aug. 17, 1967.

SN 280,583. Georgia-Pacific Corporation, Portland, Ore. Filed Sept. 18, 1967.

### PORTELO

For Prefinished Plywood Paneling (Int. Cl. 19).  
First use Apr. 14, 1967.

SN 280,585. Georgia-Pacific Corporation, Portland, Ore. Filed Sept. 18, 1967.

### BRASILIA

For Prefinished Plywood Paneling (Int. Cl. 19).  
First use Apr. 14, 1967.

SN 289,735. The Vette Shop, Inc., Detroit, Mich. Filed Jan. 26, 1968.

### VETTE SHOP

For Fiberglass Repair Panels for Automobile Vehicles and the Like (Int. Cl. 19).  
First use Dec. 23, 1967.

### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 246,846. Air Products and Chemicals, Inc., Allentown, Pa. Filed May 31, 1966.



Without relinquishment or derogation of any common law rights therein and for purpose of the present registration only, applicant makes no claim to the words "Air Products" separate and apart from the mark as shown. Owner of Reg. No. 792,452.

For Fluid Flow Instruments—Namely, Gas Flow Regulators and Valves (Int. Cl. 6).  
First use Feb. 18, 1965.

SN 262,401. Club Aluminum Products Company, La Grange Park, Ill. Filed Jan. 12, 1967.

### COLORWARE

For Metal Hollow Cookware (Int. Cl. 21).  
First use Nov. 11, 1966.

SN 262,524. Toyovalve Company Limited, Chuo-ku, Tokyo, Japan. Filed Jan. 13, 1967.



Owner of Japanese Reg. No. 246,895, dated Oct. 2, 1933.  
For Valves and Cocks (Int. Cl. 6).  
First use April 1925; in commerce May 1950.

SN 263,302. R. D. Werner Co., Inc., Greenville, Pa. Filed Jan. 25, 1967.

### ZIP IN

For Fastening Tabs for Sink Frames (Int. Cl. 6).  
First use Dec. 27, 1966.

SN 263,585. The Lamson & Sessions Co., Cleveland, Ohio. Filed Jan. 30, 1967.



For Threaded Fasteners—Namely, Bolts (Int. Cl. 6).  
First use November 1966.

SN 263,586. The Lamson & Sessions Co., Cleveland, Ohio. Filed Jan. 30, 1967.



For Threaded Fasteners—Namely, Bolts (Int. Cl. 6).  
First use February 1961.



SN 264,383. The Ashton Valve Company, Wrentham, Mass.  
Filed Feb. 10, 1967.

## ASHTON

For Metallic Valves (Int. Cl. 6).  
First use 1877.

SN 265,451. Virax, Paris, France. Filed Feb. 24, 1967.

## VALVATIC

Owner of French Reg. No. 538,267, dated July 29, 1965  
(Seine); Natl. Inst. No. 266,571.  
For Multiple Pneumatic Valves (Int. Cl. 6).

SN 268,803. Ventura Tool Company, Ventura, Calif. Filed  
Apr. 10, 1967.

## SQUNCH JOINT

The word "Joint" is disclaimed apart from the mark as  
shown.  
For Pipe Joints (Int. Cl. 6).  
First use on or about Jan. 19, 1965.

SN 272,056. Allen Electric and Equipment Company, El  
Segundo, Calif. Filed May 22, 1967.

## REDI-KEY

For Belt-Supported Retractable Key Chains (Int. Cl. 6).  
First use on or about Oct. 1, 1962.

SN 274,586. Robert P. Burielgh, Collegeville, Pa. Filed June  
23, 1967.

## PET KEY

For Door-Opener for a Spring-Closing Door To Be Opened  
by a Dog (Int. Cl. 6).  
First use Oct. 16, 1966.

SN 274,617. The Gould-Mercereau Company, Inc., New  
York, N.Y. Filed June 23, 1967.



Owner of Reg. No. 508,667.

For Drapery Hardware, All of Which Is Made of Metal—  
Namely, I-Beam Rail and Fixtures, Standard Track and Fix-  
tures, Perfected Traverse Track and Fixtures, Curtain Rods  
and Fixtures, Pole and Rod Sockets, Rod Brackets, Rod Sup-  
ports, Pole Rings, Drapery Pins and Hooks, French Heading  
Hooks and Rings, Drapery Holdback, Shower Bath Curtain  
Hooks, Cranes and Traverse Tassels (Int. Cl. 6).  
First use August 1946.

SN 291,666. Economy Engineering Company, Chicago, Ill.  
Filed Feb. 23, 1968.

## RED ROCKER

For Drum Stands (Int. Cl. 6).  
First use 1928.

## Class 14—Metals and Metal Castings and Forgings

SN 244,516. Nippon Kokan Kabushiki Kaisha, Chiyoda-ku,  
Tokyo, Japan. Filed Apr. 28, 1966.

## LEONITE

Owner of Japanese Reg. No. 610,995, dated May 8, 1963.  
For Sheared Plate, Light Plate, Hot Rolled Sheets, Cold  
Rolled Sheets, Surface Treated Sheets, Bars, Sections, Ingots,  
Slabs and Billets All Made of Iron and Steel, and Iron Alloys  
(Int. Cl. 6).

SN 264,788. American Smelting and Refining Company, New  
York, N.Y. Filed Feb. 16, 1967.

## GLOVER

For Cast Lead (Int. Cl. 6).  
First use Feb. 7, 1967.

SN 265,225. Trefleries Leon Bekaert, PVBA, Zwevegum,  
Belgium. Filed Feb. 21, 1967.

## CASANET

Owner of Belgian Reg. No. 3,624, dated Feb. 28, 1964; and  
U.S. Reg. No. 832,070.  
For Iron and Steel Wire and Plastic-Coated Iron and Steel  
Wire (Int. Cl. 6).

SN 265,223. Trefleries Leon Bekaert, PVBA, Zwevegum,  
Belgium. Filed Feb. 21, 1967.

## PANTANET

Owner of Belgian Reg. No. 3,563, dated Apr. 5, 1963.  
For Iron and Steel Wire (Int. Cl. 6).

SN 265,224. Trefleries Leon Bekaert, PVBA, Zwevegum,  
Belgium. Filed Feb. 21, 1967.

## SKRINET

Owner of Belgian Reg. No. 3,564, dated Apr. 5, 1963; and  
U.S. Reg. No. 831,705.  
For Iron and Steel Wire (Int. Cl. 6).

SN 273,645. Jeffrey Gallon Manufacturing Company, Colum-  
bus, Ohio. Filed June 12, 1967.



For Castings Made of Cast Iron, Ductile Iron, Ferrous  
Alloys, Brass, Bronze and Aluminum (Int. Cl. 6).  
First use on or about Feb. 14, 1967.

SN 275,822. Andes Copper Mining Company, New York,  
N.Y. Filed July 12, 1967.



For Electrolytic Copper (Int. Cl. 6).  
First use Sept. 13, 1928.

SN 279,104. Semi-Alloys Incorporated, Mount Vernon, N.Y.  
Filed Aug. 25, 1967.



For Clad Metal Parts and Alloys Used in Electronic Ap-  
paratus (Int. Cl. 6).  
First use June 29, 1967.

SN 282,544. Clark Equipment Company, Buchanan, Mich.,  
assignee of Chicago Malleable Castings Company, Chicago,  
Ill. Filed Oct. 16, 1967.



For Metal Castings (Int. Cl. 6).  
First use June 19, 1967.

## Class 15—Oils and Greases

SN 247,604. International Lubricant Corporation, New  
Orleans, La. Filed June 8, 1966.

## INTERNATIONAL

Owner of Reg. Nos. 861,743 and 431,577.  
For Lubricants for Industrial and Commercial Purposes  
Such as Automotive, Aviation, and Marine Applications In-  
cluding: Motor Oils; Greases; Cutting Oils; Gear and Trans-  
mission Oils; Textile Oils; Mold Release Oils; Drawing and  
Rolling Oils; Spray Oils; Hydraulic Oils; and the Like (Int.  
Cl. 4).  
First use Feb. 8, 1946.

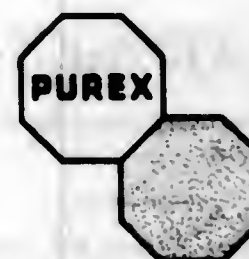
SN 275,311. Special Oils Manufacturing Co., West New  
York, N.J. Filed July 8, 1967.

## "TOUGH NUT"

For Penetrating Oil (Int. Cl. 4).  
First use June 6, 1967.

## Class 16—Protective and Decorative Coatings

SN 284,554. Purex Corporation, Ltd., Lakewood, Calif.  
Filed Nov. 13, 1967.



The stippling shown in the drawing is for shading pur-  
poses. Owner of Reg. Nos. 155,609, 798,604, and others.  
For Scrubbable Floor Finish in the Nature of a Water  
Emulsified Lacquer Resin (Int. Cl. 2).  
First use Nov. 28, 1966.

## Class 17—Tobacco Products

SN 241,508. Philip Morris Incorporated, New York, N.Y.  
Filed Mar. 21, 1966.



The Latin words "Veni-Vidi-Vici" may be translated as  
"I came-I saw-I conquered." Applicant disclaims the words  
"Filter Cigarettes" and "Menthol" as well as the disclaimer  
of the representation of a package as such. The drawing is  
lined for the colors green and gold and claimed as a feature  
of the mark. Owner of Reg. Nos. 68,502, 632,861, and others.  
For Cigarettes (Int. Cl. 34).  
First use Feb. 4, 1966; 1885 in another form.

SN 260,047. Zelick Glimelstein, Miami Beach, Fla. Filed  
Dec. 5, 1966.

## EL PIRATA

The Spanish words "El Pirata" translated into English  
mean "the pirate."  
For Cigars (Int. Cl. 34).  
First use Nov. 8, 1966.

SN 267,838. Montecristi Cigar Co., Inc., Miami Beach, Fla.  
Filed Mar. 29, 1967.



Applicant disclaims the words "Tabaco Selecto" and "Hand  
Made."  
For Cigars (Int. Cl. 34).  
First use Mar. 15, 1967.

SN 270,747. Bayuk Cigars Incorporated, Philadelphia, Pa.  
Filed May 5, 1967.

## RANCHEROS

For Cigars (Int. Cl. 34).  
First use Feb. 3, 1967.

SN 279,108. Simon Cigar Company Ltd., Montreal, Quebec,  
Canada. Filed Aug. 25, 1967.

## LA FLORENA

Owner of Canadian Reg. No. 85/22,042, dated Sept. 8, 1945.  
For Cigars, Chewing and Smoking Tobacco (Int. Cl. 34).

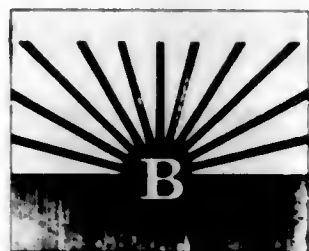
SN 279,109. Simon Cigar Company Ltd., Montreal, Quebec,  
Canada. Filed Aug. 25, 1967.

## TUEROS

Owner of Canadian Reg. No. 85/22,042, dated Sept. 8, 1945.  
For Cigars, Chewing and Smoking Tobacco (Int. Cl. 34).



SN 286,217. United States Tobacco Company, New York, N.Y. Filed Dec. 4, 1967.



The drawing is lined for blue, red and silver.  
For Chewing Tobacco (Int. Cl. 34).  
First use December 1963.

SN 286,519. General Cigar Co., Inc., New York, N.Y. Filed Dec. 8, 1967.

### DINO

For Cigars (Int. Cl. 34).  
First use June 8, 1967.

SN 286,840. Philip Morris Incorporated, New York, N.Y. Filed Dec. 13, 1967.



Owner of Reg. No. 832,104.  
For Smoking Tobacco (Int. Cl. 34).  
First use Dec. 4, 1967; Dec. 12, 1966, in a different form.

SN 287,145. Casa Leon Cigar Company Inc., Tampa, Fla. Filed Dec. 18, 1967.

FABRICA DE TABACOS



The words "Casa Leon" means "lion house" in English. The words "Fabrica de Tabacos" in Spanish are disclaimed apart from the mark as shown.

For Smoking Tobacco (Int. Cl. 34).  
First use on or about Nov. 13, 1961.

SN 290,863. Liggett & Myers Tobacco Company, New York, N.Y. Filed Feb. 12, 1968.

### OLD MILL



Owner of Reg. No. 150,884.  
For Smoking Tobacco (Int. Cl. 34).  
First use on or about Dec. 18, 1967; on or about Jan. 10, 1922, as to "Old Mill."

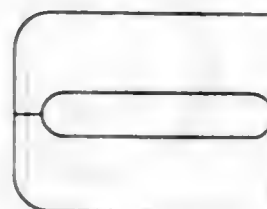
## Class 18—Medicines and Pharmaceutical Preparations

SN 236,717. Carnation Company, Los Angeles, Calif. Filed Jan. 18, 1966.

### SIMIL-8

Owner of Reg. Nos. 347,575.  
For Mineral Feed Supplement for Livestock (Int. Cl. 5).  
First use at least as early as Dec. 31, 1957.

SN 260,966. Schering Corporation, Bloomfield, N.J. Filed Dec. 16, 1966.



For Pharmaceutical Preparations for Symptomatic Relief of Colds and Accompanying Aches, Pains, Fever and Simple Headache, Cough, Nasal Congestion, and Hayfever (Int. Cl. 5).  
First use Aug. 15, 1966.

SN 261,622. Beecham Group Limited, d.b.a. Beecham Research Laboratories, Brentford, Middlesex, England. Filed Dec. 29, 1966.

### TRESCILLIN

Owner of British Reg. No. 792,965, dated July 6, 1959.  
For Antibiotic Preparations and Substances (Int. Cl. 5).

SN 262,595. Luitpold-Werk, Munich, Germany. Filed Jan. 16, 1967.

### MULTICYM

Owner of German Reg. No. 426,432, dated Nov. 29, 1930.  
For Multivalent Digestive Enzyme Preparation (Int. Cl. 5).

SN 273,984. Richardson-Merrell Inc., New York, N.Y. Filed June 15, 1967.

### ELECTROGEN-CS

For Bacterin for Veterinary Use (Int. Cl. 5).  
First use Nov. 8, 1966.

SN 273,985. Richardson-Merrell Inc., New York, N.Y. Filed June 15, 1967.

### ELECTROGEN-CSP

For Bacterin for Veterinary Use (Int. Cl. 5).  
First use Nov. 15, 1966.

SN 273,986. Richardson-Merrell Inc., New York, N.Y. Filed June 15, 1967.

### ELECTROGEN-CSN

For Bacterin for Veterinary Use (Int. Cl. 5).  
First use Nov. 15, 1966.

SN 282,554. Elsat Co., Ltd., Bunkyo-ku, Tokyo, Japan. Filed Oct. 16, 1967.

### Juvelon

For Multi Vitamin Preparation (Int. Cl. 5).  
First use Sept. 1, 1962; in commerce Aug. 1, 1967.

SN 291,935. Foster-Milburn Company, Buffalo, N.Y. Filed Feb. 27, 1968.

### TRANSACT

For Medicinal Preparation for the Treatment of Acne (Int. Cl. 5).  
First use Jan. 22, 1968.

## Class 19—Vehicles

SN 271,070. Riviera Manufacturing Co., Inc., Commerce City, Colo. Filed May 6, 1967.

### ROADWAY

For Pick Up Truck Campers (Int. Cl. 12).  
First use July 28, 1966.

SN 273,612. Derby Campers Limited, Inc., Elkhart, Ind. Filed June 12, 1967.

### DERBY

For Pickup Truck Campers (Int. Cl. 12).  
First use Feb. 9, 1967.

SN 274,169. Autopower Corporation, San Diego, Calif. Filed June 19, 1967.

### SAFE-SPEED

For Roll Bars Used on Vehicles (Int. Cl. 12).  
First use Jan. 25, 1966.

SN 291,687. Rolly Tasker Sails, Inc., Cary, Ill. Filed Feb. 23, 1968.



For Sails for Sailboats (Int. Cl. 12).  
First use on or before May 1, 1966.

## Class 20—Linoleum and Oiled Cloth

SN 277,447. Congoleum-Nairn Inc., Kearny, N.J. Filed Aug. 3, 1967.



For Plastic Coverings of the Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the like in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).  
First use June 19, 1967.

## DECORENE

Owner of British Reg. No. 895,717, dated June 13, 1966.  
For Wall Coverings (in the Nature of Wall Hangings) Made Wholly or Principally of Non-Textile Material (Int. Cl. 27).

## Class 21—Electrical Apparatus, Machines, and Supplies

SN 187,558. Chronetics, Inc., Yonkers, N.Y. Filed Feb. 27, 1964.

### NANOAMP

For Electronic Multi-Circuit Amplifier (Int. Cl. 9).  
First use Nov. 27, 1962.

SN 187,560. Chronetics, Inc., Yonkers, N.Y. Filed Feb. 27, 1964.

### NANOLOGIC

For Multi-Circuit Electronic Computing Systems (Int. Cl. 9).  
First use Nov. 27, 1962.

SN 248,374. Taylor Electric Mfg. Co., Limited, London, Ontario, Canada. Filed June 17, 1966.



Priority claimed under Sec. 44(d) on Canadian application filed June 2, 1966; Reg. No. 150,226, dated Apr. 14, 1967. Applicant disclaims the exclusive right to the use of the word "Electric."

For Electrical Apparatus and Supplies for Distribution of Electrical Power—Namely, Electrical Service Entrance Equipment, Electrical Cabinets and Troughs, Electrical Outlet Boxes and Covers and Sectional Switch Boxes, Industrial Switches, Sockets for Electrical Meters, Circuit Breakers and Load Centres, Circuit Breaker Panelboards, Fusible Breaker Electrical Panelboards, Enclosed Electrical Bus Systems and Electrical Switchboards and Sub-Stations, Containing the Above Identified Items (Int. Cl. 9).

SN 260,380. Gauss Electrophysics, Inc., Los Angeles, Calif. Filed Dec. 9, 1966.



For Electrical Magnetic Recording Equipment for Recording Audio Signals, Such as Voice Signals and Music, Video, Analog, or Special Format Digital Signals on Magnetic Tapes, for Subsequent Use in Magnetic Tape Recorders/Reproducers (Int. Cl. 9).  
First use Sept. 21, 1966.



SN 263,016. Challenger Electronics Ltd., Vancouver, British Columbia, Canada. Filed Jan. 23, 1967.

## ELECTROBUG

For Industrial Electronic Radio Signalling Systems and Components Therefor (Int. Cl. 9).  
First use Feb. 29, 1964; in commerce June 21, 1965.

SN 265,908. Knapp Monarch Company, St. Louis, Mo. Filed Mar. 3, 1967.

## THERM A SHAVE

Owner of Reg. Nos. 136,050, 290,820, 639,499, and 646,961.  
For Electric Warmer for Pressurized Cans of Shaving Cream (Int. Cl. 11).  
First use Feb. 15, 1967.

SN 268,298. Fedtro, Inc., Rockville Centre, N.Y. Filed Apr. 4, 1967.

## POWERHOUSE

For Storage Battery Chargers Used Primarily for Charging Automobile Batteries (Int. Cl. 9).  
First use July 1960.

SN 276,476. Scientific-Atlanta, Inc., Doraville, Ga. Filed July 20, 1967.

## MONOSCAN

For Microwave Apparatus for Converting Signals From a Monopulse Radar System to a Single Channel Form (Int. Cl. 9).  
First use Jan. 19, 1967.

SN 276,571. National Chemical Company, Odessa, Tex. Filed July 21, 1967.



The drawing is lined for the color red, however, the color forms no part of the mark.  
For Insect Trap With Electric Light (Int. Cl. 21).  
First use Mar. 10, 1965.

SN 277,284. White Night Co., Leawood, Kans. Filed July 31, 1967.



The words "Portable Construction Light" are disclaimed apart from the mark as shown.  
For Portable Construction Lighting Equipment (Int. Cl. 11).  
First use Mar. 10, 1966.

SN 277,668. International Electronic Research Corporation, Burbank, Calif. Filed Aug. 7, 1967.

## INSULTEK

Owner of Reg. No. 725,883.  
For Insulating Coating for Metal Surfaces of Electronic Components (Int. Cl. 17).  
First use Mar. 2, 1967.

SN 277,815. Beverly E. Williams, La Grange Park, Ill. Filed Aug. 8, 1967.

## GO-GRILL

For Portable Electric Grills (Int. Cl. 11).  
First use Apr. 20, 1967.

SN 282,969. Aktiebolaget Electrolux, Stockholm, Sweden. Filed Oct. 20, 1967.

## ASSISTENT

Owner of Swedish Reg. No. 51,938, dated May 31, 1939.  
For Electric Food Mixers (Int. Cl. 7).

SN 284,974. United Air Specialists, Inc., Cleveland, Ohio. Filed Nov. 16, 1967.

## SEABREEZE

For Electronic Space Air Filtering Units for Filtering Impurities From Air (Int. Cl. 11).  
First use Mar. 6, 1967.

SN 286,689. Kyp-Go, Inc., West Chicago, Ill. Filed Dec. 11, 1967.

## ELECTRIC FLAME

Applicant disclaims "Electric" apart from the mark as shown.  
For Decorative Electric Light Bulb (Int. Cl. 11).  
First use Dec. 6, 1967.

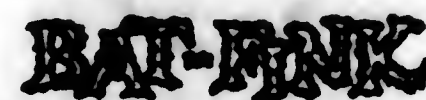
## Class 22 - Games, Toys, and Sporting Goods

SN 280,081. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Dec. 5, 1966.

code  
-a-  
coin

For Camera Bank (Int. Cl. 28).  
First use Nov. 4, 1966.

SN 286,738. Lemoyne Demarest, Jr., d.b.a. Creative Promotions, Riverdale, N.J. Filed Mar. 15, 1967.



For Molded Soft Plastic Toys in the Shape of a Bat (Int. Cl. 28).  
First use Feb. 17, 1967.

SN 269,664. Edwin R. Kabat, Ltd., New York, N.Y. Filed Apr. 20, 1967.

## Titleholder

For Golf Shoes (Int. Cl. 25).  
First use Jan. 18, 1967.

SN 274,018. Nippon Gakki Co., Ltd., Hamamatsu, Shizuoka Prefecture, Japan. Filed June 2, 1967.

## PARAMOUNT

For Snow Skis (Int. Cl. 28).  
First use at least as early as June 1965; in commerce at least as early as June 1965.

SN 274,020. Nippon Gakki Co., Ltd., Hamamatsu, Shizuoka Prefecture, Japan. Filed June 2, 1967.

## YAMAHA HI-FLEX

The word "Yamaha" may be translated as "mountain leaves." Owner of U.S. Reg. No. 841,680.  
For Snow Skis (Int. Cl. 28).  
First use at least as early as September 1962; in commerce at least as early as September 1962.

SN 276,153. Sport-Obermeyer, Ltd., Aspen, Colo. Filed July 17, 1967.



The drawing is lined for red, but color is not claimed as a feature of the mark.  
For Skis (Int. Cl. 28).  
First use May 24, 1967.

SN 277,152. Craft Master Corporation (Delaware corporation), Toledo, Ohio, assignee of Craft Master Corporation (Ohio corporation), Toledo, Ohio. Filed July 31, 1967.

## WAGON MASTERS

Applicant disclaims the word "Wagon" apart from the mark as shown.  
For Hobby Craft Kits for Scale Models of Team Drawn Wagons, Equipment and Materials Carried Thereby and Teams Therefor (Int. Cl. 28).  
First use 1959.

SN 277,920. G & K, New York, N.Y. Filed Aug. 9, 1967.



Applicant disclaims the word "Card" separately and apart from the mark.  
For Equipment (or Apparatus) Sold as a Unit for Playing a Card-Type Board Game (Int. Cl. 28).  
First use Apr. 19, 1967.

SN 278,127. Edward J. Rahberger, Dayton, Wash. Filed Aug. 11, 1967.



No claim of exclusive right is made to "Skeet" for the goods recited.  
For Target-Throwing Device (Int. Cl. 28).  
First use June 26, 1967.

SN 278,891. Lisbeth Whiting Company, Inc., Jamaica, N.Y. Filed Aug. 16, 1967.

## LIQUID THREAD

For Paints in a Tube That Are Fast Drying and Used by Children To Squeeze on a Fabric To Make Designs (Int. Cl. 28).  
First use Apr. 1, 1966.

SN 279,520. Fred Arbogast Company, Inc., Akron, Ohio. Filed Sept. 1, 1967.

## VIXEN

For Artificial Fish Lures (Int. Cl. 28).  
First use June 15, 1967.

SN 280,166. Jamison, Inc., Torrance, Calif. Filed Sept. 12, 1967.

## MUG-WUMP

For Child's Playground Rider Adapted for Stationary Mounting, Spring Rocker Mounting, and Mounting on Seesaws and Swings (Int. Cl. 28).  
First use June 19, 1967.

SN 280,167. Jamison, Inc., Torrance, Calif. Filed Sept. 12, 1967.

## SCHNOZZ-WUMP

For Child's Playground Rider Adapted for Stationary Mounting, Spring Rocker Mounting, and Mounting on Seesaws and Swings (Int. Cl. 28).  
First use June 19, 1967.

SN 280,547. Brunswick Corporation, Chicago, Ill. Filed Sept. 15, 1967.

## WHITE FANG

For Golf Clubs (Int. Cl. 28).  
First use July 28, 1967.

SN 281,327. Tanda Toys Limited, Enfield, Middlesex, England. Filed Sept. 27, 1967.

## POTTY PEOPLE

Owner of British Reg. No. 880,950, dated Jan. 28, 1966.  
For Toys—Namely, Toy Kitchen Utensils Decorated With Human Faces (Int. Cl. 28).  
First use May 5, 1966.

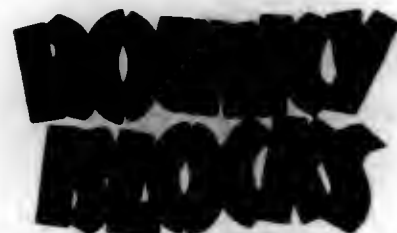
SN 284,910. Hazel E. Harvey, Appomattox, Va. Filed Nov. 15, 1967.

## THE DOUGHGIRL

For Historical Character Dolls (Int. Cl. 28).  
First use Mar. 19, 1967.



SN 286,270. Kenner Products Company, Cincinnati, Ohio. Filed Dec. 5, 1967.



No claim of exclusive right is made to "Blocks" for the goods recited.  
For Toy Building Block (Int. Cl. 28).  
First use Apr. 28, 1967.

SN 287,862. Mattel, Inc., Hawthorne, Calif. Filed Jan. 2, 1968.

### TRACY TRIKEDIDDLE

Owner of Reg. No. 823,621.  
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use Oct. 29, 1967.

SN 288,921. Star-Grip Glove Company, Inc., Timonium, Md. Filed Jan. 16, 1968.

### "THE GRIP STAYS IN 'TIL THE GLOVE WEARS OUT"

For Glof Gloves (Int. Cl. 28).  
First use Oct. 9, 1967.

SN 291,311. Cannon Products, Inc., Faribault, Minn. Filed Feb. 19, 1968.

### CANNON

For Pool and Billiard Cues, Oars, Canoe Paddles, Double Ended Kayak Paddles and Handle, Shaft and Blade Portions Thereof (Int. Cl. 28).  
First use Nov. 17, 1967, on cues.

SN 291,319. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 19, 1968.

### HONEYBALL

For Dolls (Int. Cl. 28).  
First use Feb. 17, 1967.

SN 291,320. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 19, 1968.

### SUPER CITY

For Toy Building Blocks (Int. Cl. 28).  
First use Apr. 20, 1967.

SN 291,321. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 19, 1968.

### SNAKE'S ALIVE!

For Equipment Sold as a Unit for Playing a Parlor Game (Int. Cl. 28).  
First use July 28, 1966.

SN 291,322. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 19, 1968.

### KABOOM

For Equipment Sold as a Unit for Playing a Parlor Game (Int. Cl. 28).  
First use Dec. 9, 1965.

SN 291,323. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 19, 1968.

### CAREFUL

For Equipment Sold as a Unit for Playing a Parlor Game (Int. Cl. 28).  
First use Mar. 30, 1967.

SN 291,324. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 19, 1968.

### CHOP SUEY

For Equipment Sold as a Unit for Playing a Parlor Game (Int. Cl. 28).  
First use Mar. 9, 1967.

SN 291,328. Mattel, Inc., Hawthorne, Calif. Filed Feb. 19, 1968.

### BABY WHISPER

Applicant disclaims exclusive rights to the word "Baby" apart from the mark as shown, for the goods recited.  
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).  
First use Jan. 29, 1968.

SN 291,468. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 20, 1968.

### COLD FEET

For Equipment Sold as a Unit for Playing a Parlor Game (Int. Cl. 28).  
First use Apr. 20, 1967.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 240,683. Vitramon, Incorporated, Monroe, Conn. Filed Mar. 10, 1966.

### KELGRAF

Owner of Reg. No. 706,523.  
For Injection Lubricator System Comprising Compatible Timing Cabinet, Control Adjusters, Fuses and Failure Indicating Lights, Motor, Pressure Gages, Warning Lights, Pump and Lubricant Reservoir and Suitable Nozzles Therefor, the Foregoing Sold as a Unit or as Part of a Complete Lubrication System; and, Rotary Brush Lubricator System Comprising a Rotary Brush, Lubricant Feed Line, Pump Motor, Pressure Gage, Pump and Lubricant Reservoir, and Appropriate Electric Control Box Therefor, the Foregoing Sold as a Unit or as Part of a Complete Lubrication System (Int. Cl. 7).  
First use June 6, 1961.

SN 245,549. Air Pollution Control, Inc., Baltimore, Md. Filed May 13, 1966.



For Exhaust Systems, Dust Collectors, Air-Replacement Systems, Smoke Eliminators, Fume Removal Apparatus and Odor Control Systems Equipment (Int. Cls. 9 and 11).  
First use Apr. 25, 1966.

SN 249,510. Dayton Perforators Inc., Dayton, Ohio. Filed July 5, 1966.



For Punches, Insert Dies and Guide Bushings, Work Holders and Manipulators (Int. Cl. 7).

First use May 6, 1966; at least as early as 1948 as to "Dayton."

SN 255,748. Weldun Tool & Engineering Company, Three Oaks, Mich. Filed Sept. 30, 1966.

### WELDUN

For Fin Dies, Tube Expanders, Tube Benders, Ring Loading and Sizing Machine (Int. Cl. 7).  
First use December 1952.

SN 256,380. Speed King Manufacturing Company, Inc., Dodge City, Kans. Filed Oct. 13, 1966.



For Farm and Industrial Equipment—Namely, Hand Carried, Wheel Mounted and Drag Grain Conveying Augers and Grain Measuring Attachments, Drive Attachments and Hoppers, Vertical Elevators, Belt Conveyors, Material Trippers and Slingers, Vibrator Screens and Rotary Blenders; and Hand-Operated Earth Bore (Int. Cl. 7).  
First use Sept. 18, 1965.

SN 261,821. Fab-Con Machinery Development Corp., Paterson, N.J. Filed Jan. 3, 1967.

### FAB-CON

For Machinery for Handling, Slitting, Treating, and/or Finishing Textile Yarns and Fabrics (Int. Cl. 7).  
First use on or about Aug. 31, 1966.

SN 263,681. Morden Machines Company, Portland, Oreg. Filed Jan. 31, 1967.



The word "Twin" and the representation of the three discs, apart from the composite mark, are disclaimed. The drawing is lined for the color red. Owner of Reg. No. 720,635.

For Machine for Treating Pulp and Paper Stock (Int. Cl. 7).  
First use on or about Apr. 14, 1966.

SN 264,436. Murray Corporation, Cockeysville, Md. Filed Feb. 10, 1967.

### VENTURI-VAC

For Vacuum Pump, or Evacuator, Used To Remove Air in Air-Conditioning System That Contains Moisture and Non-Condensibles (Int. Cl. 7).  
First use Dec. 8, 1966.



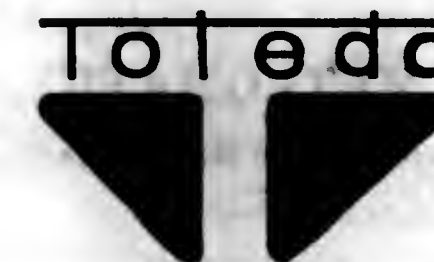
Owner of Reg. Nos. 643,127, 814,266, and others.  
For Mufflers, Silencers, Noise Suppressors, Plenums, and Noise Suppression Systems for Use With Gaseous Streams Such as Jet Engines, Gas Turbines, Air Conditioning Equipment and the Like (Int. Cl. 7).  
First use April 1965.

SN 265,512. The B. F. Goodrich Company, Akron, Ohio. Filed Feb. 27, 1967.

### ROTA-FLEX

For Annular Rubber Sections for Covering Industrial Scrubber Rollers Adapted To Clean Sheet Material (Int. Cl. 7).  
First use Feb. 17, 1967.

SN 267,691. Beltool Corporation, Toledo, Ohio. Filed Mar. 27, 1967.



For Twist Drills, Masonry Drills, Boring Bits, Drill Blanks, and Other Machine Tool Drills (Int. Cl. 7).  
First use Nov. 1, 1966.

SN 271,277. Onelda Ltd., Onelda, N.Y. Filed May 11, 1967.

### MANSION PARK

Owner of Reg. No. 506,560.  
For Stainless Steel Flatware (Int. Cl. 8).  
First use Oct. 21, 1966.

SN 271,456. E.T.M. Corporation, Monrovia, Calif. Filed May 15, 1967.

### DELI-CUT

For Finger-Mounted Hand Tools—Namely, Cutters, Tweezers, and Positioners (Int. Cl. 8).  
First use at least as early as May 2, 1967.

SN 272,079. Marolf Hygienic Equipment, Inc., Toledo, Ohio. Filed May 22, 1967.

### MAROLF

For Aerobic Sewage Treatment Systems Comprising Septic Tanks, Pumps, Filters and Control Equipment Therefor (Int. Cl. 11).  
First use November 1958.

SN 272,529. Wilkinson Sword Limited, London, England. Filed May 26, 1967.

### SWORDGRIP

Owner of British Reg. No. B841,545, dated Nov. 10, 1962.  
For Garden Tools—Namely, Grass Shears (Int. Cl. 8).  
First use Mar. 27, 1967; in commerce Mar. 27, 1967.



SN 272,645. Tyrone Hydraulics, Inc., Corinth, Miss. Filed May 29, 1967.

**TYRONE-BERRY**

Owner of Reg. No. 589,150.  
For Sawmill Carriage Drives (Int. Cl. 7).  
First use May 1, 1967.

SN 273,594. Big Bear, Inc., St. Cloud, Minn. Filed June 12, 1967.

**RED LINE**

The drawing is lined for the color red.  
For Light Farm Equipment—Namely, Grain Elevators, Post Hole Diggers, and Tractor Grader Blades (Int. Cl. 7).  
First use May 8, 1967.

SN 273,974. Rudolph N. Price, Manhasset, N.Y. Filed June 15, 1967.

**METROMATIC**

For Spray-Type Water and Steam Washer for Ampules and Vials (Int. Cl. 7).  
First use January 1962.

SN 276,102. The Cincinnati Shaper Company, Cincinnati, Ohio. Filed July 17, 1967.

**TONDicator**

For Compacting Presses (Int. Cl. 7).  
First use July 20, 1966.

SN 276,199. Basial B. Weir, Alvin, Tex. Filed July 17, 1967.

**WATER SPADE**

For Agricultural Implement for Feeding the Roots of Plants Wherein the Implement Forms an Opening in the Ground (Int. Cl. 8).  
First use about Mar. 17, 1964.

SN 276,782. Throw-Away Grips, Inc., Detroit, Mich. Filed July 3, 1967.

**CARB-GRIP**

For Replaceable Gripping Tips for Clamping Members (Int. Cl. 7).  
First use July 16, 1964.

SN 277,190. Madson Manufacturing Co., Inc., Rhinelander, Wis. Filed July 31, 1967.

**THE GROOMER**

For Ski-Slope Resurfacers or Cutter-Equipped Drags (Int. Cl. 7).  
First use July 24, 1967.

SN 279,079. Lathan Manufacturing Co., Redwood City, Calif. Filed Aug. 25, 1967.



For Self-Propelled Manually-Guidable Machines for Towing and Maneuvering Aircraft for Storage in and Removal From Hangars and for Positioning Aircraft in Airports and Airfields (Int. Cl. 12).  
First use July 19, 1967.

SN 280,123. Wayne J. Wilson and Leigh B. Wilson (joint owners), d.b.a. Wilson Parts Mfg., Centerline, Mich. Filed Sept. 11, 1967.

**PHA**

For Alloy Steel Precision Shafts (Int. Cl. 7).  
First use May 2, 1967.

SN 280,124. Wayne J. Wilson and Leigh B. Wilson (joint owners), d.b.a. Wilson Parts Mfg., Centerline, Mich. Filed Sept. 11, 1967.

**PHC**

For Carbon Steel Case Hardened Precision Shafts (Int. Cl. 7).  
First use on or about Dec. 1, 1966.

SN 282,966. Hagop S. Touloukian, d.b.a. Cornhill Commercial Company, New York, N.Y. Filed Oct. 20, 1967.

**FALTEX**

For Automotive Replacement Parts—Namely, Connecting Rods, Starter Drives, Retainer Ring Bearings, Engine Bearings, Axle Shaft Bearing Assemblies, Fuel Pumps and Repair Kits, Fuel Lines, Axle Shift Motors, Clutch Assemblies, Pressure Plates, Universal Joints, Clutch Bearings, Pistons, Valve Lifters, Tappets, Transmission Gears and Pinions (Int. Cl. 12).  
First use July 1, 1963.

SN 288,621. Irl Daffin Associates, Incorporated, d.b.a. National Concrete Machinery Company, Lancaster, Pa. Filed Jan. 11, 1968.

**EXACTORATE**

For Machinery for Mixing Solutions, Particularly Useful for Mixing Concrete Ingredients (Int. Cl. 7).  
First use Nov. 17, 1967.

SN 290,954. Fifer Industries, Inc., Louisville, Ky. Filed Feb. 13, 1968.

**FIFERATOR**

For Aeration-Type Sewage Treatment Plant (Int. Cl. 11).  
First use at least as early as Jan. 18, 1968.

## Class 24—Laundry Appliances and Machines

SN 272,852. W. M. Cissell Manufacturing Company, d.b.a. W. M. Cissell Manufacturing Company, Inc., Louisville, Ky. Filed May 25, 1967.

**THERM-O-COOL**

For Laundry Dryers (Int. Cl. 7).  
First use Nov. 23, 1966.

SN 276,882. David Traum, Inc., New York, N.Y. Filed Aug. 22, 1967.

**GLIDE-TEX**

Owner of Reg. No. 434,187.  
For Pressing Cloths (Int. Cl. 21).  
First use Sept. 11, 1946.

SN 280,582. General Electric Company, Louisville, Ky. Filed Sept. 18, 1967.

**MINI-WASH**

For Laundry Washing Machines (Int. Cl. 7).  
First use on or about May 31, 1963.

## Class 25—Locks and Safes

SN 249,144. Diebold, Incorporated, Canton, Ohio. Filed June 28, 1966.

**DIEBOLD TV AUTO TELLER II**

The words "TV Auto Teller" are disclaimed apart from the mark. Owner of Reg. Nos. 404,085, 687,248, and others.  
For Protective Multiple Station Drive-In Banking Equipment With Oral, Visual and Pneumatic Conveyor Communication Between Stations (Int. Cl. 6).  
First use December 1965.

SN 249,145. Diebold, Incorporated, Canton, Ohio. Filed June 28, 1966.

**DIEBOLD TV AUTO TELLER**

The words "TV Auto Teller" are disclaimed apart from the mark. Owner of Reg. Nos. 404,085, 687,248, and others.  
For Protective Multiple Station Drive-In Banking Equipment With Oral, Visual and Pneumatic Conveyor Communication Between Stations (Int. Cl. 6).  
First use December 1965.

## Class 26—Measuring and Scientific Appliances

SN 193,536. Chronetics, Inc., Yonkers, N.Y. Filed May 15, 1964.

**MANOCOUNTER**

For Multi-Circuit Electronic Computing System (Int. Cl. 9).  
First use Apr. 24, 1964.

SN 193,536. Chronetics, Inc., Yonkers, N.Y. Filed May 15, 1964.

**NANOTIMER**

For Multi-Circuit Electronic Computing System (Int. Cl. 9).  
First use Apr. 24, 1964.

SN 194,185. Chronetics, Inc., Yonkers, N.Y. Filed May 25, 1964.

**NANOSCANNER**

For Multi-Circuit Electronic Computing System (Int. Cl. 9).  
First use Apr. 24, 1964.

SN 262,687. Crane Co., New York, N.Y. Filed Jan. 17, 1967.

**CHEM/METER**

Owner of Reg. Nos. 592,834 and 647,700.  
For Fluid Metering Pump Assembly and Parts Thereof and Components Thereof (Int. Cl. 9).  
First use Dec. 12, 1966.

SN 269,281. Biotronics, Inc., Redding, Calif. Filed Apr. 17, 1967.

**TONOPAPER**

For Heat Sensitive Recording Paper for Use in Recording Tonometer Readings (Int. Cl. 1).  
First use May 1963.

SN 274,480. Kal-Equip Company, Otsego, Mich. Filed June 21, 1967.

**AUTOCOMPUTER**

For Internal Combustion Engine Tester (Int. Cl. 9).  
First use January 1966.

SN 276,406. Scientific, Inc., Rochester, N.Y. Filed July 20, 1967.

**MAG-JET**

For Turbine-Driven Magnetic Stirrers (Int. Cl. 9).  
First use October 1964.

SN 277,306. Societe des Lunetiers, Temkine & Cie, Paris (Seine), France. Filed Aug. 1, 1967.

**ROCAL**

Owner of French Reg. No. 717,235, dated Sept. 30, 1966.  
For Spectacles and Lenses (Int. Cl. 9).

SN 277,338. Astec, Incorporated, Orange, Conn. Filed Aug. 2, 1967.

**AUTOTRAY**

For Serial Dilution Trays (Int. Cl. 9).  
First use Apr. 18, 1967.

SN 278,270. Brilliant Screen & Tripod, Inc., Jersey City, N.J. Filed Aug. 15, 1967.

**BRILLIANT**

For Photographic Tripods and Projection Screens (Int. Cl. 9).  
First use December 1962.



SN 278,282. David P. Bushnell, Altadena, Calif. Filed Aug. 15, 1967.

## INSTA-FOCUS

For Binoculars (Int. Cl. 9).  
First use July 21, 1967.

SN 278,783. A. Capp & Son Limited, Crayford, Kent, England. Filed Aug. 22, 1967.

**Fowler  
VERDICT**

Owner of Reg. No. 385,281.  
For Dimension Gauges (Int. Cl. 9).  
First use Feb. 1, 1966; in commerce Feb. 1, 1966.

SN 280,841. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Sept. 21, 1967.

## "209"

For Copying Machines Utilizing Both a Photographic and Infra-Red Process (Int. Cl. 9).  
First use Dec. 19, 1963.

SN 280,985. Textron Inc., Rochester, N.Y. Filed Sept. 22, 1967.

## KUROVALITE

Owner of Reg. No. 514,704.  
For Lenses for Spectacles (Int. Cl. 9).  
First use Aug. 31, 1967.

SN 281,608. The Morgan Crucible Company Limited, London, England. Filed Oct. 2, 1967.

## METAMIC

Owner of British Reg. No. 674,642, dated Nov. 18, 1948.  
For Pyrometer Sheaths (Int. Cl. 9).

SN 282,845. Pennsalt Chemicals Corporation, Philadelphia, Pa., assignee of S. S. White Company, Philadelphia, Pa. Filed Oct. 18, 1967.

## FLEXOMATIC

For X-Ray Machine (Int. Cl. 10).  
First use February 1965.

SN 282,846. Pennsalt Chemicals Corporation, Philadelphia, Pa., assignee of S. S. White Company, Philadelphia, Pa. Filed Oct. 18, 1967.

## TECHNIGUIDE

For Exposure Reference for X-Ray Machine (Int. Cl. 10).  
First use November 1966.

SN 282,847. Pennsalt Chemicals Corporation, Philadelphia, Pa., assignee of S. S. White Company, Philadelphia, Pa. Filed Oct. 18, 1967.

## TECHNIDIAL

For X-Ray Machine (Int. Cl. 10).  
First use November 1966.

## Class 27—Horological Instruments

SN 289,059. Omega Louis Brandt et Frere S.A., Bienne, Switzerland. Filed Jan. 18, 1968.

## DYNAMIC

Owner of Swiss Reg. No. 220,520, dated Aug. 24, 1966.  
For Watches, Chronometers and Parts Thereof (Int. Cl. 14).

## Class 28—Jewelry and Precious-Metal Ware

SN 267,073. Star Engraving Company, Houston, Tex. Filed Mar. 17, 1967.



For Finger Rings (Int. Cl. 14).  
First use July 2, 1962.

SN 281,289. Hamilton Watch Company, Lancaster, Pa. Filed Sept. 27, 1967.

## AMESBURY

For Sterling Silver Holloware (Int. Cl. 14).  
First use Mar. 22, 1967.

## Class 29—Brooms, Brushes, and Dusters

SN 271,387. Ronson Corporation, Woodbridge, N.J. Filed May 12, 1967.

## RONSON

Owner of Reg. Nos. 261,178, 805,495, and others.  
For Electric Hairbrushes (Int. Cl. 21).  
First use June 30, 1966.

SN 277,910. Textron, Inc., Providence, R.I., assignee of Gorham Corporation, Providence, R.I. Filed Aug. 9, 1967.

## TRAV-L-WISK

For Whisk Brushes (Int. Cl. 21).  
First use June 6, 1967.

SN 278,418. Red Devil Inc., Union, N.J. Filed Aug. 16, 1967.

**Speed-demon**

For Paint Applicators (Int. Cl. 21).  
First use Aug. 1, 1967.

SN 278,793. Flip-Mop, Inc., Northvale, N.J. Filed Aug. 22, 1967.

## MIN-NI MOP

Without relinquishing any of its common law rights, applicant disclaims the word "Mop" apart from the mark as shown.  
For Sponge Mop (Int. Cl. 21).  
First use Jan. 18, 1967.

SN 279,103. Sears, Roebuck and Co., Chicago, Ill. Filed Aug. 25, 1967. SN 260,387. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 9, 1966.

## OPTAMATIC

For Power Toothbrushes (Int. Cl. 21).  
First use on or about Aug. 1, 1966.

SN 279,560. Robert I. Janssen, d.b.a. Product Development & Mfg. Co., Mendota, Minn. Filed Sept. 1, 1967.

## NYLFOAM

For Elastic Material for Use as a Sponge-Like Wiper or Applicator (Int. Cl. 21).  
First use on or before May 9, 1967.

SN 280,558. Clairol Incorporated, New York, N.Y. Filed Sept. 18, 1967.

## SHINING BEAUTY

For Hair Brush (Int. Cl. 21).  
First use Aug. 29, 1967.

## Class 31—Filters and Refrigerators

SN 264,115. Tractor Supply Company, Chicago, Ill. Filed Feb. 6, 1967.

## BLUE RIBBON

For Milk Filter Discs (Int. Cl. 11).  
First use Sept. 1, 1966.

SN 267,046. Keating of Chicago, Inc., Chicago, Ill. Filed Mar. 17, 1967.

## ACIDOX

For Prepared Diatomaceous Earth for Filtering Edible Oils (Int. Cl. 1).  
First use Dec. 1, 1965.

SN 288,995. Maremont Corporation, d.b.a. Maremont Marketing, Inc., Chicago, Ill. Filed Jan. 17, 1968.

**Winslow**

Owner of Reg. Nos. 588,694 and 593,631.  
For Fluid Filtration Equipment—Namely, Fluid Filters and Filter Elements (Int. Cl. 11).  
First use Aug. 1, 1967.

## Class 32—Furniture and Upholstery

SN 228,732. Merchandising International S.A., Geneva, Switzerland. Filed Oct. 18, 1965.



Owner of Swiss Reg. No. 209,863, dated Mar. 27, 1965.  
For Store Installations—Namely, Counters, Stalls, Stands and Fixtures (Int. Cl. 20).

The words "Hospital Supply" are disclaimed apart from the mark as shown.

For Chairs, Tables, Desks, Cabinets, Stools, Office Machine Stands and Furniture, Beds, Panel Screens, Mattresses, and Pillows (Int. Cl. 20).  
First use on or before Sept. 1, 1964.

SN 269,087. National Furniture Manufacturing Co., Inc., Evansville, Ind. Filed Apr. 13, 1967.

## ASTRAL

For Upholstered Furniture (Int. Cl. 20).  
First use during January 1967.

SN 276,863. Poloron Products, Inc., New Rochelle, N.Y. Filed July 26, 1967.

## POLORON

Owner of Reg. No. 434,558.  
For Furniture—Namely, Folding Chairs, Tables and Desks (Int. Cl. 20).  
First use at least as early as April 1964.

SN 280,155. The Gasser Chair Company, Youngstown, Ohio. Filed Sept. 12, 1967.

## COMFORT ZONE

For Chairs Having a Spring-Aluminum Plate Joining the Back Rest to the Seat Component (Int. Cl. 20).  
First use about August 1966.

SN 289,977. Dayco Corporation, Dayton, Ohio. Filed Jan. 31, 1968.

## HOSPILLOW

For Pillows (Int. Cl. 20).  
First use on or about Oct. 24, 1967.

## Class 34—Heating, Lighting, and Ventilating Apparatus

SN 254,997. H. Frost & Company Limited, Walsall, England. Filed Sept. 28, 1966.

## VISTA-FLAME

Owner of British Reg. No. 883,568, dated Aug. 26, 1965.  
For Electric Fireplaces Incorporated Means of Simulating a Flame Effect (Int. Cl. 11).



SN 261,024. The American Oil Company, Chicago, Ill. Filed Dec. 19, 1966.



Owner of Reg. Nos. 443,855, 736,984, and others.  
For Oil Burners, Boilers, Hot Air Furnaces, Portable Heaters, Water Heaters, and Air Conditioning Units (Int. Cl. 11).  
First use May 1963.

SN 272,114. Sunbeam Lighting Company, Los Angeles, Calif. Filed May 22, 1967.



For Gate Device To Distribute Air Delivery From Slot in a Horizontal Air Delivery Duct (Int. Cl. 11).  
First use on or about February 1967.

SN 274,555. The Wiremold Company, Hartford, Conn. Filed June 22, 1967.

## VENTURE

For Flexible Air Duct (Int. Cl. 6).  
First use Mar. 8, 1967.

SN 276,536. The Coleman Company, Inc., Wichita, Kans. Filed July 21, 1967.

## SOLAR-KING

Owner of Reg. Nos. 668,865, 700,529, and 819,903.  
For Gas Fired Furnaces for Travel Trailers (Int. Cl. 11).  
First use during or prior to February 1967.

SN 276,590. Troqueles y Esmaltes, S.A., Monterrey, Mexico. Filed July 21, 1967.

## SULTANA

Owner of Mexican Reg. No. 122,925, dated Apr. 23, 1965.  
For Nonelectric Stoves and Heaters for Household Use (Int. Cl. 11).

SN 276,861. Poloron Products, Inc., New Rochelle, N.Y. Filed July 26, 1967.

## POLORON

Owner of Reg. No. 434,558.  
For Outdoor Grills and Brasiers (Int. Cl. 11).  
First use at least as early as January 1947.

SN 277,719. Sunbeam Lighting Company, Los Angeles, Calif. Filed Aug. 7, 1967.



For Gate Device To Distribute Air Delivery From Slot in a Horizontal Air Delivery Duct (Int. Cl. 11).  
First use on or about February 1967.

SN 292,156. Green Colonial, Inc., Des Moines, Iowa. Filed Feb. 29, 1968.

## GREEN COLONIAL

For Air Conditioning Units (Int. Cl. 11).  
First use May 1954.

## Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 283,048. The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 23, 1967.

## LOBO

For Pneumatic Tires (Int. Cl. 12).  
First use Sept. 20, 1966.

SN 275,992. Agway, Inc., Dewitt, N.Y. Filed July 14, 1967.

## 790

For Tires for Vehicle Wheels (Int. Cl. 12).  
First use May 19, 1967.

SN 275,993. Agway, Inc., Dewitt, N.Y. Filed July 14, 1967.

## 890

For Tires for Vehicle Wheels (Int. Cl. 12).  
First use Nov. 2, 1966.

SN 278,701. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Aug. 21, 1967.

## TRUC TRAC

Owner of Reg. Nos. 592,750, 708,742, and others.  
For Tires (Int. Cl. 12).  
First use Mar. 28, 1967.

SN 278,702. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Aug. 21, 1967.

## GRIP TRAC

Owner of Reg. Nos. 592,750, 708,742, and others.  
For Tires (Int. Cl. 12).  
First use Mar. 28, 1967.

SN 279,158. Agway, Inc., Dewitt, N.Y. Filed Aug. 28, 1967.

## 1090

For Tires for Vehicle Wheels (Int. Cl. 12).  
First use Aug. 1, 1967.

SN 279,834. Security Tire and Rubber Company, Richmond, Va. Filed Aug. 29, 1967.

## SECURITY FAST FREIGHT

Owner of Reg. Nos. 831,811, 831,812, and 831,813.  
For Pneumatic Tires (Int. Cl. 12).  
First use Apr. 27, 1967.

SN 279,376. Cordovan Associates, Incorporated, Dayton, Ohio. Filed Aug. 30, 1967.

## CORDOVAN WIDE '600'

No claim is made to the word "Wide." Owner of Reg. Nos. 431,993 and 784,838.  
For Tires (Int. Cl. 12).  
First use on or about June 30, 1967.

SN 279,377. Cordovan Associates, Incorporated, Dayton, Ohio. Filed Aug. 30, 1967.

## MULTI-MILE WIDE '600'

No claim is made to the word "Wide." Owner of Reg. No. 560,428.  
For Tires (Int. Cl. 12).  
First use on or about May 19, 1967.

SN 279,470. The General Tire & Rubber Company, Akron, Ohio. Filed Aug. 31, 1967.

## JET-RIB

Owner of Reg. Nos. 728,321, 824,898, and others.  
For Tires (Int. Cl. 12).  
First use as early as Aug. 17, 1967.

SN 279,606. A & A Manufacturing Company, Inc., Milwaukee, Wis. Filed Sept. 5, 1967.

## STEELFLEX

Owner of Reg. Nos. 382,258, 815,873, and 829,740.  
For Flexible Belting Fabricated of Metal (Int. Cl. 7).  
First use Jan. 12, 1967.

## Class 36 — Musical Instruments and Supplies

SN 289,111. J. A. Balthrop, d.b.a. Bobe Wes Music Co., Mesquite, Tex. Filed Feb. 18, 1968.



For Phonograph Records (Int. Cl. 9).  
First use July 3, 1968.

SN 263,608. Reverence Records, Inc., Baltimore, Md. Filed Jan. 30, 1967.

## REVERENCE

For Phonograph Records (Int. Cl. 9).  
First use Dec. 15, 1966.

SN 264,463. Page One Records Limited, London, England. Filed Feb. 3, 1967.

## PAGE ONE

For Phonograph Records (Int. Cl. 9).  
First use November 1965; in commerce September 1966.

SN 266,224. Golden Crest Records, Inc., Huntington, Station, N.Y. Filed Mar. 8, 1967.

## CLINICIAN SERIES

Applicant disclaims the word "Series" apart from the mark as shown.  
For Phonograph Records (Int. Cl. 9).  
First use July 1, 1966.

SN 271,490. Liberty Records, Inc., Los Angeles, Calif. Filed May 15, 1967.



For Phonograph Records and Albums Thereof and Pre-recorded Tapes (Int. Cl. 9).  
First use Oct. 14, 1966.

## Class 37 — Paper and Stationery

SN 272,110. The Service Recorder Company, Cleveland, Ohio. Filed May 22, 1967.

## SENSI "COPY"

For Duplicating Paper (Int. Cl. 16).  
First use on or about May 9, 1967.

SN 278,394. Grayare Company, Inc., Brooklyn, N.Y. Filed June 8, 1967.

## DUPLI-MEMO

For Duplicating Personalized Desk Memorandum Forms With Automatic Follow-Up Copy (Int. Cl. 16).  
First use Apr. 12, 1967.

SN 279,095. Roaring Spring Blank Book Co., Inc., Roaring Spring, Pa. Filed Aug. 25, 1967.

## SCHOOLTIME

For Paper and Stationery—Namely, Looseleaf Fillers, Theme Tablets, Ink Tablets, Composition Books, Art and Construction Tablets, Pencil Tablets, Memo Books, Scratch Pads, and Legal Pads (Int. Cl. 16).  
First use 1955.

SN 279,267. Brown Company, Holyoke, Mass. Filed Aug. 29, 1967.

## COLDSTREAM

For Writing Paper, Printing Paper and Converting Paper for Stationery (Int. Cl. 16).  
First use 1930.

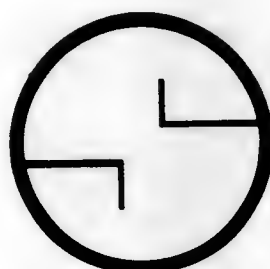
SN 281,660. Follenfabrik Forchheim G.m.b.H., Forchheim/Oberfranken, Germany. Filed Oct. 2, 1967.

## EUROPHAN

Owner of German Reg. No. 792,546, dated Aug. 3, 1964.  
For Plastic Sheet for Use Primarily as Wrapping and Packaging Material (Int. Cl. 17).



SN 283,402. Synanon Foundation, Inc., Santa Monica, Calif. Filed Oct. 26, 1967.



For Writing Instruments—Namely, Ball Point Pens, Pencils, Felt Pens, "Nylon" and Like Material Tip Pens (Int. Cl. 16).  
First use Apr. 5, 1965.

SN 283,403. Synanon Foundation, Inc., Santa Monica, Calif. Filed Oct. 26, 1967.

## SYNANON

For Writing Instruments—Namely, Ball Point Pens, Pencils, Felt Pens, "Nylon" and Like Material Tip Pens (Int. Cl. 16).  
First use Apr. 5, 1965.

SN 291,464. MacAndrews & Forbes Company, Camden, N.J. Filed Feb. 19, 1968.



For Paperboard (Int. Cl. 16).  
First use Mar. 1, 1967.

## Class 38—Prints and Publications

SN 265,365. Wiechers Enterprises, Inc., South Miami, Fla. Filed Feb. 23, 1967.

## TAXPOCKETS

For Series of Printed Blanks and Instructions Pertaining to Taxes and Printed on Envelopes for Keeping Tax Records (Int. Cl. 16).  
First use May 1966.

SN 268,501. Kennedy Sinclair, Inc., Montclair, N.J. Filed Apr. 6, 1967.



For Circulars Published From Time to Time (Int. Cl. 16).  
First use Sept. 6, 1966.

SN 268,730. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Apr. 10, 1967.

## HALLMARK EDITIONS

The word "Editions" is disclaimed apart from the mark as shown, without relinquishing any rights therein under the common law.

For Books (Int. Cl. 16).  
First use Mar. 29, 1967.

SN 269,364. Visual Impact, Inc., Gardner, Kans. Filed Apr. 17, 1967.



The mark consists of a stylized design showing of the letters "vi" in lower case letters.

For Three Dimensional and Animated Printed Display Pieces for Use in Advertising, Graphic Arts, Publishing and the Like (Int. Cl. 16).  
First use Apr. 10, 1967.

SN 270,053. Fedtro, Inc., Rockville Centre, N.Y. Filed Apr. 26, 1967.

## CHART-O-MATIC

For Printed Television Repair Guides and Instruction Guides Pertaining to the Operation of Items of Electrical Equipment (Int. Cl. 16).  
First use April 1961.

SN 270,952. The Presidents Association, Inc., New York, N.Y. Filed May 8, 1967.

## PRESIDENTS FORUM

For Semi-Annual Magazine (Int. Cl. 16).  
First use Jan. 26, 1962.

SN 270,961. Sherburne Corporation, Killington, Vt. Filed May 8, 1967.

## SNOW SCENES

For Magazines (Int. Cl. 16).  
First use on or about Mar. 15, 1965.

SN 273,243. Alp Publications, Inc., Milwaukee, Wis. Filed June 7, 1967.

## SEXTANT

Owner of Reg. No. 802,287.  
For Books and Booklets for Academic and Business Guidance in Vocational, Occupational and Career Counselling (Int. Cl. 16).  
First use October 1960.

SN 274,118. Bond Publishing Company, Newport Beach, Calif. Filed June 16, 1967.

## ROAD & TRACK

For Periodical Magazine (Int. Cl. 16).  
First use June 1947.

SN 278,308. Magazine Management Company, d.b.a. Marvel Comics Group, New York, N.Y. Filed Aug. 15, 1967.



For Magazine Published Periodically, Particularly Comic Books and Magazines (Int. Cl. 16).

First use on or about Feb. 2, 1967; at least as early as December 1943 in a different display.

SN 290,932. Humanese Communication Council, New York, N.Y. Filed Feb. 13, 1968.

## HUMANESE

For Newsletter (Int. Cl. 16).  
First use Feb. 9, 1968.

SN 292,321. H. S. Crocker Co., Inc., d.b.a. California Artists, San Bruno, Calif. Filed Mar. 4, 1968.

## CHRISTMAS GALLERIES

For Christmas Cards (Int. Cl. 16).  
First use November 1967.

SN 292,322. H. S. Crocker Co., Inc., d.b.a. California Artists, San Bruno, Calif. Filed Mar. 4, 1968.

## CHRISTMAS GRANDEES

For Christmas Cards (Int. Cl. 16).  
First use November 1967.

## Class 39—Clothing

SN 240,084. Ideal Shoe Company, Philadelphia, Pa., assignee of Easy Walker Shoe Company, Philadelphia, Pa. Filed Mar. 3, 1966.



For Women's Shoes (Int. Cl. 25).  
First use Oct. 22, 1965.

SN 249,929. Advance Glove Manufacturing Co., Detroit, Mich. Filed July 11, 1966.

## GLASS GRIPPER

For Coated Work Gloves for Use in Handling Glass, Sharp Dry Metals, Lumber, Concrete Blocks and the Like (Int. Cl. 25).  
First use at least as early as Sept. 7, 1958.

SN 256,855. Northern Cap Company, Minneapolis, Minn. Filed Oct. 20, 1966.



For Hats and Caps (Int. Cl. 25).  
First use in or about August 1961.

SN 262,197. Royal Mist Ltd., New York, N.Y. Filed Jan. 9, 1967.

## SQUIRREL HILL

For Raincoats and Car Coats (Int. Cl. 25).  
First use Jan. 4, 1967.

SN 264,204. Endicott Johnson Corporation, Endicott, N.Y. Filed Feb. 8, 1967.



For Women's Footwear (Int. Cl. 25).  
First use July 9, 1964.

SN 264,833. Kayser-Roth Corporation, New York, N.Y. Filed Feb. 16, 1967.

## SIZE-PRUF

For Women's and Girls' Hosiery and Panties (Int. Cl. 25).  
First use Nov. 2, 1945.

SN 266,357. Plainfield Headwear, Inc., Plainfield, N.J. Filed Mar. 9, 1967.



Applicant disclaims the expression "Roll-Up" apart from the mark as a whole.  
For Headwear (Int. Cl. 25).  
First use Jan. 10, 1967.

SN 268,665. Affiliated Clothiers, Inc., New York, N.Y. Filed Apr. 10, 1967.

## AFFILIATED CLOTHIERS

The word "Clothiers" is disclaimed apart from the mark as shown. Owner of Reg. No. 220,995.  
For Men's and Boys' Suits, Coats, Slacks, Walking Shorts, Sweat Shirts, Knit Shirts, Sport Shirts, Dress Shirts, Sweaters, Pajamas, Robes, Swim Suits, Caps, Handkerchiefs, Ties, Mufflers, Scarfs, Belts, Suspenders, Gloves, Hosiery, and Underwear—Namely, Shirts, Shorts and Union Suits (Int. Cl. 25).  
First use June 16, 1926.



SN 269,187. Rieker & Co., Tuttlingen/Wurttemberg, Germany. Filed Sept. 14, 1966.



The drawing is lined for red, but the color is not a limitative feature of the mark. Owner of U.S. Reg. Nos. 623,520 and 784,062.

For Boots (Int. Cl. 25).  
First use 1961; in commerce 1961.

SN 270,001. Principle Business Enterprises, Inc., Waterville, Ohio. Filed Apr. 25, 1967.



For Footwear (Int. Cl. 25).  
First use Apr. 12, 1967.

SN 271,543. Supowitz Brothers, Pittsburgh, Pa. Filed May 15, 1967.

### BERNALDO ORIGINALS

The word "Originals" is disclaimed apart from the mark as shown.

For Shoes (Int. Cl. 25).  
First use approximately November 1965.

SN 272,933. The Londontown Manufacturing Company, Baltimore, Md. Filed June 2, 1967.

### SNOW CLOTH

No claim is made with respect to the word "Cloth" apart from the mark as shown.

For Lining for Outer Coats (Int. Cl. 25).  
First use May 8, 1967.

SN 273,125. Superba Cravats, Inc., Rochester, N.Y. Filed June 5, 1967.

### MARK III

Owner of Reg. No. 827,606.  
For Neckties (Int. Cl. 25).  
First use May 12, 1967.

SN 285,635. Stanley Blacker, Inc., Philadelphia, Pa. Filed Nov. 27, 1967.

### BLACKER

Owner of Reg. No. 739,773.  
For Sportcoats, Sportcoats and Pants Sets, and Pants (Int. Cl. 25).  
First use Oct. 9, 1967.

SN 286,518. Foremost-McKesson, Inc., d.b.a. Genetec Hospital Supply Company, New York, N.Y. Filed Dec. 8, 1967.

### SPOZADIAPER

For Diapers (Int. Cl. 25).  
First use at least as early as Sept. 8, 1967.

SN 287,115. Aleph Manufacturing Corporation, Freeport, N.Y. Filed Dec. 18, 1967.

### Burt Barry

The name "Burt Barry" is fictitious.  
For Men's Knitted Sport Shirts (Int. Cl. 25).  
First use 1962.

SN 289,017. Evan-Picone, Inc., N. Bergen, N.J. Filed Jan. 17, 1968.

### EVAN-PICONE

Owner of Reg. No. 612,617.  
For Shirts, Suits, Slacks, Shorts, Blouses, Dresses, Coats, for Women and Misses (Int. Cl. 25).  
First use Sept. 1, 1949.

SN 291,547. Chipe 'N Twigs, Inc., Philadelphia, Pa. Filed Feb. 21, 1968.

### CHIP 'N PUTT

Owner of Reg. Nos. 414,492 and 652,100.  
For Men's and Young Men's Jackets, Coats and Sport Coats (Int. Cl. 25).  
First use Jan. 31, 1968.

SN 291,552. Maldenform, Inc., New York, N.Y. Filed Feb. 21, 1968.

### TAFF-STAY

For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 2, 1968.

SN 291,554. Maldenform, Inc., New York, N.Y. Filed Feb. 21, 1968.

### PRIZE POSSESSIONS

For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 2, 1968.

### Class 40—Fancy Goods, Furnishings, and Notions

SN 270,667. Flents Products Co., Inc., New York, N.Y. Filed May 4, 1967.

### FLENTS

Owner of Reg. No. 230,234.  
For Eye Masks for Sleeping (Int. Cl. 26).  
First use Dec. 27, 1938.

SN 281,481. American Stay Company, Malden, Mass. Filed Sept. 29, 1967.

### BPB

For Shoe Bindings (Int. Cl. 26).  
First use August 1956.

SN 281,948. Acero Products Co., Inc., South Amboy, N.J. Filed Oct. 6, 1967.

### KWIK-DATE

For Hair Curlers (Int. Cl. 26).  
First use Aug. 7, 1967.

### Class 42—Knitted, Notted, and Textile Fabrics, and Substitutes Therefor

SN 272,012. Charles Bloom, Inc., New York, N.Y. Filed May 22, 1967.

### HOME WAS NEVER LIKE THIS

For Fabrics Made of Cotton, Wool and Synthetic Fibers (Int. Cl. 24).  
First use May 16, 1967.

SN 276,159. National Research Corporation, Newton Highlands, Mass. Filed June 30, 1967.

### ASTROLAR

For Metallized Plastic Laminate Which is Marketed as a Heat Reflective Fabric (Int. Cl. 24).  
First use on or about May 24, 1967.

SN 282,103. S. S. Kreege Company, Detroit, Mich. Filed Oct. 9, 1967.



Owner of Reg. Nos. 743,912, 817,457, and others.  
For Rugs and Floor Coverings (Int. Cl. 27).  
First use on or before Aug. 9, 1967.

SN 282,103. S. S. Kreege Company, Detroit, Mich. Filed Oct. 9, 1967.



For Rugs and Floor Coverings (Int. Cl. 27).  
First use on or before Aug. 9, 1967.

### Class 43—Thread and Yarn

SN 263,041. Filatures Prouvoit Masurel & Cie, La Lainiere de Roubaix, Roubaix (Nord), France, by change of name from Filatures Prouvoit & Cie, La Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 23, 1967.

### POLKA

Owner of French Reg. No. 707,058, dated Dec. 30, 1965.  
For Hand Knitting Yarns (Int. Cl. 28).

### Class 44—Dental, Medical, and Surgical Appliances

SN 252,038. Tassette, Inc., Stamford, Conn. Filed Aug. 9, 1966.

### Tassaway

by Tassette

Owner of Reg. Nos. 686,010 and 706,077.  
For Menstrual Cup (Int. Cl. 10).  
First use July 18, 1963.

SN 258,362. Helene Curtis Industries, Inc., Chicago, Ill. Filed Nov. 10, 1966.

### COLOR COMMAND

The word "Color" is disclaimed apart from the mark as shown.  
For Hair Processing Units To Aid in Dyeing and Bleaching the Hair (Int. Cl. 7).  
First use on or about Oct. 25, 1966.

SN 270,003. Professional Tape Co., Inc., Riverside, Ill. Filed Apr. 25, 1967.

### COLOR-DATE

For Self-Sticking Sterilization-Indicating Tape and Labels, Used Mainly in Hospitals and Other Medical Facilities (Int. Cl. 5).  
First use in or about April 1965.

SN 270,004. Professional Tape Co., Inc., Riverside, Ill. Filed Apr. 25, 1967.

### HI-TEMP

For Self-Sticking Identifying Tape and Self-Sticking Sterilization-Indicating Tape Used Mainly in Hospitals and Other Medical Facilities, and in Biological Research and Other Laboratories (Int. Cl. 5).  
First use in or about December 1958 on self-sticking identifying tape.

SN 271,186. Sheffield Laboratories, Inc., Boston, Mass. Filed May 10, 1967.

### SERENE

For Facial Sauna (Int. Cl. 11).  
First use Aug. 4, 1966.

SN 274,103. Union Broach Company, Inc., Long Island City, N.Y. Filed June 16, 1967.

### GYRO

For Dental Handpiece (Int. Cl. 10).  
First use Jan. 1, 1966.

SN 274,969. Guardian Products Company, Inc., North Hollywood, Calif. Filed June 28, 1967.

### TRI-POISE

For Crutches and Crutch Parts and Accessories, Canes and Invalid Walking Aids (Int. Cl. 10).  
First use June 12, 1967.



SN 278,609. Computer Instruments Corporation, Hempstead, N.Y. Filed Aug. 21, 1967.

## SPIROTEL

For Spirometers (Int. Cl. 10).  
First use June 26, 1967.

SN 279,053. Cordis Corporation, Miami, Fla. Filed Aug. 25, 1967.

## ECTOCOR

For Cardiac Heart Pacers (Int. Cl. 10).  
First use July 12, 1967.

SN 279,658. Le Voy's Inc., Salt Lake City, Utah. Filed Sept. 5, 1967.

## INFUSAL

Owner of Reg. Nos. 769,232, 778,565, and 798,641.  
For Intravenous Catheters and Intravenous Catheter Placement Units (Int. Cl. 10).  
First use Nov. 7, 1966.

SN 281,612. Opatow Dental Manufacturing Corp., Brooklyn, N.Y. Filed Oct. 2, 1967.

## AFTER-PREP

For Dental Crown and Bridge Cement (Int. Cl. 5).  
First use Apr. 19, 1967.

SN 281,678. C. R. Bard, Inc., Murray Hill, N.J. Filed Oct. 3, 1967.

## EVAC-SAC

For Flatus Bag With Attached Rectal Tube (Int. Cl. 10).  
First use July 10, 1963.

SN 281,779. Deseret Pharmaceutical Company, Inc., Sandy, Utah. Filed Oct. 4, 1967.

## CHOLANGIOCATH

Owner of Reg. Nos. 672,902, 826,452, and others.  
For Intravenous Catheters and Catheter Placement Units (Int. Cl. 10).  
First use during April 1964.

SN 282,032. Cook, Inc., Bloomington, Ind. Filed Oct. 9, 1967.

## SAFTI-J

For Cardiovascular Instruments—Namely, Cardiovascular Wire Guides (Int. Cl. 10).  
First use Dec. 30, 1966.

SN 291,678. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Feb. 23, 1968.

# 3M

For Elastic Bandage (Int. Cl. 10).  
First use Feb. 9, 1968.

SN 291,679. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Feb. 23, 1968.

## COBAN

For Elastic Bandage (Int. Cl. 10).  
First use Feb. 9, 1968.

## Class 45—Soft Drinks and Carbonated Waters

SN 278,817. OAG Porteous & Co. Limited, Paddock Wood, Kent, England. Filed Aug. 22, 1967.

## SCOTCH ROCKS

No exclusive claim is made to the word "Scotch" apart from the mark as shown.  
For Water for Beverage Purposes (Int. Cl. 32).  
First use Mar. 2, 1966; in commerce Mar. 2, 1966.

SN 289,234. Castle & Cooke, Inc., d.b.a. Dole Company, Honolulu, Hawaii. Filed Jan. 22, 1968.

# fruite

For Canned Fruit Juice Drinks Containing Water (Int. Cl. 32).  
First use Jan. 11, 1968.

## Class 46—Foods and Ingredients of Foods

SN 170,389. East Coast Food Corp., Riverhead, N.Y. Filed June 5, 1963.

# TREAT

For Potato Chips, Potato Sticks, Corn Chips, Corn Sticks, Cheese Chips, Cheese Sticks, Bar-B-Que Flavored Potato Chips, Pretzels and Unshelled Nuts (Int. Cls. 29, 30 and 31).  
First use Jan. 4, 1922.

SN 226,707. American Whipped Products, Inc., Glendale, N.Y. Filed Aug. 30, 1965.

## KING SOUR

The word "Sour" is disclaimed apart from the mark as shown.  
For Sour Dressing and Dips Comprising Water, Vegetable Fat, Non-Fat Milk Solids (or Substitute Therefor), Emulsifiers, Lactic Acid, Citric Acid, Vegetable Gums and Artificial Flavors (Int. Cls. 29 and 30).  
First use June 1, 1965.

SN 231,695. Minetti & Cia. Ltda. Sociedad Anonima Industrial y Comercial, Rosario, Santa Fe, Argentina. Filed Oct. 27, 1965.

## LETIZIA

The word "Letizia" is a girl's given name and also means "joy" in Italian. Owner of Argentine Reg. No. 374,101, dated Dec. 5, 1956.  
For Flour and Alimentary Pastes Made Therefrom (Int. Cl. 30).

SN 243,046. Vahlsing, Inc., Robbinsville, N.J. Filed Apr. 8, 1966. SN 256,548. Grocery Foods Corp., Glendale, N.Y. Filed Oct. 17, 1966.

## VAHLSING

For Fresh and Frozen Foods—Namely, Fruits and Vegetables (Int. Cls. 29 and 31).  
First use November 1908.

SN 244,265. F. M. Stamper Company, d.b.a. Banquet Canning Co., St. Louis, Mo. Filed Apr. 25, 1966.

## COOKIN' BAG

For Frozen Prepared Food Products—Namely, Frozen Poultry and Meats, Frozen Chicken, Turkey, Beef and Pork in Various Forms With One or More Vegetables and Welsh Rarebit (Int. Cl. 29).  
First use June 21, 1960.

SN 252,490. Pita Hermanos S.A., Villagarcia de Arosa (Pontevedra), Spain. Filed Aug. 16, 1966.

## RAM

Owner of Spanish Reg. No. 113,849, dated Nov. 7, 1962.  
For Canned Common Cockles in Brine, Canned Tuna Flakes in Olive Oil and Canned Spanish Sardines in Pure Olive Oil (Int. Cl. 29).

SN 255,230. R & S Distributors, Inc., Miami, Fla. Filed Sept. 27, 1966.

## LA AVISPA

"La Avispa" is translated into English as "the wasp."  
For Canned Guava, Apple and Papaya Chunks; Guava and Orange Shells; Grated Coconut; Prunes; Boniatillo (a Food Product Made of Sweet Potato and Sugar); Batata (Sweet Potato); Guava and Mango Marmalade; Coconut Cream for Food Purposes, and Guava, Papaya, Mango and Tamarindo Pulp, and Canned Guava, Mango and Orange Paste (Int. Cls. 29 and 30).  
First use October 1965.

SN 255,982. Huntleys of Lancaster, Inc., Lancaster, Pa. Filed Oct. 7, 1966.



The slogan "Quality Served Quickly" is disclaimed apart from the mark. The drawing is lined for the colors blue and red, but no claim is made as to color.

For Takeout Foods—Namely, Hamburger and Cheeseburger Sandwiches, Apple Tarts, French Fried Potatoes, Hot Chocolate, Milk Shakes and Coffee (Int. Cls. 29 and 30).  
First use Nov. 1, 1965.

SN 256,095. Huki Lau Corporation, Holly, Mich. Filed Oct. 10, 1966.

## MONGO MONGO

For Meat Sauces (Int. Cl. 30).  
First use July 3, 1966.

TM 850 O.G.—7



No claim is made to the word "Sweet'ner" insofar as this word may be interpreted to be "sweetener."  
For Low Calorie Sugar Substitute (Int. Cl. 1).  
First use June 14, 1966.

SN 260,157. Horner Sales Corporation, Pittsburgh, Pa. Filed Dec. 6, 1966.

## CAL-MAG FORTIFIER

The word "Fortifier" is disclaimed apart from the mark as shown.  
For Additive Product Adapted To Be Incorporated as a Fortifier Into Ice Cream, Ice Milk, Soft Serve Mixtures, Buttermilk, Cottage Cheese and the Like (Int. Cl. 1).  
First use Aug. 6, 1964.

SN 263,289. Plantation Foods Corporation, Miami, Fla. Filed Jan. 25, 1967.



For Canned and Frozen Asparagus, Asparagus Spears, Beans, Broccoli, Brussels Sprouts, Carrots, Cauliflower, Corn, Mixed Vegetables, Green Peas, Spinach, Collard Greens, Mustard Greens, Okra, Blackeye Peas, Squash, Turnip Greens, Baby Lima Beans, Fordhook Lima Beans, Potatoes, Shrimp, Flounder, Seafood Dinner, Scallops, Oysters, Crab Roll, Crab Burger, Shrimpburger, Cod Fillets, Haddock Fillets, Ocean Perch, Sole Fillets, Grouper Fillets, Cat Fish Okeechobee, Jumbo Cod, and Shrimp Egg Rolls (Int. Cl. 29).  
First use on or about May 1, 1961.

SN 264,240. Productos de Harina, S.A., Merida, Yucatan, Mexico. Filed Feb. 8, 1967.



Owner of Mexican Reg. No. 34,061, dated Apr. 9, 1934.  
For Cookies, Crackers and Alimentary Paste (Int. Cl. 30).

SN 265,478. All-Crump, Bergerhout, Belgium. Filed Feb. 27, 1967.

# orumpy

Owner of Belgian Reg. No. 19,404, dated Sept. 24, 1965.  
For Chocolate Spread (Int. Cl. 30).



SN 265,652. Popped-Right Corn Company, Marion, Ohio. Filed Feb. 28, 1967.



For Plain, Seasoned and Flavored Popped Popcorn, Raw Popcorn, Cheese Flavored Expanded Corn Meal, Caramel Coated Popped Popcorn, Fried Pork Rinds, Fried Extruded Corn Meal, and Pretzels (Int. Cls. 30 and 31).  
First use Aug. 10, 1965.

SN 271,613. General Foods Corporation, White Plains, N.Y. Filed May 16, 1967.

## POP-UPS

Owner of Reg. No. 724,558.  
For Food Product, Doughlike in Nature, With or Without a Fruit Filling, To Be Prepared in a Toaster (Int. Cl. 30).  
First use Dec. 19, 1966.

SN 271,828. Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. Filed May 18, 1967.

## THE SWINGERS

For Frozen Formed Chicken-Breast Cutlets (Int. Cl. 29).  
First use Feb. 4, 1967.

SN 271,829. Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. Filed May 18, 1967.

## THE WESTERNER

For Frozen Formed Chicken-Breast Cutlets (Int. Cl. 29).  
First use Feb. 4, 1967.

SN 271,831. Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. Filed May 18, 1967.

## THE VIRGINIAN

For Frozen Formed Chicken-Breast Cutlets (Int. Cl. 29).  
First use Feb. 4, 1967.

SN 271,832. Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. Filed May 18, 1967.

## BIKINI STEAK

For Frozen Formed Chicken-Breast Cutlets (Int. Cl. 29).  
First use Feb. 4, 1967.

SN 271,833. Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. Filed May 18, 1967.

## HAWAIIAN EYE

For Frozen Formed Chicken-Breast Cutlets (Int. Cl. 29).  
First use Feb. 4, 1967.

SN 272,565. Beatrice Foods Co., Chicago, Ill. Filed May 29, 1967.



The words "Ruby Bee" are not known to be the name of any particular living individual.  
For Jams, Jellies, Preserves and Fruit Butters (Int. Cl. 29).  
First use Dec. 1, 1935.

SN 273,273. Food Industries Corporation, Dallas, Tex. Filed June 7, 1967.

## SPORBAN

Owner of Reg. No. 530,740.  
For Inhibitors of Mold, Rope and Other Microorganisms for Use in the Making of Bread and Bread Products, Cakes, Pies and Other Pastries, Cheese and Cheese Products, Jams and Jellies (Int. Cl. 1).  
First use on or about Mar. 8, 1948.

SN 275,214. American Corn Millers' Federation, Washington, D.C. Filed July 3, 1967. COLLECTIVE MARK.

## CSM MIX

The word "Mix" is disclaimed apart from the mark as shown.  
For Vitamin-Mineral Enriched, Processed Corn Meal Mix Containing Soy Flour and Milk (Int. Cl. 30).  
First use Apr. 18, 1967.

SN 277,508. Bertine Imports, Inc., San Antonio, Tex. Filed Aug. 4, 1967.

## BERTINE

For Fresh Frozen Strawberries (Int. Cl. 29).  
First use May 6, 1963.

SN 277,640. Duffy-Mott Company, Inc., New York, N.Y. Filed Aug. 7, 1967.

## FIGURE CONTROL

Owner of Reg. Nos. 710,456, 749,879, and others.  
For Canned Prepared Foods—Namely, Spaghetti With Meat Balls, Beef Stew, Macaroni With Beef, Turkey Noodle Casserole, Tuna Salad, Vegetables and Chicken—Chinese Style, Vegetable Stew With Meat Balls, Chicken Consomme With Noodles, Chicken Broth With Rice, Consomme Madrilene, Vegetable Soup and Chinese Noodle Soup (Int. Cl. 29).  
First use January 1963 on spaghetti with meat balls.

SN 277,908. General Foods Corporation, New York, N.Y. Filed Aug. 9, 1967.

## ELECTRA MATIC

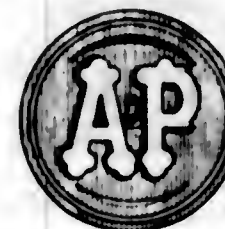
For Coffee (Int. Cl. 30).  
First use Mar. 30, 1967.

SN 278,185. Ballantyne Instruments & Electronics, Inc., Omaha, Nebr. Filed Aug. 14, 1967.

## FLAVOR-CRISP

Owner of Reg. No. 768,427.  
For Marinater—Namely, a Granular, Pulverulent Substance for Mixing With Water To Make a Solution for Marinating Food Products, the Substance Consisting of Salt, Monosodium Glutamate, Soya Flour, Smoke Flavor, Natural Spices and Seasonings (Int. Cl. 30).  
First use June 27, 1966.

SN 279,643. The Great Atlantic & Pacific Tea Company, Inc., New York, N.Y. Filed Sept. 5, 1967.



The drawing is lined for red. Owner of Reg. Nos. 500,974, 799,974, and others.

For Roasted Peanuts in Shell, Shelled Salted Virginia Peanuts, Shelled Salted Cashews, Shelled Pecan Meats, Shelled Walnut Meats, Popping Corn, Frozen Fried Fish Fillets, Frozen Fried Fish Cakes, Frozen Fried Fish Sticks, Frozen Fried Sea Scallops, Frozen Fried Flounder, Frozen Whole Peeled Potatoes, Cheddar Cheese, Sweetened Shredded Coconut, Sauces for Meat and Fish, and Frozen Cooked Macaroni and Cheese (Int. Cls. 29 and 30).  
First use January 1947.

SN 280,855. Continental Baking Company, Rye, N.Y. Filed Sept. 21, 1967.

## DINKY TWINKIES

Owner of Reg. No. 717,273.  
For Cake (Int. Cl. 30).  
First use Sept. 8, 1967.

SN 280,903. Whitfield Pickle Company, Montgomery, Ala. Filed Sept. 21, 1967.

## GREEN BEAUTY

For Cucumber Pickles, Chowchow, and Relish, Composed of Chopped Pickles, Sugar, Spices, and Spice Oils (Int. Cl. 29).  
First use 1926.

SN 281,970. Continental Coffee Company, Chicago, Ill. Filed Oct. 6, 1967.

## MEDITERRANEAN

For Salad Dressing (Int. Cl. 29).  
First use on or about July 5, 1967.

SN 282,271. Costa Ice Cream Company, Woodbridge, N.J. Filed Oct. 11, 1967.

## COSTA

For Ice Cream, Chocolate Covered Ice Cream, Sherbet, Ice Cream Sandwiches, Ice Cream Cup Sundaes, and Waffles and Ice Cream (Int. Cl. 30).  
First use 1905 on ice cream.

SN 282,373. Hygrade Food Products Corporation, Detroit, Mich. Filed Oct. 12, 1967.

## RICHMOND

Owner of Reg. No. 65,700.  
For Bacon, Frankfurters, Bologna, Pork Spareribs and Sausage (Int. Cl. 29).  
First use in or about 1891.

SN 282,456. General Foods Corporation, White Plains, N.Y. Filed Oct. 13, 1967.

## SOUR-MAGIC

For Imitation Sour Cream Mix (Int. Cl. 29).  
First use Sept. 1, 1967.

SN 284,016. Laurence Karlin, d.b.a. Cloverleaf Foods Co., West Hempstead, N.Y. Filed Nov. 2, 1967.



For Coffees and Teas (Int. Cl. 30).  
First use July 1949.

SN 284,062. Tobin Packing Co., Inc., Rochester, N.Y. Filed Nov. 2, 1967.

...from the folks who care!

For Fresh and Frozen Beef, Pork and Lamb; Smoked Pork and Sausage Products (Int. Cl. 29).  
First use Mar. 2, 1965.

SN 285,372. P. Ferrero & C. S.p.A., Alba, Cuneo, Italy, Filed Nov. 22, 1967.

## DOLCEFREDDO

Priority claimed under Sec. 44(d) on Italian application filed July 1, 1967, Reg. No. 218,635, dated Aug. 4, 1967.  
For Candy and Cakes (Int. Cl. 30).

SN 291,681. Philip Morris Incorporated, d.b.a. Flavor Tree Foods Co., New York, N.Y. Filed Feb. 23, 1968.

## REVIVE

For Candy (Int. Cl. 30).  
First use Feb. 14, 1968.

SN 291,682. Philip Morris Incorporated, d.b.a. Flavor Tree Foods Co., New York, N.Y. Filed Feb. 23, 1968.

## SNAP-TU

For Candy (Int. Cl. 30).  
First use Feb. 14, 1968.

## Class 47—Wines

SN 271,932. Gibson Wine Company, Covington, Ky. Filed May 19, 1967.

## DAS GUTTEN

The mark "Das Gutten" is colloquial German and may be translated as "that's good."  
For Wine (Int. Cl. 33).  
First use Mar. 10, 1967.

SN 277,948. Western Grape Products, Kingsburg, Calif. Filed Aug. 9, 1967.

## SEÑOR

For Grape Wine Having Additional Natural Flavors (Int. Cl. 33).  
First use July 17, 1967.



SN 288,739. The Barry Wine Company, Inc., New York, N.Y. Filed Jan. 15, 1968.

# Barry

For Wines and Champagne (Int. Cl. 33).  
First use 1937.

## Class 48—Malt Beverages and Liquors

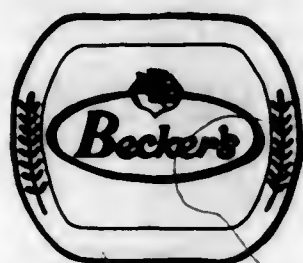
SN 278,076. Prinz Bräu Carlisle S.p.A., Carlisle, Vercelli, Italy. Filed Aug. 11, 1967.

# Prinz Bräu

The words "Prinz Bräu" may be translated from German into English as "prince brew." The word "Bräu" is disclaimed apart from the mark as shown.

For Beer (Int. Cl. 32).  
First use May 9, 1962; in commerce Feb. 21, 1966.

SN 279,176. Duke Molner Wholesale Liquor Co., Inc., Los Angeles, Calif. Filed Aug. 28, 1967.



For Beer (Int. Cl. 32).  
First use in or about 1890.

## Class 49—Distilled Alcoholic Liquors

SN 279,961. Sazerac Company, Inc., d.b.a. Legendre Co., New Orleans, La. Filed Sept. 8, 1967.

# HERBSAINT

Owner of Reg. No. 320,154.  
For Liquor Prepared From Herbs and Distilled Spirits (Int. Cl. 33).  
First use Oct. 1, 1958.

SN 281,804. E. Martinoni Company, San Francisco, Calif. Filed Oct. 4, 1967.

# ROYAL GUEST

For Vodka (Int. Cl. 33).  
First use June 8, 1967.

SN 282,174. Canadian Schenley Distilleries, Ltd., Montreal, Quebec, Canada. Filed Oct. 10, 1967.

# ENSIGN

Owner of Canadian Reg. No. 152,411, dated Aug. 4, 1967.  
For Canadian Whisky (Int. Cl. 33).

SN 285,486. Charles Jacquin et Cie., Inc., Philadelphia, Pa. Filed Nov. 24, 1967.



The word "Bourbon" is disclaimed apart from the mark as shown.

For Bourbon Whisky (Int. Cl. 33).  
First use Oct. 25, 1966.

## Class 50—Merchandise Not Otherwise Classified

SN 245,816. Ebnersons Associates, Chelmsford, Mass. Filed May 17, 1966.



Applicant disclaims the word "Art" apart from the mark as shown.

For Plaques Adapted To Be Mounted on the Wall or To Stand Free (Int. Cl. 20).  
First use Sept. 17, 1965.

SN 246,222. Magnetics, Inc., East Butler, Pa. Filed May 9, 1966.



Owner of Reg. No. 710,186.  
For Products Patterned by Photographic and Chemical Etching Techniques—Namely, Magnetic Laminations, Electronic Circuit Boards, Flat Packs for Integrated Circuits, Rotors, Stators, One-Piece Multipath Magnetic Computer Circuitry, Semiconductor Heat Sinks, Vacuum Tube Parts, and Electrostatic Shields (Int. Cl. 9).  
First use about December 1964.

SN 251,175. American Jet Spray Industries, Inc., Lakewood, Colo. Filed July 28, 1966.



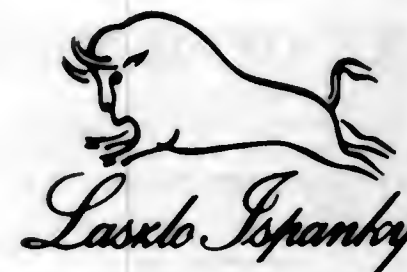
Owner of Reg. No. 741,706.  
For Sign Making Kit Consisting of Aerosol Spray Paint, Ink, Marking Pens and Other Merchandising Aids (Int. Cl. 16).  
First use May 2, 1966.

SN 251,176. American Jet Spray Industries, Inc., Lakewood, Colo. Filed July 28, 1966.

# JETSYSTEM

Owner of Reg. No. 741,706.  
For Sign Making Kit Consisting of Aerosol Spray Paint, Ink, Marking Pens, and Other Merchandising Aids (Int. Cl. 16).  
First use Sept. 29, 1965.

SN 276,774. Utley Porcelains, Ltd., Trenton, N.J. Filed July 25, 1967.



"Lasslo Ispanky" is the name of a living individual whose consent is of record.

For Ceramic Figurines (Int. Cl. 21).  
First use Feb. 17, 1967.

SN 276,775. Utley Porcelains, Ltd., Trenton, N.J. Filed July 25, 1967.

# LASZLO ISPANKY

"Lasslo Ispanky" is the name of a living individual whose consent is of record.

For Ceramic Figurines (Int. Cl. 21).  
First use Feb. 17, 1967.

SN 276,881. Guido J. Tansini, d.b.a. G-J Custom, Whittier, Calif. Filed July 26, 1967.

# NUMB JOHN

For Training Dummy (Int. Cl. 20).  
First use March 1965.

SN 278,962. General Crafts Corporation, Baltimore, Md. Filed Aug. 24, 1967.



For Kits for Making Wall Plaques and Including a Backing Board, Braid, Simulated Jewels, Glue, and Other Decorations (Int. Cl. 20).  
First use Aug. 1, 1967.

SN 286,477. Mattel, Inc., Hawthorne, Calif. Filed Dec. 8, 1967.

# GOOFLES

For Edible Toy Figures and Replicas, and Toy Materials for Making the Same in an Accessory Pack Including Candy Mixes and Figure Molds for Making Candy Toy Figures (Int. Cl. 28).  
First use Feb. 15, 1967.

## Class 51—Cosmetics and Toilet Preparations

SN 244,165. Yardley of London, Inc., d.b.a. Yardley, Totowa, N.J. Filed Apr. 22, 1966.

# INSTANT FACE

The word "Face" is disclaimed apart from the mark as shown.

For Foundation Cream, Pressed Powder, Eye Shadow, and Lipstick (Int. Cl. 3).  
First use Apr. 7, 1966.

SN 254,469. Charles Revson, Inc., New York, N.Y. Filed Sept. 14, 1966.

# BRAGGI

The word "Braggi" is fictitious.  
For Men's Toiletries—Namely, Facial Cleansing Preparation (Nonsoap); Facial Makeup; Facial Massaging Preparation; Aerosol Hair Spray; Cologne Deodorant Spray; Pre-Blade Beard Softener; Sun and Sports Cream; Conditioning Hair Tonic; Cologne Deodorant Stick; Skin Moisturizing Cream; Facial Mask; Cologne; Sun Tan Gel; Face Bronzer; Skin Conditioning Cream; After Shave Lotion; and After Shave Balm (Int. Cls. 3 and 5).  
First use July 11, 1966.

SN 260,543. Farini Cosmetics, Inc., San Francisco, Calif. Filed Dec. 12, 1966.



Owner of Reg. No. 803,551.  
For Cologne and After Shave Lotion (Int. Cl. 3).  
First use May 16, 1966; June 14, 1964, as to "Farini."

SN 262,043. Louis Lambert Laboratories, El Paso, Tex. Filed Jan. 6, 1967.



For Cosmetics—Namely, Skin Moisturizing, Cleansing, Conditioning, Softening, and Toning Lotions and Creams, and Astringent Lotions (Int. Cl. 3).  
First use June 30, 1966.

SN 264,555. Lorenzo Lechner, d.b.a. L. C. Lechner-Cosmetica Senese di Lorenzo Lechner, Sovicille (Siena), Italy. Filed Feb. 13, 1967.

# LORILU

Owner of Italian Reg. No. 176,965, dated July 28, 1965.  
For Cosmetics and Perfumery Articles—Namely, Perfume, Hand Cream, Face Cream, Nail Varnish and Lacquer, Face Foundation, Face Powder, Lipstick, Rouge, Eye Shadow, and Hair-Color Preparations (Int. Cl. 3).



SN 265,168. Candygram, Inc., Beverly Hills, Calif. Filed Feb. 21, 1967.

## THE HOUSE OF JOURDAN

For Perfumes (Int. Cl. 3).  
First use Sept. 26, 1966.

SN 265,698. Clairol Incorporated, New York, N.Y. Filed Mar. 1, 1967.

## GOLDEN ESSENCE

For Developing Lotion (Int. Cl. 3).  
First use Oct. 24, 1966.

SN 265,699. Clairol Incorporated, New York, N.Y. Filed Mar. 1, 1967.

## BIG SUR

For Cologne (Int. Cl. 3).  
First use Oct. 24, 1966.

SN 267,252. Helene Curtis Industries, Inc., d.b.a. Kings Men, Chicago, Ill. Filed Mar. 21, 1967.



For Cologne and After Shave Lotion (Int. Cl. 3).  
First use in or about July 1964; in or about January 1956 as to "Imperial Gold."

SN 269,369. Yardley of London, Inc., Totowa, N.J. Filed Apr. 17, 1967.

## MISTY SPRAY

Applicant disclaims any exclusive right to the word "Spray" apart from the mark as shown.  
For Cologne (Int. Cl. 3).  
First use Mar. 8, 1967.

SN 271,347. Clairol Incorporated, New York, N.Y. Filed May 12, 1967.

## SOOPA STRAIGHT

Applicant disclaims the word "Straight" apart from the mark as shown.  
For Hair Straightener (Int. Cl. 3).  
First use Feb. 8, 1967.

SN 271,350. Clairol Incorporated, New York, N.Y. Filed May 12, 1967.

## MAKE OVER

For Lipstick, Nail Polish, Compact Make-Up, Face Powder, Rouge, Mascara, Eye Shadow, Eye Liner Pencil, Skin Moisturizing Cream, and Moisture Make-Up (Int. Cl. 3).  
First use Feb. 8, 1967.

SN 271,352. Clairol Incorporated, New York, N.Y. Filed May 12, 1967.

## NUMERO UNO

The English translation of the mark "Numero Uno" is "number one."

For Pre-Shave Lotion, After-Shave Lotion, Personal Deodorant, Anti-Perspirant, Cologne, Moisturizing Lotion, Hair Spray, Talcum Powder, Shaving Cream, and Hairdressing (Int. Cls. 3 and 5).  
First use Feb. 8, 1967.

SN 271,353. Clairol Incorporated, New York, N.Y. Filed May 12, 1967.

## MAKE OVER MAGIC

For Lipstick, Nail Polish, Compact Make-Up, Face Powder, Rouge, Mascara, Eye Shadow, Eye Liner Pencil, Skin Moisturizing Cream, and Moisture Make-Up (Int. Cl. 3).  
First use Feb. 8, 1967.

SN 271,639. I. Posner, Inc., Corona, N.Y. Filed May 16, 1967.

## LIP TEASER

Applicant disclaims the word "Lip" apart from the mark as shown.  
For Lipstick (Int. Cl. 3).  
First use Mar. 1, 1967.

SN 274,947. John H. Breck, Inc., Wayne, N.J. Filed June 28, 1967.

## SNOW CAP

For Hair Coloring Preparation (Int. Cl. 3).  
First use June 9, 1967.

SN 274,949. John H. Breck, Inc., Wayne, N.J. Filed June 28, 1967.

## SECOND SPRING

For Hair Coloring Preparation (Int. Cl. 3).  
First use June 9, 1967.

SN 275,029. Bonne Bell, Inc., Lakewood, Ohio. Filed June 29, 1967.



The English translation of the French word "Après" may be "in pursuit of" or "after."  
For Moisture Lotion (Int. Cl. 3).  
First use May 22, 1967.

SN 276,504. Leon Products, Inc., Jacksonville, Fla. Filed July 21, 1967.

## DISPOS:A·PAD

For Disposable Anti-Perspirant Pads (Int. Cl. 5).  
First use Apr. 10, 1967.

SN 276,674. Arthur Matney, d.b.a. Aristocrat Cosmetic Co., Brooklyn, N.Y. Filed July 24, 1967.

## APRES VOUS

The term "Après Vous" translated in English is "after you."  
For Perfumes (Int. Cl. 3).  
First use Jan. 10, 1967.  
Subj. to Intf. with SN 266,408.

SN 282,741. Curley Company, Incorporated, Camden, N.J. Filed Oct. 17, 1967.

## SOFT 'N LOVELY

Applicant disclaims the word "Soft" apart from the mark as shown. Owner of Reg. Nos. 767,766 and 842,226.  
For Sachet for Bath and Bath Oil Composition (Int. Cl. 3).  
First use Oct. 6, 1967.

SN 287,209. Alberto-Culver Company, Melrose Park, Ill. Filed Dec. 19, 1967.

## STING

For Toothpaste (Int. Cl. 3).  
First use Oct. 10, 1967.

SN 288,036. E. R. Squibb & Sons, Inc., New York, N.Y. Filed Jan. 3, 1968.

## THUMBS UP

For Medicated Complexion Pads (Int. Cl. 5).  
First use Dec. 13, 1967.

SN 288,472. Perma Brow, Inc., Los Angeles, Calif. Filed Jan. 10, 1968.



The word "Brow" is disclaimed apart from the mark as shown.  
For Transparent Liquid for Application to Eyebrows as a Fixative for Eyebrow Cosmetics, and Liquid Remover Therefor, in Combination Sets and Individually (Int. Cl. 3).  
First use Oct. 7, 1962.

SN 289,284. Glenn A. Eaton, d.b.a. Parfums Duvalle, Portland, Ore. Filed Jan. 22, 1968.

## BABYLON

Owner of Reg. No. 238,396.  
For Perfume, Cologne, Toilet Water, Sachet, and Bath Powder; and Toiletary Sets Consisting of Combinations of Two or More of the Goods as Listed (Int. Cl. 3).  
First use in or about January 1946.

SN 292,051. The Gillette Company, Boston, Mass. Filed Feb. 28, 1968.

## KEEN

Owner of Reg. No. 777,969.  
For Breath Freshener (Int. Cl. 3).  
First use July 19, 1966.

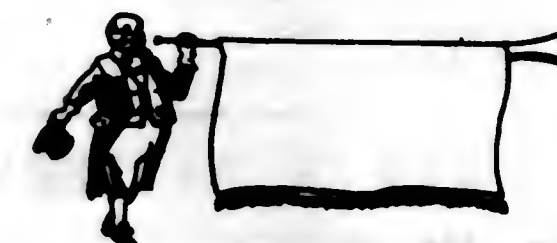
## Class 52 — Detergents and Soaps

SN 258,148. Ramada Inns, Inc., Phoenix, Ariz. Filed Nov. 7, 1966.

## RAMADA INN

Owner of Reg. Nos. 686,471, 718,705, and 741,047.  
For Toilet Soap and All Purpose Cleaner (Int. Cl. 3).  
First use Feb. 3, 1958.

SN 258,150. Ramada Inns, Inc., Phoenix, Ariz. Filed Nov. 7, 1966.



Owner of Reg. Nos. 686,471 and 741,047.  
For Toilet Soap and All Purpose Cleaner (Int. Cl. 3).  
First use Feb. 10, 1961.

SN 265,333. Process Solvent Company, Inc., d.b.a. The Process Solvent Co., Inc., Kansas City, Kans. Filed Feb. 23, 1967.

## VANA-TROL

For Masonry Cleaner (Int. Cl. 1).  
First use July 8, 1966.

SN 266,807. Texise Chemicals, Inc., Greenville, S.C. Filed Mar. 15, 1967.

## QUATEX

For Germicidal Cleaner (Int. Cl. 3).  
First use Feb. 20, 1967.

SN 273,195. Douglas Hogarth Limited, Brantford, Ontario, Canada. Filed June 6, 1967.

## SKON

Priority claimed under Sec. 44(d) on Canadian application filed Jan. 30, 1967; Reg. No. 153,010, dated Sept. 8, 1967.  
For Spot Remover (Int. Cl. 3).

SN 275,670. International Medical Supply, Inc., Waltham, Mass. Filed July 10, 1967.



For Absorbent Granules, Together With Suitable Deodorants, and Coloring Dyes for Absorbing and Removing Urine, Vomitus, Feces, and Disagreeable Spillage From Floors or Other Surfaces (Int. Cl. 4).  
First use Oct. 22, 1966.

SN 278,401. National Service Industries, Inc., Atlanta, Ga. Filed Aug. 16, 1967.

## ZEP CARPET-GLO

Owner of Reg. Nos. 686,052, 696,197, and others.  
For Rug Shampoo (Int. Cl. 3).  
First use June 12, 1967.

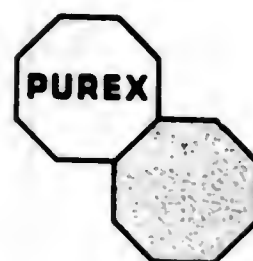


SN 281,355. John H. Breck, Inc., Wayne, N.J. Filed Sept. 28, 1967.

## LEMON TOUCH

No claim is made to the word "Lemon" apart from the mark as shown.

For Hair Shampoo (Int. Cl. 3).  
First use Sept. 15, 1967.



SN 281,356. John H. Breck, Inc., Wayne, N.J. Filed Sept. 28, 1967.

## SUNSHOWER

Owner of Reg. Nos. 719,053 and 837,279.  
For Hair Shampoo (Int. Cl. 3).  
First use Sept. 15, 1967.

The stippling shown in the drawing is for shading purposes.  
Owner of Reg. Nos. 155,690, 798,694, and others.  
For Wax Remover and Heavy Duty Cleanser for Industrial Purposes (Int. Cl. 1).  
First use Nov. 28, 1966.

## SERVICE MARKS

### Class 100 — Miscellaneous

SN 238,563. Rice Council for Market Development, Houston, Tex. Filed Feb. 10, 1966.



For Association Services—Namely, Promoting the Sale of Rice and Rice Products (Int. Cl. 42).  
First use July 12, 1960.

SN 247,144. National Flaxseed Processors Association, Washington, D.C. Filed June 2, 1966.



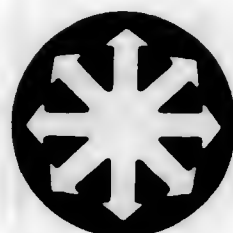
The drawing is lined for the color gold.  
For Performing the Service of Promoting the Purchase and Consumption of the Products of the Association's Members (Int. Cl. 42).  
First use Apr. 1, 1966.

SN 249,389. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed July 1, 1966.

## COLORTHEK

For Technical Services in Providing Clients From Time to Time With the Latest Information Regarding Advances in the Field of Textile Dyeing (Int. Cl. 42).  
First use Nov. 26, 1964; in commerce October 1965.

SN 251,047. Brown Engineering Company, Inc. (California corporation), Huntsville, Ala., assignee of Brown Engineering Company, Inc. (Alabama corporation), Huntsville, Ala. Filed July 26, 1966.



For Research and Development Services in Aerospace Work and Electronics (Int. Cl. 42).  
First use at least as early as May 23, 1966.

SN 256,857. Person-To-Person, Inc., New York, N.Y. Filed Oct. 20, 1966.

PERSON-TO-PERSON

For Computerized Matching Service for Adults, Both Single and Married (Int. Cl. 42).  
First use July 5, 1966.

SN 263,523. The Beef Ranch, Inc., Chicago, Ill. Filed Jan. 30, 1967.

## BEEF RANCH

Applicant disclaims the term "Beef" apart from the mark as shown.  
For Drive-In Restaurant Services (Int. Cl. 42).  
First use at least as early as December 1966.

SN 264,183. Aspen Corporation, Pittsburgh, Pa. Filed Feb. 8, 1967.



For Computerized Legal Research for Others (Int. Cl. 42).  
First use Oct. 31, 1966.

SN 273,351. El Burrito, Inc., Birmingham, Ala. Filed June 8, 1967.



The wording "El Burrito" is translated in English as "the little donkey."

For Restaurant Services (Int. Cl. 42).  
First use Apr. 1, 1967.

SN 283,622. Christian Service Brigade, Wheaton, Ill. Filed Oct. 30, 1967.

## CHRISTIAN SERVICE BRIGADE

The words "Christian Service" are disclaimed apart from the mark as shown.

For Organizing Christian Boys Clubs, Maintaining Membership Therein and Providing Personal Assistance, Literature and Materials Required To Carry on the Program Thereof (Int. Cl. 42).  
First use 1937.

SN 291,559. Mercantile Stores Company, Inc., Wilmington, Del. Filed Feb. 21, 1968.

THE TURFLAND BOOM

The drawing is lined for red, but no claim is made to color.  
For Restaurant Services (Int. Cl. 42).  
First use Aug. 9, 1967.

SN 291,677. Mercantile Stores Company, Inc., Wilmington, Del. Filed Feb. 23, 1968.



For Restaurant Services (Int. Cl. 42).  
First use Aug. 9, 1967.

SN 291,685. Plastic Tooling Aids Laboratory, Inc., Bridgeport, Conn. Filed Feb. 23, 1968.

PTA

Owner of Reg. No. 838,544:  
For Engineering, Research and Development, Consultation, and Design Services in the Plastics Field (Int. Cl. 42).  
First use 1954.

### Class 101 — Advertising and Business

SN 243,836. Capitol Title & Escrow Corporation, Washington, D.C. Filed Apr. 20, 1966.



CAPITOL TITLE & ESCROW

Applicant disclaims the words "Title & Escrow," the map of the United States, and the configuration of the compass, apart from the mark as shown.

For Real Estate Brokerage Services (Int. Cl. 35).  
First use Sept. 15, 1965.

SN 246,723. Sing Oil Company, Inc., Thomasville, Ga. Filed May 26, 1966.



STOP N' SHOP

For Retail Grocery Store Services (Int. Cl. 35).  
First use Aug. 31, 1965.

SN 257,522. Southwest Grease & Oil Co., Inc., Wichita, Kans. Filed Oct. 28, 1966.

## SOWESCO

For Custom Manufacture of Lubricating Greases and Oils (Int. Cl. 35).  
First use in or before 1955.

SN 259,946. Manette, Inc., Minneapolis, Minn. Filed Dec. 2, 1966.

## INSTY PRINTS

For Printing Services (Int. Cl. 35).  
First use Dec. 13, 1965.

SN 261,703. The Army and Air Force Exchange Service, New York, N.Y. Filed Dec. 30, 1966.

PX

For General Merchandise Store Services (Int. Cl. 35).  
First use Feb. 8, 1962.

SN 261,704. The Army and Air Force Exchange Service, New York, N.Y. Filed Dec. 30, 1966.

## POST EXCHANGE

For General Merchandise Store Services (Int. Cl. 35).  
First use Feb. 8, 1962.

SN 261,976. Dial-A-Gift Inc., Newport Beach, Calif. Filed Jan. 5, 1967.

dial-a-gift

For Furnishing Technical Advice and Assistance to Owners and Operators of Retail Stores in the Merchandising and Handling of Gift Items, Including Fresh Flowers, Fresh Fruits, and Other Food Items (Int. Cl. 35).  
First use at least as early as Nov. 11, 1966.



SN 266,500. D. Berman & Son Sales Co., Inc., Brooklyn, N.Y. Filed Mar. 13, 1967.

SN 273,289. International Automotive Service Industries Show (joint venture), Chicago, Ill. Filed June 7, 1967.



For Manufacturers' Representative Services in the Field of Electrical, Electronics, and Utility Equipment (Int. Cl. 35).  
First use in or about May 1966.

SN 267,611. Char's, Inc., Winston-Salem, N.C., assignee of Cepco Development Corporation, Winston-Salem, N.C. Filed Mar. 27, 1967.

### CHAR'S

For Furnishing Advice and Consultation Services in the Establishment and Operation of Dairy Bars and Drive-In Eating Establishments (Int. Cl. 35).  
First use May 1966.

SN 271,644. Sav-A-Fund Corporation, Oak Park, Mich. Filed May 16, 1967.

### SAV-A-FUND

For Advertising, Promoting and Managing Retail Store Customer Premium Programs (Int. Cl. 35).  
First use on or about Jan. 10, 1967.

SN 272,452. Max the Printer, Inc., Indianapolis, Ind. Filed May 26, 1967.



For Printing and Creative Art Work Services for Others (Int. Cl. 35).  
First use Apr. 15, 1967.

SN 272,915. Burd & Fletcher Company, Kansas City, Mo. Filed June 2, 1967.

**BURD**  
**FLETCHER**

Owner of Reg. Nos. 650,721 and 651,301.  
For Printing and Publishing, Including Job Printing of All Sorts Such as Text, Pamphlet, Leaflet, Container, etc. Printing (Int. Cl. 35).  
First use May 16, 1967.

Owner of Reg. Nos. 789,494, 825,100, and 825,466.  
For Conducting a Trade Show for Automotive Equipment Manufacturers and Automotive Servicemen, and Disseminating Information to Them on Methods of Purchasing, Inventory Control, Automation, Credits and Collections, Accounting, Sales Training, Warehousing, Merchandising, Dealer Meetings, Store Layouts, and Demonstrating Modern Methods of Displaying, Handling and Selling Automotive Products (Int. Cl. 35).  
First use June 28, 1966.

SN 283,601. Federal Intermediate Credit Bank of St. Paul, St. Paul, Minn. Filed Oct. 30, 1967.

### AGRIFAX

For Accounting Services Rendered to Farmers (Int. Cl. 35).  
First use Aug. 14, 1967.

SN 285,701. Louket Markets Inc., Jersey City, N.J. Filed Nov. 28, 1967.

### PATHMARK

For Retail Food Supermarket Services (Int. Cl. 35).  
First use Nov. 21, 1967.

SN 290,454. The Society of the Plastics Industry, Inc., New York, N.Y. Filed Feb. 7, 1968.

### PLASTICS 100

For Promotion of Trade Shows and Dissemination of Technical and Other Information in Connection With the Plastics Industry (Int. Cl. 35).  
First use Dec. 21, 1967.

### Class 102 — Insurance and Financial

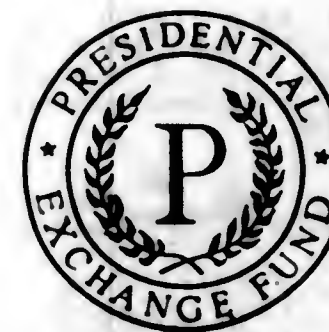
SN 244,727. Fund American Investment Management Company, San Francisco, Calif., by change of name from North American Securities Company, San Francisco, Calif. Filed May 2, 1966.



For Mutual Fund Investment Management Services (Int. Cl. 36).  
First use about Nov. 1, 1965; about September 1932 as to the word "Commonwealth."

SN 247,591. Federated Research Corp., Pittsburgh, Pa. Filed June 8, 1966.

SN 261,522. Sandberg Travel Bureau, Inc., d.b.a. Sandberg Travel Tours, Los Angeles, Calif. Filed Dec. 27, 1966.



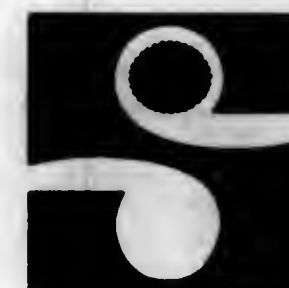
For Operating an Investment Fund Service For Others (Int. Cl. 36).  
First use Mar. 3, 1965.

SN 272,358. The Colorado Springs National Bank, Colorado Springs, Colo. Filed May 25, 1967.

### V.I.P.

For Service of Guaranteed Payment of Checks and Bank Credit (Int. Cl. 36).  
First use May 22, 1967.

SN 275,396. The Sun Finance & Loan Company, Cleveland, Ohio. Filed July 5, 1967.



The mark consists of a block letter "S" and design.  
For Financial Services—Namely, Personal Loans, and Consumer Financing (Int. Cl. 36).  
First use May 10, 1962.

### Class 103 — Construction and Repair

SN 245,664. American Queens-Way, Inc., Portage, Wis. Filed May 16, 1966.



For Coin-Operated Laundry Service (Int. Cl. 37).  
First use Mar. 7, 1961.

### Class 105 — Transportation and Storage

SN 261,521. Sandberg Travel Bureau, Inc., d.b.a. Sandberg Travel Tours, Los Angeles, Calif. Filed Dec. 27, 1966.

### THE NORTHERN LIGHTS TOUR

The word "Tour" is disclaimed apart from the mark as shown.  
For Travel Tour Planning and Hotel Reservation Services (Int. Cl. 39).  
First use Aug. 1, 1964.

### THE SAGA TOURS

The word "Tours" is disclaimed apart from the mark as shown.  
For Travel Tour Planning and Hotel Reservation Services (Int. Cl. 39).  
First use Aug. 1, 1965.

### Class 106 — Material Treatment

SN 248,791. Duffens Optical Company, d.b.a. Precision Coating Service, Topeka, Kans. Filed June 23, 1966.

### KOSMO KOTE

The word "Kote" is disclaimed apart from the mark as shown.  
For Coating of Optical Lenses for Others (Int. Cl. 40).  
First use during November 1965.

SN 270,021. Ziebart Process Corp., Detroit, Mich. Filed Apr. 25, 1967.



The drawing is lined for yellow.  
For Rustproofing of Automotive Vehicles (Int. Cl. 40).  
First use on or about Aug. 1, 1964.

### Class 107 — Education and Entertainment

SN 271,648. Sex Information and Education Council of the United States, Inc., New York, N.Y. Filed May 16, 1967.



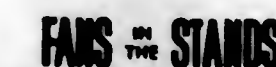
For Compiling and Disseminating Sex Information Through Various Media (Int. Cl. 41).  
First use Feb. 28, 1965.

SN 272,283. Marybeth Hansen, Westboro, Mass. Filed May 22, 1967.

### THE BOS-TONES

For Vocal Musical Entertainment Services (Int. Cl. 41).  
First use Apr. 1, 1967.

SN 277,144. Cassano Enterprises, Inc., Dayton, Ohio. Filed July 31, 1967.



For Title of a Television and Radio Program Featuring Interviews With Spectators at Athletic Events (Int. Cl. 41).  
First use December 1955.

SN 278,574. Charles W. Balthrope, San Antonio, Tex. Filed Aug. 18, 1967.

### THE SECRET SOUND

For Radio Entertainment Services in the Form of Public Participation Contests (Int. Cl. 41).  
First use January 1955.



## COLLECTIVE MEMBERSHIP MARKS

### Class 200

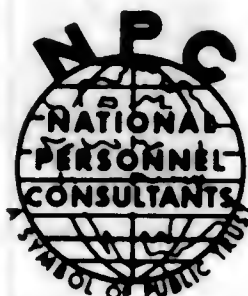
SN 271,952. National Personnel Consultants, Detroit, Mich.  
Filed May 19, 1967.

**NATIONAL PERSONNEL  
CONSULTANTS**

For Indicating Membership in Applicant Association.  
First use January 1953.

TM 154

SN 271,954. National Personnel Consultants, Detroit, Mich.  
Filed May 19, 1967.



For Indicating Membership in Applicant Association.  
First use January 1953.

## TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

### Class 1 — Raw or Partly Prepared Materials Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 849,199. MISCELLANEOUS DESIGN. Kingsford Company. SN 243,676. Pub. 12-5-67. Filed 4-18-66.
- 849,200. FORMULIZED. Carworth, Inc. SN 256,719. Pub. 3-5-68. Filed 10-19-66.
- 849,201. GORDON SUPERFLEX. Hammond Plastics, Inc. SN 257,484. Pub. 3-5-68. Filed 10-28-66.
- 849,202. GORDON SUPERFLOW. Hammond Plastics, Inc. SN 257,485. Pub. 3-5-68. Filed 10-28-66.
- 849,203. WIND MILL BRAND. Pan-American Bulb Co. Ltd. SN 261,320. Pub. 3-5-68. Filed 12-22-66.
- 849,204. EXOTHERM. Cerac, Incorporated. SN 261,570. Pub. 12-12-67. Filed 12-28-66.
- 849,205. ASTRA-WHITE. Georgia Kaolin Company. SN 263,798. Pub. 5-16-67. Filed 2-2-67.
- 849,206. SULTRALAMB. Golden State Sheep Tanning Co. SN 269,071. Pub. 3-5-68. Filed 4-13-67.
- 849,207. RO COP. Charles A. Roberts, d.b.a. Foot Balance Posture Clinic, and Foot Pasture Controls. SN 269,108. Pub. 3-5-68. Filed 4-13-67.
- 849,208. ANYWEAR. Monsanto Company. SN 269,332. Pub. 3-5-68. Filed 4-17-67.
- 849,209. TYBRENE. The Dow Chemical Company. SN 269,406. Pub. 3-5-68. Filed 4-18-67.
- 849,210. VINYBAN. Kanematsu-Gosho (U.S.A.) Inc. SN 269,427. Pub. 3-5-68. Filed 4-18-67.
- 849,211. PIONEER. Pioneer Hi-Bred Corn Company. SN 269,559. Pub. 3-5-68. Filed 4-19-67.
- 849,212. MISCELLANEOUS DESIGN. Pioneer Hi-Bred Corn Company. SN 269,560. Pub. 3-5-68. Filed 4-19-67.
- 849,213. SILVERSHEEN. Diamond Mica Company. SN 269,749. Pub. 3-5-68. Filed 4-21-67.
- 849,214. DIAMOND SHEEN. Diamond Mica Company. SN 269,750. Pub. 3-5-68. Filed 4-21-67.
- 849,215. SILVERSHEEN SPECIAL. Diamond Mica Company. SN 269,751. Pub. 3-5-68. Filed 4-21-67.
- 849,216. MIRRAKAF. Middletown Industries Corporation. SN 284,928. Pub. 3-5-68. Filed 11-15-67.
- 849,217. Q90. Domtar Limited. SN 286,063. Pub. 3-5-68. Filed 12-4-67.
- 849,218. Q70. Domtar Limited. SN 286,064. Pub. 3-5-68. Filed 12-4-67.
- 849,219. Q60. Domtar Limited. SN 286,065. Pub. 3-5-68. Filed 12-4-67.
- 849,220. BR-HD. Badger Research Corp. SN 286,744. Pub. 3-5-68. Filed 12-12-67.
- 849,228. "SWINGER." United States Trunk Company, Inc. SN 264,620. Pub. 10-10-67. Filed 2-13-67.
- 849,229. SATURN. Samsonite Corporation. SN 272,216. Pub. 3-5-68. Filed 5-23-67.
- 849,230. MINK WHITE SHOE POLISH AND DESIGN. Mink Oil Waterproofing Co. SN 256,114. Pub. 3-5-68. Filed 10-10-66.
- 849,231. VIBRACUT ETC. AND DESIGN. Vibraslide, Inc. SN 269,373. Pub. 3-5-68. Filed 12-8-66.
- 849,232. LIQUIFLOR. American Cyanamid Company. SN 271,019. Pub. 3-5-68. Filed 5-9-67.
- 849,233. APPEAL. American Cyanamid Company. SN 271,023. Pub. 3-5-68. Filed 5-9-67.
- 849,234. S'COR. Economics Laboratory, Inc. SN 271,238. Pub. 3-5-68. Filed 5-11-67.
- 849,235. PELLMEITS. Doric Corporation. SN 265,410. Pub. 3-5-68. Filed 2-24-67.
- 849,236. HOTPELTS. Doric Corporation. SN 265,411. Pub. 3-5-68. Filed 2-24-67.
- 849,237. CHIPMELTS. Doric Corporation. SN 265,412. Pub. 3-5-68. Filed 2-24-67.
- 849,238. IAPCO AND DESIGN. Doric Corporation. SN 265,413. Pub. 3-5-68. Filed 2-24-67.
- 849,239. ISOCURE. Ashland Oil & Refining Company. SN 267,208. Pub. 3-5-68. Filed 12-19-67.

### Class 4 — Abrasives and Polishing Materials

### Class 5 — Adhesives

### Class 6 — Chemicals and Chemical Compositions

- 849,240. PENETRATION AND DESIGN. Lee Hammer-smith, d.b.a. Cincinnati Soap Center. SN 259,918. Pub. 8-1-67. Filed 12-2-66.
- 849,241. ION-707 AND DESIGN. Edward W. Blissette, d.b.a. Blissette Company. SN 260,010. Pub. 3-5-68. Filed 12-5-66.
- 849,242. OCTRIC. Kay-Fries Chemicals, Inc. SN 261,587. Pub. 3-5-68. Filed 12-28-66.
- 849,243. STAT-LES. Walter G. Legge Company, Inc. SN 261,853. Pub. 3-5-68. Filed 1-3-67.

### Class 9 — Explosives, Firearms, Equipments, and Projectiles

- 849,244. POWERMIX. Kaiser Aluminum & Chemical Corporation, assignee of Southern Nitrogen Company, Inc. SN 252,136. Pub. 1-9-68. Filed 8-10-66.

### Class 2 — Receptacles

- 849,221. L IN CIRCLE (DESIGN). Owens-Illinois, Inc. SN 245,609. Pub. 3-5-68. Filed 5-13-66.
- 849,222. PRESCO-PAK. Presque Isle Paper Products, Inc. SN 247,406. Pub. 3-5-68. Filed 6-6-66.
- 849,223. RE-CLOS-IT. Bemis Company, Inc. SN 248,292. Pub. 3-5-68. Filed 6-17-66.
- 849,224. ORRVILLE. Orrville Products, Inc. MULTIPLE CLASS (Classes 2, 19, and 23). SN 253,252. Pub. 3-5-68. Filed 8-29-66.
- 849,225. BS AND DESIGN. Burdick & Son, Inc. SN 270,222. Pub. 3-5-68. Filed 4-28-67.
- 849,226. PANTRY WALL. Copco, Inc. SN 271,600. Pub. 3-5-68. Filed 5-16-67.
- 849,227. LEAF PAC. Alton Box Board Company. SN 276,520. Pub. 3-5-68. Filed 7-21-67.

TM 155



849,245. TWISTITE. Atlas Chemical Industries, Inc. SN 262,389. Pub. 3-5-68. Filed 1-12-67.

### Class 11—Inks and Inking Materials

849,246. CRYSTAL-GLOW. Bowers Printing Ink Company. SN 272,015. Pub. 3-5-68. Filed 5-22-67.

### Class 12—Construction Materials

849,247. CUSTOMWOOD. Customwood Manufacturing Company, assignee of Robert T. Bogan, Jr. SN 232,277. Pub. 3-5-68. Filed 11-8-65.

849,248. PANELUCENT. Pennsylvania Pacific Corporation. SN 257,886. Pub. 3-5-68. Filed 11-3-66.

849,249. SOUNDIVIDER. Pennsylvania Pacific Corporation, d.b.a. Penn Pac. SN 257,887. Pub. 3-5-68. Filed 11-3-66.

849,250. DIMENSIONAIRE. Owens-Corning Fiberglass Corporation. SN 259,339. Pub. 3-5-68. Filed 11-23-66.

849,251. ECONAFIBRE. National Gypsum Company. SN 268,609. Pub. 3-5-68. Filed 4-7-67.

849,252. TONICO. National Gypsum Company. SN 268,611. Pub. 3-5-68. Filed 4-7-67.

849,253. FILLCON. Ranco Industrial Products Corporation. SN 269,453. Pub. 3-5-68. Filed 4-18-67.

849,254. HOMES DESIGNED WITH YOUTH IN MIND. National Homes Corporation. SN 270,100. Pub. 3-5-68. Filed 4-27-67.

849,255. HEMERA. Vetreria di Vernante S.p.A. SN 271,297. Pub. 3-5-68. Filed 5-11-67.

849,256. MISCELLANEOUS DESIGN. Chester B. Stem, Incorporated. SN 280,918. Pub. 3-5-68. Filed 9-22-67.

### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

849,257. BECKBOLT. National Lock Co. SN 252,407. Pub. 3-5-68. Filed 8-15-66.

849,258. HELLENIC. National Lock Co. SN 254,616. Pub. 3-5-68. Filed 9-16-66.

849,259. GRIPITITE. C.E.M. Company, Inc. SN 255,185. Pub. 3-5-68. Filed 9-27-66.

849,260. CAMERON. Cameron Iron Works, Inc. SN 269,737. Pub. 3-5-68. Filed 4-21-67.

849,261. CEJN. Carl Erik Josef Nyberg. SN 272,295. Pub. 3-5-68. Filed 5-24-67.

849,262. C AND DESIGN. Cla-Val Co. SN 284,786. Pub. 3-5-68. Filed 11-14-67.

### Class 15—Oils and Greases

849,263. ARCONOL. Atlantic Richfield Company. SN 262,560. Pub. 3-5-68. Filed 1-16-67.

849,264. "BLENDZALL." Ray Hook, d.b.a. Addslp Additives. SN 276,558. Pub. 3-5-68. Filed 7-21-67.

849,265. DINOLENE. Sinclair Refining Company. SN 280,472. Pub. 3-5-68. Filed 9-15-67.

### Class 16—Protective and Decorative Coatings

849,266. GALVA-BOND. Iowa Paint Manufacturing Company, Inc. SN 253,885. Pub. 3-5-68. Filed 9-6-66.

849,267. XP300A PLG PENLUBEGUARD AND DESIGN. United States Rust Control Corporation. SN 257,216. Pub. 3-5-68. Filed 10-25-66.

849,268. PEINTAL. Produits Chimiques Pechiney Saint-Gobain. SN 259,579. Pub. 3-5-68. Filed 11-28-66.

849,269. KSR KINGSLIFE AND DESIGN. Kingsliffe Super-Refractories Limited. SN 259,835. Pub. 12-5-67. Filed 12-1-66.

849,270. KOLACRIL. Walter G. Legge Company, Inc. SN 261,852. Pub. 3-5-68. Filed 1-3-67.

849,271. ZYLOX. Kyanise Paints, Inc. SN 263,384. Pub. 3-5-68. Filed 1-26-67.

849,272. KYANIZE KY PRIME. Kyanise Paints, Inc. SN 263,923. Pub. 3-5-68. Filed 2-3-67.

849,273. DYNACOL. Koppers Company, Inc. SN 264,427. Pub. 3-5-68. Filed 2-10-67.

### Class 17—Tobacco Products

849,274. DANVILLE AND DESIGN. P. Lorillard Company. SN 241,480. Pub. 3-5-68. Filed 3-21-66.

849,275. NOVO. The American Tobacco Company. SN 280,141. Pub. 3-5-68. Filed 9-12-67.

### Class 18—Medicines and Pharmaceutical Preparations

849,276. HEADS OF LIVESTOCK. Clover Chemical Company. SN 216,235. Pub. 3-5-68. Filed 4-7-65.

849,277. NEO-DERM. Southwestern Drug Corporation, d.b.a. Tru-Lab Products. SN 231,301. Pub. 1-10-67. Filed 10-22-65.

849,278. BOVIM. Veterinary Research Institute, assignee of Veterinary Supply Depot Incorporated. SN 252,976. Pub. 3-5-68. Filed 8-23-66.

849,279. UNIFOAM. Otsuka Chemical Co., Ltd. SN 259,337. Pub. 3-5-68. Filed 11-23-66.

849,280. AZOFOAM. Otsuka Chemical Co., Ltd. SN 259,338. Pub. 3-5-68. Filed 11-23-66.

849,281. STAND-R-MIX. Balch Flavor Company. SN 262,393. Pub. 3-5-68. Filed 1-12-67.

849,282. NEIPERTEC. Nelsler Laboratories, Inc. SN 264,157. Pub. 3-5-68. Filed 2-7-67.

849,283. NUCLEAR RING DEVICE. Nelsler Laboratories, Inc. SN 264,158. Pub. 3-5-68. Filed 2-7-67.

849,284. PRE-PEN. Kremers-Urban Company. SN 264,324. Pub. 3-5-68. Filed 2-9-67.

849,285. FULL EFFECT. Bristol-Myers Company. SN 264,900. Pub. 3-5-68. Filed 2-17-67.

849,286. PURGE. Bristol-Myers Company. SN 264,905. Pub. 3-5-68. Filed 2-17-67.

849,287. CARTER'S METRI-BULK. Carter-Wallace, Inc. SN 265,608. Pub. 1-2-68. Filed 2-28-67.

849,288. OVANUL. Ortho Pharmaceutical Corporation. SN 266,131. Pub. 6-20-67. Filed 3-7-67.

849,289. FFABC THE GOOD KNIGHT WHO DROVE THE WORMS OUT OF LIVESTOCK! FIGHTIN FEENO AND DESIGN. Atomic Basic Chemicals Corporation. SN 267,794. Pub. 3-5-68. Filed 3-29-67.

849,290. MDC. Mid-States Distributing Company, Inc. SN 267,963. Pub. 3-5-68. Filed 3-30-67.

849,291. XENEISOL. Nelsler Laboratories, Inc. SN 268,321. Pub. 3-5-68. Filed 4-4-67.

849,292. EQUI-FLU II. Richardson-Merrell Inc. SN 269,689. Pub. 3-5-68. Filed 4-20-67.

849,293. VERSASTAPH. Bristol-Myers Company. SN 270,544. Pub. 3-5-68. Filed 5-3-67.

849,294. DYNALLECTAL. Bristol-Myers Company. SN 270,546. Pub. 3-5-68. Filed 5-3-67.

849,295. NEO-NOVUM SQ. Ortho Pharmaceutical Corporation. SN 270,698. Pub. 3-5-68. Filed 5-4-67.

849,296. OTC-MIX. Chas. Pfizer & Co., Inc. SN 271,014. Pub. 3-5-68. Filed 5-9-67.

849,297. INGRALIN. Dermik Laboratories, Inc. SN 271,234. Pub. 3-5-68. Filed 5-11-67.

849,298. HEAD START. Johnson & Johnson. SN 271,256. Pub. 3-5-68. Filed 5-11-67.

849,299. TEMARIL-P. Norden Laboratories, Inc. SN 272,085. Pub. 3-5-68. Filed 5-22-67.

849,300. REDI-FLOW. Flow Laboratories Incorporated. SN 280,224. Pub. 3-5-68. Filed 9-13-67.

849,301. IMUFORT. Chas. Pfizer & Co., Inc. SN 284,789. Pub. 3-5-68. Filed 11-14-67.

849,302. ELASE-CHLOROMYCETIN. Parke, Davis & Company. SN 285,174. Pub. 3-5-68. Filed 11-20-67.

849,303. TYLENOL-B. McNeil Laboratories, Inc. SN 285,796. Pub. 3-5-68. Filed 11-29-67.

### Class 19—Vehicles

849,224. (See Class 2 for this trademark.)

849,304. ALTEC. Altec, Incorporated. SN 242,098. Pub. 5-23-67. Filed 3-29-66.

849,305. AVIS. Avis Rent-A-Car System, Inc. SN 257,452. Pub. 3-5-68. Filed 10-28-66.

849,306. PULL-TORQ. McDowell-Wellman Engineering Company. SN 262,607. Pub. 3-5-68. Filed 1-16-67.

849,307. PARASONIC. Goodyear Aerospace Corporation. SN 270,056. Pub. 3-5-68. Filed 4-26-67.

### Class 20—Linoleum and Oiled Cloth

849,308. SUPERGUARD. Congoleum-Nairn Inc. SN 260,650. Pub. 3-5-68. Filed 12-13-66.

### Class 21—Electrical Apparatus, Machines, and Supplies

849,309. AFA AND DESIGN. Automatic Fire Alarm Company. SN 216,131. Pub. 8-9-66. Filed 4-9-65.

849,310. GIBSON ELECTRIC AND DESIGN. Talon, Inc. SN 238,316. Pub. 9-5-67. Filed 2-7-66.

849,311. CRICKET. Tensor Corporation. SN 245,998. Pub. 1-23-68. Filed 5-18-66.

849,312. MAGNETICS INC. AND DESIGN. Magnetics, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 246,221. Pub. 3-5-68. Filed 5-9-66.

849,313. KANTHAL AND DESIGN. Aktiebolaget Kanthal. SN 247,299. Pub. 3-5-68. Filed 6-6-66.

849,314. TEL-TOUCH. International Telephone and Telegraph Corporation. SN 251,541. Pub. 3-5-68. Filed 8-2-66.

849,315. MISCELLANEOUS DESIGN. Denes Company, Inc., by change of name from Denesco, Inc. SN 252,078. Pub. 3-5-68. Filed 8-10-66.

849,316. ASTRO-TEX. Chelsea Industries, Inc., d.b.a. Hope Webbing Company. SN 252,164. Pub. 3-5-68. Filed 8-11-66.

849,317. COLORSTAR. Antennacraft Company. SN 253,108. Pub. 3-5-68. Filed 8-25-66.

849,318. MTE. Microtek Electronics Inc. SN 256,296. Pub. 3-5-68. Filed 10-12-66.

849,319. SURELITE. Edwards Company, Inc. SN 258,216. Pub. 3-5-68. Filed 11-8-66.

849,320. RDC AND DESIGN. Radar Design Corporation. SN 267,977. Pub. 3-5-68. Filed 3-30-67.

849,321. FOAM-CEL. Simplex Wire and Cable Company. SN 273,799. Pub. 3-5-68. Filed 6-13-67.

849,322. TELONIC AND DESIGN. Telonic Industries, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 276,887. Pub. 3-5-68. Filed 7-20-67.

### Class 22—Games, Toys, and Sporting Goods

849,323. CAROM "600." Stowe-Woodward, Inc. SN 217,951. Pub. 11-16-65. Filed 5-3-65.

849,324. BUNKER-SPOON. Atlantic Lures, Inc. SN 246,852. Pub. 3-5-68. Filed 5-31-66.

849,325. "MAN OF THE DAY." Mr. Mod Shop, Inc. SN 249,035. Pub. 3-5-68. Filed 6-27-66.

849,326. ARITHMEQUICK. Design Enterprises, Inc. SN 251,494. Pub. 3-5-68. Filed 7-29-66.

849,327. NU-VUE. Standard Packaging Corporation. SN 253,795. Pub. 3-5-68. Filed 9-2-66.

849,328. SPEEDI-KIT. World Toy House, Inc., d.b.a. The Toy House. SN 254,898. Pub. 3-5-68. Filed 9-21-66.

849,329. PROFIT-PAK. World Toy House, Inc., d.b.a. The Toy House. SN 254,899. Pub. 3-5-68. Filed 9-21-66.

849,330. BRAT. Parksmith Corporation. SN 257,308. Pub. 8-22-67. Filed 10-26-66.

849,331. ROADMASTER. Die Casting Machine Tools Limited. SN 257,773. Pub. 9-19-67. Filed 11-2-66.

849,332. DISCOUNT. Gene Surles Corpening, d.b.a. Corpening Game Company. SN 265,406. Pub. 3-5-68. Filed 2-24-67.

849,333. ATECH AND DESIGN. Atech Enterprises, Inc. SN 267,307. Pub. 3-5-68. Filed 3-22-67.

849,334. PEEPUL PALS. Western Publishing Company, Inc. SN 272,435. Pub. 3-5-68. Filed 5-25-67.

849,335. ROLL-A-PUZZLE. Milton Bradley Company. SN 273,170. Pub. 3-5-68. Filed 6-6-67.

849,336. LOOP-O-PLANE. Eyerly Aircraft Company. SN 277,904. Pub. 3-5-68. Filed 8-9-67.

849,337. ROLL-O-PLANE. Eyerly Aircraft Company. SN 277,905. Pub. 3-5-68. Filed 8-9-67.

849,338. THE FRONT NINE. Douglas H. Nye. SN 278,902. Pub. 3-5-68. Filed 8-23-67.

849,339. MYSTERY PISTOL. The Ohio Art Company. SN 280,452. Pub. 3-5-68. Filed 9-15-67.

849,340. ELEVENZEES. J. Chain & Company. SN 288,303. Pub. 3-5-68. Filed 10-25-67.

849,341. ACTI-MATION. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 286,288. Pub. 3-5-68. Filed 12-5-67.

849,342. BEST OF BREED. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 286,289. Pub. 3-5-68. Filed 12-5-67.

849,343. TENDER LEE. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 286,290. Pub. 3-5-68. Filed 12-5-67.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

849,224. (See Class 2 for this trademark.)

849,344. NT AND DESIGN. Nippon Tenshasei Kabushiki Kaisha. SN 246,350. Pub. 3-5-68. Filed 5-23-66.

849,345. SKY-ARM AND DESIGN. Elliott Manufacturing Co. SN 248,986. Pub. 12-26-67. Filed 6-27-66.

849,346. LAWN BUTLER. Sunbeam Corporation. SN 249,594. Pub. 3-5-68. Filed 7-5-66.

849,347. B AND DESIGN. Jefferson Union Company. SN 252,660. Pub. 10-24-67. Filed 8-18-66.

849,348. TEDDY. Theodore Equipment Corporation. SN 257,668. Pub. 3-5-68. Filed 10-31-66.



- 849,349. UNI-BEND. Faull & Son Tool & Die Company. SN 257,838. Pub. 12-12-67. Filed 11-3-66.
- 849,350. ROTUNDA. Ford Motor Company. SN 258,221. Pub. 3-5-68. Filed 11-8-66.
- 849,351. BAG-O-MAT. John R. Lebb Distributors Inc. SN 259,327. Pub. 3-5-68. Filed 11-23-66.
- 849,352. UTI-KUT. Utica Cutlery Company. SN 262,983. Pub. 3-5-68. Filed 1-20-67.
- 849,353. DIG-R-MOBILE. General Equipment Co. SN 263,168. Pub. 3-5-68. Filed 1-24-67.
- 849,354. REED. Package Machinery Company. SN 264,755. Pub. 3-5-68. Filed 2-15-67.
- 849,355. ECON-O-RATED. Buffalo Forge Company. SN 267,124. Pub. 3-5-68. Filed 3-20-67.
- 849,356. FULLER. Eaton Yale & Towne Inc. SN 268,947. Pub. 3-5-68. Filed 4-12-67.
- 849,357. "MR CAN" AND DESIGN. The Barker Manufacturing Company. SN 269,498. Pub. 3-5-68. Filed 4-19-67.
- 849,358. MISCELLANEOUS DESIGN. McGraw-Edison Company. SN 269,914. Pub. 3-5-68. Filed 4-24-67.
- 849,359. WHISPERING SAND. Onelda Ltd. SN 269,920. Pub. 3-5-68. Filed 4-24-67.
- 849,360. MINI-KNIFE. Evans-Aristocrat Industries, Inc. SN 270,367. Pub. 3-5-68. Filed 5-1-67.
- 849,361. MAR. Mar Hook & Equipment, Inc. SN 270,498. Pub. 3-5-68. Filed 5-2-67.
- 849,362. D AND DESIGN. John Dusenbery Company, Inc. SN 271,138. Pub. 3-5-68. Filed 5-10-67.
- 849,363. REDSTONE. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 272,947. Pub. 3-5-68. Filed 6-2-67.
- 849,364. RANGER. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 272,953. Pub. 3-5-68. Filed 6-2-67.
- 849,365. ACU-CUT. The Stephan Co. SN 272,959. Pub. 3-5-68. Filed 6-2-67.

## Class 26—Measuring and Scientific Appliances

- 849,312. (See Class 21 for this trademark.)
- 849,322. (See Class 21 for this trademark.)
- 849,366. TI (DESIGN). Temtech, Inc. SN 253,801. Pub. 3-5-68. Filed 9-2-66.
- 849,367. TEMTECH. Temtech, Inc. SN 253,802. Pub. 3-5-68. Filed 9-2-66.
- 849,368. SPARSA. Litton Systems, Inc. SN 261,936. Pub. 3-5-68. Filed 1-4-67.
- 849,369. SPEEDMASTER. Electronic Systems Engineering Co. SN 263,754. Pub. 3-5-68. Filed 2-1-67.
- 849,370. FILAMATIC. National Instrument Co., Inc. SN 265,840. Pub. 3-5-68. Filed 3-2-67.
- 849,371. SKY CHIEF. D. P. Bushnell & Co., Inc., assignee of David P. Bushnell. SN 267,312. Pub. 3-5-68. Filed 3-22-67.
- 849,372. SHADES OF RENAULD. Renault International, Ltd. SN 268,615. Pub. 3-5-68. Filed 4-7-67.
- 849,373. ISCO AND DESIGN. Isco Optische Werke GmbH. SN 271,474. Pub. 3-5-68. Filed 5-15-67.
- 849,374. ISCO. Isco Optische Werke GmbH. SN 271,475. Pub. 3-5-68. Filed 5-15-67.
- 849,375. ADAPT-A-MATIC. Taisel Kogaku Kogyo Co., Ltd. SN 275,704. Pub. 3-5-68. Filed 7-10-67.

## Class 27—Horological Instruments

- 849,376. ADB AND DESIGN. Les Fils de A. Donze-Baume. SN 277,054. Pub. 3-5-68. Filed 7-28-67.

## Class 28—Jewelry and Precious-Metal Ware

- 849,377. MEADOW SONG. Towle Manufacturing Company. SN 272,775. Pub. 12-26-67. Filed 5-25-67.
- 849,378. TERAMO. Onelda Ltd. SN 277,201. Pub. 3-5-68. Filed 7-31-67.
- 849,379. DOVER. Onelda Ltd. SN 277,203. Pub. 3-5-68. Filed 7-31-67.
- 849,380. MISCELLANEOUS DESIGN. Peer Jewelry Mfg. Corp. SN 277,470. Pub. 3-5-68. Filed 8-3-67.
- 849,381. MISCELLANEOUS DESIGN. Ute M. Oech, d.b.a. Ute. SN 278,410. Pub. 3-5-68. Filed 8-16-67.
- 849,382. HULA HOOP. Veeromull's Incorporated. SN 278,856. Pub. 3-5-68. Filed 8-23-67.
- 849,383. VEEROOMULL'S. Veeromull's Incorporated. SN 278,857. Pub. 3-5-68. Filed 8-23-67.

## Class 30—Crockery, Earthenware, and Porcelain

- 849,384. EMPRESS CHINA AND DESIGN. Haruta & Co., Inc. SN 271,793. Pub. 3-5-68. Filed 5-18-67.
- 849,385. EMPRESS CHINA AND DESIGN. Haruta & Co., Inc. SN 271,794. Pub. 3-5-68. Filed 5-18-67.

## Class 31—Filters and Refrigerators

- 849,386. FLO-LINE. Flo-Line Filters, Inc. SN 169,846. Pub. 12-24-63. Filed 5-28-63.
- 849,387. ZEROPAK. McQuay, Inc. SN 267,968. Pub. 3-5-68. Filed 3-30-67.
- 849,388. FILTA-PURE AND DESIGN. The Meadowbrook Company. SN 271,760. Pub. 3-5-68. Filed 5-18-67.

## Class 32—Furniture and Upholstery

- 849,389. WONDERWOOD. American Furniture Co., Inc. SN 258,877. Pub. 3-5-68. Filed 11-17-66.
- 849,390. CHECK TREE. Gingham Manufacturing Company, Inc. SN 260,932. Pub. 3-5-68. Filed 12-16-66.
- 849,391. TOMAC. American Hospital Supply Corporation. SN 264,494. Pub. 3-5-68. Filed 2-13-67.

## Class 33—Glassware

- 849,392. WINCHESTER AND DESIGN. Anchor Hocking Glass Corporation. SN 240,055. Pub. 5-16-67. Filed 3-3-66.
- 849,393. DOWNTOWNER MOTOR INNS AND DESIGN. The Downtowner Corporation. SN 253,289. Pub. 3-5-68. Filed 8-29-66.

## Class 34—Heating, Lighting, and Ventilating Apparatus

- 849,394. S AND DESIGN. Schwank Gesellschaft mit beschränkter Haftung, by change of name from Schwank Gasgeräte Gesellschaft mit beschränkter Haftung. SN 163,279. Pub. 4-7-64. Filed 2-21-63.

- 849,395. S AND DESIGN. Schwank Gesellschaft mit beschränkter Haftung, by change of name from Schwank Gasgeräte Gesellschaft mit beschränkter Haftung. SN 163,280. Pub. 4-14-64. Filed 2-21-63.
- 849,396. DURACREST AND DESIGN. Metro Wholesale Corporation. SN 257,296. Pub. 3-5-68. Filed 10-26-66.
- 849,397. FEEDCO. Feeders Engineering and Equipment Development Co., Inc. SN 285,089. Pub. 3-5-68. Filed 11-17-67.

## Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 849,398. STARNADO. O.K. Tire and Rubber Company, Inc. SN 255,915. Pub. 3-5-68. Filed 10-6-66.
- 849,399. FIDESTA NEW YORKER. The Firestone Tire & Rubber Company. SN 263,043. Pub. 3-5-68. Filed 1-23-67.
- 849,400. DAY-TRAC. Dayco Corporation. SN 285,209. Pub. 3-5-68. Filed 11-20-67.

## Class 36—Musical Instruments and Supplies

- 849,401. REMO. Remo, Inc. SN 252,750. Pub. 3-5-68. Filed 8-19-66.

## Class 37—Paper and Stationery

- 849,402. FESTIVE FOIL. Norcross, Inc. SN 205,958. Pub. 2-1-66. Filed 11-10-64.
- 849,403. STELLAR SYSTEMS. Stellar Systems Corporation. SN 261,601. Pub. 3-5-68. Filed 12-28-66.
- 849,404. MONPREG. Monsanto Company. SN 266,248. Pub. 3-5-68. Filed 3-8-67.
- 849,405. BULLETIN BALL. Ketcham & McDougall, Inc. SN 267,528. Pub. 3-5-68. Filed 3-24-67.
- 849,406. INALTERA. Consortium du Papier Peint. SN 267,919. Pub. 3-5-68. Filed 3-30-67.
- 849,407. GILFOLD. The Gilman Brothers Company. SN 271,934. Pub. 3-5-68. Filed 5-19-67.
- 849,408. CELEBRATION. West Virginia Pulp and Paper Company. SN 272,124. Pub. 3-5-68. Filed 5-22-67.
- 849,409. STAR WHITE. Weyerhaeuser Company. SN 272,436. Pub. 3-5-68. Filed 5-25-67.
- 849,410. STOCK-WATCH AND DESIGN. James E. Klosterman, d.b.a. Chatham Company. SN 272,613. Pub. 3-5-68. Filed 5-29-67.
- 849,411. TRIPLET. Hassenfeld Bros. Inc. SN 273,772. Pub. 3-5-68. Filed 6-13-67.
- 849,412. SANOWITE. Union Camp Corporation. SN 273,814. Pub. 3-5-68. Filed 6-13-67.
- 849,413. PLANNIT. Oxford Filling Supply Co., Inc. SN 273,900. Pub. 3-5-68. Filed 6-14-67.
- 849,414. LOCK HAVEN. Hammermill Paper Company. SN 274,063. Pub. 3-5-68. Filed 6-16-67.
- 849,415. RAWHIDE. Niagara Envelope Company, Inc. SN 274,539. Pub. 3-5-68. Filed 6-22-67.
- 849,416. MISCELLANEOUS DESIGN. Holum & Sons Co., Inc. SN 275,266. Pub. 3-5-68. Filed 7-3-67.
- 849,417. GOLDEN T. T.G. & Y. Stores Company. SN 278,921. Pub. 3-5-68. Filed 8-23-67.

## Class 38—Prints and Publications

- 849,418. MARKIT. Russell Industries, Inc. SN 237,038. Pub. 3-5-68. Filed 1-21-66.

- 849,419. CLAIROL NEWS. Clairol Incorporated. SN 253,497. Pub. 3-5-68. Filed 8-31-66.
- 849,420. NELLIE NIFTY. Lawrence Katzman. SN 256,562. Pub. 3-5-68. Filed 10-17-66.
- 849,421. MISCELLANEOUS DESIGN. The First Community Church of Columbus, Ohio. SN 267,827. Pub. 3-5-68. Filed 3-22-67.
- 849,422. ALPINE DESIGN. Robert D. Benedict, d.b.a. Otsego County Herald-Times. SN 268,019. Pub. 3-5-68. Filed 3-31-67.
- 849,423. TASTY TESTED. Milgram Food Stores, Inc., d.b.a. Tasty Tested Recipes. SN 268,057. Pub. 3-5-68. Filed 3-31-67.
- 849,424. WELCOME WAGON NEWS. Welcome Wagon International, Inc. SN 268,542. Pub. 3-5-68. Filed 4-6-67.
- 849,425. TENDER TIGERS. Norcross, Inc. SN 271,270. Pub. 3-5-68. Filed 5-11-67.
- 849,426. GOOD GUYS. Norcross, Inc. SN 271,271. Pub. 3-5-68. Filed 5-11-67.
- 849,427. EXPECTING. Parents' Magazine Enterprises, Inc. SN 271,509. Pub. 3-5-68. Filed 5-15-67.
- 849,428. ESSANDESS. Simon & Schuster, Inc. SN 271,537. Pub. 3-5-68. Filed 5-15-67.
- 849,429. "THE GREETING WITH A FUTURE." Heart-O-Gold Corporation. SN 271,984. Pub. 3-5-68. Filed 5-22-67.

## Class 39—Clothing

- 849,430. DANTE. The Yorke Shirt Corporation. SN 165,554. Pub. 1-14-64. Filed 3-27-63.
- 849,431. DENT'S ETC. AND DESIGN. Dent, Allcroft & Company Limited. SN 235,902. Pub. 3-5-68. Filed 1-6-66.
- 849,432. SKAGWAY. Eugene Usow Mfg. Co. SN 240,163. Pub. 3-5-68. Filed 3-4-66.
- 849,433. MATTI OF LYNNE AND DESIGN. Lynne Manufacturing Co. SN 246,916. Pub. 3-5-68. Filed 5-31-66.
- 849,434. MASTER MOLDED. United States Rubber Company. SN 252,604. Pub. 3-5-68. Filed 8-17-66.
- 849,435. BENNETT OF NEW HAVEN. Marx-Haas Clothing Co. SN 255,808. Pub. 3-5-68. Filed 10-5-66.
- 849,436. TOPSY TEENS. Little Topsy's, Inc. SN 257,060. Pub. 3-5-68. Filed 10-24-66.
- 849,437. LEVI'S AND DESIGN. Levi Strauss & Co. SN 257,497. Pub. 3-5-68. Filed 10-28-66.
- 849,438. SHAN STRETCH. Alex Colman Inc. SN 258,502. Pub. 3-5-68. Filed 11-14-66.
- 849,439. LITTLE LOVES. Lily of France, Inc. SN 258,912. Pub. 1-2-68. Filed 11-17-66.
- 849,440. BEAUFORT. Service Manufacturing Company, Inc. SN 259,268. Pub. 3-5-68. Filed 11-22-66.
- 849,441. NIKKI OF CALIFORNIA. University Sportswear of California. SN 260,105. Pub. 3-5-68. Filed 12-5-66.
- 849,442. TOOTIQUE. University Sportswear of California. SN 260,106. Pub. 3-5-68. Filed 12-5-66.
- 849,443. DOE-SPUN. Doe Spun, Inc. SN 260,321. Pub. 3-5-68. Filed 12-8-66.
- 849,444. JULI OF SLUMBERTOGS. Slumbertogs, Inc. SN 260,599. Pub. 3-5-68. Filed 12-12-66.
- 849,445. ARNOLD PALMER AND DESIGN. Arnold D. Palmer. SN 262,612. Pub. 3-5-68. Filed 1-16-67.
- 849,446. VAN HEUSEN GEAR. Phillips-Van Heusen Corporation. SN 263,476. Pub. 3-5-68. Filed 1-27-67.
- 849,447. DHOTI-NITI BY JULI. Slumbertogs, Inc. SN 264,764. Pub. 3-5-68. Filed 2-15-67.
- 849,448. KAPOGI-NITI BY JULI. Slumbertogs, Inc. SN 264,765. Pub. 3-5-68. Filed 2-15-67.
- 849,449. A. S. BECK HIGH SCHOOL SHAREHOLDERS. A. S. Beck Shoe Corporation. SN 265,026. Pub. 3-5-68. Filed 2-20-67.



- 849,450. TAFTEKNIT. Van Raalte Company, Inc. SN 265,591. Pub. 3-5-68. Filed 2-28-67.
- 849,451. TAREY PRESS. Blue Gem Manufacturing Company. SN 267,003. Pub. 3-5-68. Filed 3-17-67.
- 849,452. COTTON-ROYAL. Phillips-Van Heusen Corporation. SN 268,331. Pub. 3-5-68. Filed 4-4-67.
- 849,453. SHIRTS UNLIMITED. Shirt Centre, Inc. SN 269,220. Pub. 3-5-68. Filed 4-14-67.
- 849,454. DYED-TO-SWITCH. Garland Corporation. SN 269,530. Pub. 3-5-68. Filed 4-19-67.
- 849,455. GLOBAL WORSTEDS. J. Schoeneman, Inc. SN 270,160. Pub. 3-5-68. Filed 4-27-67.
- 849,456. BRITANNIA COLLECTION. J. Schoeneman, Inc. SN 270,712. Pub. 3-5-68. Filed 5-4-67.
- 849,457. SEA-KINI. Lowell Tjaden. SN 270,976. Pub. 3-5-68. Filed 5-8-67.
- 849,458. WILLIE'S PET BY DAVID BRETT INC. AND DESIGN. David Brett, Inc. SN 271,437. Pub. 3-5-68. Filed 5-15-67.
- 849,459. DRY STEP. Melville Shoe Corporation, d.b.a. Thom McAn. SN 272,291. Pub. 3-5-68. Filed 5-24-67.
- 849,460. K MART AND DESIGN. S. S. Kresge Company. SN 272,506. Pub. 3-5-68. Filed 5-26-67.
- 849,461. TIGESSET. Buster Brown Textiles, Inc. SN 272,805. Pub. 3-5-68. Filed 6-1-67.
- 849,462. PONJHARA. Farah Manufacturing Company, Inc. SN 273,189. Pub. 3-5-68. Filed 6-6-67.
- 849,463. F AND DESIGN. The Firestone Tire & Rubber Company. SN 273,495. Pub. 3-5-68. Filed 6-9-67.
- 849,464. THE HOUDINI. Beldoch Popper, Inc. SN 276,731. Pub. 3-5-68. Filed 7-25-67.
- 849,465. EXPO D'ITALIA. A. S. Beck Shoe Corporation. SN 277,133. Pub. 3-5-68. Filed 7-31-67.
- 849,466. LONDON LUVS BY COQUETTES. A. S. Beck Shoe Corporation. SN 277,134. Pub. 3-5-68. Filed 7-31-67.
- 849,467. MISCELLANEOUS DESIGN. Misty Harbor, Ltd. SN 277,197. Pub. 3-5-68. Filed 7-31-67.
- 849,468. CATALINA JRS. Catalina, Inc. SN 278,190. Pub. 3-5-68. Filed 8-14-67.
- 849,469. HAYWOOD AND DESIGN. Hayes Garment Company. SN 278,212. Pub. 3-5-68. Filed 8-14-67.
- 849,470. PERMA SONIC AND DESIGN. Apollo Apparel, Inc. SN 278,777. Pub. 3-5-68. Filed 8-22-67.
- 849,471. PRES-SURE. J. Schoeneman, Inc. SN 279,417. Pub. 3-5-68. Filed 8-30-67.
- 849,472. HOW-ART. Paul Lavitt Mills, Inc. SN 281,086. Pub. 3-5-68. Filed 9-25-67.
- 849,473. JUMPING-JACKS BALANCERS. Valsey-Bristol Shoe Company Incorporated. SN 281,647. Pub. 3-5-68. Filed 10-2-67.
- 849,474. BADGER. Goodyear Rubber Company. SN 282,074. Pub. 3-5-68. Filed 10-9-67.
- 849,475. BIG BEN. Blue Bell, Inc. SN 282,313. Pub. 3-5-68. Filed 10-12-67.
- 849,476. CASEY JONES. Blue Bell, Inc. SN 282,315. Pub. 3-5-68. Filed 10-12-67.
- 849,477. WRANGLER. Blue Bell, Inc. SN 282,320. Pub. 3-5-68. Filed 10-12-67.
- 849,478. JIMI-JIFS. Cluett, Peabody & Co., Inc. SN 282,680. Pub. 3-5-68. Filed 10-17-67.
- 849,479. FRONTIER MARSHALL. Blue Bell, Inc. SN 282,950. Pub. 3-5-68. Filed 10-20-67.
- 849,480. OKLAHOMA KID. Blue Bell, Inc. SN 282,951. Pub. 3-5-68. Filed 10-20-67.
- 849,481. GIGGLE. Philip Rothenberg & Co., Inc. SN 283,037. Pub. 3-5-68. Filed 10-20-67.
- 849,482. BOLD VAQUERO. Blue Bell, Inc. SN 283,301. Pub. 3-5-68. Filed 10-25-67.
- 849,483. SEDGEFIELD. Blue Bell, Inc. SN 283,302. Pub. 3-5-68. Filed 10-25-67.
- 849,484. HOUSE OF PEERS. Harfred, Incorporated. SN 283,306. Pub. 3-5-68. Filed 10-25-67.

## Class 40—Fancy Goods, Furnishings, and Notions

- 849,486. TYTRON. Asti Products, Inc. SN 254,980. Pub. 3-5-68. Filed 9-23-66.
- 849,487. K.M.C.Y. Komachiya Honten Co., Ltd. SN 270,583. Pub. 3-5-68. Filed 5-3-67.
- 849,488. FORTY WINKS. Tresses Unlimited, Inc. SN 275,799. Pub. 3-5-68. Filed 7-11-67.
- 849,489. TWENTY LASHES. Tresses Unlimited, Inc. SN 275,800. Pub. 3-5-68. Filed 7-11-67.
- 849,490. KING HAIRPIECES AND DESIGN. Rex Cataldo. SN 276,219. Pub. 3-5-68. Filed 7-18-67.

## Class 41—Canes, Parasols, and Umbrellas

- 849,491. NEW YORKER. Telesco Brophy Limited. SN 259,599. Pub. 3-5-68. Filed 11-28-66.

## Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 849,492. DURACREST AND DESIGN. Metro Wholesale Corporation. SN 257,298. Pub. 3-5-68. Filed 10-26-66.
- 849,493. COMFORT BOND. J. P. Stevens & Co., Inc. SN 271,540. Pub. 3-5-68. Filed 5-15-67.
- 849,494. KITTEN'S EAR. Collins & Alkman Corporation. SN 272,169. Pub. 3-5-68. Filed 5-23-67.
- 849,495. IT'S A DAN RIVER KNIT. Dan River Mills, Incorporated. SN 272,710. Pub. 3-5-68. Filed 5-31-67.
- 849,496. FILTRATAIN. Albany Felt Company. SN 275,021. Pub. 3-5-68. Filed 6-29-67.
- 849,497. EXPEDITION CLOTH. William F. Niemi Co., d.b.a. Eddie Bauer. SN 275,070. Pub. 3-5-68. Filed 6-29-67.
- 849,498. LANCE-LOCK AND DESIGN. Bibb Manufacturing Company. SN 275,221. Pub. 3-5-68. Filed 7-3-67.
- 849,499. POLY-WARMO. Stamina Mills, Inc. SN 275,313. Pub. 3-5-68. Filed 7-3-67.
- 849,500. ULTRELLA. Sy Frankl, Inc. SN 275,407. Pub. 3-5-68. Filed 7-5-67.
- 849,501. BONNEVILLE. Pendleton Woolen Mills. SN 275,549. Pub. 3-5-68. Filed 7-7-67.
- 849,502. GABFLY. Concord Fabrics Inc. SN 275,922. Pub. 3-5-68. Filed 7-13-67.
- 849,503. DANCLEAN. Dan River Mills, Incorporated. SN 276,315. Pub. 3-5-68. Filed 7-19-67.
- 849,504. PARLOFIN. Park Silk Company, Inc. SN 276,344. Pub. 3-5-68. Filed 7-19-67.

## Class 43—Thread and Yarn

- 849,505. THREE GOLDEN HORSES AND DESIGN. Karasiki Rayon Co., Ltd. SN 275,534. Pub. 3-5-68. Filed 7-7-67.
- 849,506. KISMET. The American Thread Company. SN 275,602. Pub. 3-5-68. Filed 7-10-67.
- 849,507. GEM. The American Thread Company. SN 275,608. Pub. 3-5-68. Filed 7-10-67.

- 849,508. PROGRESS. The American Thread Company. SN 275,604. Pub. 3-5-68. Filed 7-10-67.
- 849,509. RAPTEME. Filatures Prouvost-Masurel & Cie, la Lainiere de Roubaix. SN 275,752. Pub. 3-5-68. Filed 7-11-67.
- 849,510. UNCLE EPH'S. Gottlieb Brothers, d.b.a. Jack Frost Yarn Co. SN 275,847. Pub. 3-5-68. Filed 7-12-67.
- 849,511. TEMPACA. Templan Spinning Mills, Inc. SN 276,368. Pub. 3-5-68. Filed 7-19-67.

## Class 44—Dental, Medical, and Surgical Appliances

- 849,512. VISILINE. Smith Kline Instrument Company. SN 241,693. Pub. 3-5-68. Filed 3-23-66.
- 849,513. JELINEK. H. Jelinek Dental Alloys, Inc. SN 256,560. Pub. 3-5-68. Filed 10-17-66.
- 849,514. DIRECTA. Directa Dental AB. SN 256,727. Pub. 3-5-68. Filed 10-19-66.
- 849,515. TONOMAT. I.G.R. Corporation, assignee of Adolph Posner and Richard Inglima (joint owners). SN 272,628. Pub. 3-5-68. Filed 5-29-67.
- 849,516. DALBO-M. Dr. Merrill C. Mensor, Jr. SN 278,769. Pub. 3-5-68. Filed 8-22-67.

## Class 45—Soft Drinks and Carbonated Waters

- 849,517. JOLLY OLLY ORANGE. The Pillsbury Company. SN 231,218. Pub. 11-15-66. Filed 10-22-65.
- 849,518. PURIS AND DESIGN. Illinois Syrup Company. SN 274,068. Pub. 3-5-68. Filed 6-16-67.
- 849,519. NATURAL SETUP AND DESIGN. Ma Cherie Sales Corporation of America, d.b.a. Ma Cherie Sales Corporation. SN 274,811. Pub. 3-5-68. Filed 6-26-67.

## Class 46—Foods and Ingredients of Foods

- 849,520. PASQUALE'S AND DESIGN. Pasquale Foods, Inc. SN 121,423. Pub. 6-18-63. Filed 6-5-61.
- 849,521. PASQUALE'S. Pasquale Foods, Inc. SN 121,424. Pub. 6-18-63. Filed 6-5-61.
- 849,522. PORT OF CALL. C. E. Grosjean Rice Milling Company. SN 223,024. Pub. 3-16-67. Filed 7-9-65.
- 849,523. NATUR-TENDER. Colonial Stores Incorporated. SN 223,642. Pub. 3-5-68. Filed 7-19-65.
- 849,524. BURGUNDY. The Nestle Company, Inc. SN 249,559. Pub. 3-5-68. Filed 7-5-66.
- 849,525. WORTHMORE BRAND ETC. AND DESIGN. Worthmore Food Products Co., assignee of Phil J. Hock, Jr., and Howard P. Hock, d.b.a. Phil J. Hock & Co. SN 249,986. Pub. 3-5-68. Filed 7-11-66.
- 849,526. BRISTOL FARM AND DESIGN. Sue Ann Food Products Corporation. SN 250,049. Pub. 3-5-68. Filed 7-11-66.
- 849,527. CRYSTAL BAY. John S. Bates, d.b.a. A. M. Moore Brokerage Co. SN 263,835. Pub. 3-5-68. Filed 9-6-66.
- 849,528. LO-TEMP. Suni-Citrus Products Company. SN 262,978. Pub. 3-5-68. Filed 1-20-67.
- 849,529. KONGSBJERG. Bia Band Suppe-Produkt A/S (Solofabriken A/S). SN 263,887. Pub. 3-5-68. Filed 2-3-67.
- 849,530. KANEBO FRUITS AND DESIGN. Kanegafuchi Biseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd. SN 265,195. Pub. 3-5-68. Filed 2-21-67.

- 849,531. KANEBO COFFEE AND DESIGN. Kanegafuchi Biseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd. SN 265,310. Pub. 3-5-68. Filed 2-23-67.
- 849,532. BRAZILIAN AIRES. Pangburn Company, Inc. SN 265,431. Pub. 3-5-68. Filed 2-24-67.
- 849,533. TWIDDLERS. National Biscuit Company. SN 267,535. Pub. 3-5-68. Filed 3-24-67.
- 849,534. THING-A-MAJIGS. National Biscuit Company. SN 267,538. Pub. 3-5-68. Filed 3-24-67.
- 849,535. GISMOS. National Biscuit Company. SN 267,539. Pub. 3-5-68. Filed 3-24-67.
- 849,536. FUNNY FARM. Advico, Inc. SN 268,664. Pub. 12-19-67. Filed 4-10-67.
- 849,537. TOOTSIE TREATS. Tootsie Roll Industries, Inc. SN 270,977. Pub. 3-5-68. Filed 5-8-67.
- 849,538. BARTONETTES. Barton's Candy Corporation. SN 271,028. Pub. 3-5-68. Filed 5-9-67.
- 849,539. DIXIE. A. Bertolla & Sons. SN 271,484. Pub. 3-5-68. Filed 5-15-67.
- 849,540. MR. MINT AND DESIGN. Consolidated Foods Corporation, d.b.a. Joe Lowe Company. SN 273,378. Pub. 3-5-68. Filed 6-8-67.
- 849,541. ROCKET. National Biscuit Company. SN 273,517. Pub. 3-5-68. Filed 6-9-67.
- 849,542. MORE. General Foods Corporation. SN 273,888. Pub. 3-5-68. Filed 6-14-67.
- 849,543. MI-LEM. Martrude Corporation. SN 273,898. Pub. 3-5-68. Filed 6-14-67.
- 849,544. BIG 'UN. Ralston Purina Company. SN 278,730. Pub. 3-5-68. Filed 8-21-67.
- 849,545. TOP BUILD. Carnation Company. SN 279,270. Pub. 3-5-68. Filed 8-29-67.
- 849,546. PIXIE AND DESIGN. Universal Packers Corporation, by change of name from J.D. Packing Company. SN 280,524. Pub. 12-5-67. Filed 9-18-67.
- 849,547. CRISP-CEL. DCA Food Industries Inc. SN 282,775. Pub. 3-5-68. Filed 10-18-67.
- 849,548. MARYDEL. H. P. Cannon & Son, Incorporated. SN 286,879. Pub. 3-5-68. Filed 12-14-67.
- 849,549. ROCKING K WESTERN GOURMET AND DESIGN. Rocking K Foods, Inc. SN 287,838. Pub. 3-5-68. Filed 12-21-67.

## Class 47—Wines

- 849,550. CARPANO. Ditta G.B. Carpano-Antica Fabbbrica di Vermouth di Turati Rag. Silvio e C. Societa in Accomandita Semplice. SN 237,093. Pub. 3-5-68. Filed 1-24-66.
- 849,551. ARIZU. Sociedad Anonima Vinedos y Bodegas Arizu. SN 246,121. Pub. 3-5-68. Filed 3-22-66.
- 849,552. HANS BLENHEIM. Charles Jacquin et Cie., Inc., d.b.a. Hans Blenheim Co. SN 285,487. Pub. 3-5-68. Filed 11-24-67.

## Class 48—Malt Beverages and Liquors

- 849,553. HENNINGER. Henninger-Brau Kommanditgesellschaft auf Aktien. SN 253,745. Pub. 3-5-68. Filed 9-2-66.

## Class 49—Distilled Alcoholic Liquors

- 849,554. BELLE OF LINCOLN. Jack Daniel Distillery. SN 266,307. Pub. 1-2-68. Filed 3-9-67.
- 849,555. EL CHOLO. The American Distilling Company, d.b.a. The American Distilling Co., Inc. SN 268,139. Pub. 3-5-68. Filed 4-3-67.
- 849,556. OLD CHARTER. Old Charter Distillery Co. SN 270,944. Pub. 3-5-68. Filed 5-8-67.



- 849,557. POLMOS VODKA LUKSUSOWA AND DESIGN. Przedsiębiorstwo Handlu Zagranicznego "Agros." SN 272,944. Pub. 3-5-68. Filed 6-2-67.
- 849,558. CAPRICE. The House of Seagram, Inc., d.b.a. Park Avenue Imports. SN 283,606. Pub. 3-5-68. Filed 10-30-67.

### Class 50—Merchandise Not Otherwise Classified

- 849,559. THE WORLD IN WAX AND DESIGN. Josephine Tussaud Inc. SN 236,856. Pub. 3-5-68. Filed 1-19-66.
- 849,560. TILON. Printing Developments, Inc. SN 284,551. Pub. 2-6-68. Filed 11-13-67.

### Class 51—Cosmetics and Toilet Preparations

- 849,561. THE COMPLETE WOMAN AND DESIGN. Complete Woman, Inc. SN 244,397. Pub. 4-4-67. Filed 4-27-66.
- 849,562. REGE GLAMOUR GRAY. L'Oreal. SN 254,169. Pub. 3-5-68. Filed 9-9-66.
- 849,563. LEG MATE. Elizabeth Hartley, Inc. SN 254,281. Pub. 3-5-68. Filed 9-12-66.
- 849,564. FIRMPAC. Lawrence Palmer, Inc. SN 254,714. Pub. 1-30-68. Filed 9-19-66.
- 849,565. HEAD OVER HEELS. Clairol Incorporated. SN 255,516. Pub. 3-5-68. Filed 9-30-66.
- 849,566. SPUN PLATINUM. Clairol Incorporated. SN 258,055. Pub. 3-5-68. Filed 11-7-66.
- 849,567. ANTIQUE SILVER. Clairol Incorporated. SN 258,058. Pub. 3-5-68. Filed 11-7-66.
- 849,568. BLONDE DUST. Clairol Incorporated. SN 258,059. Pub. 3-5-68. Filed 11-7-66.
- 849,569. VACARME. Les Parfums Madeleine de Rauch. SN 258,389. Pub. 3-5-68. Filed 11-10-66.
- 849,570. BLONDE 'N' COOL. John H. Breck, Inc. SN 258,978. Pub. 3-5-68. Filed 11-18-66.
- 849,571. KAMERA KLEAR. L. Lechner (London) Limited. SN 263,276. Pub. 3-5-68. Filed 1-25-67.
- 849,572. SCORE-THREE WAYS. Bristol-Myers Company. SN 263,347. Pub. 3-5-68. Filed 1-26-67.
- 849,573. AHEAD AND DESIGN. Kelly Products, Inc. SN 265,075. Pub. 3-5-68. Filed 2-20-67.
- 849,574. BEAUTY SLEEP. Elizabeth Arden Sales Corporation. SN 267,325. Pub. 3-5-68. Filed 3-22-67.
- 849,575. HONEY BROSLA. Gonbaud de Paris, Inc. SN 268,492. Pub. 3-5-68. Filed 4-6-67.
- 849,576. ISLAND LIME. Bergel of Hollywood, Inc. SN 269,848. Pub. 3-5-68. Filed 4-24-67.
- 849,577. PEARL AND DESIGN. Lafra Products, Inc., assignee of Frederick L. Lauster. SN 271,055. Pub. 3-5-68. Filed 5-9-67.
- 849,578. PEARL DROPS OF BEAUTY AND DESIGN. Lafra Products, Inc., assignee of Frederick L. Lauster. SN 271,056. Pub. 3-5-68. Filed 5-9-67.
- 849,579. CITY LIGHTS. Yardley of London, Inc. SN 271,870. Pub. 3-5-68. Filed 5-18-67.
- 849,580. CATAMARAN. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 273,224. Pub. 3-5-68. Filed 6-7-67.
- 849,581. PLUS ULTRA. Charmaceuticals, Inc. SN 273,369. Pub. 3-5-68. Filed 6-8-67.

### Class 52—Detergents and Soaps

- 849,580. (See Class 51 for this trademark.)
- 849,582. PURGE. Jet Air Products Co. SN 257,633. Pub. 3-5-68. Filed 10-31-66.

- 849,583. DRY FOAM CS1. Universal Oil Products Company. SN 262,232. Pub. 3-5-68. Filed 1-9-67.
- 849,584. PREAT. Faultless Starch Company. SN 269,304. Pub. 3-5-68. Filed 4-17-67.
- 849,585. SOLV-SYN SUPER. H. Kohnstamm & Co., Inc. SN 269,541. Pub. 3-5-68. Filed 4-19-67.
- 849,586. BOOTH-PURGE. Detrex Chemical Industries, Inc. SN 274,718. Pub. 3-5-68. Filed 6-26-67.

### Service Marks

### Class 100—Miscellaneous

- 849,587. MISCELLANEOUS DESIGN. World Safety Research Institute, Inc. SN 249,695. Pub. 3-5-68. Filed 7-6-66.
- 849,588. HOOF & HORN. W. D. Brown and R. E. Worthington (joint owners), d.b.a. Hoof and Horn, Hoof 'N Horn, and Hoof & Horn. SN 260,522. Pub. 3-5-68. Filed 12-12-66.
- 849,589. VARSITY DRIVE INNS AND DESIGN. Varsity Drive Inns International, Inc. SN 264,353. Pub. 3-5-68. Filed 2-9-67.
- 849,590. KPI. Emile M. Croci, d.b.a. KPI. SN 265,615. Pub. 3-5-68. Filed 2-28-67.
- 849,591. RAMADA. Ramada Inns, Inc. SN 267,478. Pub. 3-5-68. Filed 3-22-67.
- 849,592. ECI AND DESIGN. Electronic Communications, Inc. SN 267,931. Pub. 2-6-68. Filed 3-30-67.

### Class 101—Advertising and Business

- 849,593. GIRL (DESIGN). Metropolitan Advertising Company. SN 249,549. Pub. 3-5-68. Filed 7-5-66.
- 849,594. GOOD YEAR AND WINGED FOOT DESIGN. The Goodyear Tire & Rubber Company. SN 251,627. Pub. 3-5-68. Filed 8-3-66.
- 849,595. GROTESQUE HUMAN FIGURES (DESIGN). Staff Builders International, Inc., by change of name and assignment from Staff Builders, Inc. SN 251,660. Pub. 3-5-68. Filed 8-3-66.
- 849,596. ICITA AND DESIGN. International Chain of Industrial and Technical Advertising Agencies. SN 253,884. Pub. 3-5-68. Filed 9-6-66.
- 849,597. SCAN AND DESIGN. Marketing Evaluations Incorporated. SN 258,560. Pub. 11-7-67. Filed 11-14-66.
- 849,598. BROWN'S TEMPORARY PERSONNEL AND DESIGN. Brown's Temporary Personnel of America, Inc. SN 265,267. Pub. 3-5-68. Filed 2-23-67.
- 849,599. MISCELLANEOUS DESIGN. Burland, Reiss, Murphy & Mosher, Inc., by change of name from Burland-Reiss, Inc. SN 273,028. Pub. 3-5-68. Filed 6-5-67.

### Class 102—Insurance and Financial

- 849,600. NN (DESIGN). Northwestern National Insurance Company of Milwaukee, Wisconsin. SN 274,980. Pub. 3-5-68. Filed 6-28-67.

### Class 103—Construction and Repair

- 849,601. SONAR-JET. Water Well Redevelopers, Inc. SN 254,204. Pub. 3-5-68. Filed 9-9-66.
- 849,602. RI. Ryan Incorporated of Wisconsin. SN 273,903. Pub. 3-5-68. Filed 6-14-67.

### Class 104—Communication

- 849,603. GOOD YEAR AND WINGED FOOT DESIGN. The Goodyear Tire & Rubber Company. SN 251,626. Pub. 3-5-68. Filed 8-3-66.
- 849,604. TRIGGERVISION. TNT Communications, Inc. SN 260,786. Pub. 3-5-68. Filed 12-14-66.

### Class 105—Transportation and Storage

- 849,605. INDIAN MAIDEN (DESIGN). Smith Banana Transport, Inc. SN 251,964. Pub. 3-5-68. Filed 8-8-66.
- 849,606. TA AND DESIGN. Trans-American Van Service, Inc. SN 252,602. Pub. 3-5-68. Filed 8-17-66.
- 849,607. GPX. The Greyhound Corporation. SN 266,327. Pub. 3-5-68. Filed 3-9-67.

### Class 107—Education and Entertainment

- 849,608. LOS CORRALEROS DE MAJAGUAL. Fabrica de Discos Fuentes S.A. SN 217,105. Pub. 3-5-68. Filed 4-22-65.

- 849,609. OUTWARD BOUND. Outward Bound, Inc. SN 235,220. Pub. 3-5-68. Filed 12-23-65.

- 849,610. GOLDEN GLOVES. New York News Charities, Inc., by change of name from The News Welfare Association, Inc. SN 264,086. Pub. 1-9-68. Filed 2-6-67.

- 849,611. WHITE SOCK (DESIGN). Artnell Company. SN 267,304. Pub. 3-5-68. Filed 3-22-67.

- 849,612. PLAYER AND WHITE SOCK (DESIGN). Artnell Company. SN 267,305. Pub. 3-5-68. Filed 3-22-67.

### Collective Membership Marks

### Class 200

- 849,613. INTERNATIONAL SANITARY SUPPLY ASSOCIATION AND DESIGN. International Sanitary Supply Association. SN 261,217. Pub. 3-5-68. Filed 12-21-66.
- 849,614. T TOASTMASTERS INTERNATIONAL ETC. AND DESIGN. Toastmasters International. SN 268,537. Pub. 3-5-68. Filed 4-6-67.
- 849,615. UNITED STATES GYMNASTICS FEDERATION AND DESIGN. The United States Gymnastics Federation. SN 268,801. Pub. 3-5-68. Filed 4-10-67.
- 849,616. INH AND DESIGN. National Association of Independent Nursing Homes, Inc. SN 269,777. Pub. 3-5-68. Filed 4-21-67.

## SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

### Class 2—Receptacles

- 849,617. Union Carbide Corporation, New York, N.Y. SN 273,431. Filed P.R. 6-8-67; Am. S.R. 2-27-68.

### Class 22—Games, Toys, and Sporting Goods

- 849,620. Alfred J. Strauss, Jr., Lexington, Ky. SN 259,485. Filed P.R. 11-25-66; Am. S.R. 3-8-68.

## STACK-A-DRUM

For Plastic Drums for the Transportation and Storage of Materials (Int. Cl. 20).  
First use May 31, 1962.

### Class 17—Tobacco Products

- 849,618. Service d'Exploitation Industrielle des Tabacs et Allumettes, Baltimore, Md. SN 265,740. Filed P.R. 3-1-67; Am. S.R. 2-28-68.

## FRANCAISE

Owner of French Reg. No. 709,292, dated Apr. 20, 1966.  
For Cigarettes (Int. Cl. 34).

- 849,619. Lane Limited, New York, N.Y. SN 286,484. Filed 12-7-67.

## POPULAR BLEND

For Smoking Tobacco (Int. Cl. 34).  
First use October 1944.



For Equipment Including Game Playing Board, Game Spinner Board, and Score Card Sold as a Unit for Playing a Miniature Indoor Type Golf Game (Int. Cl. 28).  
First use Nov. 9, 1966.

### Class 29—Brooms, Brushes, and Dusters

- 849,621. Johnson & Johnson, New Brunswick, N.J. SN 285,479. Filed 11-24-67.  
The mark comprises the configuration of a six-sided container.



For All-Purpose Wiping Cloths (Int. Cl. 21).  
First use Nov. 17, 1967.



**Class 30—Crockery, Earthenware, and Porcelain**

849,622. Shenango Ceramics, Inc., New Castle, Pa. SN 244,929. Filed P.R. 5-4-66; Am. S.R. 3-6-68.

**DEVEREAUX**

For China Dinnerware (Int. Cl. 21).  
First use Nov. 8, 1965.

**Class 32—Furniture and Upholstery**

849,623. Harold Green, d.b.a. Green Industries, Phoenix, Ariz. SN 259,548. Filed P.R. 11-28-66; Am. S.R. 1-10-68.

**SNAP-LOC**

For Lawn Furniture, Luggage Racks, Waiter Tray Stands, and Litters (Int. Cl. 20).  
First use Jan. 1, 1966.

849,624. Lakeland Products Company, Inc., Lakeland, Fla. SN 270,496. Filed P.R. 5-2-67; Am. S.R. 3-15-68.

**BABY GUARD**

For Panels To Confine Infants on a Bed (Int. Cl. 20).  
First use on or about Mar. 6, 1967.

**Class 37—Paper and Stationery**

849,625. International Paper Company, New York, N.Y. SN 268,314. Filed P.R. 4-4-67; Am. S.R. 3-18-68.

**EASI-STRIP**

For Paper Substrate for Strippable Wall Covering (Int. Cl. 27).  
First use Mar. 15, 1967.

**Class 38—Prints and Publications**

849,626. Hallmark Cards, Incorporated, Kansas City, Mo. SN 260,851. Filed P.R. 12-15-66; Am. S.R. 3-28-68.

**NOSTALGIC EARLY AMERICAN SCENES**

For Daily Memorandum Calendars (Int. Cl. 16).  
First use June 1, 1966.

849,627. Hallmark Cards, Incorporated, Kansas City, Mo. SN 260,852. Filed P.R. 12-15-66; Am. S.R. 3-28-68.

**TINY TOTS**

For Engagement Calendars (Int. Cl. 16).  
First use June 1, 1966.

849,628. Chicago Association of Commerce and Industry, Chicago, Ill. SN 266,861. Filed P.R. 3-16-67; Am. S.R. 3-28-68.

**COMMERCE**

For Magazine Published Monthly (Int. Cl. 16).  
First use Jan. 24, 1967; Feb. 7, 1931, as to the mark "Commerce."

849,629. Hallmark Cards, Incorporated, Kansas City, Mo. SN 267,247. Filed P.R. 3-21-67; Am. S.R. 3-28-68.

**jewish wisdom**

For Memoranda Calendars (Int. Cl. 16).  
First use Feb. 15, 1967.

849,630. Hallmark Cards, Incorporated, Kansas City, Mo. SN 267,250. Filed P.R. 3-21-67; Am. S.R. 3-28-68.

**SONGBIRDS**

For Memoranda Calendars (Int. Cl. 16).  
First use Feb. 15, 1967.

**Class 44—Dental, Medical, and Surgical Appliances**

849,631. Abbott Laboratories, d.b.a. Ross Laboratories, Columbus, Ohio. SN 248,949. Filed P.R. 6-27-66; Am. S.R. 3-14-68.

**TWIST-ON**

For Nipples Used for Infant Feeding (Int. Cl. 10).  
First use Jan. 10, 1966.

**Class 50—Merchandise Not Otherwise Classified**

849,632. Kolor Kurb Corporation, Northbrook, Ill. SN 261,221. Filed P.R. 12-21-66; Am. S.R. 3-29-68.

**KOLOR KURB**

For Metal Parking Barriers (Int. Cl. 6).  
First use September 1963.

**Service Marks****Class 101—Advertising and Business**

849,633. Dimensional Lithographers, Inc., New York, N.Y. SN 237,677. Filed P.R. 2-1-66; Am. S.R. 2-26-68.

**KWIK KOPY**

For Printing and Lithography (Int. Cl. 35).  
First use Nov. 10, 1965.

849,634. Patent Exhibits Incorporated, New York, N.Y. SN 250,396. Filed P.R. 7-15-66; Am. S.R. 3-11-68.

**INTERNATIONAL INVENTORS AND NEW PRODUCTS EXHIBITION**

For Staging Trade Exhibitions Featuring Inventions and New Products (Int. Cl. 35).  
First use Dec. 15, 1964.

**Class 105—Transportation and Storage**

849,635. Cars, Incorporated, Elkhart, Ind. SN 228,007. Filed P.R. 9-17-65; Am. S.R. 10-11-67.

**CARS INC.**

For Leasing Automobiles and Trucks (Int. Cl. 39).  
First use Nov. 1, 1963.

849,636. Sandberg Travel Bureau, Inc., d.b.a. Sandberg Travel Tours, Los Angeles, Calif. SN 261,524. Filed P.R. 12-27-66; Am. S.R. 2-23-68.

**THE FOUR-CAPITALS TOUR**

For Travel Tour Planning and Hotel Reservation Services (Int. Cl. 39).  
First use Aug. 1, 1964.

**TRADEMARK REGISTRATIONS RENEWED**

|   |  |
|---|--|
| 67,495. HALCYON. Cl. 46 (Int. Cl. 29). 2-4-08.                                | 437,765. EYE-FUL AND DESIGN. Cl. 39 (Int. Cl. 25). 3-30-48.            |
| 68,209. "P" ENCLOSED BY A CIRCLE. Cl. 9 (Int. Cl. 13). 3-17-08.               | 437,924. HIGHLAND QUEEN ETC. AND DESIGN. Cl. 49 (Int. Cl. 33). 4-6-48. |
| 68,653. K & E. Cl. 26 (Int. Cl. 9). 4-21-08.                                  | 438,196. SONELLA. Cl. 36 (Int. Cl. 15). 4-13-48.                       |
| 70,444. ICY-HOT. Cl. 2 (Int. Cl. 21). 9-1-08.                                 | 438,203. ESCO. Cl. 6 (Int. Cls. 1 and 4). 4-13-48.                     |
| 233,928. ROYAL PALM ICE. Cl. 1 (Int. Cl. 30). 10-11-27.                       | 438,249. ESCO. Cl. 12 (Int. Cl. 1). 4-13-48.                           |
| 237,054. ANCHOR BRAND. Cl. 28 (Int. Cl. 14). 1-3-28.                          | 438,259. UNIPAR. Cl. 12 (Int. Cl. 17). 4-13-48.                        |
| 237,055. REPRESENTATION OF AN ANCHOR. Cl. 3 (Int. Cls. 6 and 18). 1-3-28.     | 438,353. PEACOCK. Cl. 27 (Int. Cl. 14). 4-13-48.                       |
| 237,056. ANCHOR BRAND. Cl. 3 (Int. Cls. 6 and 18). 1-3-28.                    | 438,772. FACO AND DESIGN. Cl. 28 (Int. Cl. 14). 5-11-48.               |
| 237,068. AQUA-SEAL. Cl. 12 (Int. Cl. 19). 1-3-28.                             | 438,844. VITA-SAN. Cl. 18 (Int. Cl. 5). 5-11-48.                       |
| 237,840. MACHINE ROIRANT. Cl. 23 (Int. Cl. 7). 1-17-28.                       | 438,866. PEACOCK. Cl. 28 (Int. Cl. 14). 5-11-48.                       |
| 237,956. INOVATION. Cl. 39 (Int. Cl. 25). 1-24-28.                            | 438,867. C. D. PEACOCK. Cl. 28 (Int. Cl. 14). 5-11-48.                 |
| 240,162. LISTERINE. Cl. 51 (Int. Cls. 3 and 5). 3-20-28.                      | 438,923. PERFLOW. Cl. 6 (Int. Cl. 1). 5-18-48.                         |
| 240,535. ATHEY. Cl. 19 (Int. Cl. 12). 3-27-28.                                | 439,121. DEFENDA-BILT AND DESIGN. Cl. 32 (Int. Cl. 20). 6-1-48.        |
| 240,709. "BEST FOODS FANNINGS" ETC. AND DESIGN. Cl. 46 (Int. Cl. 29). 4-3-28. | 439,298. DECISION. Cl. 51 (Int. Cl. 3). 6-15-48.                       |
| 240,718. "INSULKOTE" AND HEAVY UNDERLINE. Cl. 12 (Int. Cl. 17). 4-3-28.       | 439,334. MASTER. Cl. 29 (Int. Cl. 21). 6-22-48.                        |
| 242,078. SOAPPERFECT. Cl. 52 (Int. Cl. 3). 5-15-28.                           | 439,397. CECO. Cl. 23 (Int. Cl. 7). 6-22-48.                           |
| 242,884. RAY-O-VAC. Cl. 21 (Int. Cls. 9 and 11). 6-5-28.                      | 439,506. OXWELD. Cl. 39 (Int. Cl. 9). 7-6-48.                          |
| 243,001. A. W. FABER. Cl. 37 (Int. Cl. 16). 6-12-28.                          | 439,702. PINK FROSTING. Cl. 51 (Int. Cl. 3). 7-13-48.                  |
| 243,291. NEETOL. Cl. 6 (Int. Cl. 4). 6-19-28.                                 | 439,767. POWER-LINE. Cl. 13 (Int. Cl. 6). 7-20-48.                     |
| 243,292. ACIDOLONE. Cl. 6 (Int. Cl. 4). 6-19-28.                              | 439,878. QUAKER AND DESIGN. Cl. 46 (Int. Cl. 30). 7-27-48.             |
| 244,091. "SWANS DOWN" ETC. AND DESIGN. Cl. 46 (Int. Cl. 30). 7-10-28.         | 439,958. CORN-HUSKER AND DESIGN. Cl. 49 (Int. Cl. 33). 8-3-48.         |
| 244,130. CHROMOL. Cl. 6 (Int. Cl. 4). 7-10-28.                                | 440,019. ZO-TITE BLOCK SAVER. Cl. 6 (Int. Cl. 17). 8-3-48.             |
| 244,179. SANTA YSABEL. Cl. 46 (Int. Cl. 29). 7-17-28.                         | 440,051. SABOTAGE. Cl. 51 (Int. Cl. 3). 8-10-48.                       |
| 244,591. LAND O'CORN. Cl. 46. (Int. Cl. 29). 7-24-28.                         | 440,100. ALUMIWALL. Cl. 12 (Int. Cl. 19). 8-10-48.                     |
| 245,223. "MAGNOLIA BRAND" ETC. AND DESIGN. Cl. 46 (Int. Cl. 29). 8-7-28.      | 440,117. SHAKERTOWN. Cl. 12 (Int. Cl. 19). 8-10-48.                    |
| 245,370. CELLEEN. Cl. 1 (Int. Cl. 1). 8-14-28.                                | 440,185. P AND ARROW DESIGN. Cl. 19 (Int. Cl. 12). 8-17-48.            |
| 245,846. "ZILDJIAN." Cl. 36 (Int. Cl. 15). 8-21-28.                           | 440,329. PRISMLITE. Cl. 28 (Int. Cl. 14). 8-24-48.                     |
| 246,470. MANCHU. Cl. 1 (Int. Cl. 22). 9-11-28.                                | 440,392. IRGAMINE. Cl. 6 (Int. Cl. 1). 8-31-48.                        |
| 433,529. EXTRA DRY. Cl. 51 (Int. Cl. 5). 10-14-47.                            | 500,083. CUE. Cl. 51 (Int. Cl. 3). 4-13-48.                            |
| 436,026. MISCELLANEOUS DESIGN. Cl. 37 (Int. Cl. 16). 1-20-48.                 | 500,402. AERZONATOR. Cl. 6 (Int. Cl. 5). 5-18-48.                      |
| 436,364. M.B. CO. Cl. 23 (Int. Cl. 8). 2-3-48.                                | 500,536. COLORCRON. Cl. 12 (Int. Cl. 1). 6-1-48.                       |
| 436,856. WIG-TORY. Cl. 42 (Int. Cl. 24). 3-8-48.                              | 500,666. N AND DESIGN. Cl. 33 (Int. Cl. 21). 6-15-48.                  |
| 436,906. NAPA VISTA. Cl. 47 (Int. Cl. 33). 3-2-48.                            | 500,677. ROYAL PEERS. Cl. 42 (Int. Cl. 24). 6-15-48.                   |
| 437,175. PEPPERMINT PINK. Cl. 51 (Int. Cl. 3). 3-9-48.                        | 500,840. ETOWAH. Cl. 12 (Int. Cl. 19). 7-6-48.                         |
| 437,210. WHISTLE RED. Cl. 51 (Int. Cl. 3). 3-9-48.                            | 500,844. TY-TONE. Cl. 7 (Int. Cl. 26). 7-6-48.                         |
| 437,320. EITHEREND. Cl. 21 (Int. Cl. 9). 3-16-48.                             | 500,859. CHEMCLAD. Cl. 21 (Int. Cl. 9). 7-6-48.                        |
| 437,420. DIMETCOTE. Cl. 16 (Int. Cl. 2). 3-23-48.                             | 500,924. SNUG-EMS. Cl. 39 (Int. Cl. 25). 7-6-48.                       |
| 437,459. GLOBE AND DESIGN. Cl. 46 (Int. Cl. 30). 3-23-48.                     | 500,989. OVATION. Cl. 37 (Int. Cl. 16). 7-13-48.                       |
| 437,468. TELEVAC. Cl. 26 (Int. Cl. 9). 3-23-48.                               | 501,068. EV-R-UP. Cl. 39 (Int. Cl. 25). 7-20-48.                       |
|   | 501,545. HEET. Cl. 15 (Int. Cl. 1). 8-17-48.                           |
|   | 501,659. D & D. Cl. 6 (Int. Cl. 1). 8-17-48.                           |

**TRADEMARK REGISTRATIONS CANCELED**

|   |  |
|---|--|
| <b>Section 7(d)</b>                             |  |
| 846,424. IMPROMPTU. Cl. 52. 3-19-68.            | 729,316. DYNA-GRADED. Cl. 4.               |
| <b>Section 8</b>                                |  |
| 150,464. SUN & MOON. Cl. 18. 1-3-22.            | 729,317. SHETLAND CARES AND DESIGN. Cl. 4. |
| 155,220. MMECON. Cl. 11. 5-23-22.               | 729,318. SAF T MOUNT. Cl. 6.               |
| The following registrations issued Apr. 3, 1968 |  |
| 729,300. WESCO. Cl. 1.                          | 729,322. RAY-NO. Cl. 6.                    |
| 729,304. A.O.K. Cl. 1.                          | 729,331. REYNOCORE. Cl. 12.                |
| 729,305. GLO-WHITE. Cl. 1.                      | 729,333. TUFCON AND DESIGN. Cl. 12.        |
| 729,306. NON-COR ETC. AND DESIGN. Cl. 2.        | 729,342. HEART SAVER. Cl. 13.              |
| 729,307. SELLEX. Cl. 2.                         | 729,343. SPECTROPURE. Cl. 14.              |
|   | 729,344. E AND ARC SYMBOL. Cl. 14.         |
|   | 729,345. E AND FLAME SYMBOL. Cl. 14.       |
|   | 729,346. QUENCHARC. Cl. 14.                |
|   | 729,351. VITRA-TINT. Cl. 16.               |
|   | 729,353. TOUGHY ONE COAT. Cl. 16.          |
|   | 729,356. "LITTLE SHIP" AND DESIGN. Cl. 16. |
|   | 729,359. LITTLE LUG'S FAVORITES. Cl. 17.   |



729,364. FLORILAXAN. Cl. 18.  
 729,365. KROSS KIT AND DESIGN. Cl. 18.  
 729,366. MEDIFURAN. Cl. 18.  
 729,367. BEL-CRAFT. Cl. 19.  
 729,370. DURA. Cl. 19.  
 729,371. HOLLY. Cl. 19.  
 729,372. DENISON ELECTROILIC. Cl. 21.  
 729,374. MIMEOFAX. Cl. 21.  
 729,375. VALIANT. Cl. 21.  
 729,382. DEVIL DOG AND DESIGN. Cl. 21.  
 729,383. SHETLAND CARES AND DESIGN. Cl. 21.  
 729,384. SOXCO-MIGWELD. Cl. 21.  
 729,385. PDQ. Cl. 21.  
 729,386. EXPERIENCE AND DESIGN. Cl. 21.  
 729,391. MO MOTE. Cl. 23.  
 729,392. HILLIFT. Cl. 23.  
 729,396. PRO FLOOR MACHINES AND DESIGN. Cl. 23.  
 729,406. PORTOLAB. Cl. 26.  
 729,414. STRATA-CORE. Cl. 26.  
 729,415. ABT. Cl. 26.  
 729,416. DI (WRITTEN IN THE FORM OF GEARS). Cl. 26.  
 729,419. CONSISTODYNE. Cl. 26.  
 729,421. BAR-GENIE. Cl. 26.  
 729,425. SWING-CHRONIZER. Cl. 26.  
 729,426. ALLCO. Cl. 26.  
 729,429. NAV-I-LOG. Cl. 26.  
 729,430. LAMNATRACK. Cl. 26.  
 729,438. AUTOTRAC. Cl. 26.  
 729,442. 14K WITHIN LETTER S. Cl. 28.  
 729,445. FLIPSTIK. Cl. 29.  
 729,447. MAJESTIC. Cl. 30.  
 729,449. SIMPLICITY. Cl. 32.  
 729,451. EISEN-BILT. Cl. 32.  
 729,452. NEVAMAR PDC. Cl. 32.  
 729,455. STEAK TROOPER AND STAR DESIGN ETC. Cl. 34.  
 729,456. PULSAMATIC. Cl. 34.  
 729,462. PW QUALITY AND SHIELD DESIGN. Cl. 35.  
 729,463. GO-KAPS. Cl. 35.  
 729,465. SIZOID. Cl. 35.  
 729,467. BESTOLOY. Cl. 35.  
 729,468. SOUNDTASTIC. Cl. 36.

729,470. BEACH. Cl. 36.  
 729,472. OAK AND DESIGN. Cl. 36.  
 729,481. THE KENTUCKY FARMER. Cl. 38.  
 729,482. IR AND DESIGN. Cl. 38.  
 729,483. OAKMONT SUGAR BEE. Cl. 39.  
 729,484. CONTEMPORARIES. Cl. 39.  
 729,485. CAROL LEE. Cl. 39.  
 729,487. ATS ETC. Cl. 39.  
 729,489. THE SHIRTIK. Cl. 39.  
 729,490. EV-R-DRY. Cl. 39.  
 729,491. NEVA-RASH. Cl. 39.  
 729,492. E.P.B.Q. Cl. 39.  
 729,493. MORCOSIA. Cl. 39.  
 729,495. HONEY BEAU. Cl. 39.  
 729,496. NOWETO. Cl. 39.  
 729,510. SOLARON. Cl. 42.  
 729,511. WONDANA. Cl. 42.  
 729,512. AQUA-GLAS AND DESIGN. Cl. 42.  
 729,516. BELRAY. Cl. 44.  
 729,517. CERAMATYPE. Cl. 44.  
 729,520. FREEDOM RING. Cl. 44.  
 729,528. MR. RICH AND REPRESENTATION OF MAN'S HEAD. Cl. 46.  
 729,531. CRADDOCK'S BETTY. Cl. 46.  
 729,533. COUNTRY RUN. Cl. 46.  
 729,539. ARKAY AND DESIGN. Cl. 50.  
 729,540. BALLERINA. Cl. 50.  
 729,541. HEIRESS. Cl. 50.  
 729,542. PAK-LITE. Cl. 50.  
 729,545. TANSATION PLUS. Cl. 51.  
 729,547. B-SIX. Cl. 51.  
 729,552. TOUCH OF GOLD. Cl. 51.  
 729,553. DEN-DISC. Cl. 51.  
 729,561. GIRTRIP. Cl. 105.  
 729,564. TWIN-SERVICE ETC. AND DESIGN. Cl. 106.  
 185,161. BOOTH'S CRESCENT AND DESIGN. Cl. 46.  
 264,475. "PANTHER" AND DRAWING. Cl. 39.  
 736,910. BIG DADDY'S. Cl. 101.  
 800,078. RUBINOFF. Cl. 49.  
 808,240. TELE-SYSTEMS. Cl. 21.  
 820,842. SIGMA SWABS. Cl. 44.

## TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

232,936. THE TRIAD OF ACACIA. Cl. 38. 9-20-27. Acacia Fraternity. Acacia Fraternity Incorporated, Evanston, Ill. Corrected: In the statement, column 1, lines 1 and 2, "a corporation duly organized under the laws of the State of Michigan" should be deleted and *voluntary association of Michigan* should be inserted.

578,143. TAB-WELD. Cl. 21. 8-4-53. The Electric Controller & Manufacturing Company. Square D Company, Park Ridge, Ill. Amended: In the statement, column 2, lines 3 and 4 are deleted, and the drawing is amended to appear:

### TAB-WELD

642,227. ARMORHIDE. Cl. 16. 3-5-57. John L. Armitage & Co., Newark, N.J. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

645,641. ARMORSOL. Cl. 16. 5-21-57. John L. Armitage & Co., Newark, N.J. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

659,365. PACKAGING PANORAMA AND DESIGN. Cl. 38. 3-11-58. The Dow Chemical Company, Midland, Mich. Amended to appear:

### PACKAGING PANORAMA

716,976. REPRESENTATION OF STAG'S HEAD AND DESIGN. Cl. 101. 6-13-61. Woodward & Lothrop Incorporated, Washington, D.C. Amended to appear:



740,937. HOG EXTRA. Cl. 38. 11-20-62. Farm Journal, Inc., Philadelphia, Pa. Amended: In the statement, column 2, line 2, "quarterly" is deleted and *periodically* is inserted.

741,224. FLOWMASTER. Cl. 23. 11-27-62. Fisher & Ludlow Limited. Fisholow Products Limited, Birmingham, England. Amended: In the statement, column 2, line 1, "conveyors (machines)" is deleted and *overhead conveyors* is inserted.

801,677. ARMORETTE. Cl. 16. 1-11-66. John L. Armitage & Co., Newark, N.J. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

806,265. ARMORLITE. Cl. 16. 3-29-66. John L. Armitage & Co., Newark, N.J. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

806,619. ARMORGRAIN. Cl. 16. 4-5-66. John L. Armitage & Co., Newark, N.J. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

806,620. ARMORITE. Cl. 16. 4-5-66. John L. Armitage & Co., Newark, N.J. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

808,346. ARMORGLAZE. Cl. 16. 5-17-66. John L. Armitage & Co., Newark, N.J. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

838,698. LITTLE GIANT. Cl. 21. 11-14-67. Fisher Radio Corporation, Long Island City, N.Y. Corrected: In the statement, column 2, line 1, "transistors" should be deleted and *transducers* should be inserted.

839,757. NATIONAL ASSOCIATION OF DEALERS IN ANTIQUES, INC. ETC. AND DESIGN. Cl. 200. 11-28-67. National Association of Dealers in Antiques, Inc., White-water, Wis. Corrected: In the statement, column 1, lines 1 and 2 "Wisconsin" should be deleted and *Colorado* should be inserted.

844,544. FURNACE SITTER. Cl. 26. 2-20-68. Newell's Corporation, Madison, Wis. Corrected: In the statement, column 2, line 2, "Warning" should be deleted and *warning* should be inserted.

844,830. FRONTIER. Cl. 7. 2-27-68. N.V. Lankhorst Touwfabrieken, Sneek, Netherlands. Corrected: In the statement, column 1, line 1, "Lankhurst" should be deleted and *Lankhorst* should be inserted.

844,831. DESERT ROSE. Cl. 7. 2-27-68. N.V. Lankhorst Touwfabrieken, Sneek, Netherlands. Corrected: In the statement, column 1, line 1, "Lankhurst" should be deleted and *Lankhorst* should be inserted.

845,930. TOLAS. Cl. 38. 3-12-68. Tompkins' Label Service, Philadelphia, Pa. Corrected: In the statement, column 2, line 1, before "labels" printed should be inserted.



# INDEX OF REGISTRANTS

MAY 21, 1968

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- Abbott Laboratories, d.b.a. Ross Laboratories, Columbus, Ohio. 849,631, Cl. 44.  
 Acacia Fraternity, to Acacia Fraternity Inc., Evanston, Ill. 232,936, cor. Cl. 38.  
 Acme Cotton Products Co., Inc., Valley Stream, N.Y. 820,842, can. Cl. 44.  
 Addip Additives: See—  
 Hook, Ray.  
 Advico, Inc., Yakima, Wash. 849,536, pub. 12-19-67. Cl. 46.  
 Air Products and Chemicals, Inc., Allentown, Pa., from Southern Oxygen Co., Bladensburg, Md. 729,384, can. Cl. 21.  
 Aktiebolaget Kanthal, Hallstahammar, Sweden. 849,313, pub. 3-5-68. Cl. 21.  
 Albany Felt Co., Albany, N.Y. 849,496, pub. 3-5-68. Cl. 42.  
 Allied Learning Laboratory Companies: See—  
 American Bystronics, Inc.  
 Altec, Inc., Birmingham, Ala. 849,304, pub. 3-5-68. Cl. 19.  
 Altenberg, George F., Cincinnati, Ohio, to King-Seeley Thermos Co., Ann Arbor, Mich. 70,444, ren. 5-21-68. Cl. 2.  
 Alton Box Board Co., Wilmington, Del. 849,227, pub. 3-5-68. Cl. 2.  
 Aluminum Co. of America, Pittsburgh, Pa. 436,026, ren. 5-21-68. Cl. 37.  
 Aluminum Housewares Co., Inc., St. Louis, Mo. 729,342, can. Cl. 13.  
 Amalgamated Leather Companies, Inc., Wilmington, Del. 729,304, can. Cl. 1.  
 Amercoat Corp.: See—  
 Di-Met Proprietary Ltd.  
 American Brake Shoe Co., New York, N.Y. 729,372, can. Cl. 21.  
 American Cyanamid Co., Wayne, N.J. 849,232-3, pub. 3-5-68. Cl. 4.  
 American Distilling Co., The, d.b.a. The American Distilling Co., Inc., New York, N.Y. 849,555, pub. 3-5-68. Cl. 49.  
 American Distilling Co., Inc., The: See—  
 American Distilling Co., The.  
 American Furniture Co., Inc., Martinsville, Va. 849,389, pub. 3-5-68. Cl. 32.  
 American Hospital Supply Corp., Evanston, Ill. 849,391, pub. 3-5-68. Cl. 32.  
 American Magnetic Film Stripping Corp., New York, N.Y. 729,430, can. Cl. 26.  
 American-Marietta Co., Pittsburgh, Pa. 729,351, can. Cl. 16.  
 American Porcelain and Plastic Tooth Co., Ltd., Nahlat Yishak, near Tel Aviv, Israel. 729,516, can. Cl. 44.  
 American Systronics, Inc., Los Angeles, from Allied Learning Laboratory Companies, Santa Monica, Calif. 729,426, can. Cl. 26.  
 American Thread Co., The, New York, N.Y. 849,506-8, pub. 3-5-68. Cl. 43.  
 American Tobacco Co., The, New York, N.Y. 849,275, pub. 3-5-68. Cl. 17.  
 Anasco Arznei- und Gesundheitspflegemittel G.m.b.H., Wesbaden, Germany. 729,364, can. Cl. 18.  
 Anchor Hocking Glass Corp., Lancaster, Ohio. 849,392, pub. 5-16-67. Cl. 33.  
 Anderson, Albert & J. M., Mfg. Co., to Anderson Power Products Inc., Boston, Mass. 437,320, ren. 5-21-68. Cl. 21.  
 Anderson Power Products Inc.: See—  
 Anderson, Albert & J. M., Mfg. Co.  
 Antennacraft Co., Burlington, Iowa. 849,317, pub. 3-5-68. Cl. 21.  
 Apollo Apparel, Inc., Andalusia, Ala. 849,470, pub. 3-5-68. Cl. 39.  
 Arden, Elisabeth, Sales Corp., New York, N.Y. 849,574, pub. 3-5-68. Cl. 51.  
 Armitage, John L., & Co., Newark, N.J. 842,227, cor. Cl. 16.  
 Armitage, John L., & Co., Newark, N.J. 845,641, cor. Cl. 16.  
 Armitage, John L., & Co., Newark, N.J. 806,265, cor. Cl. 16.  
 Armitage, John L., & Co., Newark, N.J. 808,346, cor. Cl. 16.  
 Armitage, John L., & Co., Newark, N.J. 806,619-20, cor. Cl. 16.  
 Armitage, John L., & Co., Newark, N.J. 801,677, cor. Cl. 16.  
 Artnell Co., Chicago, Ill. 849,611-2, pub. 3-5-68. Cl. 107.  
 Ashland Oil & Refining Co., Cleveland, Ohio. 849,239, pub. 3-5-68. Cl. 5.  
 Asti Products, Inc., New York, N.Y. 849,486, pub. 3-5-68. Cl. 40.  
 Atech Enterprises, Inc., North Amityville, N.Y. 849,333, pub. 3-5-68. Cl. 22.  
 Athey Products Corp.: See—  
 Athey Truss Wheel Co.  
 Athey Truss Wheel Co., Chicago, Ill., to Athey Products Corp., Raleigh, N.C. 240,535, ren. 5-21-68. Cl. 19.  
 Atlantic Lures, Inc., Providence, R.I. 849,324, pub. 3-5-68. Cl. 22.  
 Atlantic Richfield Co., Philadelphia, Pa. 849,363, pub. 3-5-68. Cl. 15.  
 Atlas Chemical Industries, Inc., Wilmington, Del. 849,245, pub. 3-5-68. Cl. 9.  
 Atmanspacher, A., Ehrenfriedersdorf, Germany. 264,475, can. Cl. 39.  
 Atomic Basic Chemicals Corp., Eighty Four, Pa. 849,289, pub. 3-5-68. Cl. 18.  
 Automatic Canteen Co. of America, Chicago, Ill. 729,415, can. Cl. 26.  
 Automatic Fire Alarm Co., New York, N.Y. 849,309, pub. 3-5-68. Cl. 21.  
 Avis Rent-A-Car System, Inc., Garden City, N.Y. 849,305, pub. 3-5-68. Cl. 19.  
 Avon Products, Inc., New York, N.Y. 846,424, can. Cl. 52.  
 Badger Research Corp., Madison, Wis. 849,220, pub. 3-5-68. Cl. 1.  
 Baker Mfg. Co., The, Tampa, Fla. 849,357, pub. 3-5-68. Cl. 23.  
 Balch Flavor Co., Pittsburgh, Pa. 849,281, pub. 3-5-68. Cl. 18.  
 Balmforth, L. P., & Son, Leeds, England. 438,196, ren. 5-21-68. Cl. 36.  
 Bar Automation, Inc., Chicago, Ill. 729,421, can. Cl. 26.  
 Barton's Candy Corp., Brooklyn, N.Y. 849,588, pub. 3-5-68. Cl. 46.  
 Bates, John S., d.b.a. A. M. Moore Brokerage Co., Charleston, S.C. 849,527, pub. 3-5-68. Cl. 46.  
 Bauer, Eddie: See—  
 Niemi, William F., Co.  
 Beck, A. S., Shoe Corp., New York, N.Y. 849,449, pub. 3-5-68. Cl. 39.  
 Beck, A. S., Shoe Corp., New York, N.Y. 849,465-6, pub. 3-5-68. Cl. 39.  
 Bel-Craft Inc., Linkwood, Md. 729,367, can. Cl. 19.  
 Beldoch Popper, Inc., New York, N.Y. 849,464, pub. 3-5-68. Cl. 39.  
 Bemis Co., Inc., Minneapolis, Minn. 849,223, pub. 3-5-68. Cl. 2.  
 Benedict, Robert D., d.b.a. Otsego County Herald-Times, Gaylord, Mich. 849,422, pub. 3-5-68. Cl. 38.  
 Bergel of Hollywood, Inc., Hollywood, Calif. 849,576, pub. 3-5-68. Cl. 51.  
 Bernardo Music, Inc., New York, N.Y. 729,470, can. Cl. 38.  
 Bertolla, A., & Sons, Loxley, Ala. 849,539, pub. 3-5-68. Cl. 46.  
 Bestile Mfg. Co., Ontario, Calif. 440,100, ren. 5-21-68. Cl. 12.  
 Bibb Mfg. Co., Macon, Ga. 849,498, pub. 3-5-68. Cl. 42.  
 Big Daddy's Enterprises, La Jolla, Calif. 736,910, can. Cl. 101.  
 Bissette Co.: See—  
 Bissette, Edward W.  
 Bissette, Edward W., d.b.a. Bissette Co., Clinton, N.C. 849,241, pub. 3-5-68. Cl. 6.  
 Bia Band Suppe-Produkt A/S (Solofabrikken A/S), Copenhagen, Denmark. 849,529, pub. 3-5-68. Cl. 46.  
 Blanchard Importing & Distributing Co., Inc., Boston, Mass. 800,078, can. Cl. 49.  
 Blenheim, Hans, Co.: See—  
 Jacquelin, Charles, et Cie, Inc.  
 Blickman, S., Inc., Weehawken, N.J. 729,449, can. Cl. 32.  
 Block Magic Products: See—  
 Rosenkrantz, William.  
 Blue Bell, Inc., Greensboro, N.C. 849,475-7, pub. 3-5-68. Cl. 39.  
 Blue Bell, Inc., Greensboro, N.C. 849,479-80, pub. 3-5-68. Cl. 39.  
 Blue Bell, Inc., Greensboro, N.C. 849,482-3, pub. 3-5-68. Cl. 39.  
 Blue Gem Mfg. Co., Greensboro, N.C. 849,451, pub. 3-5-68. Cl. 39.  
 Bogan, Robert T., Jr.: See—  
 Customwood Mfg. Co.  
 Booth, F. E., Co., San Francisco, Calif. 185,161, can. Cl. 46.  
 Borden Co., The: See—  
 Geneva Preserving Co.  
 Borden Co., The, New York, N.Y. 245,223, ren. 5-21-68. Cl. 46.  
 Botany Industries, Inc., d.b.a. Rolley Co., Reno, Nev. 729,545, can. Cl. 51.  
 Bowers Printing Ink Co., Chicago, Ill. 849,246, pub. 3-5-68. Cl. 11.  
 Bradley, Milton, Co., Springfield, Mass. 436,364, ren. 5-21-68. Cl. 23.  
 Bradley, Milton, Co., Springfield, Mass. 849,335, pub. 3-5-68. Cl. 22.  
 Breck, John H., Inc., Springfield, Mass. 849,570, pub. 3-5-68. Cl. 51.  
 Brett, David, Inc., Boston, Mass. 849,458, pub. 3-5-68. Cl. 39.  
 Bristol-Myers Co., New York, N.Y. 849,285-6, pub. 3-5-68. Cl. 18.  
 Bristol-Myers Co., New York, N.Y. 849,293-4, pub. 3-5-68. Cl. 18.  
 Bristol-Myers Co., New York, N.Y. 849,572, pub. 3-5-68. Cl. 51.  
 British Paints Ltd., Newcastle-on-Tyne, England. 729,356, can. Cl. 16.  
 Brown, W. D., and R. E. Worthington, d.b.a. Hoof and Horn, Hoof 'N Horn, and Hoof & Horn, North Charleston, S.C. 849,588, pub. 3-5-68. Cl. 100.



Brown's Temporary Personnel of America, Inc., Los Angeles, Calif. 849,598, pub. 3-5-68. Cl. 101.  
 Buffalo Forge Co., Buffalo, N.Y. 849,355, pub. 3-5-68. Cl. 23.  
 Burdick & Son, Inc., Albany, N.Y. 849,223, pub. 3-5-68. Cl. 2.  
 Burland, Reiss, Murphy & Mosher, Inc., from Burland-Reiss, Inc., Southfield, Mich. 849,599, pub. 3-5-68. Cl. 101.  
 Burland-Reiss, Inc.: See—  
 Burland, Reiss, Murphy & Mosher, Inc.  
 Burlington Industries, Inc.: See—  
 Peerless Woolen Mills.  
 Bushnell, D. P., & Co., Inc., Pasadena, from D. P. Bushnell, Altadena, Calif. 849,371, pub. 3-5-68. Cl. 26.  
 Bushnell, David P.: See—  
 Bushnell, D. P., & Co., Inc.  
 Buster Brown Textiles, Inc., Wilmington, Del. 849,461, pub. 3-5-68. Cl. 39.  
 Butcher, L. H., Co., Los Angeles, Calif. 729,512, can. Cl. 42.  
 Byard Mfg. Co., Ltd., Nottingham, England. 436,856, ren. 5-21-68. Cl. 42.  
 C.E.M. Co., Inc., Danielson, Conn. 849,259, pub. 3-5-68. Cl. 13.  
 Cameron Iron Works, Inc., Houston, Tex. 849,260, pub. 3-5-68. Cl. 13.  
 Cannon, H. P., & Son, Inc., Bridgeville, Del. 849,548, pub. 3-5-68. Cl. 46.  
 Carnation Co., Los Angeles, Calif. 849,545, pub. 3-5-68. Cl. 46.  
 Carolina Industrial Plastics Corp., Mount Airy, N.C., to Essex Wire Corp., Fort Wayne, Ind. 500,859, ren. 5-21-68. Cl. 21.  
 Cars, Inc., Elkhart, Ind. 849,635, Cl. 103.  
 Carter-Wallace, Inc., New York, N.Y. 849,287, pub. 3-5-68. Cl. 18.  
 Carworth, Inc., New City, N.Y. 849,200, pub. 3-5-68. Cl. 1.  
 Cataldo, Rex, Wilkes-Barre, Pa. 849,490, pub. 3-5-68. Cl. 40.  
 Catalina, Inc., Los Angeles, Calif. 849,468, pub. 3-5-68. Cl. 39.  
 Cederberg, Le Roy H., d.b.a. Kross Kit Products Co., Long Beach, Calif. 729,365, can. Cl. 18.  
 Cerac, Inc., Butler, Wis. 849,204, pub. 12-12-67. Cl. 1.  
 Charnacuticals, Inc., Los Angeles, Calif. 849,581, pub. 3-5-68. Cl. 51.  
 Chatham Co.: See—  
 Klosternan, James E.  
 Cheln, J., & Co., Burlington, N.J. 849,340, pub. 3-5-68. Cl. 22.  
 Chelsea Industries, Inc., d.b.a. Hope Webbing Co., Pawtucket, R.I. 849,316, pub. 3-5-68. Cl. 21.  
 Chicago Assn. of Commerce & Industry, Chicago, Ill. 849,628. Cl. 38.  
 Chicago Macaroni & Food Products, Chicago, Ill. 729,533, can. Cl. 46.  
 Chrysler Corp., Highland Park, Mich. 729,375, can. Cl. 21.  
 Cincinnati Soap Center: See—  
 Hammersmith, Lee.  
 Clairol Inc., New York, N.Y. 849,419, pub. 3-5-68. Cl. 38.  
 Clairol Inc., New York, N.Y. 849,565-8, pub. 3-5-68. Cl. 51.  
 Clairol Inc., New York, N.Y. 849,580, pub. 3-5-68. Multiple Class (Classes 51 and 52).  
 Cla-Val Co., Newport Beach, Calif. 849,262, pub. 3-5-68. Cl. 13.  
 Clover Chemical Co., Eighty-Four, Pa. 849,276, pub. 3-5-68. Cl. 18.  
 Cluett, Peabody & Co., Inc., Troy, N.Y. 849,478, pub. 3-5-68. Cl. 39.  
 Coglift Industries, Inc., Butler, Wis. 729,392, can. Cl. 23.  
 Colgate-Palmolive Co.: See—  
 Colgate-Palmolive-Peet Co.  
 Colgate-Palmolive-Peet Co., Jersey City, N.J., to Colgate-Palmolive Co., New York, N.Y. 300,053, ren. 5-21-68. Cl. 51.  
 Collins & Alkman Corp., New York, N.Y. 849,494, pub. 3-5-68. Cl. 42.  
 Collins, D. R., Ltd., assor. to Goya Ltd., London, England, to Lever Brothers Co., New York, N.Y. 439,298, ren. 5-21-68. Cl. 51.  
 Colman, Alex., Inc., Los Angeles, Calif. 849,438, pub. 3-5-68. Cl. 39.  
 Colonial Stores Inc., Atlanta, Ga. 849,523, pub. 3-5-68. Cl. 46.  
 Complete Woman, Inc., Chicago, Ill. 849,561, pub. 4-4-67. Cl. 51.  
 Concord Fabrics Inc., New York, N.Y. 849,502, pub. 3-5-68. Cl. 42.  
 Congoleum-Nairn Inc., Kearny, N.J. 849,308, pub. 3-5-68. Cl. 20.  
 Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 849,540, pub. 3-5-68. Cl. 46.  
 Consortium du Papier Peint, Villeurbanne, France. 849,406, pub. 3-5-68. Cl. 37.  
 Container Equipment Corp., Bloomfield, N.J. 439,397, ren. 5-21-68. Cl. 23.  
 Copco, Inc., New York, N.Y. 849,226, pub. 3-5-68. Cl. 2.  
 Corn Products Co.: See—  
 Corn Products Refining Co.  
 Fanning Bread & Butter Pickle Co., Inc.  
 Corn Products Refining Co., to Corn Products Co., New York, N.Y. 437,459, ren. 5-21-68. Cl. 46.  
 Corpening Game Co.: See—  
 Corpening, Gene, Surles.  
 Corpening, Gene, Surles, d.b.a. Corpening Game Co., Granite Falls, N.C. 849,332, pub. 3-5-68. Cl. 22.  
 Courtaulds, Ltd., London, England. 729,511, can. Cl. 42.  
 Craddock Food Mfg. Co., Garland, Tex. 729,531, can. Cl. 46.  
 Crandall Oil Co., Inc., Monroe, Wis. 729,463, can. Cl. 35.  
 Croel, Emile M., d.b.a. KPI, Silver Hill, Md. 849,590, pub. 3-5-68. Cl. 100.  
 Customwood Mfg. Co., from R. T. Bogan, Jr., Albuquerque, N. Mex. 849,247, pub. 3-5-68. Cl. 12.

DCA Food Industries Inc., New York, N.Y. 849,547, pub. 3-5-68. Cl. 46.  
 D & D Co.: See—  
 Girder Process, Inc.  
 Dan River Mills, Inc., Danville, Va. 849,495, pub. 3-5-68. Cl. 42.  
 Dan River Mills, Inc., Danville, Va. 849,503, pub. 3-5-68. Cl. 42.  
 Daniel, Jack, Distillery, Lynchburg, Tenn. 849,554, pub. 1-2-68. Cl. 49.  
 Dante Laboratories, Inc., Detroit, Mich. 729,553, can. Cl. 51.  
 Dayco Corp., Dayton, Ohio. 849,400, pub. 3-5-68. Cl. 35.  
 DeMert & Dougherty, Inc., Chicago, Ill. 501,565, ren. 5-21-68. Cl. 15.  
 DeMert & Dougherty, Inc., Chicago, Ill. 501,659, ren. 5-21-68. Cl. 6.  
 Denes Co., Inc., from Denesco, Inc., Albuquerque, N. Mex. 849,315, pub. 3-5-68. Cl. 21.  
 Denesco, Inc.: See—  
 Denes Co., Inc.  
 Dennis, Martin, Co., The, Newark, N.J., to Diamond Shamrock Corp., Cleveland, Ohio. 243,291-2, ren. 5-21-68. Cl. 6.  
 Dennis, Martin, The, Newark, N.J., to Diamond Shamrock Corp., Cleveland, Ohio. 244,130, ren. 5-21-68. Cl. 6.  
 Dent, Alleroff & Co. Ltd., London, England. 849,431, pub. 3-5-68. Cl. 39.  
 Dermik Laboratories, Inc., Syosset, N.Y. 849,297, pub. 3-5-68. Cl. 18.  
 Design Enterprises, Inc., Eau Gallie, Fla. 849,326, pub. 3-5-68. Cl. 22.  
 Detrex Chemical Industries, Inc., Detroit, Mich. 849,586, pub. 3-5-68. Cl. 52.  
 Diamond Mica Co., Spruce Pine, N.C. 849,213-15, pub. 3-5-68. Cl. 1.  
 Diamond Shamrock Corp.: See—  
 Dennis, Martin, Co., The.  
 Dick, A. B., Co., Chicago, Ill. 155,220, can. Cl. 11.  
 Die Casting Machine Tools Ltd., London, England. 849,331, pub. 9-19-67. Cl. 22.  
 Dimensional Lithographers, Inc., New York, N.Y. 849,633. Cl. 101.  
 Di-Met Proprietary Ltd., Melbourne, Victoria, Australia, to Amercoat Corp., Brea, Calif. 437,420, ren. 5-21-68. Cl. 16.  
 Directa Dental AB, Johannesburg, Sweden. 849,514, pub. 3-5-68. Cl. 44.  
 Ditta G. B. Carpano-Antica Fabbrica di Vermouth di Turati Rag. Silvio e C. Societa in Accomandita Semplice, Turin, Italy. 849,550, pub. 3-5-68. Cl. 47.  
 Doe Spun, Inc., York, Pa. 849,443, pub. 3-5-68. Cl. 39.  
 Domtar Ltd., Montreal, Quebec, Canada. 849,217-19, pub. 3-5-68. Cl. 1.  
 Donaldson, James E.: See—  
 Girder Process, Inc.  
 Doric Corp., Oklahoma City, Okla. 849,235-8, pub. 3-5-68. Cl. 5.  
 Dow Chemical Co., The, Midland, Mich. 659,365. Am. 7(d). Cl. 38.  
 Dow Chemical Co., The, Midland, Mich. 849,209, pub. 3-5-68. Cl. 1.  
 Downtown Corp., The, Memphis, Tenn. 849,393, pub. 3-5-68. Cl. 33.  
 Dresser Industries, Inc., Dallas, Tex. 729,416, can. Cl. 26.  
 Dura Corp., Oak Park, Mich. 729,370, can. Cl. 19.  
 Dusenbery, John, Co., Inc., Clifton, N.J. 849,362, pub. 3-5-68. Cl. 23.  
 ESB Inc.: See—  
 French Battery Co.  
 Eaton Yale & Towne Inc., Cleveland, Ohio. 849,356, pub. 3-5-68. Cl. 23.  
 Economics Laboratory, Inc., St. Paul, Minn. 849,234, pub. 3-5-68. Cl. 4.  
 Edwards Co., Inc., Norwalk, Conn. 849,319, pub. 3-5-68. Cl. 21.  
 88 Originals Inc., New York, N.Y. 729,487, can. Cl. 39.  
 Eisen Bros., Inc., Hoboken, N.J. 729,451, can. Cl. 32.  
 Electric Controller & Mfg. Co., The, to Square D Co., Park Ridge, Ill. 578,143. Am. 7(d). Cl. 21.  
 Electronic Communications, Inc., St. Petersburg, Fla. 849,592, pub. 2-6-68. Cl. 100.  
 Electronic Systems Engineering Co., Cushing, Okla. 849,369, pub. 3-5-68. Cl. 26.  
 Elliott Mfg. Co., Omaha, Nebr. 849,345, pub. 12-26-67. Cl. 23.  
 Engelhard Industries, Inc., Newark, N.J. 729,343, can. Cl. 14.  
 Erie Resistor Corp., Erie, Pa. 729,386, can. Cl. 21.  
 Essex Wire Corp.: See—  
 Carolina Industrial Plastics Corp.  
 Ettlinger, Arthur, d.b.a. Pro Floor Machines, New York, N.Y. 729,396, can. Cl. 23.  
 Eutectic Welding Alloys Corp., Flushing, N.Y. 729,344-6, can. Cl. 14.  
 Evans-Aristocrat Industries, Inc., Elizabeth, N.J. 849,360, pub. 3-5-68. Cl. 23.  
 Ever-Dry Corp., Los Angeles, Calif., to Ever-Dry Corp., Memphis, Tenn. 433,529, ren. 5-21-68. Cl. 51.  
 Eye-Ful Lingerie Inc., New York, N.Y., to Sam & Ruth Enterprises, Inc., Westport, Conn. 437,755, ren. 5-21-68. Cl. 39.  
 Eyerly Aircraft Co., Salem, Ore. 849,336-7, pub. 3-5-68. Cl. 22.  
 Faber, A. W., Inc., to A. W. Faber-Castell Pencil Co., Inc., Newark, N.J. 243,001, ren. 5-21-68. Cl. 37.  
 Faber-Castell, A. W. Pencil Co., Inc.: See—  
 Faber, A. W., Inc.  
 Fabrica de Discos Fuentes S.A., Medellin, Colombia. 849,608, pub. 3-5-68. Cl. 107.  
 Facelle Co. Ltd.: See—  
 National Cellulose Corp.

Fanning Bread & Butter Pickle Co., Inc., New York, N.Y., and Streator, Ill., to Corn Products Co., New York, N.Y. 240,709, ren. 5-21-68. Cl. 46.  
 Farah Mfg. Co., Inc., El Paso, Tex. 849,402, pub. 3-5-68. Cl. 39.  
 Farm Journal, Inc., Philadelphia, Pa. 740,937. Am. 7(d). Cl. 38.  
 Faul & Son Tool & Die Co., Niles, Ohio. 849,349, pub. 12-12-67. Cl. 23.  
 Faultless Starch Co., Kansas City, Mo. 849,584, pub. 3-5-68. Cl. 52.  
 Feeders Engineering & Equipment Development Co., Inc., Tucson, Ariz. 849,397, pub. 3-5-68. Cl. 34.  
 Felch-Anderson Co., Providence, R.I. 438,772, ren. 5-21-68. Cl. 28.  
 Filatures Prouvoast-Masurel & Cie, La Lainiere de Roubaix, Roubaix (Nord), France. 849,509, pub. 3-5-68. Cl. 43.  
 Firestone Tire & Rubber Co., Akron, Ohio. 729,467, can. Cl. 35.  
 Firestone Tire & Rubber Co., The, Akron, Ohio. 849,399, pub. 3-5-68. Cl. 35.  
 Firestone Tire & Rubber Co., The, Akron, Ohio. 849,463, pub. 3-5-68. Cl. 39.  
 First Community Church of Columbus, Ohio, The, Columbus, Ohio. 849,421, pub. 3-5-68. Cl. 38.  
 Fisher & Ludlow Ltd., to Fisholow Products Ltd., Birmingham, England. 741,224. Am. 7(d). Cl. 23.  
 Fisher, Oscar, Co., Inc., Newburgh, N.Y. 729,438, can. Cl. 26.  
 Fisher Radio Corp., Long Island City, N.Y. 838,098, cor. Cl. 21.  
 Flo-Line Filters, Inc., San Antonio, Tex. 849,386, pub. 12-24-63. Cl. 31.  
 Flow Laboratories Inc., Rockville, Md. 849,300, pub. 3-5-68. Cl. 18.  
 Foot Balance Posture Clinic: See—  
 Roberts, Charles A.  
 Foot Pasture Controls: See—  
 Roberts, Charles A.  
 Ford Motor Co., Dearborn, Mich. 849,350, pub. 3-5-68. Cl. 23.  
 Frankl, Sy, Inc., New York, N.Y. 849,500, pub. 3-5-68. Cl. 42.  
 Fredericks, George E., Co., Huntingdon Valley, Pa. 437,468, ren. 5-21-68. Cl. 20.  
 French Battery Co., Madison, Wis., to ESB Inc., Philadelphia, Pa. 242,884, ren. 5-21-68. Cl. 21.  
 Garber's Travel Service, Inc., Brookline, Mass. 729,561, can. Cl. 105.  
 Garland Corp., Brockton, Mass. 849,454, pub. 3-5-68. Cl. 39.  
 Geigy Chemical Corp.: See—  
 Geigy Co., Inc.  
 Geigy Co., Inc., New York, to Geigy Chemical Corp., Ardsley, N.Y. 440,392, ren. 5-21-68. Cl. 6.  
 General Equipment Co., Owatonna, Minn. 849,353, pub. 3-5-68. Cl. 23.  
 General Foods Corp.: See—  
 Igleheart Brothers Inc.  
 General Foods Corp., White Plains, N.Y. 849,542, pub. 3-5-68. Cl. 46.  
 General Printed String Co., Milwaukee, Wis. 500,844, ren. 5-21-68. Cl. 7.  
 General Public Utilities Co., Miami, Fla., to Southeastern Public Service Co., New York, N.Y. 233,928, ren. 5-21-68. Cl. 1.  
 Geneva Preserving Co., Geneva, N.Y., to The Borden Co., New York, N.Y. 67,495, ren. 5-21-68. Cl. 46.  
 Georgia Kaolin Co., Elizabeth, N.J. 849,205, pub. 5-16-67. Cl. 1.  
 Georgia Marble Co., The, Atlanta, Ga. 500,840, ren. 5-21-68. Cl. 12.  
 Gilman Brothers Co., The, Gilman, Conn. 849,407, pub. 3-5-68. Cl. 37.  
 Gingham Mfg. Co., Inc., Scranton, Pa. 849,390, pub. 3-5-68. Cl. 32.  
 Girder Process Inc., Hackensack, N.J., from J. E. Donaldson, d.b.a. D & D Co., Maywood, Ill. 729,318, can. Cl. 5.  
 Golden State Sheep Tanning Co., Brooklyn, N.Y. 849,206, pub. 3-5-68. Cl. 1.  
 Goodyear Aerospace Corp., Akron, Ohio. 849,307, pub. 3-5-68. Cl. 19.  
 Goodyear Rubber Co., Middletown, Conn. 849,474, pub. 3-5-68. Cl. 39.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 849,594, pub. 3-5-68. Cl. 101.  
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 849,603, pub. 3-5-68. Cl. 104.  
 Gottlieb Brothers, d.b.a. Jack Frost Yarn Co., New York, N.Y. 849,510, pub. 3-5-68. Cl. 43.  
 Gombard de Paris, Inc., New York, N.Y. 849,575, pub. 3-5-68. Cl. 51.  
 Green, Harold, d.b.a. Green Industries, Phoenix, Ariz. 849,623. Cl. 32.  
 Green Industries: See—  
 Green, Harold.  
 Gretsch Fred Co., Inc., The: See—  
 Gretsch, Fred, Mfg. Co., The.  
 Gretsch, Fred, Mfg. Co., The, New York, to The Fred Gretsch Co., Inc., Brooklyn, N.Y. 245,846, ren. 5-21-68. Cl. 36.  
 Greyhound Corp., The, Chicago, Ill. 849,607, pub. 3-5-68. Cl. 105.  
 Grosjean, C. E. Rice Milling Co., San Francisco, Calif. 849,522, pub. 5-16-67. Cl. 46.  
 Gund Mfg. Co.: See—  
 Swedlin, J., Inc.  
 Hallmark Cards, Inc., Kansas City, Mo. 849,626-7. Cl. 38.  
 Hallmark Cards, Inc., Kansas City, Mo. 849,629-30. Cl. 38.  
 Hamilton Mfg. Co., Two Rivers, Wis. 729,414, can. Cl. 26.

Hammermill Paper Co., Erie, Pa. 849,414, pub. 3-5-68. Cl. 37.  
 Hammersmith, Lee, d.b.a. Cincinnati Soap Center, Cincinnati, Ohio. 849,240, pub. 8-1-67. Cl. 6.  
 Hammond Plastics, Inc., Worcester, Mass. 849,201-2, pub. 3-5-68. Cl. 1.  
 Harford, Inc., New York, N.Y. 849,484-5, pub. 3-5-68. Cl. 39.  
 Harshaw Chemical Co., The, to Kewanee Oil Co., d.b.a. The Harshaw Chemical Co., Cleveland, Ohio. 438,923, ren. 5-21-68. Cl. 6.  
 Hartley, Elizabeth, Inc., New York, N.Y. 849,563, pub. 3-5-68. Cl. 61.  
 Haruta & Co., Inc., New York, N.Y. 849,384-5, pub. 3-5-68. Cl. 30.  
 Hassenfeld Bros. Inc., Pawtucket, R.I. 849,411, pub. 3-5-68. Cl. 37.  
 Hayes Garment Co., Nashville, Tenn. 849,469, pub. 3-5-68. Cl. 39.  
 Heart-O-Gold Corp., Philadelphia, Pa. 849,429, pub. 3-5-68. Cl. 38.  
 Henninger-Brau Kommanditgesellschaft, Auf Aktien, Frankfurt am Main, Germany. 849,533, pub. 3-5-68. Cl. 48.  
 Heublein, Inc.: See—  
 Royal Packing Co.  
 Hock, Phil J., & Co.: See—  
 Worthmore Food Products Co.  
 Hock, Phil J., Jr., and Howard P. Hock: See—  
 Worthmore Food Products Co.  
 Holly Mobile Homes Mfg., Inc., Grand Rapids, Mich. 729,371, can. Cl. 19.  
 Holm & Sons Co., Inc., Berkeley, Ill. 849,416, pub. 3-5-68. Cl. 37.  
 Home State Farm Publications, Inc., Cleveland, Ohio. 729,491, can. Cl. 38.  
 Hoof and Horn: See—  
 Brown, W. D., and R. E. Worthington.  
 Hoof 'n Horn: See—  
 Brown, W. D., and R. E. Worthington.  
 Hook, Ray, d.b.a. Addisip Additives, Escalon, Calif. 849,264, pub. 3-5-68. Cl. 15.  
 Hope Webbing Co.: See—  
 Chelsea Industries, Inc.  
 House of Seagram, Inc., The, d.b.a. Park Avenue Imports, New York, N.Y. 849,558, pub. 3-5-68. Cl. 49.  
 Howard Paper Mills, Inc., Dayton, Ohio, to St. Regis Paper Co., New York, N.Y. 600,989, ren. 5-21-68. Cl. 37.  
 Hudnut, Richard, Morris Plains, N.J. 437,175, ren. 5-21-68. Cl. 51.  
 Hudnut, Richard, Morris Plains, N.J. 437,210, ren. 5-21-68. Cl. 51.  
 I.G.R. Corp., from Adolph Posner and Richard Inglima, New York, N.Y. 849,515, pub. 3-5-68. Cl. 44.  
 I.R. Systems, Inc., West Springfield, Mass. 729,482, can. Cl. 38.  
 Igleheart Bros., Inc., Evansville, Ind., to General Foods Corp., White Plains, N.Y. 244,091, ren. 5-21-68. Cl. 46.  
 Illinois Syrup Co., Chicago, Ill. 849,518, pub. 3-5-68. Cl. 45.  
 International Chain of Industrial and Technical Advertising Agencies, Newark, N.J. 849,596, pub. 3-5-68. Cl. 101.  
 International Paper Co., New York, N.Y. 849,625. Cl. 87.  
 International Sanitary Supply Association, Chicago, Ill. 849,613, pub. 3-5-68. Cl. 200.  
 International Telephone and Telegraph Corp., New York, N.Y. 849,314, pub. 3-5-68. Cl. 21.  
 Iowa Paint Mfg. Co., Inc., Des Moines, Iowa. 849,266, pub. 3-5-68. Cl. 16.  
 Ironside Mfg. Co., Warren, Mich. 729,353, can. Cl. 16.  
 Iaco Optische Werke GmbH, Gottingen, Germany. 849,873-4, pub. 3-5-68. Cl. 26.  
 J.D. Packing Co.: See—  
 Universal Packers Corp.  
 Jack Frost Yarn Co.: See—  
 Gottlieb Bros.  
 Jacquelin, Charles, et Cie, Inc., d.b.a. Hans Blenheim Co., Philadelphia, Pa. 849,552, pub. 3-5-68. Cl. 47.  
 Jefferson Union Co., Lexington, Mass. 849,347, pub. 10-24-67. Cl. 23.  
 Jelinek, H., Dental Alloys, Inc., New York, N.Y. 849,513, pub. 3-5-68. Cl. 44.  
 Jergens, Andrew, Co., The, Cincinnati, Ohio. 439,702, ren. 5-21-68. Cl. 51.  
 Jet Air Products Co., Dallas, Tex. 849,582, pub. 3-5-68. Cl. 52.  
 Johns-Manville Corp., New York, N.Y. 240,713, ren. 5-21-68. Cl. 12.  
 Johnson & Johnson, New Brunswick, N.J. 849,298, pub. 3-5-68. Cl. 13.  
 Johnson & Johnson, New Brunswick, N.J. 849,621. Cl. 29.  
 Jointline Products Co., Ltd., Lincoln, England. 729,468, can. Cl. 35.  
 June Fair, Inc., New York, N.Y. 729,489, can. Cl. 39.  
 KPI: See—  
 Croci, Emile M.  
 Kabushiki Kaisha Kurosawa Shoten, d.b.a. Kurosawa & Co., Ltd., Chuo-ku, Tokyo-to, Japan. 729,374, can. Cl. 21.  
 Kaiser Aluminum & Chemical Co., Oakland, Calif., from Southern Nitrogen Co., Inc., Savannah, Ga. 849,244, pub. 1-9-68. Cl. 9.  
 Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Osaka, Japan. 849,530-1, pub. 3-5-68. Cl. 46.  
 Kanegafuchi Spinning Co., Ltd.: See—  
 Kanegafuchi Boseki Kabushiki Kaisha.  
 Kanematsu-Gosho (U.S.A.) Inc., New York, N.Y. 849,210, pub. 3-5-68. Cl. 1.  
 Kaplan, Georges, New York, N.Y. 729,492, can. Cl. 39.  
 Katzman, Lawrence, New York, N.Y. 849,420, pub. 3-5-68. Cl. 38.



Kay-Fries Chemicals, Inc., West Haverstraw, N.Y. 849,242, pub. 3-5-68, Cl. 8.  
 Kayser-Roth Corp.: See—  
 Phoenix Hosiery Co.  
 Kelly Products, Inc., Royal Oak, Mich. 849,573, pub. 3-5-68, Cl. 51.  
 Kenson Tooth Mfg. Corp., Seattle, Wash. 729,517, cancl. Cl. 44.  
 Kenyon, Ralph W., and Dan A. Regan, Grandview, Wash. 729,539, cancl. Cl. 50.  
 Ketcham & McDougall, Inc., Roseland, N.J. 849,405, pub. 3-5-68, Cl. 37.  
 Keuffel & Esser Co., Hoboken, N.J. 68,653, ren. 5-21-68, Cl. 26.  
 Kewanee Oil Co.: See—  
 Harshaw Chemical Co., The.  
 Kingscliffe Super-Refractories Ltd., Sheffield, England. 849,269, pub. 12-5-67, Cl. 16.  
 King-Seelye Thermos Co.: See—  
 Altenberg, George P.  
 Kingsford Co., Louisville, Ky. 849,199, pub. 12-5-67, Cl. 1.  
 Klosterman, James E., d.b.a. Chatham Co., Dayton, Ohio. 849,410, pub. 3-5-68, Cl. 37.  
 Kohnstamm, H., & Co., Inc., New York, N.Y. 849,585, pub. 3-5-68, Cl. 52.  
 Kolor Kurb Corp., Northbrook, Ill. 849,632, Cl. 50.  
 Komachiya Honten Co., Ltd., Tokyo, Japan. 849,487, pub. 3-5-68, Cl. 40.  
 Koppers Co., Inc., Pittsburgh, Pa. 849,273, pub. 3-5-68, Cl. 16.  
 Kremers-Urban Co., Milwaukee, Wis. 849,284, pub. 3-5-68, Cl. 18.  
 Kresge, S. S., Co., Detroit, Mich. 849,460, pub. 3-5-68, Cl. 39.  
 Kross Kit Products Co.: See—  
 Cederberg, Le Roy H.  
 Kurashiki Rayon Co., Ltd., Kurashiki City, Japan. 849,505, pub. 3-5-68, Cl. 43.  
 Kurosawa & Co., Ltd.: See—  
 Kabushiki Kaisha Kurosawa Shoten.  
 Kyanize Paints, Inc., Everett, Mass. 849,271-2, pub. 3-5-68, Cl. 16.  
 LaFra Products, Inc., Canton, from F. L. Lauster, Massillon, Ohio. 849,577-8, pub. 3-5-68, Cl. 51.  
 Lakeland Products Co., Inc., Lakeland, Fla. 849,624, Cl. 32.  
 Lambert Pharmacal Co., Wilmington, Del., to Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 240,162, ren. 5-21-68, Cl. 51.  
 Lane Ltd., New York, N.Y. 849,619, Cl. 17.  
 Lauster, Frederick L.: See—  
 LaFra Products, Inc.  
 Lavitt, Paul, Mills, Inc., Hickory, N.C. 849,472, pub. 3-5-68, Cl. 39.  
 Lebb, John B., Distributors Inc., Monachie, N.J. 849,351, pub. 3-5-68, Cl. 23.  
 Legge, Walter G., Co., Inc., New York, N.Y. 849,243, pub. 3-5-68, Cl. 6.  
 Legge, Walter G., Co., Inc., New York, N.Y. 849,270, pub. 3-5-68, Cl. 16.  
 Lechner, L., (London) Ltd., London, England. 849,571, pub. 3-5-68, Cl. 51.  
 Leisure Devices Inc., Huntington, N.Y. 729,445, cancl. Cl. 29.  
 Les Fils de A. Donce-Baume, Les Breuleux, Switzerland. 849,376, pub. 3-5-68, Cl. 27.  
 Les Parfums de Dana, Inc., New York, N.Y. 440,051, ren. 5-21-68, Cl. 51.  
 Les Parfums Madeleine de Rauch, Asnières (Hauts-de-Seine), France. 849,569, pub. 3-5-68, Cl. 51.  
 Lever Brothers Co.: See—  
 Collins, D. R., Ltd.  
 Lily of France, Inc., New Haven, Conn. 849,439, pub. 1-2-68, Cl. 39.  
 Linsk of Philadelphia Inc., Philadelphia, Pa. 729,485, cancl. Cl. 39.  
 Little Topsy's, Inc., New York, N.Y. 849,436, pub. 3-5-68, Cl. 39.  
 Litton Business Systems, Inc., New York, N.Y., from Royal Typewriter Co., Inc., Hartford, Conn. 849,363-4, pub. 3-5-68, Cl. 23.  
 Litton Systems, Inc., Minneapolis, Minn. 849,368, pub. 3-5-68, Cl. 26.  
 L'Oreal, Paris, France. 849,562, pub. 3-5-68, Cl. 51.  
 Lorillard, P., Co., New York, N.Y. 849,274, pub. 3-5-68, Cl. 17.  
 Lowe, Joe, Co.: See—  
 Consolidated Foods Corp.  
 Lowrie, A. W., Inc.: See—  
 Lowrie, Alfred W.  
 Lowrie, Alfred W., from A. W. Lowrie, Inc., Hartford, Conn. 150,454, cancl. Cl. 18.  
 Lucas-Rotax Ltd., Toronto, Ontario, Canada. 729,456, cancl. Cl. 34.  
 Lynne Mfg. Co., Long Island City, N.Y. 849,433, pub. 3-5-68, Cl. 39.  
 Ma Cherie Sales Corp.: See—  
 Ma Cherie Sales Corp. of America.  
 Ma Cherie Sales Corp. of America, d.b.a. Ma Cherie Sales Corp., St. Louis, Mo. 849,519, pub. 3-5-68, Cl. 45.  
 MacDonald & Muir Ltd., Leith, Scotland. 437,924, ren. 5-21-68, Cl. 49.  
 Macklin Co., Jackson, Mich. 729,316, cancl. Cl. 4.  
 Magnetics, Inc., East Butler, Pa. 849,312, pub. 3-5-68, Multiple Class (Classes 21 and 26).  
 Mar Hook & Equipment, Inc., Aberdeen, Wash. 849,361, pub. 3-5-68, Cl. 23.  
 Marchand, Charles Co., The, New York, N.Y. 729,552, cancl. Cl. 51.  
 Marietta, Martin, Corp.: See—  
 Master Builders Co., The.  
 Marketing Evaluations Inc., Port Washington, N.Y. 849,597, pub. 11-7-67, Cl. 101.

Martrude Corp., Maspeth, N.Y. 849,543, pub. 3-5-68, Cl. 46.  
 Marx-Hass Clothing Co., St. Louis, Mo. 849,435, pub. 3-5-68, Cl. 39.  
 Master Builders Co., The, Cleveland, Ohio, to Martin Marietta Corp., New York, N.Y. 500,336, ren. 5-21-68, Cl. 12.  
 McDowell-Wellman Engineering Co., Cleveland, Ohio. 849,306, pub. 3-5-68, Cl. 19.  
 McGraw-Edison Co., Elgin, Ill. 849,358, pub. 3-5-68, Cl. 23.  
 McNeil Laboratories, Inc., Fort Washington, Pa. 849,303, pub. 3-5-68, Cl. 18.  
 McQuay, Inc., Minneapolis, Minn. 849,387, pub. 3-5-68, Cl. 31.  
 Meadowbrook Co., The, Miami, Fla. 849,388, pub. 3-5-68, Cl. 31.  
 Melville Shoe Corp., d.b.a. Thom McAnn, New York, N.Y. 849,459, pub. 3-5-68, Cl. 39.  
 Mensor, Merrill C., Jr., Dr., San Mateo, Calif. 849,516, pub. 3-5-68, Cl. 44.  
 Merkin, M. J., Paint Co., Inc., New York, N.Y., to Merkin Paint Co., Inc., Baltimore, Md. 237,068, ren. 5-21-68, Cl. 12.  
 Merkin Paint Co., Inc.: See—  
 Merkin, M. J., Paint Co., Inc.  
 Metal Box Co., Ltd., The, London, England. 729,307, cancl. Cl. 2.  
 Metal Specialty Co., The, Cincinnati, Ohio. 729,455, cancl. Cl. 34.  
 Metro Wholesale Corp., New York, N.Y. 849,396, pub. 3-5-68, Cl. 34.  
 Metro Wholesale Corp., New York, N.Y. 849,492, pub. 3-5-68, Cl. 42.  
 Metropolitan Advertising Co., New York, N.Y. 849,593, pub. 3-5-68, Cl. 101.  
 Meyer-Mueller-Goodman Co., Inc., St. Louis, Mo. 237,956, ren. 5-21-68, Cl. 39.  
 Microtek Electronics Inc., Cambridge, Mass. 849,318, pub. 3-5-68, Cl. 21.  
 Middletown Industries Corp., Middletown, Conn. 849,216, pub. 3-5-68, Cl. 1.  
 Mid-States Distributing Co., Inc., St. Paul, Minn. 849,290, pub. 3-5-68, Cl. 18.  
 Milgram Food Stores, Inc., d.b.a. Tasty Tested Recipes, Kansas City, Mo. 849,423, pub. 3-5-68, Cl. 38.  
 Miller, O. A., Co.: See—  
 United Shoe Machinery Corp.  
 Mink Oil Waterproofing Co., Portland, Oreg. 849,230, pub. 3-5-68, Cl. 4.  
 Mr. Mod Shop, Inc., New Orleans, La. 849,325, pub. 3-5-68, Cl. 22.  
 Misty Harbor, Ltd., Baltimore, Md. 849,467, pub. 3-5-68, Cl. 39.  
 Mondavi, C., & Sons, to C. Mondavi & Sons, St. Helena, Calif. 436,906, ren. 5-21-68, Cl. 47.  
 Monsanto Co., St. Louis, Mo. 849,208, pub. 3-5-68, Cl. 1.  
 Monsanto Co., St. Louis, Mo. 849,404, pub. 3-5-68, Cl. 37.  
 Moore, A. M., Brokerage Co.: See—  
 Bates, John S.  
 Morcosia Coats Ltd., Manchester, England. 729,493, cancl. Cl. 39.  
 Motec Industries, Inc., Hopkins, Minn. 729,391, cancl. Cl. 23.  
 N.V. Lankhorst Touwfabrieken, Sneek, Netherlands. 844,830-1, cor. Cl. 7.  
 N.V. Plasticizing, Odoorn, Netherlands. 729,306, cancl. Cl. 2.  
 National Association of Dealers in Antiques, Inc., White-water, Wis. 839,757, cor. Cl. 200.  
 National Association of Independent Nursing Homes, Inc., Oklahoma City, Okla. 849,616, pub. 3-5-68, Cl. 200.  
 National Biscuit Co., New York, N.Y. 849,533-5, pub. 3-5-68, Cl. 46.  
 National Biscuit Co., New York, N.Y. 849,541, pub. 3-5-68, Cl. 46.  
 National Cellulose Corp., New York, N.Y., to Facelle Co. Ltd., Toronto, Ontario, Canada. 245,370, ren. 5-21-68, Cl. 1.  
 National Clay Pipe Research Corp., Crystal Lake, Ill. 729,419, cancl. Cl. 26.  
 National Gypsum Co., Buffalo, N.Y. 849,251-2, pub. 3-5-68, Cl. 12.  
 National Homes Corp., Lafayette, Ind. 849,254, pub. 3-5-68, Cl. 12.  
 National Instrument Co., Inc., Baltimore, Md. 849,370, pub. 3-5-68, Cl. 26.  
 National Lock Co., Rockford, Ill. 849,257-8, pub. 3-5-68, Cl. 13.  
 Neisler Laboratories, Inc., Decatur, Ill. 849,282-3, pub. 3-5-68, Cl. 18.  
 Neisler Laboratories, Inc., Decatur, Ill. 849,291, pub. 3-5-68, Cl. 18.  
 Nestle Co., Inc., The, White Plains, N.Y. 849,524, pub. 3-5-68, Cl. 46.  
 Nevamar Carefree Kitchens, Inc., Odenton, Md. 729,452, cancl. Cl. 32.  
 New York News Charities, Inc., from The News Welfare Association, Inc., New York, N.Y. 849,610, pub. 1-9-68, Cl. 107.  
 Newell Corp., Madison, Wis. 844,544, cor. Cl. 16.  
 News Welfare Association, Inc., The: See—  
 New York News Charities, Inc.  
 Niagara Envelope Co., Inc., Buffalo, N.Y. 849,415, pub. 3-5-68, Cl. 37.  
 Niemi, William F., Co., d.b.a. Eddie Bauer, Seattle, Wash. 849,497, pub. 3-5-68, Cl. 42.  
 Nippon Tenshaishi Kabushiki Kaisha, Osaka, Japan. 849,344, pub. 3-5-68, Cl. 23.  
 Nonnenmann, Oscar, San Francisco, Calif. 438,844, ren. 5-21-68, Cl. 18.  
 Norcross, Inc., New York, N.Y. 849,402, pub. 2-1-66, Cl. 37.  
 Norcross, Inc., New York, N.Y. 849,425-6, pub. 3-5-68, Cl. 38.

Norden Laboratories, Inc., Lincoln, Nebr. 849,299, pub. 3-5-68, Cl. 18.  
 North & Judd Mfg. Co., to North & Judd Mfg. Co., New Britain, Conn. 237,064-6, ren. 5-21-68, Cl. 28.  
 Northwest Mfg. Co., Mitchell, S. Dak. 729,382, cancl. Cl. 21.  
 Northwestern National Insurance Co. of Milwaukee, Wis., Milwaukee, Wis. 849,600, pub. 3-5-68, Cl. 102.  
 Nurolin Research Laboratories, Inc., Bethpage, N.Y. 729,547, cancl. Cl. 51.  
 Nyberg, Carl E. J., Skovde, Sweden. 849,261, pub. 3-5-68, Cl. 13.  
 Nye, Douglas H., Ashfield, Mass. 849,338, pub. 3-5-68, Cl. 22.  
 O.K. Tire and Rubber Co., Inc., Littleton, Colo. 849,595, pub. 3-5-68, Cl. 35.  
 Oakmont Hosiery Mills, Greensboro, N.C. 729,483, cancl. Cl. 39.  
 Obear-Nester Glass Co., to Obear-Nester Glass Co., East St. Louis, Ill. 600,666, ren. 5-21-68, Cl. 23.  
 Oech, Ute M., d.b.a. Ute, Philadelphia, Pa. 849,381, pub. 3-5-68, Cl. 28.  
 Ohio Art Co., The, Bryan, Ohio. 849,339, pub. 3-5-68, Cl. 22.  
 O'Kell, Clarence L., Kansas City, Mo. 729,490, cancl. Cl. 39.  
 Old Charter Distillery Co., New York, N.Y. 849,556, pub. 3-5-68, Cl. 49.  
 Onaida Ltd., Onaida, N.Y. 849,359, pub. 3-5-68, Cl. 23.  
 Onaida Ltd., Onaida, N.Y. 849,378-9, pub. 3-5-68, Cl. 28.  
 Orrville Products, Inc., Orrville, Ohio. 849,224, pub. 3-5-68, Multiple Class (Classes 2, 19, and 23).  
 Ortho Pharmaceutical Corp., Raritan, N.J. 849,288, pub. 3-5-68, Cl. 18.  
 Ortho Pharmaceutical Corp., Raritan, N.J. 849,295, pub. 3-5-68, Cl. 18.  
 Osborn Mfg. Co., The, Cleveland, Ohio. 439,334, ren. 5-21-58, Cl. 29.  
 Otsego County Herald-Times: See—  
 Benedict, Robert D.  
 Otaka Chemical Co., Ltd., Osaka, Japan. 849,279-80, pub. 3-5-68, Cl. 18.  
 Ottens, Henry H., Mfg. Co., Inc., to Henry H. Ottens Mfg. Co., Inc., Philadelphia, Pa. 439,878, ren. 5-21-68, Cl. 46.  
 Outward Bound, Inc., Andover, Mass. 849,600, pub. 3-5-68, Cl. 107.  
 Owens Corning Fiberglass Corp., Toledo, Ohio. 849,250, pub. 3-5-68, Cl. 12.  
 Owens-Illinois, Inc., Toledo, Ohio. 849,221, pub. 3-5-68, Cl. 2.  
 Oxford Filling Supply Co., Inc., Garden City, N.Y. 849,413, pub. 3-5-68, Cl. 37.  
 Package Machinery Co., East Longmeadow, Mass. 849,354, pub. 3-5-68, Cl. 23.  
 Palae & Williams Co., The, Cleveland, Ohio. 729,462, cancl. Cl. 35.  
 Palmer, Arnold D., Cleveland, Ohio. 849,445, pub. 3-5-68, Cl. 39.  
 Palmer, Lawrence, Inc., New York, N.Y. 849,564, pub. 1-30-68, Cl. 51.  
 Pan-American Bulb Co. Ltd., British Columbia, Canada. 849,203, pub. 3-5-68, Cl. 1.  
 Pangburn Co., Inc., Fort Worth, Tex. 849,532, pub. 3-5-68, Cl. 46.  
 Parents' Magazine Enterprises, Inc., New York, N.Y. 849,427, pub. 3-5-68, Cl. 38.  
 Park Avenue Imports: See—  
 House of Seagram, Inc., The.  
 Park Silk Co., Inc., New York, N.Y. 849,504, pub. 3-5-68, Cl. 42.  
 Parke, Davis & Co., Detroit, Mich. 849,302, pub. 3-5-68, Cl. 18.  
 Parker Appliance Co., The, to Parker-Hannifin Corp., Cleveland, Ohio. 438,269, ren. 5-21-68, Cl. 12.  
 Parker-Hannifin Corp.: See—  
 Parker Appliance Co., The.  
 Parkamith Corp., New York, N.Y. 849,330, pub. 8-22-67, Cl. 22.  
 Pasquale Foods, Inc., Cincinnati, Ohio. 849,520-1, pub. 6-18-63, Cl. 46.  
 Patent Exhibits Inc., New York, N.Y. 849,634, Cl. 101.  
 Peacock, C. D., Inc., Chicago, Ill. 438,353, ren. 5-21-68, Cl. 27.  
 Peacock, C. D., Inc., Chicago, Ill. 438,366-7, ren. 5-21-68, Cl. 28.  
 Peer Jewelry Mfg. Corp., Mincola, N.Y. 849,380, pub. 3-5-68, Cl. 28.  
 Peerless Woolen Mills, Rossville, Ga., to Burlington Industries, Inc., Greensboro, N.C. 500,677, ren. 5-21-68, Cl. 42.  
 Pendleton Woolen Mills, Portland, Oreg. 849,501, pub. 3-5-68, Cl. 42.  
 Penn Pac: See—  
 Pennsylvania Pacific Corp.  
 Pennsylvania Pacific Corp., Warminster, Pa. 849,248-9, pub. 3-5-68, Cl. 12.  
 Penobscot Chemical Fibre Co., Old Town, Maine. 729,305, cancl. Cl. 1.  
 Perfect Equipment Corp., Kokomo, Ind., to Perfect Equipment Corp., Murfreesboro, Tenn. 440,185, ren. 5-21-68, Cl. 19.  
 Perma Products Co., The, Cleveland, Ohio, to Shakerstown Corp., Winlock, Wash. 440,117, ren. 5-21-68, Cl. 12.  
 Peters Cartridge Co., The, Cincinnati, Ohio, to Remington Arms Co., Inc., Bridgeport, Conn. 68,209, ren. 5-21-68, Cl. 9.  
 Piser, Chas., & Co., Inc., New York, N.Y. 849,296, pub. 3-5-68, Cl. 18.  
 Piser, Chas., & Co., Inc., New York, N.Y. 849,301, pub. 3-5-68, Cl. 18.  
 Phillips-Van Heusen Corp., New York, N.Y. 849,446, pub. 3-5-68, Cl. 39.  
 Phillips-Van Heusen Corp., New York, N.Y. 849,452, pub. 3-5-68, Cl. 39.  
 Phoenix Hosiery Co., Milwaukee, Wis., to Kayser-Roth Corp., New York, N.Y. 501,068, ren. 5-21-68, Cl. 39.  
 Pillsbury Co., The, Minneapolis, Minn. 849,517, pub. 11-15-66, Cl. 45.  
 Pioneer Hi-Bred Corn Co., Des Moines, Iowa. 849,211-12, pub. 3-5-68, Cl. 1.  
 Plastering Development Center, Inc., Chicago, Ill. 729,323, cancl. Cl. 12.  
 Polytronic Research, Inc., Rockville, Md. 729,406, cancl. Cl. 26.  
 Posner, Adolph, and Richard Inglima: See—  
 I.O.R. Corp.  
 Powers Mfg. Co., Los Angeles, to Powers Wire Products Co., Inc., El Monte, Calif. 439,767, ren. 5-21-68, Cl. 13.  
 Powers Wire Products Co., Inc.: See—  
 Powers Mfg. Co.  
 Preservative Products Co., Irvington, N.J. 438,203, ren. 5-21-68, Cl. 6.  
 Preservative Products Co., Irvington, N.J. 438,249, ren. 5-21-68, Cl. 12.  
 Presque Isle Paper Products, Inc., Erie, Pa. 849,222, pub. 3-5-68, Cl. 2.  
 Printing Developments, Inc., Rockefeller Center, N.Y. 849,560, pub. 2-6-68, Cl. 50.  
 Pro Floor Machines: See—  
 Ettlinger, Arthur.  
 Produits Chimiques Pechiney Saint-Gobain, Paris, France. 849,268, pub. 3-5-68, Cl. 16.  
 Przedsiębiorstwo Handlu Zagranicznego "Agros," Warsaw, Poland. 849,557, pub. 3-5-68, Cl. 49.  
 Queen City Stogie Co., Inc., Clarksville, Tenn. 729,359, cancl. Cl. 17.  
 Radar Design Corp., Syracuse, N.Y. 849,320, pub. 3-5-68, Cl. 21.  
 Ralston Purina Co., St. Louis, Mo. 849,544, pub. 3-5-68, Cl. 46.  
 Ramda Inns, Inc., Phoenix, Ariz. 849,591, pub. 3-5-68, Cl. 100.  
 Ranco Industrial Products Corp., Cleveland, Ohio. 849,258, pub. 3-5-68, Cl. 12.  
 Rath Packing Co., The, Waterloo, Iowa. 244,591, ren. 5-21-68, Cl. 46.  
 Recco Enterprises, Inc., Brooklyn, N.Y. 729,468, cancl. Cl. 36.  
 Remington Arms Co., Inc.: See—  
 Peters Cartridge Co., The.  
 Remo, Inc., North Hollywood, Calif. 849,401, pub. 3-5-68, Cl. 36.  
 Renaud International, Ltd., Burlingame, Calif. 849,372, pub. 3-5-68, Cl. 26.  
 Research For Infants, Inc., New York, N.Y. 729,490-1, cancl. Cl. 39.  
 Reynolds Metals Co., Richmond, Va. 729,331, cancl. Cl. 12.  
 Richardson-Merrell Inc., New York, N.Y. 729,366, cancl. Cl. 18.  
 Richardson-Merrell Inc., New York, N.Y. 849,292, pub. 3-5-68, Cl. 18.  
 Roanoke Double Service Film Co., Inc., Roanoke, Va. 729,564, cancl. Cl. 106.  
 Roberts, Charles A., d.b.a. Foot Balance Posture Clinic and Foot Posture Controls, Sherman, Tex. 849,207, pub. 3-5-68, Cl. 1.  
 Rocking K Foods, Inc., Los Angeles, Calif. 849,549, pub. 3-5-68, Cl. 46.  
 Rolley Co.: See—  
 Botany Industries, Inc.  
 Rondo Record Corp., West New York, N.J. 729,472, cancl. Cl. 36.  
 Rose, William D.: See—  
 Rosenkrantz, William.  
 Rosenkrantz, William, d.b.a. Zo-Tite Products Co., Osone Park, to W. D. Rose, d.b.a. Block Magic Products, Lindenhurst, N.Y. 440,019, ren. 5-21-68, Cl. 6.  
 Ross Laboratories: See—  
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 Rothenberg, Philip, & Co., Inc., New York, N.Y. 849,481, pub. 3-5-68, Cl. 39.  
 Royal Packing Co., Los Angeles, Calif., to Heublein, Inc., Hartford, Conn. 244,179, ren. 5-21-68, Cl. 46.  
 Royal Typewriter Co., Inc.: See—  
 Litton Business Systems, Inc.  
 Russell Industries, Inc., Lynbrook, N.Y. 849,418, pub. 3-5-68, Cl. 38.  
 Ryan Inc. of Wisconsin, Janesville, Wis. 849,602, pub. 3-5-68, Cl. 103.  
 St. Regis Paper Co.: See—  
 Howard Paper Mills, Inc.  
 Salmanson & Co., Inc., New York, N.Y. 439,121, ren. 5-21-68, Cl. 52.  
 Sam & Ruth Enterprises, Inc.: See—  
 Eye-Fit Lingerie Inc.  
 Samsonite Corp., Denver, Colo. 849,229, pub. 3-5-68, Cl. 3.  
 Sandberg Travel Bureau, Inc., d.b.a. Sandberg Travel Tours, Los Angeles, Calif. 849,636, Cl. 105.  
 Sandberg Travel Tours: See—  
 Sandberg Travel Bureau, Inc.  
 Schless-Hardwood Co., Inc., to Shiman Bros.-Colonial, Inc., New York, N.Y. 440,329, ren. 5-21-68, Cl. 28.  
 Schoeneman, J., Inc., Owings Mills, Md. 849,455-6, pub. 3-5-68, Cl. 39.  
 Schoeneman, J., Inc., Owings Mills, Md. 849,471, pub. 3-5-68, Cl. 39.  
 Schwank Gasgeräte Gesellschaft Mit: See—  
 Schwank Gesellschaft mit beschränkter Haftung.  
 Schwank Gesellschaft mit beschränkter Haftung, from Schwank Gasgeräte Gesellschaft Mit, Köln-Niehl, Germany. 849,394-5, pub. 4-7-64, Cl. 34.  
 Sears, Roebuck and Co., Chicago, Ill. 729,495, cancl. Cl. 39.  
 Servel, Inc., Freeport, Ill. 729,425, cancl. Cl. 26.  
 Service d'Exploitation Industrielle des Tabacs et Allumettes, Baltimore, Md. 849,618, Cl. 17.



Service Mfg. Co., Inc., Yonkers, N.Y. 849,440, pub. 3-5-68. Cl. 39.  
 Shakertown Corp.: See—  
 Perma Products Co., The.  
 Shari Enterprises, Inc., New York, N.Y. 729,442, can. Cl. 28.  
 Shenango Ceramics, Inc., New Castle, Pa. 849,622, Cl. 30.  
 Sherman, Walter M., d.b.a. Walter M. Sherman and Co., Oradell, N.J. 729,528, can. Cl. 40.  
 Sherman, Walter M., and Co.: See—  
 Sherman, Walter M.  
 Shetland Co., Inc., The, Salem, Mass. 729,317, can. Cl. 4.  
 Shetland Co., Inc., The, Salem, Mass. 729,383, can. Cl. 21.  
 Shiman Bros. Colonial, Inc.: See—  
 Schless-Hardwood Co., Inc.  
 Shirt Centre, Inc., New York, N.Y. 849,453, pub. 3-5-68. Cl. 39.  
 Simon & Schuster, Inc., New York, N.Y. 849,428, pub. 3-5-68. Cl. 38.  
 Simplex Wire and Cable Co., Cambridge, Mass. 849,321, pub. 3-5-68. Cl. 21.  
 Sinclair Refining Co., New York, N.Y. 849,265, pub. 3-5-68. Cl. 15.  
 Slumbertogs, Inc., New York, N.Y. 849,444, pub. 3-5-68. Cl. 39.  
 Slumbertogs, Inc., New York, N.Y. 849,447-8, pub. 3-5-68. Cl. 39.  
 Smith Banana Transport, Inc., Pueblo, Colo. 849,605, pub. 3-5-68. Cl. 105.  
 Smith Kline Instrument Co., Philadelphia, Pa. 849,512, pub. 3-5-68. Cl. 44.  
 Sociedad Anonima Vinedos y Bodegas Arizu, Godoy Cruz, Mendoza, Argentina. 849,551, pub. 3-5-68. Cl. 47.  
 Societe Anonyme d'Etudes et de Constructions d'Appareils Mecaniques Pour La Verrerie, Paris, France, to Societe des Machines Rolant "Rolant Machines Corp." Monceau-sur-Sambre, Belgium. 237,840, ren. 5-21-68. Cl. 23.  
 Societe des Machines Rolant "Rolant Machines Corp.": See—  
 Societe Anonyme d'Etudes et de Constructions d'Appareils Mecaniques Pour La Verrerie.  
 Southeastern Public Service Co.: See—  
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 Southern Nitrogen Co., Inc.: See—  
 Kaiser Aluminum & Chemical Corp.  
 Southern Oxygen Co.: See—  
 Air Products and Chemicals, Inc.  
 Southwestern Drug Corp., d.b.a. Tru-Lab Products, Dallas, Tex. 849,277, pub. 1-10-67. Cl. 18.  
 Spencer, James M., Jr., Fort Lauderdale, Fla. 729,429, can. Cl. 26.  
 Spincraft, Inc., Milwaukee, Wis. 729,540-1, can. Cl. 50.  
 Staff Builders, Inc.: See—  
 Staff Builders International, Inc.  
 Staff Builders International, Inc., from Staff Builders, Inc., New York, N.Y. 849,595, pub. 3-5-68. Cl. 101.  
 Stamina Mills, Inc., New York, N.Y. 849,499, pub. 3-5-68. Cl. 42.  
 Standard Distillers Products Inc., to Standard Distillers Products, Inc., Baltimore, Md. 439,958, ren. 5-21-68. Cl. 49.  
 Standard Packaging Corp., New York, N.Y. 849,327, pub. 3-5-68. Cl. 22.  
 Stearns & Foster Co., The, Cincinnati, Ohio. 246,470, ren. 5-21-68. Cl. 1.  
 Stellar Systems Corp., Silver Spring, Md. 849,403, pub. 3-5-68. Cl. 37.  
 Stem, Chester B., Inc., New Albany, Ind. 849,256, pub. 3-5-68. Cl. 12.  
 Stephan Co., The, Fort Lauderdale, Fla. 849,365, pub. 3-5-68. Cl. 25.  
 Sterling Drug Inc.: See—  
 U.S. Sanitary Specialties Corp.  
 Stevens, J. P. & Co., Inc., New York, N.Y. 849,493, pub. 3-5-68. Cl. 42.  
 Stowe-Woodward, Inc., Newton Upper Falls, Mass. 849,323, pub. 11-16-65. Cl. 22.  
 Strauss, Alfred J., Jr., Lexington, Ky. 849,620, Cl. 22.  
 Strauss, Levi, & Co., San Francisco, Calif. 849,437, pub. 3-5-68. Cl. 39.  
 Sue Ann Food Products Corp., Chicago, Ill. 849,526, pub. 3-5-68. Cl. 46.  
 Sunbeam Corp., Chicago, Ill. 729,385, can. Cl. 21.  
 Sunbeam Corp., Chicago, Ill. 849,346, pub. 3-5-68. Cl. 23.  
 Sun-Citrus Products Co., Haines City, Fla. 849,528, pub. 3-5-68. Cl. 46.  
 Swedlin, J., Inc., d.b.a. Gund Mfg., Brooklyn, N.Y. 849,341-3, pub. 3-5-68. Cl. 22.  
 T.G. & Y. Stores Co., Oklahoma City, Okla. 849,417, pub. 3-5-68. Cl. 37.  
 TNT Communications, Inc., New York, N.Y. 849,604, pub. 3-5-68. Cl. 104.  
 Taisei Kogaku Kogyo Co., Ltd., Omiya-shi, Japan. 849,375, pub. 3-5-68. Cl. 26.  
 Talon, Inc., Meadville, Pa. 849,310, pub. 9-5-67. Cl. 21.  
 Tasty Tested Recipes: See—  
 Milgram Food Stores, Inc.  
 Teleco Brophy Ltd., Montreal, Quebec, Canada. 849,491, pub. 3-5-68. Cl. 41.  
 Tele-Systems, Inc., Hialeah, Fla. 808,240, can. Cl. 21.  
 Telonic Industries, Inc., Beech Grove, Ind. 849,322, pub. 3-5-68. Multiple Class (Classes 21 and 26).  
 Templan Spinning Mills, Inc., Mooresville, N.C. 849,511, pub. 3-5-68. Cl. 43.  
 Temtech, Inc., Santa Ana, Calif. 849,366-7, pub. 3-5-68. Cl. 26.  
 Tensor Corp., Brooklyn, N.Y. 849,311, pub. 1-23-68. Cl. 21.  
 Theodore Equipment Corp., Wood-Ridge, N.J. 849,348, pub. 3-5-68. Cl. 23.  
 Thom McAn: See—  
 Melville Shoe Corp.  
 Tjaden, Lowell, Los Angeles, Calif. 849,457, pub. 3-5-68. Cl. 39.  
 Toastmasters International, Santa Ana, Calif. 849,614, pub. 3-5-68. Cl. 200.  
 Tompkins' Label Service, Philadelphia, Pa. 845,930, cor. Cl. 38.  
 Tootsie Roll Industries, Inc., Hoboken, N.J. 849,537, pub. 3-5-68. Cl. 46.  
 Towle Mfg. Co., Newburyport, Mass. 849,377, pub. 12-26-67. Cl. 28.  
 Toy House, The: See—  
 World Toy House, Inc.  
 Trans-American Van Service, Inc., Chicago, Ill. 849,606, pub. 3-5-68. Cl. 105.  
 Tresses Unlimited, Inc., New York, N.Y. 849,488-9, pub. 3-5-68. Cl. 40.  
 Tru-Lab Products: See—  
 Southwestern Drug Corp.  
 Tusaud, Josephine, Inc., Scottsdale, Ariz. 849,559, pub. 3-5-68. Cl. 50.  
 Union Camp Corp., New York, N.Y. 849,412, pub. 3-5-68. Cl. 37.  
 Union Carbide & Carbon Corp., to Union Carbide Corp., New York, N.Y. 439,506, ren. 5-21-68. Cl. 39.  
 Union Carbide Corp.: See—  
 Union Carbide & Carbon Corp.  
 Union Carbide Corp., New York, N.Y. 849,617, Cl. 2.  
 United Glass Tinting Corp., Westfield, N.J. 729,322, can. Cl. 6.  
 United Shoe Machinery Corp., d.b.a. O. A. Miller Co., Boston, Mass. 729,542, can. Cl. 50.  
 United States Gymnastics Federation Assn., The, Tucson, Ariz. 849,615, pub. 3-5-68. Cl. 200.  
 United States Rubber Co., New York, N.Y. 849,434, pub. 3-5-68. Cl. 39.  
 United States Rust Control Corp., Miami, Fla. 849,267, pub. 3-5-68. Cl. 16.  
 U.S. Sanitary Specialties Corp., Chicago, Ill., to Sterling Drug Inc., New York, N.Y. 242,078, ren. 5-21-68. Cl. 52.  
 U.S. Sanitary Specialties Corp., Chicago, Ill., to Sterling Drug Inc., New York, N.Y. 500,402, ren. 5-21-68. Cl. 6.  
 United States Trunk Co., Inc., Fall River, Mass. 849,228, pub. 10-10-67. Cl. 3.  
 Universal Oil Products Co., Des Plaines, Ill. 849,583, pub. 3-5-68. Cl. 52.  
 Universal Packers Corp., from J.D. Packing Co., Oxnard, Calif. 849,546, pub. 12-5-67. Cl. 46.  
 University Sportswear of Calif., Los Angeles, Calif. 849,441-2, pub. 3-5-68. Cl. 39.  
 Usow, Eugene, Mfg. Co., Chicago, Ill. 849,432, pub. 3-5-68. Cl. 39.  
 Ute: See—  
 Oech, Ute M.  
 Utica Cutlery Co., Utica, N.Y. 849,352, pub. 3-5-68. Cl. 23.  
 Valsey-Bristol Shoe Co. Inc., Monett, Mo. 849,473, pub. 3-5-68. Cl. 39.  
 Van Ralte Co., Inc., New York, N.Y. 849,450, pub. 3-5-68. Cl. 39.  
 Vanette Hosiery Mills, Dallas, Tex. 729,484, can. Cl. 39.  
 Varsity Drive Inns International, Inc., State College, Pa. 849,589, pub. 3-5-68. Cl. 100.  
 Veeromull's Inc., New York, N.Y. 849,382-3, pub. 3-5-68. Cl. 28.  
 Veterinary Research Institute, from Veterinary Supply Depot Inc., Dallas, Tex. 849,278, pub. 3-5-68. Cl. 18.  
 Veterinary Supply Depot Inc.: See—  
 Veterinary Research Institute.  
 Vetreria di Vernante S.p.A., Cuneo-Spinetta, Italy. 849,255, pub. 3-5-68. Cl. 12.  
 Vibraslide, Inc., Binghamton, N.Y. 849,231, pub. 3-5-68. Cl. 4.  
 Warner-Lambert Pharmaceutical Co.: See—  
 Lambert-Pharmaceutical Co.  
 Water Well Redevelopers, Inc., Yorba Linda, Calif. 849,601, pub. 3-5-68. Cl. 103.  
 Wear-Right Gloves, Inc.: See—  
 Wimbacher & Rice Inc.  
 Welcome Wagon International, Inc., Memphis, Tenn. 849,424, pub. 3-5-68. Cl. 38.  
 West Coast Evergreen Co., Portland, Oreg. 729,300, can. Cl. 1.  
 West Virginia Pulp and Paper Co., New York, N.Y. 849,408, pub. 3-5-68. Cl. 37.  
 Western Publishing Co., Inc., Racine, Wis. 849,334, pub. 3-5-68. Cl. 22.  
 Weyerhaeuser Co., Tacoma, Wash. 849,409, pub. 3-5-68. Cl. 37.  
 Wimbacher & Rice Inc., to Wear-Right Gloves, Inc., New York, N.Y. 500,924, ren. 5-21-68. Cl. 39.  
 Wirth, L. W., Inc., New York, N.Y. 729,447, can. Cl. 30.  
 Woodward & Lothrop Inc., Washington, D.C. 716,976, Am. 7(d), Cl. 101.  
 World Safety Research Institute, Inc., New York, N.Y. 849,587, pub. 3-5-68. Cl. 100.  
 World Toy House, Inc., d.b.a. The Toy House, St. Paul, Minn. 849,328-9, pub. 3-5-68. Cl. 22.  
 Worthmore Food Products Co., from Phil J. Hock, Jr. and Howard P. Hock, d.b.a. Phil J. Hock & Co., Cincinnati, Ohio. 849,525, pub. 3-5-68. Cl. 46.  
 Yardley of London, Inc., Totowa, N.J. 849,579, pub. 3-5-68. Cl. 51.  
 Yellott, John, Engineering Associates, Inc., Phoenix, Ariz. 729,510, can. Cl. 42.  
 Yorke Shirt Corp., The, New York, N.Y. 849,430, pub. 1-14-64. Cl. 39.  
 Zenith Radio Corp., Chicago, Ill. 729,520, can. Cl. 44.  
 Zo-Tite Products Co.: See—  
 Rosenkrantz, William.

# U.S. DEPARTMENT OF COMMERCE

## OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

May 28, 1968

Volume 850

Number 4

## PATENTS

### NOTICES

#### Board of Appeals Decisions Rendered in the Month of March 1968

|                           |     |
|---------------------------|-----|
| Examiner affirmed         | 162 |
| Examiner affirmed in part | 32  |
| Examiner reversed         | 68  |
| Total                     | 262 |

#### Tentative Schedule of Moves into Building 2—Crystal Plaza

We expect to move employees into Crystal Plaza Building 2 beginning June 7, 1968, and extending through July 14, 1968. These plans are based on proposed completion dates furnished by Charles E. Smith Management Company and on acceptance of the completed space by General Services Administration. The installation of telephones is one other factor which will determine how closely we can adhere to this occupancy schedule.

The tentative schedule which has been determined for occupancy of Building 2 is:

#### JUNE 7-9

Correspondence and Mail Branch  
 Deposit Account Section (Finance Branch)  
 Attorneys' Copy Pick-Up Boxes  
 Supply and Receiving Room (Office Services)  
 Labor Section (Office Services)

#### JUNE 14-16

Trademark Examining Operation  
 Issue and Gazette Branch  
 Quality Control

#### JUNE 21-23

Board of Appeals  
 Board of Patent Interferences  
 Trademark Trial and Appeal Board  
 Office of the Director of Administration  
 Director, Budget & Finance Division  
 Budget Branch  
 Head, Finance Branch  
 Office Services Branch  
 Printing & Records Management Branch

#### JUNE 28-30

Director, Office of Patent Services  
 Assignment Branch  
 Application Branch  
 Special Services Branch  
 Document Services Branch  
 (excluding the Reproduction Section)  
 Employee Accounts and Accounting & Cost Analysis Sections (Finance Branch)  
 Automatic Data Processing Division

#### New Applications Received During April 1968

|               |      |
|---------------|------|
| Patents       | 8060 |
| Designs       | 494  |
| Plant Patents | 6    |
| Reissues      | 34   |
| Total         | 8694 |

#### JULY 5-7

Director, Office of Research, Development & Analysis  
 Research and Development Division  
 Organization & Systems Analysis Division  
 Weekly Issue Section (Patent Copy Sales Branch)  
 Service Branch (Office of Examining and Documentation Control)  
 Mechanical Documentation Group

#### JULY 12-14

Patent Documentation Administrator  
 Chemical Documentation Group  
 Electrical Documentation Group  
 Personnel Division (including Employee Development Branch)  
 Patent Office Academy  
 Drafting Branch

Once the above relocations are completed, we will then be in a position to move the patent files, the Record Room, numerical set of foreign patents, and the bindery shop. No dates have been determined, as yet, for moving the latter units.

\*There is a possibility that the last two scheduled moves will be delayed by as much as two weeks because of the telephone strike.

EDWARD J. BRENNER,  
 Commissioner.

May 6, 1968.

#### Classification Order No. 393

Classification Order No. 393, dated May 8, 1968, incorporates changes in the following classes:

47, PLANT HUSBANDRY  
 200, ELECTRICITY, CIRCUIT MAKERS AND BREAKERS  
 241, SOLID MATERIAL COMMINUTION OR DISINTEGRATION  
 337, ELECTRICITY, ELECTROTHERMALLY OR THERMALLY ACTUATED SWITCHES—Established

All of the above changes will be incorporated in the Manual of Classification replacement pages dated July 1968.

HERBERT S. VINCENT,  
 Acting Patent Documentation Administrator,  
 Office of Examining and Documentation Control.

#### Disclaimers

2,855,286.—Edward William Harvey, Highland Park, N.J. PROCESS AND COMPOSITION FOR REDUCING CORROSION OF METALS, Patent dated Oct. 7, 1958. Disclaimer filed Feb. 7, 1968, by the assignee, Allied Chemical Corporation.

Hereby enters this disclaimer to claims 3, 7, 12 and 16 of said patent.

#### Issue—May 28, 1968

|               |  |
|---------------|--|
| Patents       | 1200—No. 3,384,903 to No. 3,386,102, incl. |
| Designs       | 80—No. 211,151 to No. 211,230, incl.       |
| Plant Patents | 3—No. 2,811 to No. 2,813, incl.            |
| Total         | 1288                                       |



3,341,390.—*Harry V. Kirk, Libertyville, Ill. MACHINE FOR APPLYING INTELLIGENCE TO A MOVING ARTICLE.* Patent dated Sept. 12, 1967. Disclaimer filed Feb. 7, 1968, by the assignee, *Oheashire Incorporated*.

Hereby enters this disclaimer to claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 of said patent.

3,352,828.—*Anthony J. Passannante, Metuchen, N.J. POLY-VINYL CARBAMATES CONTAINING NF<sub>3</sub> GROUPS AND PROCESSES FOR PRODUCING SAME.* Patent dated Nov. 14, 1967. Disclaimer filed Apr. 2, 1968, by the assignee, *Esso Research and Engineering Company*.

Hereby enters this disclaimer to claim 1 of said patent.

#### Dedications

2,914,410.—*Robert W. Butler, Wilmington, Del. STABILIZED ICINGS AND PREPARATION.* Patent dated Nov. 24, 1959. Dedication filed Feb. 15, 1968, by the assignee, *Hercules Incorporated*.

Hereby dedicates to the Public the entire term of said patent.

3,052,489.—*George W. Stoudt, Oberlin, Ohio. HOSE COUPLING WITH SEPARABLE REINFORCED LOCKING ARM.* Patent dated Sept. 4, 1962. Dedication filed Feb. 7, 1968, by the assignee, *Bendix-Westinghouse Automotive Air Brake Company*.

Hereby dedicates to the Public the entire remaining term of said patent.

3,216,624.—*Douglas F. Corsette, Los Angeles, Calif. DISPENSER WITH STROKE RESTRICTING OVERCAP.* Patent dated Nov. 9, 1965. Dedication filed Jan. 4, 1968, by the assignee, *Calmar Inc.*

Hereby dedicates to the Public the entire term of said patent.

3,241,865.—*Gilbert B. Pumphrey, Elyria, Ohio. SAFETY MEANS FOR GLAD HAND COUPLINGS.* Patent dated Mar. 22, 1966. Dedication filed Feb. 7, 1968, by the assignee, *Bendix-Westinghouse Automotive Air Brake Company*.

Hereby dedicates to the Public the entire remaining term of said patent.

#### Adjudicated Patents

(C.A. Ill.) Wagner Patent No. 2,547,648 (208—120), for METHOD OF DEEP FAT COOKING FOODS UNDER PRESSURE. Claims 2 and 3 Held valid but not infringed. *Hazeltine Research Inc. v. Zenith Radio Corp.*, 388 F.2d 25; 156 USPQ 224.

(C.A. Calif.) Holmberg Patent No. 2,646,911 (224—45), for CONTAINER CARRIER. Claims 1, 2, 4, 5 and 7 to 13 Held not infringed. *Illinois Tool Works, Inc. v. Bruning*, 389 F.2d 38; 156 USPQ 610.

(Ct. Cl.) Campbell Patent No. 2,705,461 (123—44), for CARGO NET FABRICATED FROM FLEXIBLE CABLE. Claims 1 to 4 Held valid and infringed. *Eastern Rotor Craft Corp. v. United States*, 384 F.2d 429; 155 USPQ 729.

(C.A.N.J.) Willert Patent No. 2,734,226 (18—30), for INJECTION MOLDING APPARATUS. Claims 1 and 4 Held valid. *Frank W. Egan & Co. v. Modern Plastic Machinery Corp.*, 387 F.2d 129; 156 USPQ 438.

(C.A. Ill.) Gill Patent No. 2,749,267 (52—518), for METHOD OF COVERING THE JOINT BETWEEN WALLBOARD AND THE RESULTANT PRODUCT. Held infringed if valid. *U.S. Gypsum Co. v. National Gypsum Co.*, 387 F.2d 99; — USPQ —.

(C.A.N.Y.) Lambert and Robine Patent No. 2,796,200 (222—129.4), for HOT CHOCOLATE DISPENSING MACHINE. Held invalid. *Robine v. Apco Inc.*, 386 F.2d 267; 153 USPQ 1.

(C.A.N.Y.) Nichols and Garshels Patent No. 2,878,514 (18—19), APPARATUS FOR CURLING PLASTIC YARN. Held invalid. *David and David Inc. v. Myerson*, 388 F.3d 292; 156 USPQ 358.

(C.A. Calif.) Poupitch Patent No. 2,923,406 (206—65), for CONTAINER CARRIER. Claims 1 and 2 Held not infringed. *Illinois Tool Works, Inc. v. Bruning et al.*, 390 F.2d 38; 156 USPQ 610.

(C.A. Ill.) Shea Patent No. 3,029,716 (94—46), for PAVING MACHINE CONTROL SYSTEM. Claims 1 and 3 Held valid and infringed. *Shes v. Blaw-Knox Co.*, 388 F.2d 912; 156 USPQ 491.

(C.A. Ill.) Williams Patent No. 3,057,467 (206—46), for PACKAGE FOR TREATING AGENTS AND DISPOSABLE APPLICATOR FORMING A PART THEREOF. Claims 1 and 2 Held valid and infringed. *Canaan Products, Inc. v. Edward Don and Co.*, 388 F.2d 540; 156 USPQ 295.

(C.A. Ill.) Gass Patent No. 3,121,582 (298—67), for UNIVERSAL BUMPERETTE ASSEMBLY. Held invalid. *Gass v. Montgomery Ward & Co.*, 387 F.2d 129; 155 USPQ 199.

(Ct. Cl.) Marvel Reissue Patent No. 24,136 (210—315), for WATER FUEL SEPARATOR. Claims 1 and 3 Held valid and not infringed. *Bowser, Inc. v. United States*, 388 F.2d 346; 156 USPQ 408.

(C.A. Ill.) Decker, Rieck and Bennett Reissue Patent No. 25,716 (79—5), for FABRIC COATED GARMENT-BUTTON ASSEMBLYING DEVICE. Claim 4 Held invalid and not infringed. *Masant Button and Supply Co. v. Sears, Roebuck & Co.*, 388 F.2d 912; 156 USPQ 484.

#### Foreign Patents Received in the Scientific Library as of April 30, 1968

| Source              | Date received | Highest number |
|---------------------|---------------|----------------|
| Australia:          |               |                |
| (Abstracts)         | Apr. 12, 1968 | 32,432/68      |
| (Patents)           | Apr. 16, 1968 | 279,564        |
| Austria             | Apr. 12, 1968 | 260,350        |
| Belgium             | Apr. 9, 1968  | 675,600        |
| Canada              | Apr. 26, 1968 | 783,535        |
| Czechoslovakia      | Apr. 26, 1968 | 124,400        |
| Denmark             | Apr. 19, 1968 | 108,065        |
| East Germany        | Apr. 10, 1968 | 60,827         |
| Egypt               | June 28, 1967 | 6,873          |
| Finland             | Apr. 23, 1968 | 36,616         |
| France:             |               |                |
| (Patents)           | Apr. 29, 1968 | 1,509,450      |
| (Additions)         | Apr. 8, 1968  | 90,500         |
| (Medicaments)       | Apr. 18, 1968 | 5,100 M        |
| (Additions)         | May 24, 1967  | 112 CAM        |
| Germany:            |               |                |
| (Auslegeschriften)  | Feb. 2, 1968  | 1,256,690      |
| (Patents)           | Feb. 2, 1968  | 1,248,119      |
| Great Britain       | Apr. 16, 1968 | 1,108,900      |
| India               | Apr. 11, 1968 | 101,130        |
| Ireland             | Apr. 19, 1968 | 27,244         |
| Italy               | Aug. 30, 1967 | 660,000        |
| Japan               | Apr. 29, 1968 | 8,360/68       |
| Netherlands:        |               |                |
| (Octrooiaanvragen)  | Feb. 29, 1968 | 14,713/67      |
| (Patents)           | Feb. 29, 1968 | 128,617        |
| Norway              | Apr. 4, 1968  | 112,487        |
| Pakistan            | Feb. 3, 1964  | 112,446        |
| Philippine Republic | Apr. 13, 1962 | 458            |
| Poland              | Mar. 27, 1968 | 54,723         |
| Romania             | Apr. 19, 1968 | 49,334         |
| Sweden              | Apr. 25, 1968 | 218,956        |
| Switzerland         | Apr. 29, 1968 | 448,429        |
| U.S.S.R.            | Apr. 15, 1968 | 206,911        |

Australia: First 2,000 incomplete  
Belgium: First printed 493,079/1950  
Canada: First printed 445,931/1948  
Czechoslovakia: Not received between 81,300/1952 and 91,801/1959  
Finland: First printed 19,428/1941  
Hungary: First 500 incomplete  
Hungary: First received 5,792/1896  
Latest 140,582/1961  
Ireland: First received 10,000/1929  
Italy: First 243,000 incomplete  
Rumania: First received 40,390/1957  
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958  
Yugoslavia: First received 10,001/1933  
Latest 16,461/1941

#### Erratum

In the OFFICIAL GAZETTE, May 7, 1968, vol. 850, p. 6, in the heading to the decision, for "Patent Interference No. 8/64" read *Proceeding No. 8/64*.

#### Registration to Practice

The following list contains the names of all applicants for registration to practice before the United States Patent Office who attained passing grades in the examination of February 13, 1968. Information tending to affect the eligibility of any of said applicants on moral or ethical grounds should be furnished the Commissioner of Patents on or before June 28, 1968.

EDWIN L. REYNOLDS,

May 2, 1968. Chairman, Committee on Enrollment.

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# PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 25, 1968

| PATENT EXAMINING OPERATIONS AND GROUPS   | Actual Filing Date of Oldest Case Awaiting Action |          |
|--|---|----------|
|  | New   | Amended  |
| * Denotes date of oldest application for each Operation.   |   |          |
| <b>CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.</b>   |   |          |
| GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager. ....<br>Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal<br>Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous<br>Compositions; Fuel and Igniting Devices.  | *2-18-65  | *8-22-62 |
| GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager. ....<br>Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics;<br>Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.  | 6-21-65   | 12-28-62 |
| HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Manager. ....<br>Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic<br>Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.:<br>Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.  | 6-24-65   | 3-22-63  |
| COATING AND LAMINATING, BLEACHING, DYING AND PHOTOGRAPHY, GROUP 160—J. R. LIBER-<br>MAN, Manager. ....<br>Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding;<br>Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.   | 3- 3-65   | 8- 7-64  |
| SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT,<br>Manager. ....<br>Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture;<br>Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid<br>Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus;<br>Misc. Physical Processes. | 3-19-65   | 1-29-64  |
| <b>ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.</b>   |   |          |
| INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager. ....<br>Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors;<br>Switches; Miscellaneous.   | 8- 3-65   | 12-31-63 |
| SECURITY, GROUP 220—S. BOYD, Manager. ....<br>Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring,<br>Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.   | 10-25-65  | 8-20-64  |
| INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager. ....<br>Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices<br>and Related Arts.  | 11- 3-64  | 6-18-62  |
| ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager. ....<br>Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines<br>and Networks; Optics; Radiant Energy; Measuring.   | *10-29-64   | *4-10-62 |
| PHYSICS, GROUP 280—R. L. EVANS, Manager. ....<br>Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.   | 10- 1-65  | 3-22-65  |
| DESIGNS, GROUP 290—S. BOYD, Manager. ....<br>Industrial Arts; Household, Personal and Fine Arts.   | 5-24-67   | 6- 3-66  |
| <b>MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.</b>  |   |          |
| HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager. ....<br>Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid<br>Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats;<br>Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid<br>Flexible and Special Receptacles and Packages.               | 10-31-66  | 2- 4-65  |
| MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager. ....<br>Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal<br>and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus;<br>Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Wood-<br>working; Tools; Cutlery; Jacks.                             | 5- 2-66   | 1- 2-64  |
| AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Man-<br>ager. ....<br>Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Ex-<br>cavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Type-<br>writers; Stationery; Information Dissemination.   | *11- 9-65   | 5-14-64  |
| HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager. ....<br>Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration;<br>Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.  | 10-28-66  | 8- 5-65  |
| FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager. ....<br>Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure<br>Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Struc-<br>tures.   | 9-20-66   | 10-22-64 |
| TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager. ....<br>Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures;<br>Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manu-<br>facture; Sewing Machines; Winding and Reeling.  | 4- 6-66   | *5-20-63 |
| Total number of pending applications (excluding Designs) .....   |   | 173,641  |
| Total number of Design applications pending .....  |   | 3,587    |

Expiration of patents: The patents within the range of numbers indicated below expire during May 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 890. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1968*.

Patents ..... Numbers 2,560,000 to 2,565,299, inclusive  
Plant Patents ..... Number 1,012

# DECISIONS IN PATENT AND TRADEMARK CASES

## U.S. Court of Customs and Patent Appeals

IN RE ROBERT FREDERIC MICHEL BUREAU, GILBERT VICTOR HENRI KREMER,  
AND VICTOR MARIE DUPRE

No. 7678. Decided March 16, 1967

[54 CCPA 1203; 373 F.2d 1002; 153 USPQ 66]

### 1. PATENTABILITY—UTILITY—35 U.S.C. 101.

"If the Board added its own rejection under section 101 to the rejection of the Examiner under section 112 \* \* \* we rule thereon by holding that there is no support for such a rejection. The specification beyond question *asserts* a use and *indicates* that that use is as intermediates for the manufacture of dyestuffs."

### 2. APPLICATION—DISCLOSURE—MATTER OBVIOUS TO THE ART NEED NOT BE DISCLOSED—35 U.S.C. 112.

"Under 35 U.S.C. 112, a specification need not teach that which is obvious to those in the art. *In re Folkers*, supra, and cases therein cited."

REVERSED.

Francis C. Browne, William E. Schuyler, Jr., Andrew B. Beveridge,  
Steven D. Goldby, Alvin B. Peterson, and Joseph A. DeGrandi for  
appellants.

Joseph Schimmel (Jack E. Armore, of counsel) for the Commis-  
sioner of Patents.

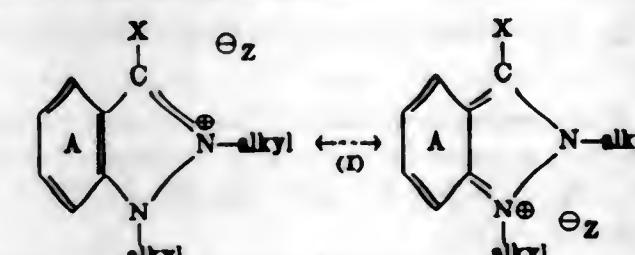
Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH,  
and ALMOND, Associate Judges

RICH, J., delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Ap-  
peals affirming the rejection of claims 1, 7, 8, and 9, all claims remain-  
ing in patent application Serial No. 140,260, filed September 25, 1961,  
for "New Indazolium Salts."

Claim 1 reads:

1. The indazolium salts of the formulae:



in which the alkyl groups in the 1- and 2-positions are selected from the group consisting of methyl and ethyl, X represents a member selected from the group consisting of chlorine and bromine, the benzene nucleus A is substituted by mem-  
bers selected from the groups consisting of hydrogen, chlorine and bromine atoms  
and nitro-, cyano-, sulphonamide, lower alkyl, lower alkoxy and lower alkylsul-  
phonyl groups and Z represents a monovalent anion.

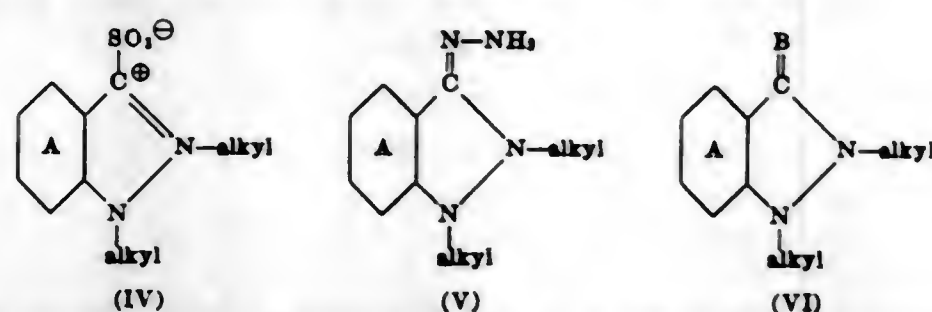
The two formulae connected by the double-headed arrow represent but  
a single compound which, however, is in a state of mesomerism or  
resonance between the two electron distribution states shown. The re-  
maining claims are:

7. 3-chloro-1,2-dimethyl-indazolium salts of strong acids.
8. 5-nitro-3-chloro-1,2-dimethyl-indazolium salts of strong acids.
9. 6-nitro-3-chloro-1,2-dimethyl-indazolium salts of strong acids.

The application discloses processes for preparing indazolium salts  
corresponding to the general formula of claim 1, which salts it desig-  
nates as compounds of Formula (I). It further states that the halogen



atom, X, in position 3 of those compounds is remarkably labile, permitting the preparation therefrom, under particularly mild conditions, of a large number of new compounds corresponding to the general formulae designated (IV), (V) and (VI) below:



In the compounds of Formula (VI), B is defined as representing "a divalent atom or radical such as =O, =S, =N-H, =N-alkyl, =N-aryl, =N-NHalkyl, =N-NHaryl." Processes for the preparation of the compounds of all three formulae, (IV), (V), and (VI), from the claimed compounds of Formula (I) are disclosed in the application. It is significant to the issues that compounds of Formula (V) are *hydrazones*.

The issues in this case relate only to the disclosures of the *utility* of the compounds or *how to use* them. With respect thereto, the application states:

The compounds of Formulae (I), (IV), (V) and (VI) may be used as intermediate products for the manufacture of dyestuffs.

It is not questioned that the claimed compounds are new and unobvious and that the disclosure of how to make them is adequate.

The Examiner's rejection as stated in his answer was:

The claims stand rejected as failing to comply with the requirements of 35 U.S.C. 112 by reason of there being an inadequate disclosure. It is maintained that the statement on page 5 of the specification that "The compounds of Formulae (I), (IV), (V) and (VI) may be used as intermediate products for the manufacture of dyestuffs" is not a teaching that would be *sufficient to enable* one skilled in the art to *use* the invention as disclosed. [Emphasis ours.] [1]

There is a preliminary question to be disposed of, however, by reason of the following two passages in the Board's opinion.

[I]

We believe that the disclosure is not only defective in not teaching how to use the invention but *also* in not properly *indicating* the field of utility. *In re Nelson et al.*, 47 CCPA 1031, 1960 C.D. 369, 758 O.G. 233, 280 F.(2d) 172, 126 USPQ 242 (headnote 12). [Emphasis ours.]

[II]

Had appellants demonstrated by the citation of proper authorities that hydrazones are a quite conventional intermediate in the making of azo dyes and that their type of compound is of a kind that has been used to make such dyes, so that their disclosure as it stands would be sufficient to fully suggest this use to one skilled in the art, we might have some basis to think that *both the requirements of 35 U.S.C. 101 and 35 U.S.C. 112* had been met. No such authorities have been brought to our attention although this ground of rejection was used in the first Office action and repeated thereafter. [Emphasis ours.]

Referring to passage [I], headnote 12 of *Nelson* digests that portion of our opinion in which we adhered to the rule of *In re Bremner*, 37 CCPA 1032, 182 F.2d 216, 86 USPQ 74, that an application must contain "an assertion of utility and an indication of the use or uses in-

<sup>1</sup> The Board opinion does not restate this rejection accurately in saying: "Claims 1, 7, 8 and 9 stand rejected as based upon an inadequate disclosure in that there is no teaching of *how* the claimed compounds are to be used . . ." [Our emphasis.] The clear disclosure, quoted in the text, *supra*, is that they are to be used "as intermediates in the manufacture of dyestuffs." It seems to us there is a material difference between the rejection as the Examiner stated it and its restatement by the Board. Since the Board gave no indication of making a new rejection at this point, we shall assume the Examiner's statement to be the actual rejection.

tended." This rule, of course, is predicated at least in part on the requirement of 35 U.S.C. 101, referred to by the Board in passage [II], that an invention be "useful." We assume, *arguendo*, that that is why the Board there referred to that section of the statute.<sup>2</sup>

[1] If the Board added its own rejection under section 101<sup>3</sup> to the rejection of the Examiner under section 112, although it did not designate its "belief" in passage [I] as a new rejection, we rule thereon by holding that there is no support for such a rejection. The specification beyond question *asserts* a use and *indicates* that that use is as intermediates for the manufacture of dyestuffs. We can do no better by way of indicating our views on this point than to express our full agreement with what the Examiner said in his answer:

The Examiner agrees with applicants that the application satisfies the requirements of 35 U.S.C. 101 and *In re Bremner*, 86 USPQ 74, with regard to the assertion of utility. The issue is whether the requirements of 35 U.S.C. 112, with regard to how to use the invention, have been satisfied.

We find, as did the Examiner, that that statute and the rule of *In re Bremner*, as repeated in *In re Nelson*, are complied with. We return now to the Examiner's rejection under section 112.

The Examiner's rejection was based on the proposition that the specification was not sufficient to *enable* one skilled in the art *to use* the invention (the claimed indazolium salts) "as disclosed." The disclosure, quoted above, is to use them "for the manufacture of dyestuffs."

Appellants' position is that those skilled in the art, to whom the specification is addressed, *Loom Co. v. Higgins*, 105 U.S. 580, 586; *In re Chilowsky*, 43 CCPA 775, 229 F.2d 457, 108 USPQ 321; *In re Folkers*, 52 CCPA 1269, 1275, 344 F.2d 970, 976, 145 USPQ 390, 394, having been told to use the claimed compounds as intermediates to make dyestuffs, would know how to so use them.

While admitting that the specification does not *expressly* disclose how to convert the claimed compounds or their derivatives to dyestuffs, appellants argue that certain prior art references on which they rely, Huenig Patent 2,832,764 and Badische Anilin French Patent 1,129,111, which were available as publications prior to their filing date, show that the art already knew how to do it—that how to do it would be obvious to those skilled in the art. In further support of this argument, appellants point to the fact that when they attempted to obtain a patent on another application (Serial No. 154,821, filed Nov. 24, 1961, two months after the instant application) covering the making of dyestuffs from the compounds here claimed, the same examining group of the Patent Office which is examining this application held that claims to processes for making dyestuffs from the herein claimed compounds were "unpatentable over" Huenig and Badische Anilin because of *obviousness* of the processes to those skilled in the art. This apparent inconsistency of the Patent Office—that the process is not obvious from the standpoint of an adequate disclosure but is obvious from the standpoint of rejecting claims—was argued to the Examiner several months before he filed his answer on the appeal to the Board. In a brief in reply to the Examiner's answer, appellants, moreover, pointed out

<sup>2</sup> In making this assumption we are aware of the possibility that the Board's reference to section 101 in passage [II] could be taken as an agreement with the statement of the Examiner in his answer that applicants had satisfied section 101. See footnote 3. Nowhere does the Board clearly predicate rejection on section 101. It may be that it predicated its opinion entirely on section 112 but we feel obliged to express our view on compliance with section 101 in case such an assumption is wrong. The reference to section 101 in passage [II] is certainly ambiguous.

<sup>3</sup> There is not a little doubt that it did so since immediately following passage [I] it made a statement which appears to indicate that it believed the alleged deficiency in indicating the "field of utility" to be one under section 112, not under section 101.



this position of other examiners acting on other applications that Huenig and Badische Anilin made the process of making the dyestuffs obvious. The Board granted that the Patent Office had taken these diverse positions but found the argument unpersuasive for reasons which we find unpersuasive.

The only issue we have before us under section 112 is whether appellants' specification would enable one skilled in the art to use his compounds to make dyestuffs, the compounds themselves being so used as "intermediates." The record shows: that at the time appellants filed their application azo dyes were well known; that azo dyes could be made from hydrazones, including a hydrazone which is an isomer of one of the hydrazones of the claimed compounds; and that the claimed compounds of Formula (I) can be converted to hydrazones of Formula (V). The references appellants rely on show that, at the time they filed, the art already knew how to make azo dyes from hydrazones by reacting the hydrazones with a conventional organic coupling compound in the presence of an oxidizing agent to form the azo dye. In appellants' other application claiming dyes and processes of making them, this is exactly what the Examiner pointed out, saying, "Applicants' process differs only in the use of an indazolone-hydrazone component. \* \* \* No patentable invention is seen in using different, but related materials in an old process." [Emphasis ours.] And further, the Examiner said: "the processes are considered to be the same, except for the use of different but related materials."

The Solicitor's brief contends that appellants did not argue during the prosecution of the case and prior to the first Board decision that the disclosure is sufficient because it teaches that the claimed compounds can be converted to hydrazones and that the latter can be converted to azo dyes by conventional processes. He also says the references relied on by appellants, Huenig and Badische Anilin, were not relied on prior to the Board decision. On this ground he asks us not to consider the argument and the references, citing cases. We have no quarrel with the holdings of the cases, but the record simply does not bear out the facts alleged by the Solicitor. The arguments which were made both before the Examiner and the Board, and acknowledged by both of them, based on the inconsistent position of the Examiner on obviousness of the process in another application, clearly placed both the argument and the supporting references before both lower tribunals. There were additional references in further support of the argument which appellants tried to place before the Board after its initial decision and which it refused to consider, and of which we are asked to take judicial notice. We have not found it necessary to look at the additional references. The argument based on "inconsistency" was clearly an argument that the references we find sufficient taught the obviousness of the process. [2] Under 35 U.S.C. 112, a specification need not teach that which is obvious to those in the art. *In re Folkers*, supra, and cases therein cited.

The Solicitor further argues that by trying to patent the process for making the dyes in application Serial No. 154,821 appellants admit "it was not within the skill of the art to prepare useful dyes from hydrazones of the claimed compounds" and are "estopped from asserting the contrary." We know of no law giving rise to an estoppel out of such a state of facts and the Solicitor cites none. Nor do we think appellants were taking an inconsistent position in attempting to patent the process, relying for the patentability thereof on the herein undis-

puted novelty of the starting materials. Cf. *In re Larsen*, 49 CCPA 711, 292 F.2d 531, 130 USPQ 209 (1961), indicating that the patentability of the process at the time the application was filed was at least debatable.

Finding that the specification is sufficient to comply with 35 U.S.C. 112, and if necessary to so decide that it complies with 35 U.S.C. 101, the decision of the Board is reversed.

REVERSED.

WORLEY, *Chief Judge*, concurs in the result.

MARTIN, J., participated in the hearing of this case but died before a decision was reached.

### U.S. Court of Customs and Patent Appeals

IN RE HAROLD G. BAILEY AND FRED J. HORBS

No. 7719. Decided March 30, 1967

[54 CCPA 227; 374 F.2d 541; 153 USPQ 126]

#### 1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"METHOD OF CASTING PLASTIC PRODUCTS."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Method of Casting Plastic Products," as unpatentable over the prior art, is affirmed.

AFFIRMED.

Albert L. Ely, Jr., for appellants.

Joseph Schimmel (Fred W. Sherling, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, and ALMOND, Associate Judges, and Judge WILLIAM H. KIRKPATRICK\*

RICH, J., delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals, adhered to on reconsideration, rejecting claim 6 under Rule 196(b) and affirming the Examiner's rejection of claims 1-5 and 7-11, in application Serial No. 40,544, filed July 5, 1960, entitled "Method of Casting Plastic Products." No claim has been allowed.

The invention is a method of casting plastic articles in which thermoplastic resins "in the form of dry and relatively fine, substantially impalpable powders" are brought into contact with a heated mold. The mold is at the "melting temperature range of the resins, that is, [heated] to the range of temperatures at which the resin softens to the extent that particles commence to coalesce in the absence of extraneous pressure but do not necessarily become so molten as to become a readily flowable liquid \* \* \*." Heat is applied to the powder beyond the point when all of the powder has "coalesced" and "the mass of resin is in a state for which the term 'rough fusion' has been coined." The mold is then cooled and the cast article removed from it.

Claims 1, 4, and 8 are illustrative:

1. The process of casting articles of an elastic thermoplastic resin comprising the steps of obtaining a quantity of said resin in the form of a dry, flowable substantially impalpable powder, placing a substantially dry mass of said powder in contact with a mold surface heated to a temperature at least as high as the fusion temperature of said powder to coalesce and rough-fuse the particles in the mass of powder immediately adjacent said mold surface into a relatively continuous and void-free surface of plastic in contact with said mold surface, said coalescence occurring in the substantial absence of any external pressure on the

\*Senior District Judge, Eastern District of Pennsylvania, sitting by designation.



mass of powder sufficient to impair the free flowability of unfused and uncoalesced powder particles in the mass, and the portion of said mass so coalesced and rough-fused constituting a layer having unfused particles in contact with said layer and adhered to the surface of the layer opposite its surface in contact with the heated mold surface, continuing to apply heat to said rough-fused layer in contact with said mold to cause further coalescence of said rough-fused and adhered particles and to increase the tensile strength of said coalesced mass, and then removing said coalesced mass in the form of a molded article having a surface conforming to the contacted surface of said mold.

4. The process as defined in claim 1 including the step of separating from the coalescing particles and particles adhered thereto any unadhered particles in the initial mass of powder before continuing to apply heat to the coalesced resin particles and resin particles adhered thereto.

8. The process of forming a hollow article having an opening therein comprising the steps of claim 4 and including the steps of employing a hollow mold having an opening into a cavity comprising the mold surface, contacting the mold surface with the mass of said powder in sufficient quantity to fill said mold cavity, and separating unadhered particles by removing them from the cavity after rough fusion of the layer of coalesced particles.

The following references were relied on by the Board:

Heisler et al., 2,736,925, Mar. 6, 1956.

Delacoste et al. (Italian), 440,295, Oct. 9, 1948.

Heisler et al. disclose a method of casting hollow articles from powdered polyethylene which, in its broader concept, involves application of the powder to a heated mold. It discusses the manufacture of cylindrical containers, the cover and body being formed by somewhat different techniques. The method of casting the latter includes the addition of an excess of polyethylene powder to a mold, rotation of the mold during which the excess powder spills out, cessation of rotation and continued application of heat to the now softened and fused powder until it has coalesced into a homogeneous coating. Heisler et al. then disclose that "the fused coating or layer of polyethylene will show a more or less grainy or pebbled appearance and may even assume a smooth somewhat glassy appearance, depending on the temperature of the mold and the extent of transfer of heat from the mold to the fused polyethylene layer thereon." The process is then repeated, restoring to the mold that excess powder which spilled out during the initial rotation. The disclosure notes, "It is possible, however, to avoid the above-described two step inclined-tumbling coating operation, which is preferred, and to carry out the coating of the body mold in a single inclined-tumbling coating operation."

Delacoste et al. teach the single-stage manufacture of hollow, closed articles. This reference was cited by the Board, under Rule 196(b) to show "the production of a closed hollow article by utilizing a charge of solid resin equivalent to the weight of the article and rotating the mold to obtain a uniform coating." Appellants' arguments here do not seem to focus upon those deficiencies in the Heisler et al. reference toward which the citation of Delacoste et al. was directed. It is, therefore, unnecessary to discuss further the Delacoste et al. reference.

The Board found claims 1-5 and 7-11 at least obvious in view of (and perhaps anticipated by) Heisler et al. and claims 5-7 obvious in view of Heisler et al. and Delacoste et al. The Board discussed the claims with some particularity, pointing out the correspondence between process steps in application and reference. Appellants' principal arguments challenge this analysis only insofar as the following points are affected.

(a) When a mass of thermoplastic resin particles is heated *unidirectionally* from a surface maintained at the melting range of the resin, the coalesced mass

is outwardly porous but, *provided the mass is so heated in the substantial absence of external pressure*, i.e., pressure other than that attributable to the weight of the particles themselves, the mass of coalesced and coalescing particles is characterized by a substantially void-free film at the interface between the mass and the surface from which heat is supplied. When all of the mass of resin intended to be cast is so coalesced and coalescing, the term "rough fusion" has been coined to describe this stage of the resinous mass. \* \* \*

(b) Up to a maximum, termed "final fusion," continued unidirectional application of heat from the mold surface to the rough-fused mass of resin increases the density of the cast mass and its tensile strength is greatly increased; \* \* \*

It appears, then, that appellants urge patentability on the bases of their unidirectional application of heat to the plastic, the substantial absence of external pressure which characterizes the heating step, and the continued application of heat after the rough fusion stage is reached.

Appellants do not deny that the initial addition of powdered polyethylene to the heated mold surface in the disclosure of Heisler et al. involves a unidirectional application of heat. They point, however, to a subsequent oven heating step "contrary to the basic principle of appellants' process." We do not see how another heating step is contrary to appellants' basic principle. We see no assertion that such a step would deleteriously affect the process as defined by appellants. Finally, we note that in any event appellants' claims are not limited to unidirectional heating.

Appellants' contention with regard to the third basis for patentability, i.e., the continued application of heat after "rough fusion" until "final fusion," is obscure. We take it that appellants do not claim that their application of heat is for a longer time than that of the reference process. Rather, their approach is typified by the following:

\* \* \* the Board ignores that none of appellants' claims call for merely applying the requisite quantity of thermoplastic resin powder to a heated mold surface and then allowing the mold to cool. All require the application of heat through the mold surface to bring the overlying or adjacent powder to a stage of rough fusion and then a continued application of heat before the mold is cooled and the final article is removed.

We cannot agree that appellants' heating step is any different from the prior art step merely because it is recited as two steps and the state of the plastic, at the completion of each step, is characterized as "rough fusion" and "final fusion," respectively.

What seems to be appellants' major point is their challenge to the Board's finding that the heat application in the reference is carried out in the absence of external pressure. Appellants' claims recite such a limitation.

The Solicitor argues that appellants have not proved the criticality of the absence of external pressure and, in the alternative, that the absence of pressure is taught by the reference. The latter was the view adopted by the Board. We agree.

Appellants argue that this is an untenable position inasmuch as the Heisler et al. disclosure specifies that an excess of polyethylene powder be added to the mold before rotation—an excess of six or seven pounds of polyethylene in the manufacture of a three or four pound article. Appellants recognize that several of their own claims (e.g., claims 4 and 8) define processes in which an excess of powder is used, but they urge that their excess powder is static and that of the reference, used in a rotating mold, is otherwise.

We are not certain whether this argument embodies an implicit denial of the existence of static pressure or an extraordinary utilization



of the applicants' lexicographic privilege. It seems to us that appellants' claims clearly define processes in which static pressure is caused by excess polyethylene. It therefore seems reasonable to infer that pressure attributable to excess powder is consistent with the limitation "in the absence of any external pressure," properly construed. We do not feel that by any reasonable construction of appellants' specification one could find in it "external pressure" defined as pressure induced by excess powder in motion and not by a similar excess at rest.

[1] The decision of the Board is affirmed.  
AFFIRMED.

## PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,095,119. C. L. Beal, METHOD OF MAKING RUBBER STRIPS; 3,033,138. L. Bono, BUTTON-HOLE MAKING DEVICE APPLIED TO SEWING MACHINES, filed Mar. 22, 1966, D.C., S.D.N.Y., Doc. 66-C-825, *Necchi S.p.A. v. Nelco Sewing Machine Co., Inc. et al.* Stipulation and order of discontinuance with prejudice, Oct. 19, 1967.

2,633,164. Kissner, Green and Kissner, TREE AND BRUSH CUTTING ATTACHMENT FOR BULLDOZERS; 2,701,591, same, TREE CUTTING ATTACHMENT FOR BULLDOZERS, filed May 18, 1965, D.C., M.D. Fla. (Orlando), Doc. 65-90-Orl., *Rome Plow Company, et al. v. Thomas A. Billings, et al.* Consent judgment; Patent Nos. 2,633,164 and 2,701,591 valid; claims 1, 2 and 3 of Patent No. 2,701,591 have been infringed by defendants; claims 1, 2 and 3 of Patent No. 2,633,164 and claims 4, 5 and 6 of Patent No. 2,701,591 have not been infringed; defendants' counterclaims are dismissed with prejudice, Jan. 8, 1968.

2,670,384. N. A. Milas, ACETYLENE PEROXIDES; 3,214,422, Magell and Harrison, CROSSLINKING POLYETHYLENE, filed Dec. 21, 1967, D.C., S.D.N.Y., Doc. 67-C-4991, *Wallace & Tiernan, Inc. v. General Electric Company*.

2,701,591. (See 2,633,164.)

2,738,787. Jacuzzi and Nash, HYDROTHERAPY APPARATUS; 3,067,435. F. M. Nash, HYDROTHERAPEUTIC INSTALLATION FOR SWIMMING POOLS AND THE LIKE, filed July 27, 1966, D.C., N.D. Calif. (San Francisco), Doc. 45454, *Jacuzzi Bros. Inc. et al. v. International Mfg. Co., Inc. et al.* Consent judgment; patents valid; defendants have infringed, Dec. 28, 1967.

2,742,378. T. A. TeGrotenhuls, FILLERS HAVING VINYL SILOXANE GROUPS BONDED TO THE SURFACE THEREOF AND COPOLYMERS THEREOF WITH ETHYLENICALLY UNSATURATED POLYMERIZABLE MONOMERS; 2,841,566, same, HIGH POLYMERS WITH CHEMICALLY BONDED REINFORCING AND METHOD OF MAKING SAME, filed Oct. 25, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67-774, *Westwood Chemical, Inc. v. Certain-Teed Products Corp.*

2,779,196. G. T. Hemmeter, WHEEL BALANCER; 3,004,003, same, filed June 4, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c897, *Bishman Manufacturing Co., and George T. Hemmeter v. Stewart-Warner Corporation*. Consent judgment; final order; claim 4 of Patent No. 3,004,003 valid and infringed by the defendant; an injunction writ issued on Oct. 25, 1967, Jan. 22, 1968.

2,817,392. (See 2,974,721.)

2,841,566. (See 2,742,378.)

2,953,279. R. S. Coffman, SAFETY PRESSURE RELIEF DEVICE; 3,294,277. L. E. Wood, SAFETY DEVICE FOR PRESSURE VESSELS, filed Jan. 18, 1968, D.C., W.D. Mo. (Kansas City), Doc. 16752-4, *Black, Sivalls & Bryson, Inc. v. Continental Disc Corporation*.

2,945,255. H. W. Gerarde, PIPETTE ASSEMBLY, filed Jan. 10, 1968, D.C., S.D. Ind. (Indianapolis), Doc. IP68-C-11, *Horace W. Gerarde v. Bio-Dynamics, Inc.*

2,974,721. M. I. Thomas, FASTENING FOR INHERENTLY SLIPPERY FABRIC ON TUBULAR METAL FURNITURE; 2,817,392, same, WEB FASTENING, filed July 27, 1964, D.C., E.D.N.Y. (Brooklyn), Doc. 64C-774, *Morton I. Thomas v. Hyman Kramer*. Order dismissing action with prejudice, Jan. 16, 1968.

3,033,138. (See 2,095,119.)

3,067,435. (See 2,738,787.)

3,094,003. (See 2,779,196.)

3,118,198. (See 3,195,197.)

3,152,427. (See 3,195,197.)

3,154,145. C. C. Brown, METHODS OF AND APPARATUS FOR RUNNING MULTIPLE PIPE STRINGS AND WELL PACKERS IN WELL BORES; 3,197,835, same, POWER-OPERATED ELEVATOR DEVICES FOR WELL PIPE, filed Oct. 3, 1967, D.C., S.D. Tex. (Corpus Christi), Doc. 67-C-124, *Brown Oil Tools, Inc. v. J. M. Young, doing business as Imperial Tool Co., and D. W. Hamilton, doing business as Doss Hamilton, Inc.* Consent judgment; plaintiff owner; each defendant enjoined and restrained from infringing, contributing to the infringement of, or inducing the infringement of either of said Letters Patent Nos. 3,154,145 and 3,197,835, except pursuant to license thereunder, Dec. 29, 1967.

3,191,767. R. P. Glowiak, INDEX TAB CARD CONVERTERS, filed Nov. 12, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1876, *Business Forms Finishing Service, Inc. v. Palmer A. Carson and Henry Kovach*. Final order; patent held valid and not infringed, Jan. 10, 1968.

3,195,197. L. J. Prunier, LENS BLOCKING APPARATUS; 3,118,198, same, METHOD OF BLOCKING LENS; 3,152,427, same, LENS BLANK AND BLOCK UNIT, filed Nov. 28, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c2049, *American Optical Corp. v. Coburn Optical Equipment Co. and Coburn Mfg. Co., Inc.*

3,197,835. (See 3,154,145.)

3,214,422. (See 2,670,384.)

3,216,083. E. O. Acker, METAL FORMING MACHINE; 3,295,345, Acker, Acker and Kimball, FORMING MACHINE, filed Aug. 31, 1968, D.C., W.D. Okla. (Oklahoma City), Doc. 67-331-C, *Acker Industries, Inc., et al. v. American Rand Expanded Metals Corporation*. Defendant's motion for summary judgment sustained; amended motion of plaintiff's to dismiss sustained; plaintiff's motion to dismiss cross-counterclaim of defendant for lack of jurisdiction sustained, Jan. 22, 1968.

3,294,277. (See 2,953,279.)

3,295,345. (See 3,216,083.)

## PLANT PATENTS

GRANTED MAY 28, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,811

MINT STRAIN

Merritt J. Murray, Kalamazoo, Mich., assignor to A. M. Todd Company, Kalamazoo, Mich., a corporation of Michigan

Filed Sept. 27, 1966, Ser. No. 582,465

1 Claim. (Cl. Pl.—89)

1. A new and distinct variety of mint plant substantially as herein shown and described, characterized particularly by its clary sage-like aroma, its hardy characteristics under climatic conditions favorable to the growth of mint plants as represented by *Mentha piperita* L., vigorous winter-hardy stolons which are thicker and longer as compared with those of *Mentha citrata* Ehrh., and having as major components linalyl acetate and linalool and no substantial menthone or menthol content.

2,812

POINSETTIA PLANT

Paul Ecke, P.O. Box 488, Encinitas, Calif. 92024

Filed Feb. 2, 1967, Ser. No. 613,687

1 Claim. (Cl. Pl.—86)

1. A new and distinct variety of poinsettia plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a very vigorous, tough and durable plant habit, stiff stems which do not require staking, a very vigorous and extensive root system, more bracts than other known poinsettia varieties of the long-lasting, stiff stem types, said

bracts being produced in an unusually large number and having short petioles which give a more attractive fullness to the plant, retention of the bracts, foliage and inflorescences for an unusually long period of time after reaching maturity, a normally later blooming habit, but having the ability to be satisfactorily brought into bloom and full maturity in every month of the year through the exercise of proper greenhouse cultural techniques, a distinctive and attractive, slightly ruffled appearance of the bracts, and their absence of any tendency to droop with age, a distinctive and attractive general color tonality of the bracts corresponding to Delft Rose, absence of drooping and retention of the inflorescence position relative to the bracts without rising as occurs in other varieties as the inflorescence approaches maturity, a suitability for the production of multiple bloom plants, and excellent keeping qualities and consequent suitability for home decoration.

2,813

ALMOND TREE

Harvey Schmidt, Yuba City, Calif., assignor to George R. McFeely, Yuba City, Calif.

Filed Feb. 2, 1967, Ser. No. 613,688

1 Claim. (Cl. Pl.—30)

A new and distinct variety of almond tree which is a regular and very heavy producer of high quality nuts borne in clusters on short spurs.

850 O.G.—87

1011



# PATENTS

## GENERAL AND MECHANICAL

GRANTED MAY 28, 1968

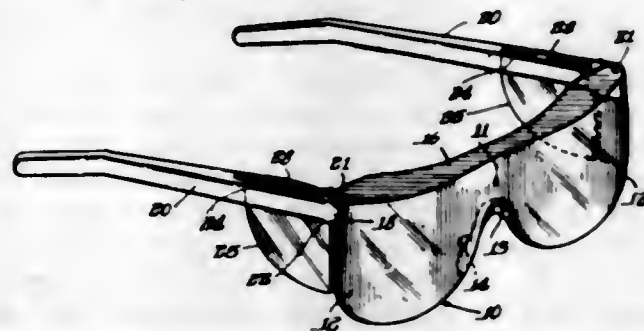
3,384,903

### EYE PROTECTIVE SPECTACLES

Robert Malcom, Jr., Indian Rocks Beach, Fla., assignor to Cesco Safety Products, Inc., Chicago, Ill., a corporation of Illinois

Filed Dec. 20, 1965, Ser. No. 514,903

5 Claims. (Cl. 2-14)



Eye protective spectacles which comprises a single piece transparent front panel adapted to be worn by the wearer in front of the eyes, temples pivotally connected to the single piece transparent front panel, an integral flanged nose receiving recess in the front panel, an integral rearwardly directed overhang portion on the front panel, and identically shaped side shields detachably secured to the temples. The front panel has no curvature in the vertical direction but it has an undulating curvature in the lateral direction.

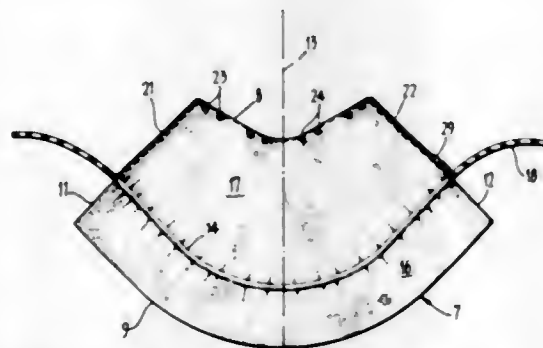
3,384,904

### WOMAN'S HAT

Ida Hofmann, 11 Wilshire, Rancho Traller Park, Palm Springs, Calif. 92262

Filed Sept. 21, 1966, Ser. No. 580,917

3 Claims. (Cl. 2-198)



A woman's hat formed of a blank having an annular segmental shape with fastener elements disposed at the ends of the segments to secure the ends together and fastener elements at one edge of the segment to provide a generally closed top for the hat.

3,384,905

### METHOD OF FABRICATING A NETHER GARMENT WAISTBAND

Judith S. Brinovec, 6325 W. Center St., Milwaukee, Wis. 53216

Filed Nov. 4, 1966, Ser. No. 592,017

3 Claims. (Cl. 2-220)

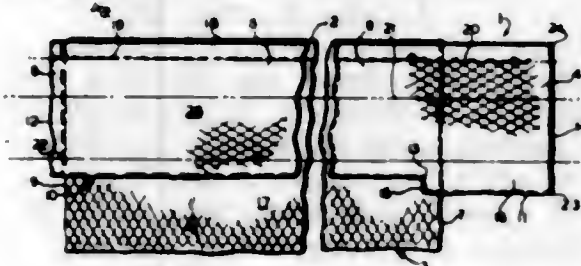
1. The method of fabricating a waistband, for the body of a nether garment having ends, a top edge, a finished side and an unfinished side, from a strip of waistband fabric not less than one-half inch longer than the length of the top edge of the body and approximately

one and one-eighth inches wider than the desired ultimate width of the exposed finished side of the waistband and having ends, a center portion, a top edge, a bottom edge, a finished side and an unfinished side, and of attaching the waistband to the body of the garment, said method consisting of the steps of

laying the finished side of the strip against the unfinished side of the body of the garment, with the top edge of the strip even with the top edge of the body and with each end of the strip extending beyond an adjacent end of the body a distance approximately equal to one-half of the amount by which the length of the strip exceeds the length of the top edge of the body;

stitching the strip to the unfinished side of the body along a first seamline parallel to and spaced downwardly approximately one-quarter of an inch from the top edges of the strip and the body;

folding the strip upwardly on the unfinished side of the strip along a first foldline defined by the first seamline;



folding the strip downwardly on the finished side of the strip along a second foldline parallel to and spaced upwardly from the bottom edge of the strip a distance approximately equal to the sum of the desired ultimate width of the exposed finished side of the waistband plus one-quarter of an inch;

folding the strip upwardly on the finished side of the strip and toward the body of the garment along a third foldline parallel to and spaced downwardly from the second foldline a distance equal to the desired ultimate width of the exposed finished side of the waistband;

stitching the ends of the strip partially closed along seamlines respectively parallel to and intermediate the outer edge of an end of the strip and the end of the body of the garment adjacent said end of the strip, and extending from the second foldline to but not beyond the first foldline;

turning the strip inside-out, with the portion of the finished side of the strip between the bottom edge of the strip and the third foldline against the finished side of the body of the garment; and

stitching the strip to the finished side of the body of the garment along a seamline parallel to and closely adjacent the third foldline.

3,384,906

### FLUSH VALVE ATTACHMENT

William L. Hamilton, 9365 Euclid Chardon Road, Kirtland, Ohio 44094

Filed Nov. 26, 1965, Ser. No. 509,885

14 Claims. (Cl. 4-56)

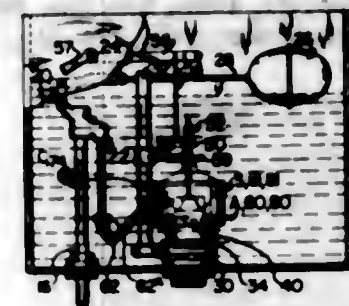
The method and attachment (used in a conventional toilet flush tank) rotates the tank ball and guides it to

MAY 28, 1968

GENERAL AND MECHANICAL

1018

proper seating position. A hose, connected to the tank refill pipe, directs incoming water tangentially into a cylindrical ring surrounding the tank ball. This water forms



a rotating vortex as it flows out of the tank, and this vortex rotates the ball to center it over the seat and to reduce the sticking of the ball stem. Either a standard ball or one with vanes may be used.

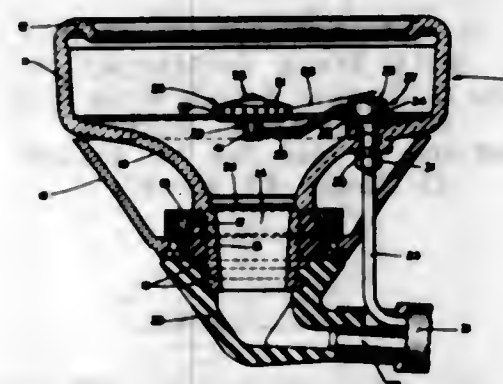
3,384,907

### DENTAL BOWL FLUSHER CONSTRUCTION

Kenneth R. Lappin and John A. Maurer, Canton, Ohio, assignors to The Weber Dental Manufacturing Company, Canton, Ohio, a corporation of Ohio

Filed Feb. 11, 1966, Ser. No. 526,777

15 Claims. (Cl. 4-264)



1. Dental bowl flusher construction including a dental bowl having sidewalls and a bottom drain opening, a water jet head, support means operably connected to the water jet head for supporting said head in a normal position spaced above and overlying the bowl bottom drain opening with the support means extending generally horizontally to the bowl sidewalls, connection means operably connected to the support means at the bowl sidewalls for supporting the water jet head and support means on the bowl sidewalls and selectively pivotal horizontally from the water jet spray normal position directly overlying the bowl bottom drain opening to a position at least partially vertically exposing said bowl bottom drain opening, and water supply means operably connected to the water jet head for directing water to and generally radially from said water jet head against the bowl sidewalls.

4. Dental bowl flusher construction for mounting in a dental bowl to flush the sidewalls thereof including a stationary head, a rotating head telescoped over the stationary head, means rotatably mounting the rotating head on the stationary head, means mounting the stationary head in a dental bowl, horizontal jet means on the stationary head for spraying jets of water horizontally toward the rotating head, horizontal jet spray means on

the rotating head for receiving the jets of water sprayed from the stationary head therethrough to rotate the rotating head relative to the stationary head and at the same time spray water radially outwardly from the rotating head in all directions against sidewalls of the bowl, vertical jet spray means on the stationary head for spraying jets of water centrally and vertically against the rotating head, vertical jet spray means through a central portion of the rotating head circumferentially aligned in a vertical direction with the vertical jet spray means of the stationary head for receiving water therethrough to flow said water outwardly over surfaces of the rotating head and from said rotating head outwardly against the bowl sidewalls, and means for supplying water under pressure to the stationary head.

3,384,908

### BEDDING COVER

Melvin N. Janapol, Los Angeles, Calif., assignor to Wortso Corporation, Los Angeles, Calif., a corporation of California

Filed Apr. 15, 1965, Ser. No. 448,479

4 Claims. (Cl. 5-334)



This invention relates to beds and is particularly concerned with hospital bedding, it being a general object of this invention to provide a new and improved cover or draw sheet of heat transferring material for use on hospital beds and the like.

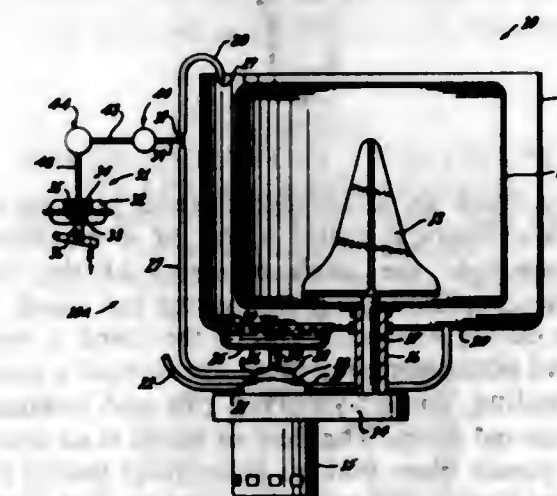
3,384,909

### APPARATUS CONTROL SYSTEM AND METHOD OF OPERATING THE SAME

Douglas R. Scott, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Nov. 8, 1966, Ser. No. 592,840

20 Claims. (Cl. 8-158)



This disclosure relates to a control system for a washing apparatus that has the cycle of operation thereof controlled by vacuum operated actuators, the apparatus having a sump chamber for containing a supply of water that is pumped through a passage means having an aspirator therein whereby the flow of water from the sump chamber through the aspirator will create the vacuum source that is utilized in a sequential manner to operate the vacuum operated actuators.



3,384,910

**WATERSLED**

Russell G. Heston, Jr., Little Silver, N.J., and Wesley F. Junker, Copiague, N.Y., assignors, by mesne assignments, to Union Carbide Corporation, New York, N.Y., a corporation of New York

Filed July 18, 1966, Ser. No. 565,846

11 Claims. (Cl. 9-310)



1. A watersled comprising a hollow enclosed flotation chamber extending substantially throughout the body thereof, a weighted stern section positioned with said flotation chamber extending thereabout, a contoured bow, a pair of pontoons having a central flat deck portion therebetween, and structural strengthening means disposed longitudinally along said deck portion.

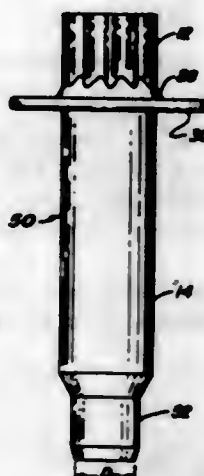
3,384,911

**METHOD OF MAKING SERRATED-HEAD BLANKS FOR FASTENERS**

Raymond H. Carlson, Rockford, Ill., assignor to Textron Industries, Inc., Rockford, Ill., a corporation of Delaware

Original application Feb. 7, 1966, Ser. No. 525,564, now Patent No. 3,352,190. Divided and this application July 6, 1967, Ser. No. 651,474

2 Claims. (Cl. 10-10)



A headed blank for a threaded fastener is made by first providing a cylindrical metal blank of a diameter substantially equal to the pitch diameter of the fastener thread. A head is formed on the end of the blank with a single blow during which the end of the blank is reversely extruded and simultaneously there are formed a multiplicity of alternating, convexly curved ribs and intermediate, concavely curved flutes. The flow of metal is so controlled during the punch blow that no substantial lateral flow of metal occurs during the extrusion step so that the maximum diameter across diametrically opposed ribs is maintained substantially equal to the original diameter of the workpiece blank while a minimum diameter between diametrically opposed flutes is maintained slightly larger than the root diameter of the thread. The ribs are work-hardened during the extrusion of the head to enhance the strength thereof and at the end of the punch blow a portion of the blank metal is upset to form an enlarged washer flange between the shank portion and the ribbed head portion.

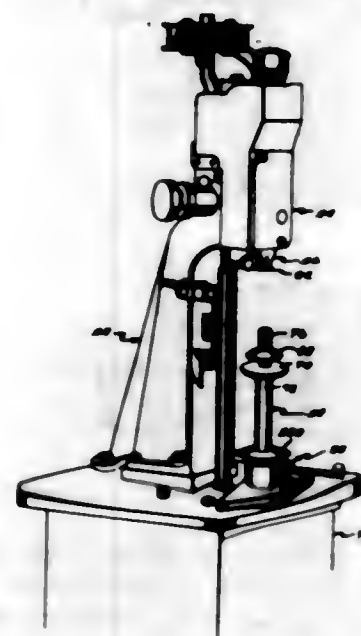
3,384,912

**PRESSING MEANS FOR SECURING SOLE PIECES TO WELT-TYPE SHOES**

Henry R. Padovani, Atlanta, Ga., assignor to The Auto-Soler Company, Atlanta, Ga., a corporation of Georgia

Filed Nov. 21, 1966, Ser. No. 595,731

6 Claims. (Cl. 12-1)



This invention relates generally to shoe repair equipment for use in securing an outer sole piece to a welt-type shoe using pressure-sensitive adhesive, and more particularly to a fixture having connected elements presenting a pair of opposed surface portions shaped respectively for supporting the replacement sole piece at a selected area adjacent a portion of its edge and for pressing the corresponding welt portion of the shoe against this sole piece.

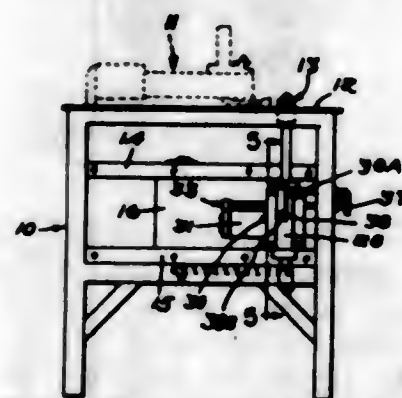
3,384,913

**SOLE EDGE TRIMMER**

George O. Connors, 6 Little River Road, Haverhill, Mass. 01830

Filed Mar. 2, 1966, Ser. No. 531,296

13 Claims. (Cl. 12-87)



Sole edge trimmer with an edge trimming member extending upwardly through the sole supporting surface and with its drive below the surface together with means operable to move the trimming member vertically, the axial extent of the trimming member being greater than the thickness of the sole, and means to move the edge trimming member and its drive transversely as required by the diameter of the portion of the trimming member that is in use.

3,384,914

**POOL VACUUM**

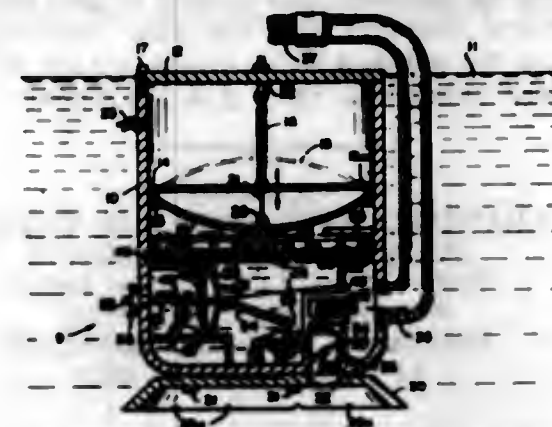
Paul C. Wilhelmsson, 281 Liverna Heights, Alamo, Calif. 94507

Filed Nov. 16, 1966, Ser. No. 594,904

5 Claims. (Cl. 15-1.7)

1. An automatic pool cleaning device for cleaning debris from the bottom of water-filled pools to be used in

combination with a filter pump comprising a housing having a variable size buoyancy chamber therein, a cleaning nozzle means fixed to said housing, fluid communication means interconnecting said nozzle and the inside of said housing, valve means within said fluid communicating means to control fluid flow therethrough, conduit



means connecting said inside of said housing and the suction side of said filter pump, and means responsive to fluid flow through said nozzle and said housing to said filter pump operable to actuate said valve means and regulate the size of said buoyancy chamber at a frequency that will cause said housing to cycle up and down off the bottom of the pool.

3,384,915

**MULTIPLE-COMPLIANT-BRISTLE BRUSH MEANS HAVING ENLARGED, ABRASIVELY COATED OUTER BRISTLE TIP ENDS OF MULTI-PHASE MATERIAL**

Steve A. Rands, % Brush Research Mfg. Co., 4353 E. Floral Drive, Los Angeles, Calif. 90022

Continuation-in-part of application Ser. No. 579,048, Sept. 13, 1966. This application June 30, 1967, Ser. No. 690,382

22 Claims. (Cl. 15-179)



An abrasive brush means being made up of a plurality of outwardly directed, non-metallic, extremely compliant and flexible material such as "Nylon" plastic, or other substantial equivalents, having corresponding exteriorly completely uncoated, flexible, compliant shaft portions completely made of said plastic, or substantially equivalent material, and having corresponding integral, laterally enlarged, free outer ends of the same material exteriorly provided with and adhesively carrying on the exterior thereof a desired type of outer coating means (usually a plastic adhesive bonding material and particles of extremely hard abrasive material) having desired physical characteristics and thus causing said laterally enlarged free outer bristle ends to effectively comprise two-phase material so as to present fresh, exteriorly protruding and projecting particles of abrasive material to the surface of a workpiece therein.

3,384,916

**AUTOMOBILE VACUUM CLEANING SYSTEM**

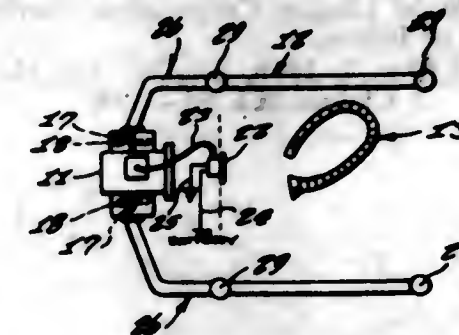
Russell Heckin, Montgomery Road, Fort Montgomery, N.Y. 10922

Filed May 25, 1966, Ser. No. 552,827

1 Claim. (Cl. 15-313)

A self-contained vacuum cleaning system within an automobile, including motor driven fan means connected

to ducts under the floor of the automobile, the ducts having a series of upward extending outlets enclosed by removable covers, the outlets being selectively connect-



able to a hose having a dust receiving head at one end, the motor driven fan being selectively operated from the dashboard for transporting dirt through the ducts toward a disposal bag.

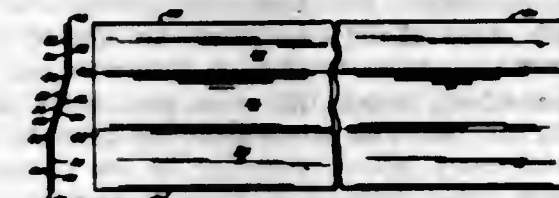
3,384,917

**PLASTERERS' DARBY**

Ray D. Maltese, 21188 W. Outer Drive, Dearborn, Mich. 48124

Filed July 18, 1966, Ser. No. 565,987

4 Claims. (Cl. 15-235.4)



This plasterers' darby consists of an elongated body which is very thin in proportion to its width and length and which, by being made in whole or in part of fibrous material, such as fibrous glass impregnated with synthetic resin, is much lighter, thicker and wider and more easily manipulated than conventional aluminum or magnesium darbies; also, because of its resilience, it returns to its original shape if dropped, without undergoing a permanent deformation as in the case of metal darbies; also, because of its chemical inertness, it does not react with plaster as do metallic darbies and consequently possesses a minimum of plaster adhesion and is therefore more easily cleaned; and furthermore, by reason of its wedge shape or offset shape, is easy to grasp in the fingers and manipulate.

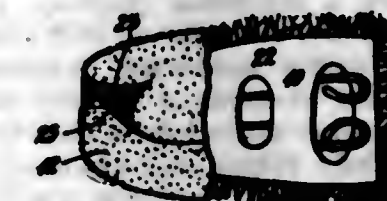
3,384,918

**MOPHEAD HAVING A FELTED PAD WRAPPED THEREAROUND**

Ruth Flak, 1833 Bayview Ave., Apt. 111, Toronto, Ontario, Canada

Filed Nov. 23, 1965, Ser. No. 509,350

4 Claims. (Cl. 15-247)



For a stranded dusting-mophead, disposable wrapping of felted cellulose having a deep flock on one side and a relatively shallow flock on the other, secured to the mophead by the clinging interaction of the mop strands and the deep flock, and by overlap of an end of the deep flock side with the shallow flock side, the external shallow flock side being the working side and having a high dust retaining capacity.

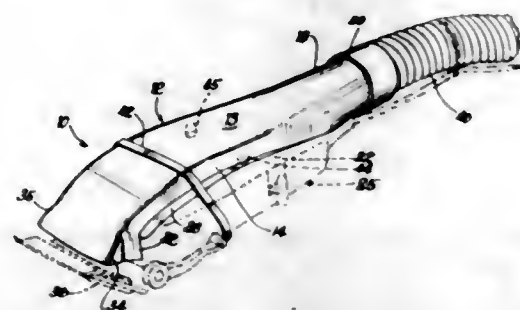


3,384,919

**VACUUM ATTACHMENT FOR AN ELECTRIC HAIR CLIPPER**

Clifford H. Jording and John F. Wahl, Sterling, Ill., assignors to Wahl Clipper Corporation, Sterling, Ill., a corporation of Illinois

Filed Mar. 7, 1966, Ser. No. 532,374  
3 Claims. (Cl. 15-339)



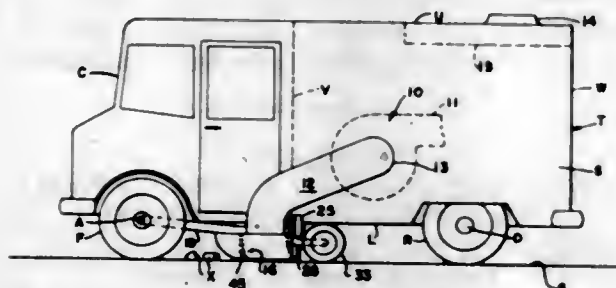
A vacuum attachment for an existing electric hair clipper which carries hair clippings away from the cutting blades of the clipper. The attachment is a suitably shaped part having a top wall and opposed side walls which cooperate with the upper portion of the clipper to form a duct, one end of the duct terminating adjacent the clipper blades and the other end of the duct connected to a low pressure generator. The free edge portions of the opposed side walls of the attachment are angled outwardly and tapered in cross section to terminate in yieldable thin edges which engage the upper portion of the clipper in sealing manner. The attachment has forward yieldable tabs which exert inward pressure on the clipper and in some cases bosses adapted to enter recesses in the upper portion of the clipper, both to aid in positioning the attachment longitudinally on the clipper. Atmospheric pressure is the sole agency holding the attachment to the clipper during clipper operation.

3,384,920

**VEHICLE MOUNTED CLEANING DEVICE**

Richard Nelson Campbell, 2005 George Washington Road, Vienna, Va. 22180

Filed May 24, 1965, Ser. No. 457,960  
5 Claims. (Cl. 15-340)



1. In a vacuum cleaning machine, a vehicle adapted to be propelled along a horizontal pathway, a collection chamber in said vehicle, a blower on said vehicle having its intake provided with a conduit and its exhaust in communication with said chamber, a vacuum cleaner head having upper and lower chambers formed by a division wall connected to said vehicle and extending normal to said pathway, said wall having openings at each end thereof, flexible ground engaging sealing strips on the front and rear of said lower chamber of said head forming a collection chamberway, a coupling at one end of said head, selectively operable closures for the ends of said collection chamberway, selectively operable slide closures in said division wall for said openings, whereby when one of said operable closures is open in a direction toward the end of said chamberway which is closed and in which the slide closure is opened and reverse said air flow direc-

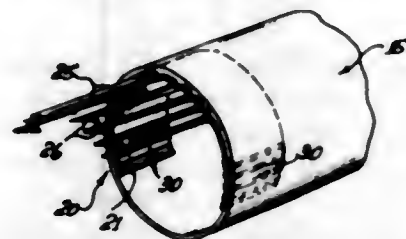
tion from the opposite end when said coupling is connected to said conduit and the other slide closure is opened with the first mentioned closure in its closed position and permit trash to be collected passing beneath the front ground engaging sealing strips, whereby air travel will flow in one direction when one of the operable closures is open and the opposite slide closure is open and will flow in a reverse direction when the other operable closure is open and the opposed slide closure is open with the first mentioned closures in their closed positions.

3,384,921

**CLEANING IMPLEMENT FOR VACUUM CLEANING ATTACHMENTS**

Zallo Loston, 113 S. Arnez Drive, Beverly Hills, Calif. 90211

Filed July 1, 1966, Ser. No. 562,332  
11 Claims. (Cl. 15-402)



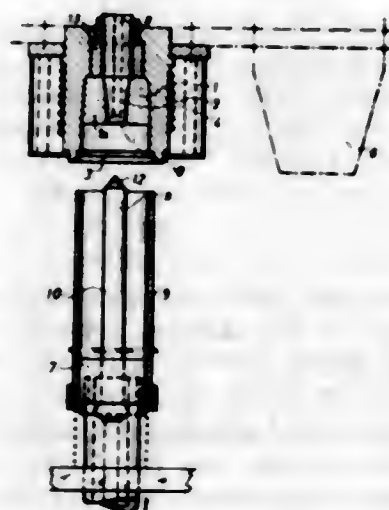
1. In combination with a vacuum hose terminating in a tubular connector for insertion into a cleaning attachment, the improvement comprising a band having a row of barbed prongs, said band being disposed in an arcuate configuration within said tubular connector with said barbed prongs projecting axially therefrom and with the barbs of said prongs projecting radially inward.

3,384,922

**ARRANGEMENT FOR THE PRODUCTION OF MOLDED OBJECTS OF FIBER MATERIAL, WOOD CHIPS OR OTHER MATERIALS**

Per Øystein Winsnes, Askerveien 47, Asker per Oslo, Norway

Filed Nov. 26, 1965, Ser. No. 509,927  
Claims priority, application Norway, Nov. 25, 1964, 155,727  
6 Claims. (Cl. 18-5)



A mold for molding objects under heat and pressure has an escape outlet for gas from the mold cavity. The mold cavity is defined by separable sections which between them define the outlet. When the sections are separated, the outlet is opened, so that material that extrudes into the outlet during molding will not prevent ejection of the object. Specifically, a tap that forms a hole through the object encounters a mandrel having ridges and grooves that define outlet openings with the tap, the tap being centrally bored to let the gas out.

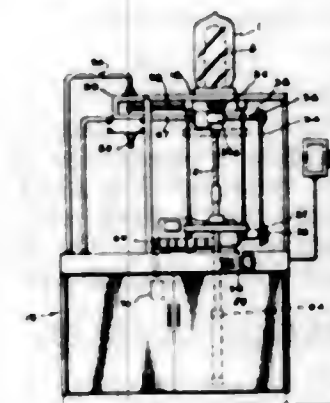
3,384,923

**APPARATUS FOR MAKING PLASTIC LINED VACUUM BOTTLE FILLERS**

Robert M. Rownd and Thomas H. Petty, Nashville, Tenn., assignors to Aladdin Industries, Incorporated, Chicago, Ill., a corporation of Illinois

Original application Mar. 13, 1964, Ser. No. 351,753.  
Divided and this application June 30, 1967, Ser. No. 650,284

5 Claims. (Cl. 18-5)



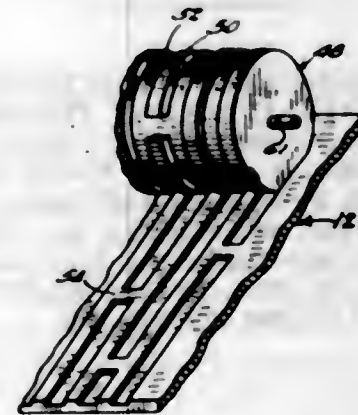
A machine for expanding a plastic liner into a vacuum bottle filler or the like having a reduced neck, comprising a rotatable head for receiving the unexpanded liner and the filler, power means for rotating the head, first evacuating means including first passages in the head for evacuating the space between the liner and the filler, second evacuating means including second passages in the head for evacuating the space within the liner, a heater movable by power means into the liner, and control means for actuating said first and second evacuating means, actuating said heater, terminating the actuation of said second evacuating means for admitting fluid pressure to the space within the liner to expand the liner, withdrawing the heater, and terminating the action of said first evacuating means.

3,384,924

**APPARATUS FOR FORMING SHINGLES**

Clyde C. Schuetz, Prospect Heights, and Charles R. Norman, Jr., Glenview, Ill., assignors to United States Gypsum Company, a corporation of Delaware  
Continuation-in-part of application Ser. No. 794,638, Feb. 20, 1959. This application Mar. 18, 1963, Ser. No. 266,782

3 Claims. (Cl. 18-10)



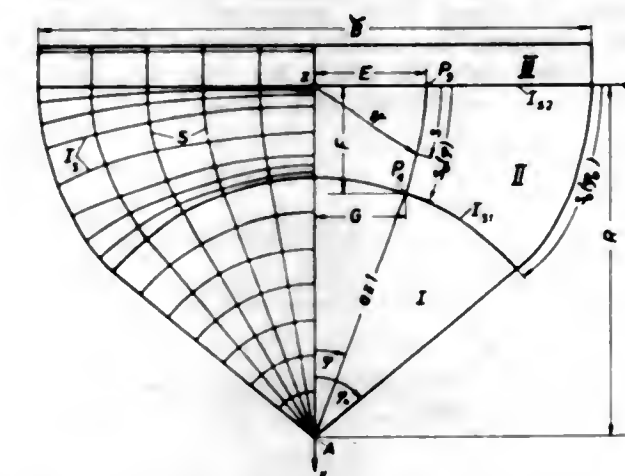
An embossing roller having parallel raised portions rotatably engages a deformable cementitious sheet moving on a supporting conveyor. The roller has parallel valley portions between the raised portions which are continuous about the roller periphery and which do not extend into the cementitious material. Ink is applied by a contacting roller to the raised portions of the embossing roller, and any excess ink accumulates in the embossing roller valleys. A cleaning brush continuously maintains the embossing roller valleys free of foreign material.

3,384,925

**SHEET EXTRUDING HEAD FOR EXTRUDING THERMOPLASTIC SYNTHETIC RESINS**

Friedrich Röttemeyer, 2 Liebenacker Weg, 7035 Waldenbuch-Liebenau, Germany

Filed Aug. 26, 1966, Ser. No. 575,420  
Claims priority, application Germany, Apr. 15, 1966, R 43,063  
2 Claims. (Cl. 18-12)



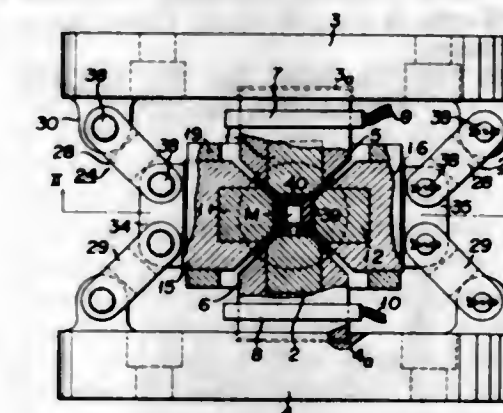
An extrusion head for extruding sheets and webs of thermoplastic synthetic resins with a start zone in the form of a circular sector and an arched equalizing zone with gap heights and a plane lip zone and the observance of the continuity condition with all the flow lines of equal length which extend normally to the isobars.

3,384,926

**HIGH-PRESSURE HIGH-TEMPERATURE APPARATUS**

Selichiro Tsujii, Nerima-ku, Tokyo, Japan, assignor to Toshiba Tungaloy Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Dec. 7, 1966, Ser. No. 599,936  
Claims priority, application Japan, Dec. 8, 1965, 40/74,969; July 20, 1966, 41/47,506  
9 Claims. (Cl. 18-16)



1. A high-pressure high-temperature apparatus comprising a pair of opposing platens driven by a piston means, a pair of main anvils having opposing tapered portions including contact faces and rear portions connected to said platens, a plurality of driven anvils having tapered portions including contact faces and which are disposed on the same plane and movable in a direction perpendicular to the axis of said main anvils, compression means which advance said driven anvils forward in proportion to the movement of the platens whereby a cavity is formed by the contact faces of said main and driven anvils to place therein an object material to be subjected to a high pressure and a high temperature, and means to heat the object material to a high temperature, characterized in that each of said compression means comprises a pair of compression coupling means, one of which is re-

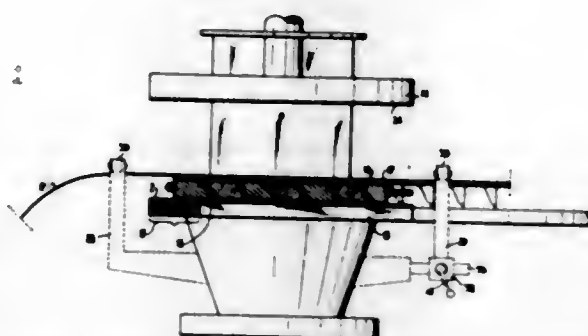


volvingly connected to one of said platens at one end and to one of said driven anvils at the other, and the other of which is revolvingly connected to the other of said platens at one end and to said one of said driven anvils at the other.

3,384,927

# **MOLD FOR MAKING REINFORCED RUBBER BELT WITH INTEGRALLY ATTACHED CUPS**

Vittorio Strazzari, Zola Predosa, Bologna, and Vittorio Genzani, Bologna, Italy, assignors to S.p.A. S.I.L.G.O. Società Italiana Lavorazione Gomma, Bologna, Italy  
Filed July 15, 1965, Ser. No. 472,220  
4 Claims. (Cl. 18-17)

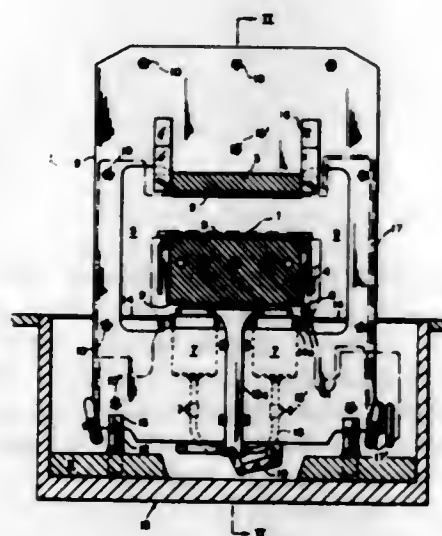


Molding apparatus for manufacturing an elongated elastomer conveyor belt with longitudinally spaced cup elements integrally affixed comprising a mold unit on a table, a plurality of mold shaping elements in the unit longitudinally alignable to contact each other to define sides, front and back of the belt and being aligned to contact each other to define a space between two contiguous mold elements corresponding to the profile of a cup, vulcanizing means, a ram, and means for feeding rubber composition and a reinforcing cloth ply to the table and ram during laminating and molding.

3,384,928

# **VULCANIZING PRESS**

Hans Peter Becker, Krefeld, Germany, assignor to Firma G. Stempelkamp & Co., Krefeld, Germany, a corporation of Germany  
Filed Feb. 18, 1966, Ser. No. 528,443  
7 Claims. (Cl. 18-17)



1. In a vulcanizing press, in combination, a press frame comprising a multiplicity of parallel upright sections of generally rectangular configuration, said sections being formed with generally rectangular aligned cutouts defin-

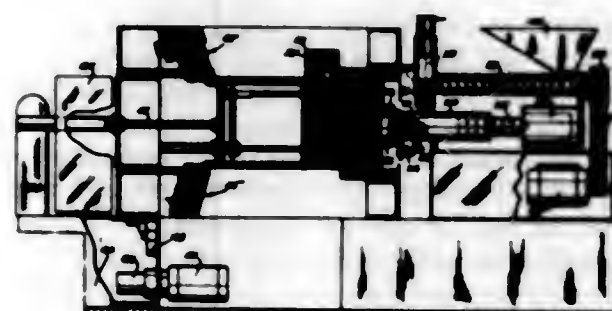
ing a horizontal walkway; a lower press platen and an upper press platen extending horizontally across said sections within said cutouts with bilateral accessibility from said walkway; heating means for said platens; fluid-operated clamping means including cylinders disposed between said sections for vertically displacing one of said platens with reference to the other platen; and bracing means including said cylinders for consolidating said sections into a unitary mechanical structure, said sections being rigid with said cylinders.

3,384,929

# **APPARATUS FOR MOLDING PLASTICS**

Robert Nouel, Villejuif, France, assignor to Inventions Finance Corporation, a corporation of Delaware  
Application Apr. 15, 1963, Ser. No. 273,144, now Patent No. 3,296,353, dated Jan. 3, 1967, which is a continuation-in-part of application Ser. No. 89,254, Feb. 14, 1961. Divided and this application Oct. 24, 1965, Ser. No. 525,268

22 Claims. (Cl. 18-30)

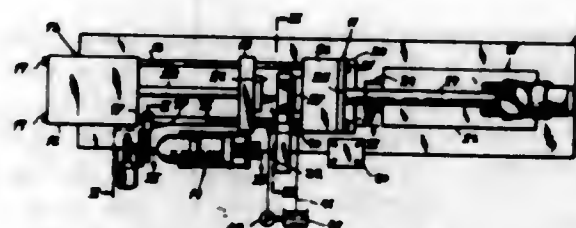


1. In an injection molding machine including a molding apparatus comprised of at least two mold members forming a mold cavity and relatively movable with respect to each other, means to control the flow of moldable material to said cavity, feeding mechanism for variably storing moldable material relative to said cavity, said feeding mechanism comprising a continuously rotating screw feeding means, a variable capacity reservoir for receiving and storing said material fed by said screw feeding means, transfer means connected with and receiving material from said reservoir, said transfer means including means for forcibly intermittently feeding the material to said mold cavity as required by said cavity.

3,384,930

# **INJECTION-MOLDING MACHINE AND UNTHREADING MEANS THEREFOR**

Herbert Ross, Willowdale, Ontario, Canada, assignor to Husky Manufacturing and Tool Works Ltd., Toronto, Ontario, Canada, a corporation of Canada  
Continuation-in-part of application Ser. No. 406,923, Oct. 23, 1964, now Patent No. 3,328,844. This application Apr. 20, 1966, Ser. No. 543,971  
5 Claims. (Cl. 18-30)



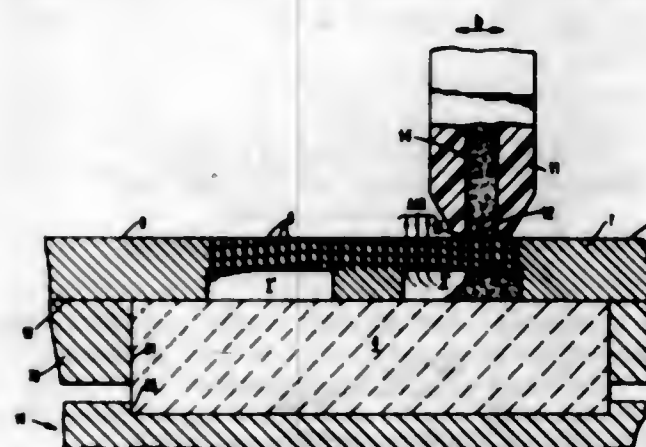
1. In an injection-molding machine, in combination, a bed; a pair of relatively displaceable mold members

mounted on said bed, one of said members being provided with at least one screw-threaded mold cavity adapted to form a molded article threadedly seated therein; means for injecting a solidifiable plastic mass into said cavity in a closed position of said mold members; drive means for swingably oscillating said one of said members about an axis parallel to the direction of relative displacement of said members out of registry with the other member and into an unthreading location; a holder at said unthreading location displaceable toward and away from said one of said members upon the latter occupying said unthreading location; gripper means on said holder engageable with said article for rotatively entraining same out of said cavity, said gripper means including a mating cup rotatable about the axis of the screw threads of the confronting cavity; and drive means for rotating said cup about the last-mentioned axis at relatively high speed while advancing said cup toward said cavity for engagement with a molded article seated therein and for rotating said cup in the opposite direction at a relatively low speed during withdrawal of said cup from said cavity whereby said article is unscrewed from said one of said mold members.

3,384,931

# **INJECTION PRINTING OF ELECTRICAL CIRCUIT COMPONENTS**

Thomas J. Cochran, La Grangeville, Charles P. Coughlin, Chelsea, Lawrence P. Remsen, Stanfordville, and Robert J. Strub, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed June 24, 1966, Ser. No. 560,196  
15 Claims. (Cl. 18-30)

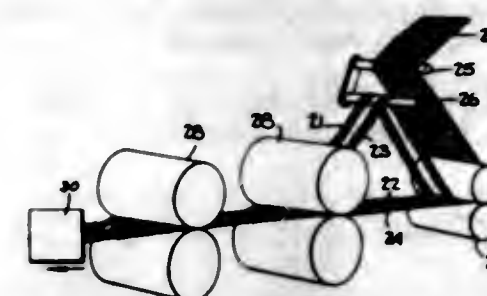


1. Apparatus for injection printing of electrical circuit elements on a substrate comprising:  
a stencil having a recess in the bottom face thereof corresponding to the element to be printed on said substrate;  
a mesh of minute apertures uniformly dispersed over said recess and extending therefrom to the top surface of said stencil;  
an injection nozzle slidably engaging the said top surface of said stencil in sealing relationship therewith for restrictively injecting a narrow band of a viscous extrudable pigment into said recess through the said apertures with the length of said band extending across said apertures laterally of said mesh and with the width of band traversing only a few of said apertures longitudinally of said mesh;  
driving means for moving said nozzle longitudinally across said mesh in said abutment with said stencil; and  
injection means for continually injecting said pigment as said band through said nozzle during its said movement.

3,384,932

# **METHOD OF IMPROVING THE UNIFORMITY OF AN UNOPENED TOW BAND AND APPARATUS FOR MAKING CIGARETTE FILTERS THEREFROM**

George A. Watson, Jr., Charlotte, N.C., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware  
Filed Feb. 28, 1964, Ser. No. 348,219  
9 Claims. (Cl. 19-65)



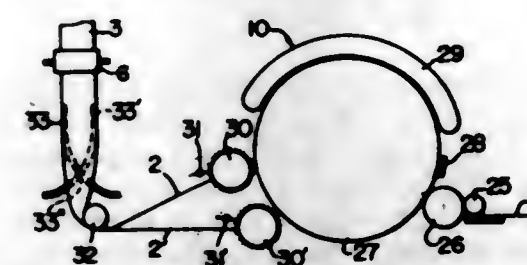
5. The method of claim 1 wherein the unopened tow band is formed from a plurality of tow bands.

3,384,933

# **SYSTEM AND APPARATUS FOR PRODUCING SLIVER FOR ROVING OR SPINNING BY CONNECTING THE TWO PROCESSES OF CARDING AND DRAWING**

Naonari Yamamoto, Mitsuo Masuda, Akira Tsubota, Kazuo Moriyama, and Yuzo Shida, Osaka-fu, Japan, assignors to Kureha Spinning Co., Ltd., Osaka, Japan, a corporation of Japan  
Filed July 6, 1964, Ser. No. 380,275  
Claims priority, application Japan, July 12, 1963, 38/35,588; Apr. 1, 1964, 39/18,040; Apr. 2, 1964, 39/18,308

11 Claims. (Cl. 19-65)



5. An apparatus for feeding a sliver from at least one carding machine having a cylinder to a drawing frame, comprising a plurality of doffers mounted adjacent the cylinder of the carding machine and each having a doffer comb associated therewith, a web guide roller disposed on the output side of the doffers at a point which is at a different distance from the lines of contact between the doffer combs and doffers as measured along the webs, the axis of the web guide roller being parallel with the axis of the doffers, a pair of calender rollers having axes spaced from and at right angles to the web guide roller axis, an assembly of shaped rods for folding the web longitudinally and uniformly to form a folded ribbon sliver, said assembly being positioned between the web guide roller and said pair of calender rollers and including a first plurality of curved rods curving across the path of the web between said web guide roller and said calender rollers from a position closer to the web guide roller and on one side of the path and from a direction transverse to the path into the plane of the ends of the calender rollers on the other side of the path, and a second plurality of curved rods curving across the path of the web between said web guide roller and said calender rollers from a position closer to the web guide and on the other side of the path from a direction transverse to the path into the plane of the ends of the calender rollers on the one side of the path, the rods of said pluralities alternating in a direction parallel to the axis of the web guide roller and converging in the



direction of said axis toward the contact point of said calender rollers, a drawing frame feed means for feeding the folded ribbon sliver to the drawing frame and including means for controlling irregularity in the thickness of the sliver, and a single drive means connected to the carding machine and the drawing frame.

3,384,934

**MAGNETIC FASTENER**

Clinton G. Bush, Jr., Centre Island, N.Y., assignor to Elton Industries, Inc., New York, N.Y., a corporation of New York

Filed Dec. 16, 1965, Ser. No. 514,319

6 Claims. (Cl. 24-73)



The fastener for securing panels of relatively soft material to structures of ferromagnetic material, comprising a disc-shaped permanent magnet to which the vertex of a conically shaped wire spiral is firmly attached.

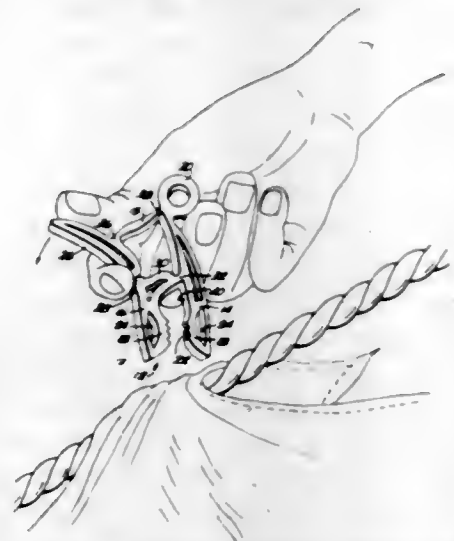
3,384,935

**CLAMPING DEVICE OF THE CLOTHESPIN TYPE**

Carmelo Salvador, Las Canas 3, Buzon 12, Madrid, Spain

Filed Sept. 7, 1967, Ser. No. 666,091

6 Claims. (Cl. 24-137)



A one-piece, molded, snap-action, plastic clamping device which includes opposed jaw portions, one portion being disposed on a reference arm and the other jaw portion being disposed on a pivotally connected arm carried on the reference arm. The device includes an operator member for pivotally moving the latter jaw portion with respect to the jaw portion on the reference arm through a predetermined path of movement of the operator handle with respect to the reference arm and a system for effecting toggle-type, snap-action movement of the jaws.

3,384,936

**BELT BUCKLE CONSTRUCTION HAVING INTEGRAL STRAP CUTTING MEANS**

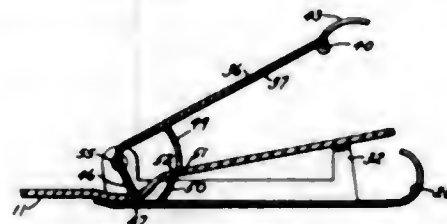
Raymond Sokoloff, 670 Broadway, Brooklyn, N.Y. 11206

Filed Nov. 5, 1965, Ser. No. 506,500

2 Claims. (Cl. 24-191)

A belt buckle for use with a leather or similar strap of a type adapted to clamp one end of the strap between a pair of pivotally interconnected elements, in which

the elements include integral strap cutting means, whereby the length of the belt may be adjusted upon opening



the elements, and simultaneously cut and lock upon closing the same on an end of a belt strap.

3,384,937

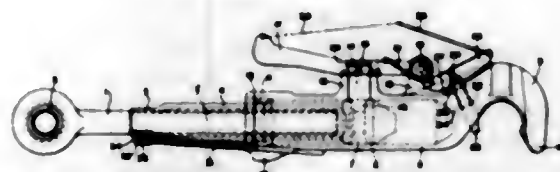
**LENGTH-CHANGEABLE LINK FOR TRACTOR-IMPLEMENT HITCHES**

Ludwig Muncke, Morlenbach, and Franz Heldjann, Bruhl-Klerberg, Bezirk Cologne, Germany, assignors to John Deere-Lanz A.G., Mannheim, Germany, and Klockner-Humboldt-Deutz A.G., Cologne-Deutz, Germany, both companies of Germany

Filed Nov. 17, 1966, Ser. No. 619,511

Claims priority, application Germany, Nov. 26, 1965, K 57,747

3 Claims. (Cl. 24-238)



A top link for three-point hitches for connecting agricultural implements to tractors, characterized by being easily telescopic to change its length and including in addition a rotative length adjustment feature and suitable locks and actuators therefor for securing a desired length when once selected and for easily releasing the locks to enable length change.

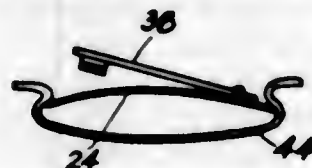
3,384,938

**PLIABLE MATERIAL CLAMP**

Thomas E. O'Connor, 49 N. 15th St., Hawthorne, N.J. 07506

Filed Oct. 23, 1965, Ser. No. 503,448

2 Claims. (Cl. 24-243)



A pliable material clamp utilizing the toggle action characteristic for snapping and securing into place pliable material, having also a catch for securing the clamp in a locked position while holding the material without slippage.

3,384,939

**CLOSED PATH CONCRETE FORMING AND CURING APPARATUS**

Robert S. Baker, Tampa, Fla., assignor, by mesne assignments, to American Concrete Crosstie Corporation, Tampa, Fla., a corporation of Florida

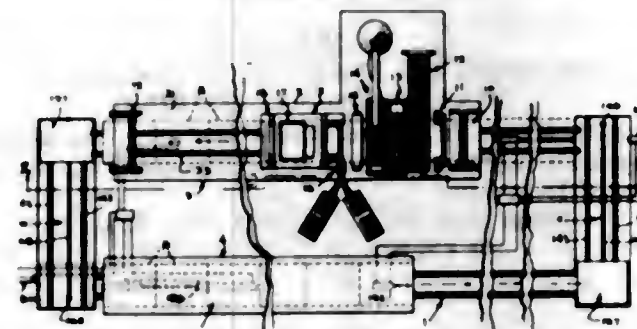
Original application Feb. 11, 1964, Ser. No. 344,095, now Patent No. 3,305,907, dated Feb. 28, 1967. Divided and

this application Feb. 27, 1967, Ser. No. 618,743

7 Claims. (Cl. 25-2)

Apparatus for moving stackable articles around an orbital path having a machine over one leg of the path, including cars which are moved along the path and means for removing articles singly from the machine and arranging them in stacks on the cars. There are also means for removing articles singly from the stacks on the cars and placing them on the machine. Means are included for moving articles singly along the machine from the

end upon which the articles are placed to the end from which they are removed. The orbital path includes a leg in addition to the machine leg, and there are means for



transferring loaded cars from one leg of the path to the other.

3,384,940

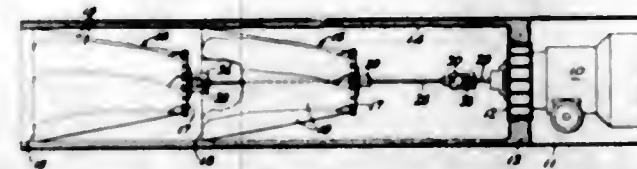
**PIPE LINING TROWEL APPARATUS**

John T. Barton, Montour Falls, N.Y., assignor to Perkins

Pipe Linings, Inc., Grand Island, N.Y.

Filed Sept. 30, 1965, Ser. No. 491,721

6 Claims. (Cl. 25-38)



Apparatus for troweling a previously applied layer of cement mortar at the interior of a pipe, the apparatus consisting of two axially spaced frusto-conical trowels and a connecting rod which is fixed axially medially of its ends to the leading end of the first trowel and is pivoted at its forward end to traction means such as a mortar applying machine and is pivoted at its rear end to the leading end of the second trowel. The latter pivot is located substantially in the transverse plane formed by the large trailing end of the first trowel.

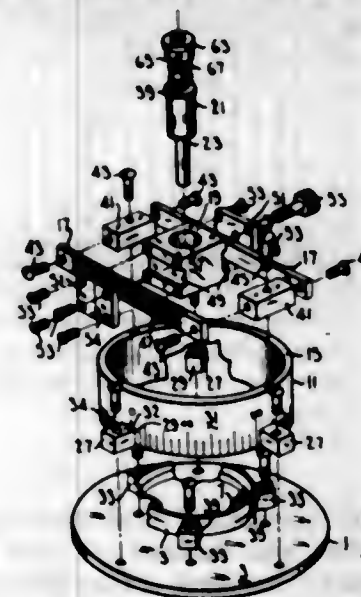
3,384,941

**GEL CUTTER**

Hideo Kolke, Silver Spring, Md., Gokaldas C. Parikh, Brookings, S. Dak., and Isaac L. Shechmeister, Carbondale, Ill., assignors to Southern Illinois University Foundation, Carbondale, Ill., a corporation of Illinois

Filed Jan. 24, 1966, Ser. No. 522,605

10 Claims. (Cl. 25-105)



A cutter for forming a plurality of holes in a gel for studying antigen-antibody reactions of biologicals. The cutter is comprised of a base for supporting the gel and a ring rotatable on the surface of the base. A

pair of guide bars are supported from the ring and a slide carrying a vertically movable cutting member is movable along the bars from a first position wherein the cutting member is coaxial with the axis of rotation of the ring for making an axial cut, to a second position wherein the cutting member is spaced from the axis for making a plurality of cuts in a circle about the axial cut.

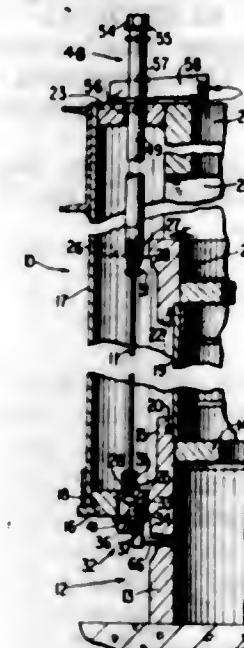
3,384,942

**APPARATUS FOR MAKING PRESTRESSED CONCRETE BODIES**

John A. Shaw, Mountain Lakes, and Daniel E. Olivier, Bedminster, N.J., assignors to International Pipe and Ceramics Corporation, Parsippany, N.J., a corporation of Delaware

Filed Nov. 17, 1965, Ser. No. 508,199

8 Claims. (Cl. 25-118)



1. Apparatus for making a prestressed concrete body, comprising a mold, a wire strung across said mold, means for supporting said wire, said supporting means including an anchor at each end of said wire, said wire having at each of its ends an end portion including a head and a deformed section adjacent the head, said head projecting laterally beyond the diameter of the wire, said deformed section having flat faces formed by compressing the wire radially, each of said anchors having a recess to receive one of said end portions of the wire, said recess having side walls extending axially inward from an end of the anchor and a wall extending laterally to said side walls, said laterally extending wall providing an abutment shoulder, said abutment shoulder engaging the head of the end portion to transmit force from said anchor to said wire to tension the wire, said side walls of said recess spaced apart a distance greater than the minimum width of said deformed section but no greater than its maximum width, said side walls engaging the flat faces on the end portion upon rotation of said anchor to transmit torque to the end portion.

3,384,943

**POINTING TROWEL DEVICE**

Harold F. James, Jacksonville Road, Burlington, N.J. 08016

Filed June 17, 1966, Ser. No. 558,360

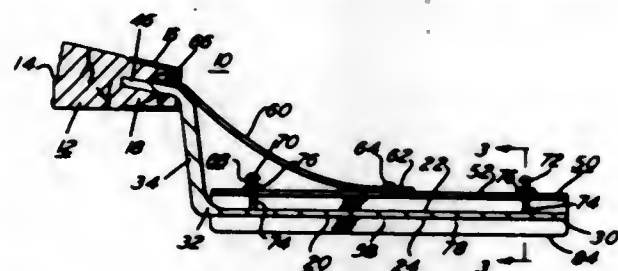
3 Claims. (Cl. 25-118)

A pointing trowel device comprising a handle means, a blade element secured with said handle means having a substantially flat and elongated body with top and bottom horizontal surfaces, a cover unit movably received over said blade element for retaining therewithin material to be applied by said blade element having an elongated body with a horizontal portion and a pair of vertical side



portions forming a channel therebetween for receiving said blade element therewithin, and spring means for mov-

uniform trapezium shape which is accommodated in a corresponding groove in the holder, the blade having increased depth from back to front.



ably positioning and retaining said cover unit with respect to said blade element.

### 3,384,944 APPARATUS FOR EXTRUDING AND BLENDING

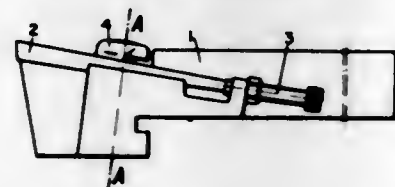
Francis Joseph Medeiros, Hendersonville, and Larry M. Talbert, Madison, Tenn., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 10, 1965, Ser. No. 431,690  
4 Claims. (Cl. 28-1)



An apparatus for blending two moving ribbons of filaments of different widths by converging the wide ribbon, diverging the narrow ribbon and combining the two ribbons at the same width on a cylindrical combining member. An arrangement of concave and convex guides is used for equalizing ribbon widths.

**3,384,945  
CUT-OFF TOOL HOLDER AND BLADE**  
Mikotaj Kujawski, Chaciszewskiego 54bm4, and Zenon Takomy, Dzierzńskiego 164m8, both of Poznan, Poland  
Filed Oct. 11, 1965, Ser. No. 494,417  
Claims priority, application Poland, Oct. 13, 1964, P 105,965  
4 Claims. (Cl. 29-96)



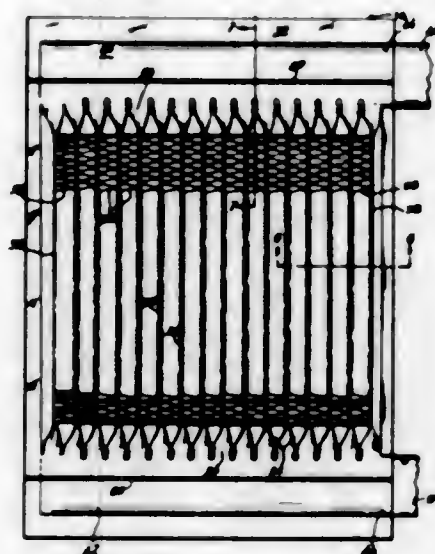
A cut-off tool having a holder with a blade supported therein inclined with the horizontal and having a base of

A method of fabricating heat exchangers in which a plurality of tubes and headers at each end thereof are formed in a sheet. The sheet is then slit between the tubes and the headers are severed to yield access to said tubes. Then tools are inserted into the tubes to affect rotation of the tubes out of the plane of the sheet. The original headers are then resealed, or preformed headers can be provided instead.

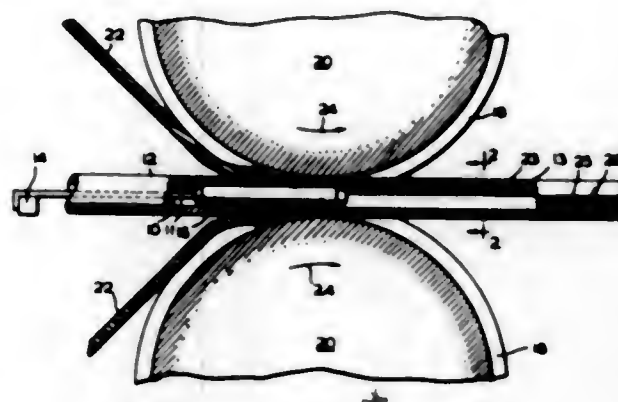
### 3,384,947 METHOD OF FABRICATING HEAT EXCHANGE DEVICES

George A. Anderson, Northford, and Charles A. Krebel, Trumbull, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed June 7, 1965, Ser. No. 461,993  
6 Claims. (Cl. 29-157.3)



Integrally finned metal tubing is made by a process of roll-welding metal sheets by passing them between rollers which act against a mandrel to deform, elongate and bond the sheets together in the configuration desired for said tubing.



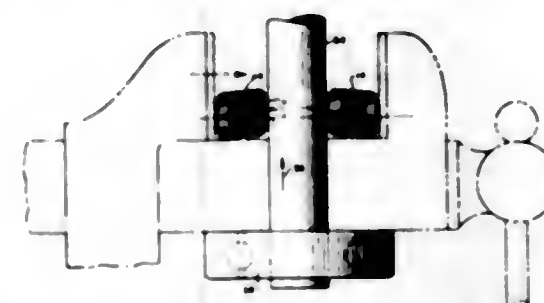
### 3,384,946 METHOD OF MAKING INTEGRALLY FINNED METAL TUBING

Bennie R. Ward, Jr., Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Apr. 27, 1965, Ser. No. 451,273  
2 Claims. (Cl. 29-157.3)

### 3,384,948 TOOL

Ernst Willy Flegel, 11 Grenzstrasse, 611 Dieburg, Germany  
Filed Dec. 12, 1966, Ser. No. 600,954  
7 Claims. (Cl. 29-283)



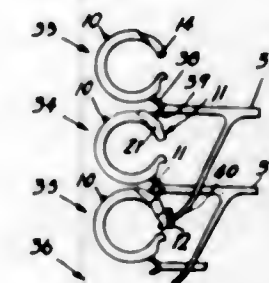
A pair of these tools are placed against the jaws of a vice to grip a shaft between them and operate, as the vice is tightened, to force the shaft axially into or out of some member such as a bearing or housing which tightly fits the shaft. The bearing or housing must be held stationary during the process.

### 3,384,949 METHOD OF FORMING A CAST ASSEMBLED MULTIPLE DIFFERENT PART END PRODUCT

Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware

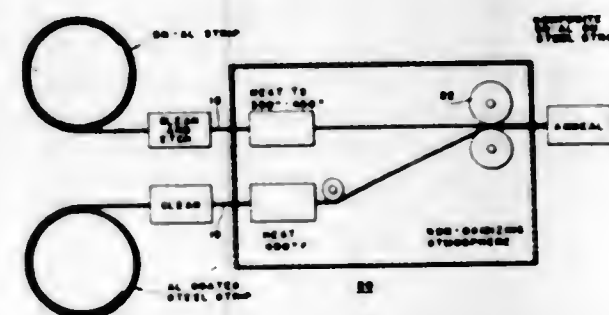
Filed May 19, 1966, Ser. No. 551,434

8 Claims. (Cl. 29-430)



Method of intercasting three interconnected parts to form pivoted connections and a continuous come-apart ring.

**3,384,950  
METHOD OF MAKING BEARING MATERIAL**  
Ernst H. Ruf, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed June 24, 1965, Ser. No. 466,664  
8 Claims. (Cl. 29-487)



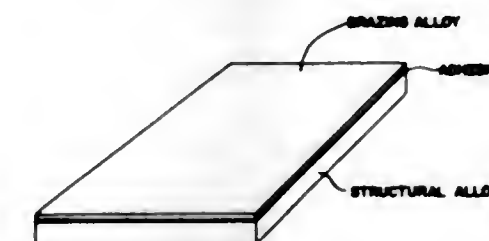
A composite metal strip, comprising a layer of aluminum-tin alloy which is joined to an aluminum coated steel backing by means of a strong coextensive bond, suitable for manufacturing bearings and the like is formed by etching a surface of an annealed aluminum-tin alloy strip to remove substantially all of the tin therefrom, heating the aluminum-tin strip to about 425° F.,

heating an aluminum coated steel strip to about 450° F., passing the two strips with the etched surface of the one and the aluminum coated surface of the other in juxtaposition between rollers under suitable pressure whereby the tin-aluminum layer is substantially reduced in thickness and a strong coextensive bond is obtained between the tin-free surface and the aluminum coated steel layer.

### 3,384,951 COMPOSITE ALUMINOUS PRODUCT AND METHOD

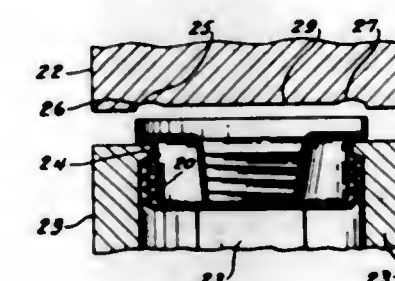
Wayne W. Binger, New Kensington, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 23, 1965, Ser. No. 450,367  
4 Claims. (Cl. 29-495)



A composite aluminous metal product may be joined to another aluminous metal body by brazing, with substantial freedom from solid state diffusion of brazing alloy filler metal into the structural alloy component of the composite, by providing brazing alloy filler as part of a composite product comprising an aluminum base alloy structural component, a bonding layer of adhesive which will be dissipated below brazing temperatures, and a brazing alloy filler metal joined to the structural component by the bonding layer.

**3,384,952  
METHOD OF MAKING CLOSURE PLUGS**  
Walter J. Pentesco, St. Catharines, Ontario, Canada, assignor to American Flange & Manufacturing Co., Inc., a corporation of Delaware  
Original application Aug. 14, 1962, Ser. No. 216,809, now Patent No. 3,207,356, dated Sept. 21, 1965. Divided and this application Sept. 7, 1965, Ser. No. 509,658  
3 Claims. (Cl. 29-511)



1. The method of attaching a diametrically extending member within a cup-shaped member, comprising seating said diametrically extending member randomly oriented within said cup-shaped member with the side wall of said cup-shaped member extending above said diametrically extending member, striking the upper end of said side wall of the cup-shaped member with a curling die having an annularly grooved rolling anvil of uniform configuration flowing the metal of the upper portion of said side wall on top of, and inwardly and downwardly around each side of said diametrically extending member so as to permanently secure said diametrically extending member within said cup-shaped member.

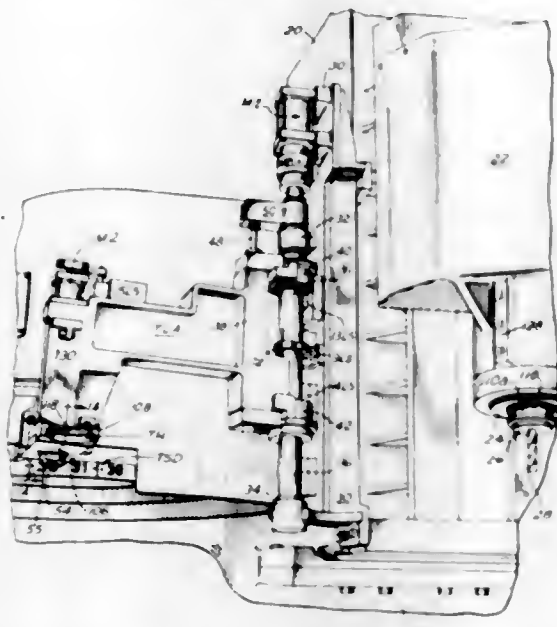


3,384,953

**AUTOMATIC TOOL CHANGER**

Virgil H. Schrolucke, Richmond, Ind., assignor to National Automatic Tool Company, Inc., a corporation of Indiana

Filed Sept. 12, 1966, Ser. No. 578,669  
7 Claims. (Cl. 29—568)



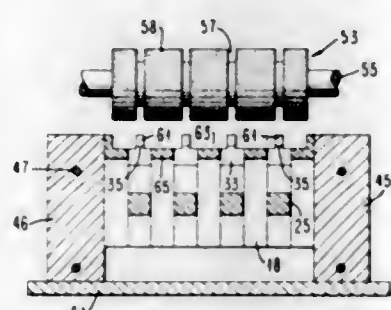
An automatic tool changer in which a supporting shaft is oscillatably mounted on a machine tool and carries a tool carry arm which can slide on the shaft and swing with the shaft from tool storage means to a tool spindle for transferring a tool from one to the other and vice versa. The tool carry arm also has a "Park" position. A hydraulic motor is provided for oscillating the shaft, and hydraulic cylinder and piston means are provided for sliding the tool carry arm along the shaft to normal, tool-lift and tool-extracting positions. A tool handler is mounted on the tool carry arm for oscillation end-for-end and this is accomplished by a second hydraulic motor supported on the tool carry arm. Control means is provided for selectively actuating the hydraulic motors and the cylinder and piston means to effect automatic tool changing.

3,384,954

**MAKING MULTITRACK MAGNETIC TRANSDUCER**

Rex C. Bradford, Louisville, Colo., and Henry R. Kelsof, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 7, 1965, Ser. No. 512,075  
9 Claims. (Cl. 29—603)



A method for manufacturing a multitrack tape head including forming a blank having a plurality of wider-than-necessary track heads with spaces between the heads and simultaneously removing side portions of the track heads and parts of the spacers so that equi-spaced track heads of the finally desired width and recesses at the sides of the track heads are formed, and filling the recesses with inlays of non-magnetic material.

3,384,955

**CIRCUIT BOARD PACKAGING TECHNIQUES**

Glenn W. Pierce, Los Angeles, Calif., assignor to TRW Inc., a corporation of Ohio

Filed Nov. 4, 1964, Ser. No. 409,004  
3 Claims. (Cl. 29—624)



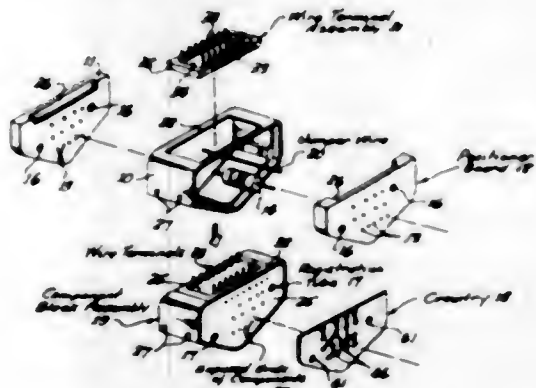
A standardized format approximating the size of an IBM card is used as the means for holding small electrical dot or pellet components. The location and terminals for a given circuit, which includes at least one of the dot or pellet electrical components, are printed on a Mylar card having a size approximating that of an IBM card. The printed Mylar card is located in the base of a jig and the individual dot or pellet components are coated with cement and placed on the Mylar card in their appropriate locations according to the marks contained thereon. Cement is placed over each of the components and the jig closed. A suitable resin which ultimately forms the substrate of the finished board is injected into the mold and cured. After completing the curing the jig is opened and the cement portions on both top and bottom are removed. The resulting form comprises a substrate containing dot or pellet components with suitable terminal areas exposed for the deposition of conductive surfaces on the substrate used for interconnecting and completing the desired circuitry to the electrical components.

3,384,956

**MODULE ASSEMBLY AND METHOD THEREFOR**

Andrew E. Flanders, Pomona, and James A. Patrick, Montclair, Calif., assignors to General Dynamics Corporation (Pomona Division), Pomona, Calif., a corporation of Delaware

Filed June 3, 1965, Ser. No. 461,045  
6 Claims. (Cl. 29—624)



The disclosure involves a manner of connecting electronic components which are stacked in a cordwood configuration and encapsulated in a solid-block module. In addition, a unique preformed circuit arrangement, and method of manufacturing same, is efficiently applied for interconnecting the module components and/or individual modules, the circuit having repairability features when desired.

3,384,957

**FABRICATION OF THREE-DIMENSIONAL PRINTED CIRCUITRY**

Joseph A. Shannon, Akron, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

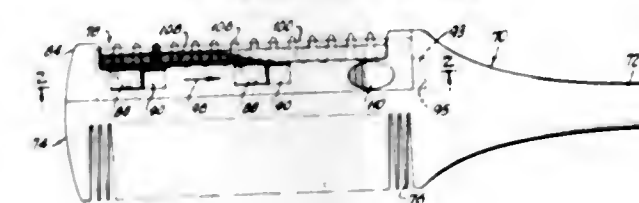
Filed Sept. 20, 1965, Ser. No. 488,490  
9 Claims. (Cl. 29—626)

The invention provides a method for fabrication of a three-dimensional printed circuit utilizing photo resist in combination with acid etching techniques to achieve a

3,384,960

**HAIR TRIMMER AND COMB**

Nathan Solomon, P.O. Box 550, Englewood, N.J. 07631  
Filed Oct. 23, 1965, Ser. No. 503,317  
3 Claims. (Cl. 30—30)



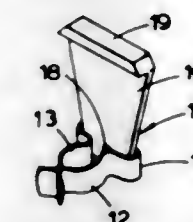
A hair combing and cutting apparatus having a comb along one longitudinal edge, and a razor extending along the other longitudinal edge with two depths of cuts of hair obtainable by varying the taper along opposite sides of said other longitudinal edge. The blade is removably locked and positioned by a guide member.

3,384,961

**GUARDS FOR SAFETY RAZORS**

Reginald Donovan Boyce, 35 Grand Ave., West Worthing, England

Filed Mar. 28, 1966, Ser. No. 537,785  
Claims priority, application Great Britain, Mar. 31, 1965, 13,653/65  
1 Claim. (Cl. 30—90)



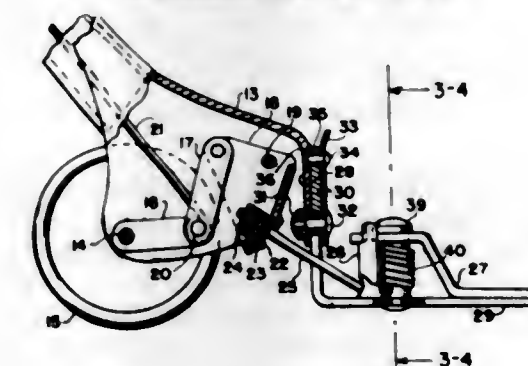
1. A blade guard for a double edge safety razor comprising clamp means to removably secure the guard to the razor handle at a point close to the junction of the razor handle and head, a guard strip of a fairly stiff flexible material having a length sufficient to shield one of the razor blade edges exposed in the razor head, a flexible member connecting said clamp means and said guard strip to locate and resiliently urge said guard strip towards said one blade edge.

3,384,962

**TILTING HEAD MECHANISM FOR SHEARS**

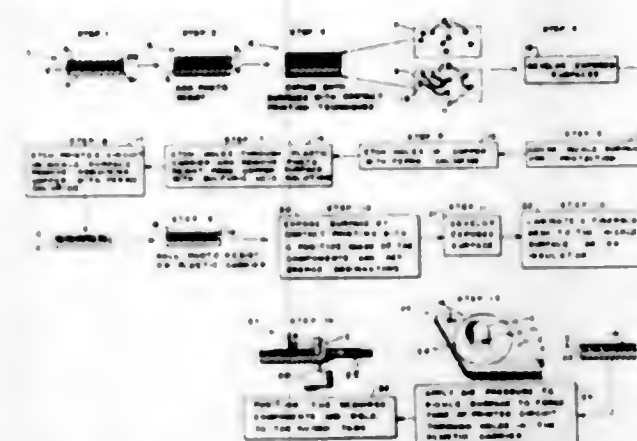
William Duffy, Jamesburg, and John Students, Roselle Park, N.J., assignors to J. Wiss and Sons Co., Newark, N.J.

Filed Sept. 14, 1965, Ser. No. 487,172  
5 Claims. (Cl. 30—248)



Long-handle garden shears having a tilting shear head which can be swivelled from a horizontal to a vertical shearing position and an actuating mechanism for the shears which works equally well in both positions of the head.

nickel layer on a plastic base carrier whereby raised nickel tabs are associated with the circuit components in exposed and easily accessible relationship allowing re-

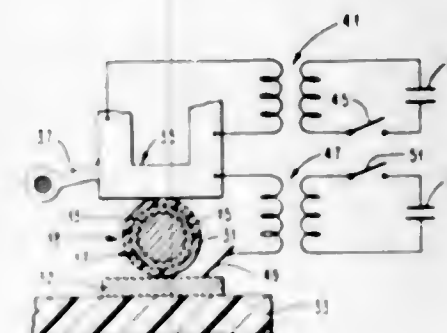


sistance or other type welding techniques to achieve a superior electrical connection, and which method overcomes the inherent disadvantages of nickel ribbon for making printed circuitry.

3,384,958

**METHOD OF BRAZING**

Stanley G. Christian, Poughkeepsie, Edward G. Reinitz, Fishkill, and Adolph W. Rzent, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed June 30, 1965, Ser. No. 468,272  
8 Claims. (Cl. 29—628)

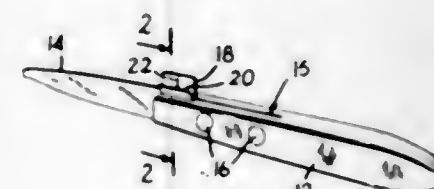


A small wire having a particular brazing material clad thereto consisting of 82.5% copper, 15% silver and 2.5% phosphorus by weight, is used to provide a bond between the braze clad wire and another electrical component.

3,384,959

**SCORING DEVICE**

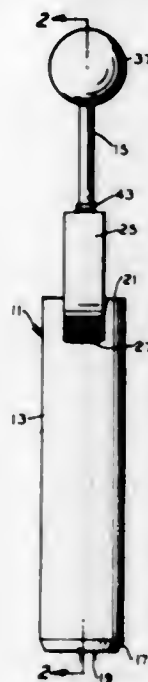
Maurice Tobias, 106 W. 69th St., New York, N.Y. 10023  
Filed June 19, 1967, Ser. No. 646,921  
8 Claims. (Cl. 30—24)



The present application discloses means for scoring the outermost layers of an onion skin to facilitate the removal thereof while obviating the release of onion juice with its included lachrymatory aromatics. As onion peel is of varying thickness, the present invention teaches varying the penetration of the scoring device into the section of the onion, whereby, as the device is drawn across the vegetable, only a predetermined minimum depth is scored.

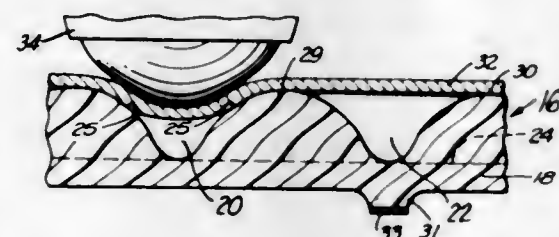


**3,384,963**  
**APPLE CORING TOOL**  
 Robert E. Brando, 1800 N. Normandie Ave.,  
 Hollywood, Calif. 90027  
 Filed Jan. 9, 1967, Ser. No. 608,037  
 2 Claims. (Cl. 30—280)



An apple coring tool has a cylinder with a cutting edge at the bottom, a cap at the upper end, and a yoke extending above the cap. An ejector plug reciprocates inside the cylinder and has a rod extending up through the cap and yoke with a knob handle on its upper end.

**3,384,964**  
**SKETCHING DEVICE**  
 Robert E. Phillips, P.O. Box 1102,  
 Studio City, Calif. 91604  
 Filed June 6, 1966, Ser. No. 555,598  
 9 Claims. (Cl. 33—1)

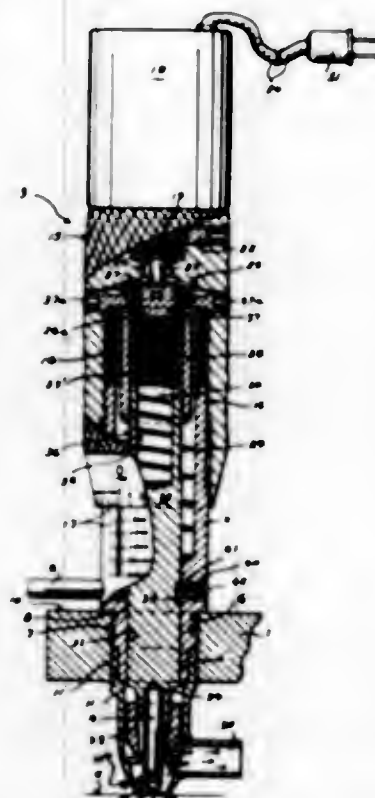


A sketching device is disclosed which has a flat sheet of material, the top surface of which is formed to contain a plurality of grooves having rounded junctures with the top surface. A sheet of paper may be placed against this top surface and a marking instrument placed against the paper so as to depress the paper toward one of the grooves. In this location the marking instrument is guided by the groove as it is drawn along the paper.

**3,384,965**  
**TOOLHOLDER FOR ENGRAVING POINTS**  
 Robert H. Sickling, 5705 Itaska, St. Louis, Mo. 63109  
 Filed June 26, 1967, Ser. No. 649,437  
 8 Claims. (Cl. 33—18)

A data plotting machine engraving point holder has a hollow barrel which is secured to a toolholder mounting bracket of a data plotting machine which has a "push down" solenoid that is fixed on the upper end of an outer thimble that is axially adjustable by rotation of the thimble. The solenoid has a central plunger which is depressible downwardly when the solenoid is energized. A scribing toolholder chuck shaft is slidably mounted in a bore in the barrel and has a second or inner thimble

which is axially adjustable thereon and is connected to the other thimble for simultaneous rotative adjustments to cause equal extensions or retractions in the axial lengths between the opposite outer ends of the barrel and the outer thimble, and between the opposite outer ends of chuck shaft and the inner thimble. A lifting coil spring is disposed between the barrel and the inner thimble, and a second plunger is slidably mounted in the



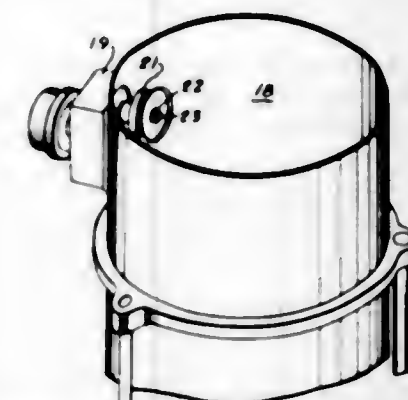
upper end of the inner thimble for impingement and downward movement in that thimble by the solenoid plunger and includes a stop shoulder on the upper end of the inner thimble limiting upward movement of the second plunger in the inner thimble. A chuck shaft pressure adjusting spring is compressible in a bore in the chuck shaft between the second plunger and the bottom of the bore in the chuck shaft.

**3,384,966**  
**PENDULUM TOY**  
 Edward J. Liss, 94 Rose Road,  
 West Nyack, N.Y. 10994  
 Filed Jan. 21, 1966, Ser. No. 522,813  
 6 Claims. (Cl. 33—27)



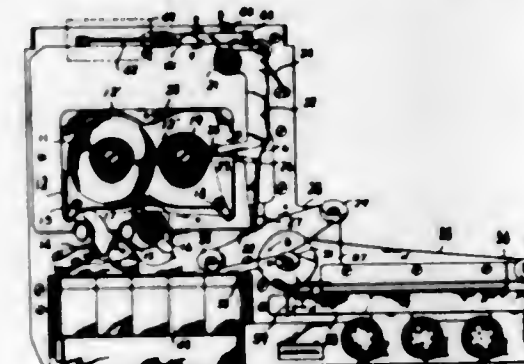
A pendulum toy having a pair of tandem supported pendulums carrying a pen arm in which a first pendulum is supported by a substantially frictionless joint, in which a second pendulum depends freely from the first pendulum and in which the pen arm is supported upon the first pendulum by a point-contact hinge.

**3,384,967**  
**ELAPSED TIME LIQUID LEVEL**  
**TELEMETERING DEVICE**  
 Joseph J. Jarnagin, 6910 Green Manor Drive,  
 Louisville, Ky. 40228  
 Original application Oct. 5, 1961, Ser. No. 143,258, now  
 Patent No. 3,248,795, dated May 3, 1966. Divided and  
 this application Mar. 17, 1966, Ser. No. 536,945  
 15 Claims. (Cl. 33—126.6)



This invention relates to the art of telemetering of rain and water measurements and provides apparatus for transmitting measurements of liquid levels by means of wire or radio from a measuring site to a central control station having means for indicating such measurements.

**3,384,968**  
**APPARATUS FOR DETECTING AND**  
**INDICATING AMOUNT OF TAPE**  
 Shichiro Fukatsu, Yokohama, Japan, assignor to Victor  
 Company of Japan, Limited, Yokohama, Japan, a cor-  
 poration of Japan  
 Filed June 4, 1965, Ser. No. 461,437  
 Claims priority, application Japan, June 11, 1964,  
 39/45,915  
 4 Claims. (Cl. 33—129)



An apparatus for detecting and indicating an amount of tape wound on a reel comprising a lever pivotally mounted adjacent said reel and having a roller disposed thereon in engagement with the outer periphery of said tape so that said lever pivots in response to changes in the outer diameter of said tape. An endless rope tensioned by a spring at the connecting part thereof is also provided along with means for magnifying and transmitting the amount of movement of said lever to said rope for moving said rope. An indicating needle fixed to the linear portion of said rope is adapted to move linearly with the motion of said rope over an indicating scale plate.

**3,384,969**  
**INTERNAL SPACING MEASUREMENT GAUGE**  
 Andrew Elzele, 20460 Brookwood Ave.,  
 Dearborn Heights, Mich. 48127  
 Filed July 18, 1966, Ser. No. 565,986  
 10 Claims. (Cl. 33—147)

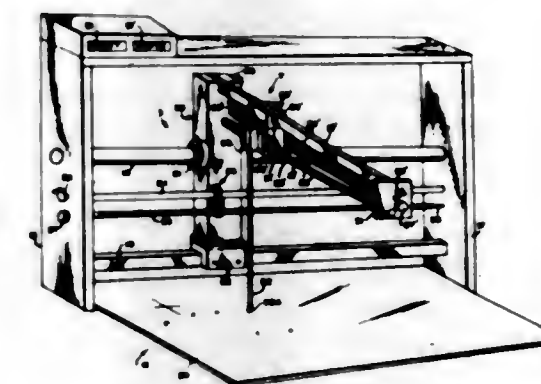
This dial indicator precision bore gauge measures the separation or spacing of internal shoulders or grooves which are difficult of access by ordinary gauges, by means

of feelers or measuring pins which are also movable transversely to retract them into the gauge body or stem in order to enable free insertion and removal of the stem from the bore, one of the feelers being also movable longitudinally or axially to measure the separation of the



internal shoulders or grooves, with its motion transmitted to a dial indicator. In this manner the present gauge measures the departure from the desired or standard separation or spacing of the internal shoulders or grooves, such grooves being employed, within bores, for the reception of snap rings or for other purposes.

**3,384,970**  
**PRECISION COORDINATES MEASUREMENT**  
**APPARATUS FOR GAGING AND LAYOUT**  
**OPERATIONS**  
 Garry P. Avaler, Hyde Park, N.Y., assignor to Bolce  
 Gages, Inc., Hyde Park, N.Y., a corporation of New  
 York  
 Filed Sept. 22, 1965, Ser. No. 489,211  
 7 Claims. (Cl. 33—189)



A first slide bearing structure of the air film type, is on a first horizontal track which extends from left to right above a forwardly extending horizontally positioned surface plate. A second slide bearing structure, of the same type, is on a second horizontal track which extends forwardly above the surface plate, from said first slide bearing structure, and a vertically slidable vertical probe on the second slide bearing structure. There are micrometer mechanisms to control independent movement of the slides. If desired, there may be a third slide structure on a third track extending vertically downward from the second slide, with a second probe horizontally positioned and arranged for longitudinal movement on the third slide, both probes being coplanar. Also shown is a means on the second slide for counterbalancing the third slide, its probe and track.

**3,384,971**  
**NON-EVAPORATIVE DRYING METHOD**  
 Leo J. Thomas, Jr., and Forrest A. Richey, Rochester,  
 N.Y., assignors to Eastman Kodak Company, Roch-  
 ester, N.Y., a corporation of New Jersey  
 No Drawing. Filed June 11, 1965, Ser. No. 463,321  
 20 Claims. (Cl. 34—9)

1. A non-evaporative process for removing diffusible liquid from a permeable solid material which comprises contacting said permeable solid material with a drying medium composition containing (a) at least about 20% by weight of an organic material having an average molecular weight of at least about 900, and being at least



30% soluble by weight in said diffusible liquid and substantially nondiffusible into said permeable solid material, and (b) 0-400% by weight (based on said organic material) of said diffusible liquid and then removing said drying medium composition from contact with said permeable solid material, after said drying medium composition had removed a substantial amount of said diffusible liquid from said permeable solid material.

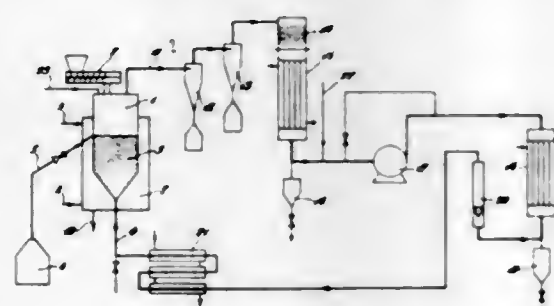
3,384,972

## TREATMENT OF LEAD SLUDGES

Geoffrey R. Oxley, Meswall, Wirral, England, assignor to The Associated Ocel Company Limited, London, England

Filed Mar. 9, 1966, Ser. No. 533,056  
Claims priority, application Great Britain, Mar. 19, 1965, 11,780/65

10 Claims. (Cl. 34-9)



Lead sludge resulting from the manufacture of lead alkyls is dried by feeding the moist sludge directly to a bed of particulate material maintained in a fluidized state by a gas stream of a fluidizing gas at a temperature of at least 30° C.

3,384,973

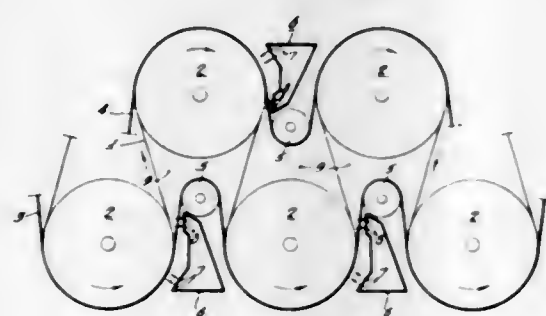
## VENTILATING DRYERS

Ake Johansson, Klinten, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden

Filed Sept. 23, 1966, Ser. No. 581,547

Claims priority, application Sweden, June 9, 1966, 7,885/66

5 Claims. (Cl. 34-23)



In a cylinder dryer in which paper or other web material is dried by being pressed against the drying cylinders by a porous fabric, a ventilating duct operable to blow air against the outer surface of the fabric at a first position prior to its disengagement from the cylinder and to blow air against the fabric at a second position where the fabric is withdrawn from the cylinder so as to permit the air at that position to flow through the fabric into the pocket formed between the fabric and the web by such withdrawal. The duct leaves a space on the outside of the web at a third position free of air impingement so as to permit discharge of air outwardly through the fabric from the pockets prior to engagement of the fabric with the succeeding cylinder. Ventilating air may also be impinged obliquely against the outer surface

of the fabric on the second cylinder at a fourth position beyond the third position to assist the aforesaid discharge outwardly through the fabric.

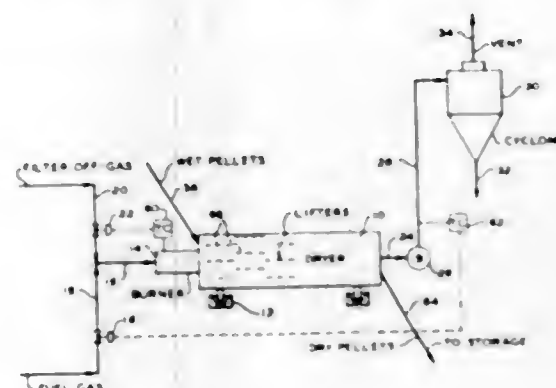
3,384,974

## PROCESS AND APPARATUS FOR WET PELLET DRYING

Carl E. Alleman and Robert A. Fewel, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Continuation of application Ser. No. 397,228, Sept. 17, 1964. This application Mar. 20, 1967, Ser. No. 624,623

9 Claims. (Cl. 34-31)



A horizontally rotating cylindrical drum dryer for drawing wet pelleted carbon black containing about 40 to 60 weight percent water is improved by providing lifting vanes or flights disposed in a substantial upstream section of the dryer, leaving the downstream section substantially unobstructed.

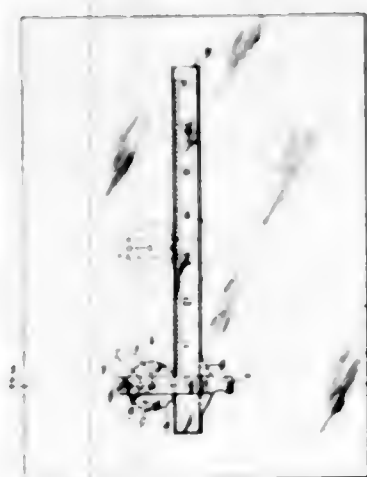
3,384,975

## DEVICE AND METHOD FOR DERIVING THE FORMULA FOR THE CIRCUMFERENCE OF A CIRCLE

Cornelius Savin, Westbury, Alan G. Vorwald, Bethpage, and Christopher R. Vagts, Huntington, N.Y., assignors to Antran Corporation, a corporation of New York

Filed Oct. 22, 1965, Ser. No. 501,333

5 Claims. (Cl. 35-34)



An animated transparency device and method for demonstrating visually the characteristics and area of a circle and deriving the formula for the circumference thereof and its relation to pi comprising a graduated track member mounted on a base member having a cursor mounted thereon for movement therealong, and a plurality of circular members of known diameters adapted to be rotatably attached to said cursor for movement along one edge of said track member for measuring the circumference thereof, all of said members being made of a transparent material of identifying and contrasting colors adapted to be projected on a screen by an overhead projector.

3,384,976

## APPARATUS FOR TREATING AN ATMOSPHERE AND A REMOTE REGENERATOR THEREFOR

Herbert W. Western, Barrington, R.I., assignor to C. I. Hayes Inc., Cranston, R.I., a corporation of Rhode Island

Filed Dec. 21, 1965, Ser. No. 515,301  
19 Claims. (Cl. 34-80)



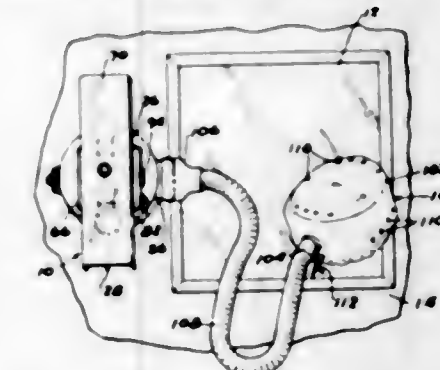
Apparatus for conditioning articles in a work unit through which an atmosphere is circulated, an adsorption chamber being removably secured to the work unit for communication therewith and for treating the atmosphere circulating therein for removing moisture and impurities from said atmosphere, and means located remote from said work unit and to which a saturated adsorption chamber is transferred for the regeneration thereof.

3,384,977

## COMBINED LIGHT FIXTURE AND BLOWER

Raymond Rosenberg, Star Rte., Indian River, Mich. 49749

Filed May 25, 1966, Ser. No. 552,874  
3 Claims. (Cl. 34-90)



A light fixture for use with a vanity lamp and having a rotatable base in which is housed a heater-blower assembly for directing heated air through an outlet either over the surface of the mirror or through a conduit connected to the outlet and leading to a hair drying hood.

3,384,978

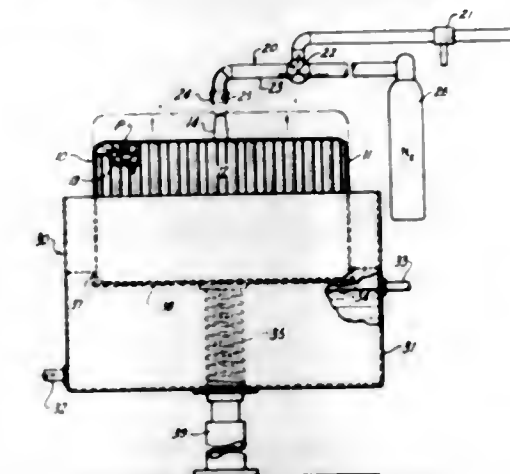
## FREEZE-DRYING APPARATUS

George Robert Cox, Pittsburgh, Pa., assignor to J. P. Devine Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 14, 1962, Ser. No. 244,765  
10 Claims. (Cl. 34-92)

1. Apparatus for freeze-drying food packaged in a consumer sized container that has a nozzle comprising: a platform for supporting the container, an upwardly concave pan positioned below said platform in a surrounding, aligned relationship therewith, means operatively

connecting said platform to said pan for holding said platform normally in an upper region of said pan and permitting selective movement of said platform to a lower region of said pan, means for supplying a heated liquid to said pan, downwardly open conduit means positioned above said platform for operatively engaging the nozzle and establishing fluid flow communication with the in-



terior of the container, means for causing relative movement of said conduit means and said pan for bringing said conduit means into cooperative engagement with the nozzle of the container to at least partially immerse said container in said heated liquid, means connecting said conduit means to a source of sub-atmospheric pressure, and means for sealing the container nozzle.

3,384,979

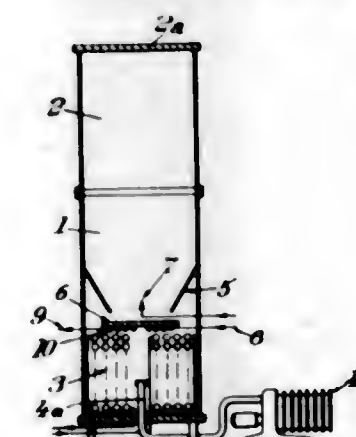
## SYSTEM FOR EVAPORATING AND COOLING A LIQUID INJECTED IN VACUO

Paul Laine, Sevres, and Jean-Claude Guillaume, Nice, France, assignors to Centre National de la Recherche Scientifique, Paris, France

Filed Aug. 24, 1966, Ser. No. 574,651

Claims priority, application France, Aug. 28, 1965, 29,774

2 Claims. (Cl. 34-92)

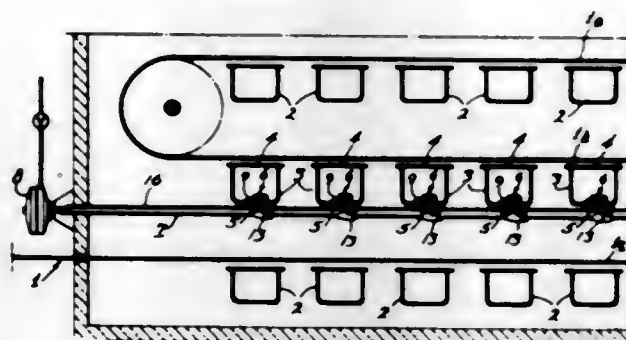


A system for extracting solid substance from liquid by freezing or concentrating in vacuo a liquid divided into droplets comprising an enclosure holding a vacuum suitable for the purpose, means for injecting the liquid to be processed upward to such a height that the rise and dropback time is adequate to allow the freezing or concentration to take place, said means including a nozzle for injecting the liquid in the vacuum in the lower portion thereof, said nozzle being directed upward so that the liquid is injected upward and the height of the enclosure being such that the injected liquid does not come into contact with the upper part of the enclosure and is permitted to fall freely within the enclosure and wherein the system includes means for subjecting the nozzle to vibration at a frequency of more than 1,000 cycles per second or means for pulsing the injection at a frequency more than 1,000 cycles per second.



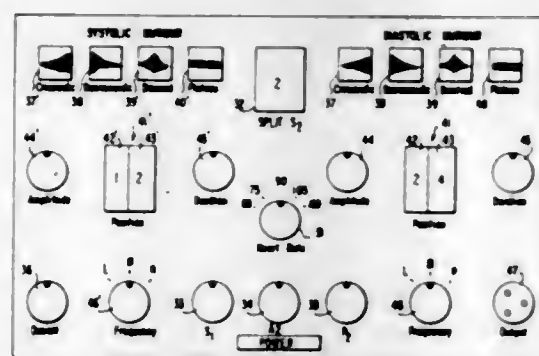
**3,384,980**  
**DRYER FOR WEB OR SHEET-LIKE MATERIAL**  
 Sven Wallin, Taby, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden, a corporation of Sweden

Filed July 12, 1965, Ser. No. 471,113  
 Claims priority, application Sweden, July 13, 1964, 8,538/64  
 7 Claims. (Cl. 34-156)



A dryer for web or sheet like materials including a plurality of gas distribution boxes positioned successively in the conveying direction of the material and transversely thereto. The material being conveyed passes successively over and under the boxes making multiple passes through the dryer. At least one of the surfaces of certain of the distribution boxes contain permanent perforations for permitting gaseous medium to blow against the material at all times, at least certain of the blow boxes also containing another set or series of apertures which are shielded by flap-type valves which are arranged to shield the other apertures in order to put them into and remove them from the drying medium circuit.

**3,384,981**  
**SIMULATION OF HEART SIGNALS**  
 Lee R. Baessler, Torrance, and Harvey F. Glassner, Los Angeles, Calif., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
 Filed May 27, 1966, Ser. No. 553,511  
 30 Claims. (Cl. 35-17)



9. Apparatus for producing a simulated heart signal pattern comprising:

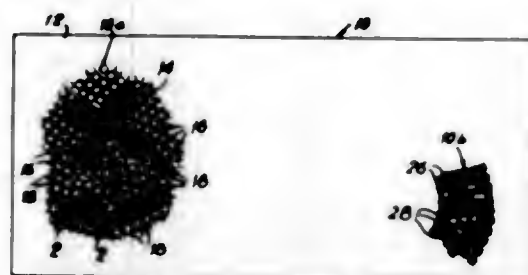
timing means for cyclically generating a plurality of sequentially occurring uniquely digitally coded signals at a cyclic repetition rate equal to the desired heart rate, so that said coded signals are digitally coded to represent the succeeding time intervals of the desired heart signal pattern;

electric analog signal generating means responsive to those digitally coded signals from said timing means which represent the beginning of the time intervals of the desired pattern at which the heart signals begin for generating electric analog signals corresponding to said heart signals; and

signal combining means for combining the said electric analog signals to produce an electric analog heart pattern signal corresponding to the desired heart signal pattern.

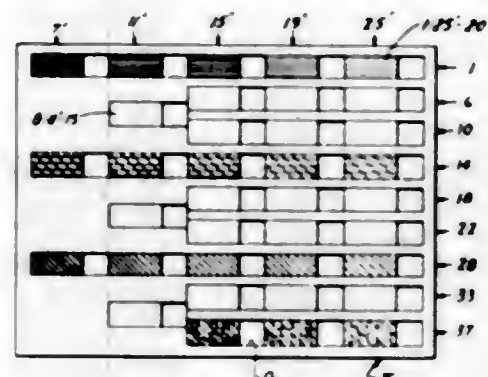
**3,384,982**  
**DISPLAY PANEL**  
 Lawrence Herbert, 11 Mark Lane, New City, N.Y. 10956, and Jack Siderman, 2761 Pauling Ave., Bronx, N.Y. 10469

Filed Mar. 25, 1965, Ser. No. 442,669  
 3 Claims. (Cl. 35-26)



A simulated mosaic comprising a base sheet with color indicating indicia arrayed thereon and with colored paper units adhered thereover to form a picture. The color of the base sheet shows between the colored units to form a background.

**3,384,983**  
**COLOR APPARATUS AND SYSTEM**  
 Walter H. Olson, Rockford, Ill., assignor to The Valspar Corporation, Rockford, Ill., a corporation of Delaware  
 Filed May 6, 1966, Ser. No. 548,109  
 24 Claims. (Cl. 35-28.5)



1. A color chart comprising a sheet member having one group of color chips having a generally equal white content and arranged in an orderly manner according to saturation, one chip having a measured quantity of colorant, a second chip having a portion of the colorant replaced by black to produce a shade of the one chip, at least one other chip having a different portion of the colorant replaced by black to produce a different shade of the one chip, and each of the shaded chips having an amount of colorant plus black generally equal to the quantity of colorant in the one chip.

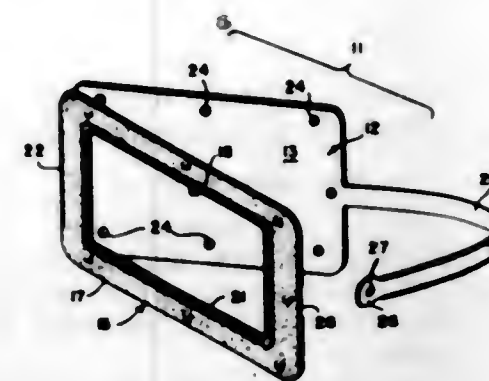
#### ERRATUM

For Class 35-34 see:  
 Patent No. 3,384,975

**3,384,984**  
**LUGGAGE TAG**  
 Jack W. Field, 50 Riverside Drive, New York, N.Y. 10024  
 Filed Jan. 11, 1965, Ser. No. 424,549  
 3 Claims. (Cl. 40-21)

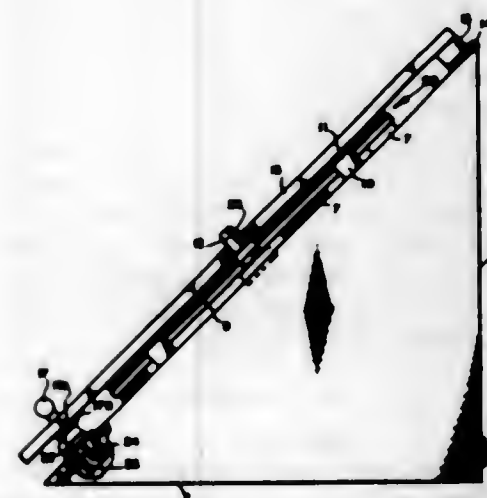
1. A luggage tag comprising a base member having inner and outer faces, a cover member having inner and

outer faces and a window formed therein, a hinge element connecting the base and cover members together so that they may be folded over each other to retain an identification card therebetween, a series of pins extending from the inner face of the cover member, said base member having a series of holes formed therein which receive said pins and hold them in frictional engagement to hold the base and cover members together in a detachable fashion, said base and cover members and hinge element being integrally formed as a single blank, said lug-



gage tag being made of a plastic material, and a strap operatively connected to said blank and extending therefrom with a free end having an enlarged head and means on the base member and the cover member which cooperate to receive an end portion of the strap and secure it in locked position.

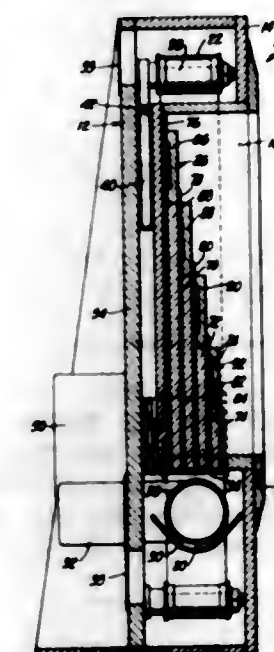
**3,384,985**  
**SHADOW BOX FOR DISPLAYING STACKED TRANSLUCENT SHEET MATERIAL**  
 Jack R. Bretz and Michael E. Jenkins, both of 7322 SW. 13th Drive, Portland, Oreg. 97219  
 Filed July 6, 1965, Ser. No. 469,565  
 4 Claims. (Cl. 40-106.1)



An illuminated display device upon which a plurality of superimposed, information bearing sheets of translucent paper may be stacked for simultaneous display to a viewer of the cumulative information. A translucent plate is yieldably mounted on the device to permit accommodation of various heights of stacks of translucent paper without disrupting the parallel relationship of the translucent plate to a transparent pressure plate. Accordingly, the uniform compaction of the translucent paper sheets permits light transmission therethrough for the display information borne on the several sheets. A magnetic latch biases the

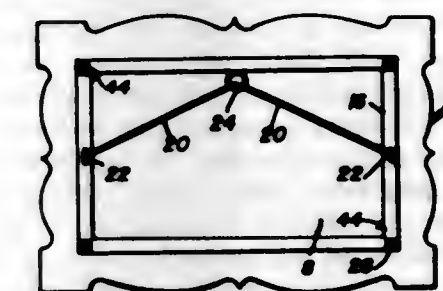
pressure plate downwardly against the stacked sheet material.

**3,384,986**  
**PROGRESSIVELY ILLUMINATED SIGN**  
 James F. Davis, 17154 Nordoff St., Northridge, Calif. 91324  
 Filed July 25, 1966, Ser. No. 572,640  
 11 Claims. (Cl. 40-130)



A plurality of superimposed light transmitting means are provided with removable letters and are illuminated by a source of light controlled by a movable belt type shutter so as to illuminate successive lines of said removable letters.

**3,384,987**  
**PICTURE FRAME RIGHTING AND SPACING MEANS**  
 Robert A. Precht, 999 Central Ave., Dunkirk, N.Y. 14048  
 Filed July 7, 1966, Ser. No. 563,574  
 5 Claims. (Cl. 40-152.1)



Picture frame spacing and stabilizing means is provided. The frame is suspended by a common bridle-type hanger wire and provided at its four corners with stay-put spacing pegs. These pegs, which are adjustable in length, keep the picture from shifting from its given balanced position. Also, they provided an air circulating space, minimize accumulation of damaging moisture, prevent discoloration of the wall surface aligned with the picture, and well serve the over-all picture righting result desired.

**3,384,988**  
**ACCURACY SHOE FOR A PISTOL**  
 Urvano A. Salatz, 4295 Tehama Ave., Fremont, Calif. 94538  
 Filed Feb. 9, 1967, Ser. No. 614,971  
 2 Claims. (Cl. 42-71)

A pistol when fired has a definite recoil due to the exploding shell. This recoil action interferes with the ac-



curate aiming of the piston because it tends to move the pistol upwardly and rearwardly when fired. The placing of the butt end of the pistol grip on a rigid supporting surface at the time of shooting aids in the accuracy of firing but even then the recoil of the pistol at the moment of firing causes inaccurate aiming. I provide a resilient shoe for the pistol butt end that absorbs this recoil and



prevents the pistol from moving unduly when fired. More accurate shooting is made possible.

**3,384,989**  
**SHOTGUN BORE REDUCER**  
Thurman R. Thomas, 421 Wright St.,  
High Point, N.C. 27260  
Filed July 21, 1966, Ser. No. 566,823  
2 Claims. (Cl. 42-77)



A bore reducer for shotgun barrels which adapter may be substantially the length of a shell normally utilized in a shotgun or a length sufficient to extend somewhat more than the entire length of the shotgun barrel within which it is utilized, whereby bore reducers constructed in accordance with the invention may be utilized in conjunction with shotguns of varying types and configurations including shotguns provided with shell receiving magazines. In this regard, one embodiment of a bore reducer disclosed herein is utilized in conjunction with each shell of a gauge lesser than that normally accommodated by the shotgun, thereby permitting the loading of the shotgun magazine with shells of a gauge lesser than that normally utilized in conjunction with the shotgun. Thus, the shells of the lesser gauge can be automatically transported to the firing chamber of the gun in the same manner as if they were actually shells of a gauge normally utilized in the gun. In the embodiment of the invention utilizing a reducer of somewhat greater length than the barrel of the gun the reducer is secured within the gun by a threadably engaged collar received on a portion of the reducer extending outwardly from the muzzle of the gun which embodiment further includes a spent shell extractor means adapted to cooperate with an extractor means provided in the gun.

**3,384,990**  
**SOUND PRODUCING ACCESSORY FOR TOYS OR THE LIKE**  
Marcel Romand, Molrans en Montagne, Jura, France,  
assignor to Pierre Francois Seiller, Lagnieu, Ain, France

Filed June 21, 1965, Ser. No. 465,399  
Claims priority, application France, Sept. 15, 1964,  
45,127, Patent 1,416,498  
5 Claims. (Cl. 46-191)

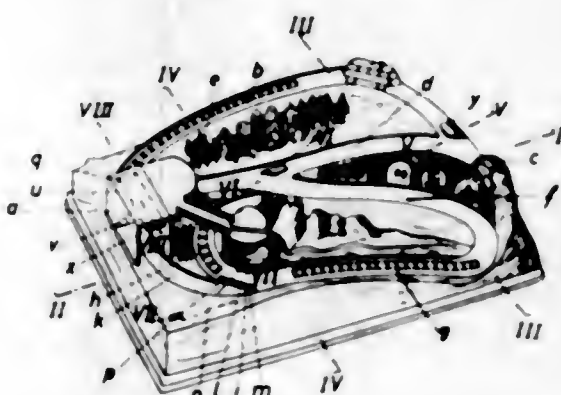
A sound producing accessory for a toy in which a hollow basin having inwardly directed radial bosses on a cylindrical rim receives the hub of a supply disc in a central opening in its base such that the disc partially closes the basin, a loose member being disposed within

the basin and retained by the disc. The base of the disc may have an inwardly directed boss facing the disc and



cooperating therewith to define a restricted path of travel for the loose member at the periphery of the basin.

**3,384,991**  
**TOY MOUNTAIN RAILROAD**  
Alfred Einfalt, Nurnberg, Germany, assignor to Gebruder Einfalt, Blechspielwarenfabrik, Nurnberg, Germany, a firm of Germany  
Filed July 29, 1965, Ser. No. 475,829  
Claims priority, application Germany, Feb. 6, 1965,  
E 21,159  
4 Claims. (Cl. 46-202)



There is disclosed a toy mountain railroad having a track system in which two self-propelled toy vehicles are driven, partly by the power drive of the vehicles and partly by gravity, from a main station to one or two sub-stations and back to the main station. The vehicle first returning to the main station is arrested in the station by stop means in the same and the second vehicle when approaching the entry to the main station releases the arrested first vehicle for further travel and eventual return to the main station and is itself arrested when arriving in the main station. There are also provided switch means for selectively directing the vehicles along different track sections of the track system.

**3,384,992**  
**PLANT SHELTER**  
Howard C. Heffron, Chicago, Ill., assignor, by mesne assignments, to G. I. Plastics Corporation, Chicago, Ill., a corporation of New York  
Continuation-in-part of application Ser. No. 226,985,  
Sept. 28, 1962. This application July 9, 1964, Ser.  
No. 381,468

2 Claims. (Cl. 47-29)  
1. A shelter device for protecting plants in the earth from cold, wind, and sudden temperature changes of the air comprising:

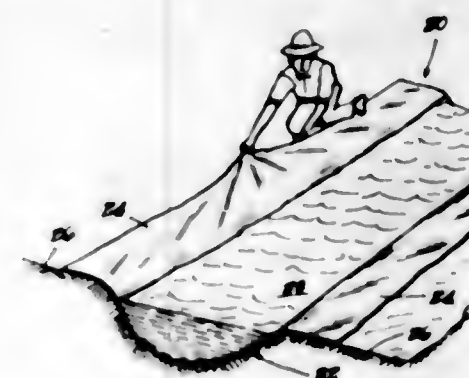
a hollow frusto conical shaped housing formed from polystyrene foam material, said housing having an open bottom end of circular shape and a top section including a circular top end, said circular bottom end being larger cross-sectional area than said circular top end, the material of said housing being of sub-

stantial thickness to afford an outside surface and an inner surface;  
an annular flange integrally formed to said bottom end for contacting said ground and extending horizontally outward therefrom;  
said polystyrene foam material characterized by its ability to admit radiant energy therethrough for heating the air inside said housing and to provide by con-



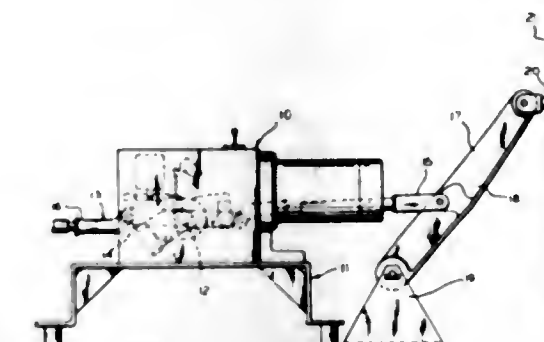
duction a substantially slow rate of heat transfer from said inner surface to said outer surface, thereby insulating said plants and the air within said housing from the outer atmosphere; and  
said top section including apertures extending obliquely through said structure in a downward direction from said inner surface to said outer surface for preventing unwanted water and winds from entering there-through.

**3,384,993**  
**ARTICLE FOR AGRICULTURAL USE**  
Charles V. Kane, Highland Park, Ill., assignor to The Delta Company, a firm consisting of Julius Abler, Elizabeth E. Abler, Birdie C. Engelman, Julius Abler, and Elizabeth Abler, trustees, Wheeling, Ill.  
Filed Sept. 8, 1965, Ser. No. 485,797  
3 Claims. (Cl. 47-58)



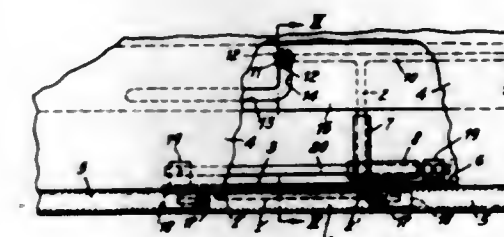
1. A method of substantially preventing ground seepage in an irrigation ditch, or the like, while enriching the water passing through same with a plant nutrient substance, comprising providing a flexible, substantially water impermeable sheet of a plastic material, said sheet incorporating a plant nutrient substance in a form to enable it to be released from said sheet by water in contact with the sheet, lining the ditch, or the like, with said sheet and securing the edges of the sheet to prevent any substantial movement of the sheet, passing water through the thus lined ditch, or the like, whereby a portion of the plant nutrient substance of the sheet will be dissolved and carried by the water to plant life to be nourished thereby, said sheet substantially preventing loss of water due to ground seepage as the water traverses the lined ditch, or the like.

**3,384,994**  
**DOOR OPERATOR LOCKING MECHANISM**  
Kristupas Daugirdas, Wilmette, and Carl W. Roth, Des Plaines, Ill., assignors to Vapor Corporation, Chicago, Ill., a corporation of Delaware  
Filed June 13, 1966, Ser. No. 557,040  
3 Claims. (Cl. 49-13)



Locking mechanism for a door operator to lock a door of a public conveyance in closed position including a cam mounted on the output shaft of an operator and coacting with a latch assembly.

**3,384,995**  
**SLIDING DOOR FOR AUTOMOBILES**  
Erich Furrer, 35 Rosenweg, 4500 Solothurn, Switzerland  
Filed May 19, 1966, Ser. No. 551,412  
7 Claims. (Cl. 49-213)



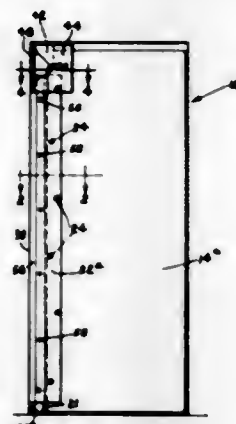
A sliding door assembly for a vehicle body wherein no visible slots are necessary to enable the said door to function properly. A cantilever is attached at one end to the said door of a vehicle body and is engaged at the other end with a movable guide member which travels a closed path provided underneath the vehicle body and also provides an abutting member which acts to balance the weight of the door mounted at the other end of the cantilever. The arrangement of the sliding door assembly enables the door of the vehicle to move transversely and longitudinally, thereby overcoming all disadvantages accompanying the swinging door of a vehicle body.

**3,384,996**  
**DOOR WITH SEALING MEANS**  
Henry R. Gilchrist, Burlington, and August J. Kochis, Concord, Mass., assignors to Oliver C. Eckel, Weston, Mass.  
Filed Dec. 27, 1965, Ser. No. 517,197  
2 Claims. (Cl. 49-383)

1. A door in combination with a door jamb, said door embodying mounting means movably mounting said door to said jamb, said jamb being spaced from the inner side edge of said door, and a flexible sealing member attached to said jamb and normally in contact with a portion of said door, said sealing member extending only partly the height of said door, and another sealing member attached



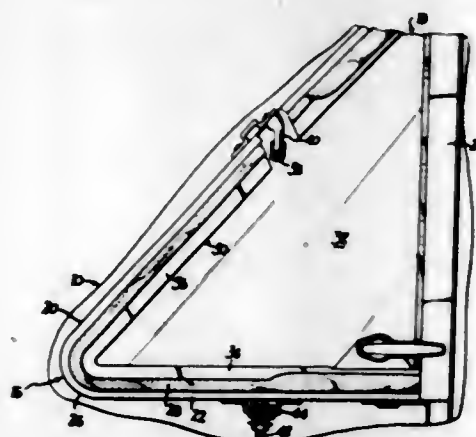
to said door and extending in the form of a loop to and into contact with said jamb and extending from a point



adjacent said first sealing member in a direction away from the latter.

### 3,384,997 FRICTION RETAINER FOR A PIVOTAL WINDOW

Victor L. Heeter, Elkhart, Ind., assignor to Excel Corporation, Elkhart, Ind., a corporation of Indiana  
Filed Apr. 14, 1966, Ser. No. 542,513  
3 Claims. (Cl. 49-391)

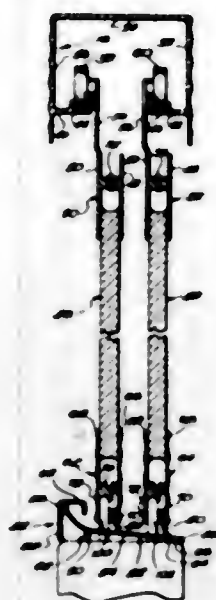


A pivotal vehicle window sash in combination with an assembly for the pivotal mounting thereof is illustrated. The vehicle window sash includes the usual frame and sash elements along with means for pivotally mounting the sash in the frame. The means for pivotally mounting the sash includes a generally cylindrical threaded stud which extends from the sash through an opening in the frame. The stud has at least one flattened face. A bowed spring washer is received on the stud. The bowed washer has an opening which mates with the periphery of the stud to thereby prevent relative rotation of the bowed washer and stud. A friction washer is provided on each side of the frame to permit relative movement of the stud with respect to the frame.

The friction washer means are rotatable with respect to the stud. The concave surface of the bowed washer faces the frame. A metal washer is provided between the bowed washer and the friction washer. The bowed washer has a pair of diametrically opposed peripheral flats for engagement with the metal washer, the metal washer being fabricated preferably of a soft metal. Projecting means are provided on the convex surface of the bowed washer. A nut is threadably received on the stud in abutting relationship with the bowed washer in pressure engagement therewith causing the bowed washer to exert a spring pressure to restrain pivoting of the sash in the frame. Serrations are provided on the nut and engage the projecting means on the bowed washer to lock the nut in place.

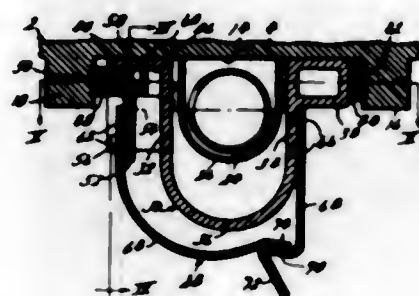
### 3,384,998 SLIDING CLOSURE AND FRAME HAVING SUBSTANTIALLY CLEAR LOWER SILL

Harold B. Abramson, 1870 Beacon St.,  
Brookline, Mass. 02146  
Filed Mar. 1, 1966, Ser. No. 530,890  
2 Claims. (Cl. 49-411)



In connection with bathtub cubicles, patio entrances and the like, provision is made for sliding doors and an associated frame, which are characterized by rails at the top of the frame from which the tops of the doors are suspended for sliding motion, a substantially smooth, readily cleaned, sill with which the bottoms of the doors are contiguous, and restricted lower lugs cooperating with lower elongated channels for preventing swinging by the bottoms of the doors.

3,384,999  
WINDOW LOCK  
Nicholas C. Nemeth, 7324 Beverly St.,  
Overland Park, Kans. 66204  
Filed Nov. 7, 1966, Ser. No. 592,540  
8 Claims. (Cl. 49-449)

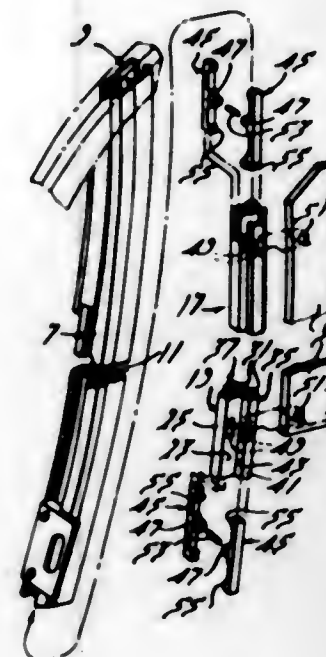


1. A window lock for use in connection with a window construction including a sash slidable in grooves formed therefor in a window frame, said window lock comprising:

- (a) a body member adapted to be inserted in one of said grooves adjacent said sash whereby to obstruct and limit movement of said sash,
- (b) a pair of jaw members carried by said body member and facing oppositely in a direction transverse to said groove, and
- (c) operating means carried by said body member and operable to expand said jaws relatively farther apart whereby the faces thereof are forced into engagement with respectively opposite longitudinal surfaces of said groove.

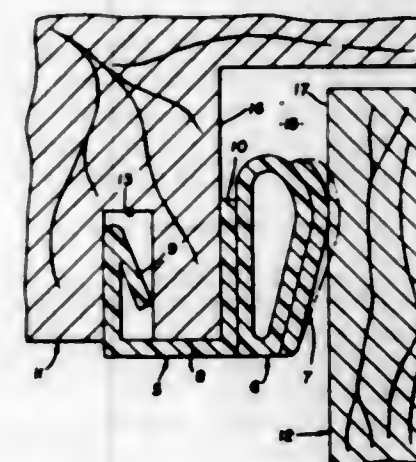
### 3,385,000 GLASS WINDOW GUIDE

Mark J. Sturtevant, Grosse Pointe, Neil T. Kelley, Bloomfield, and Herbert Kilgus, Grosse Pointe, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware  
Filed Mar. 9, 1967, Ser. No. 622,385  
9 Claims. (Cl. 49-440)



Guide or support for a glass window of an automobile including a length of weatherstripping formed around an edge of a window glass and with channel-shaped side portions which fit in channels of an elongated member forming a division bar or attached to a pillar, and relatively rigid guide or support members in said channel-shaped portions connected together through side portions of the weatherstripping and the glass for sliding or pivoting of the window in the elongated member.

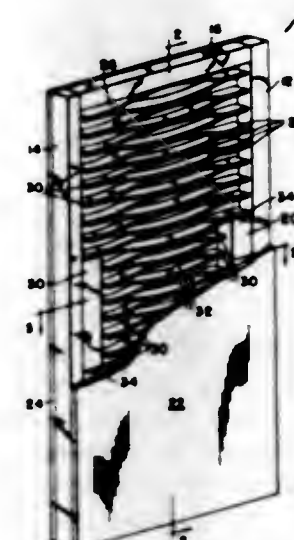
3,385,001  
COMBINATION WEATHER SEAL  
AND RUB STRIP  
Paul G. Bordner, Columbus, Ohio, assignor to Crane Plastics, Inc., Columbus, Ohio, a corporation of Ohio  
Filed Apr. 28, 1967, Ser. No. 634,510  
6 Claims. (Cl. 49-489)



A combination weather seal and rub strip for windows and doors which consists of an integral, plastic extrusion including a substantially rigid mounting web for attachment to a relatively stationary frame component of the

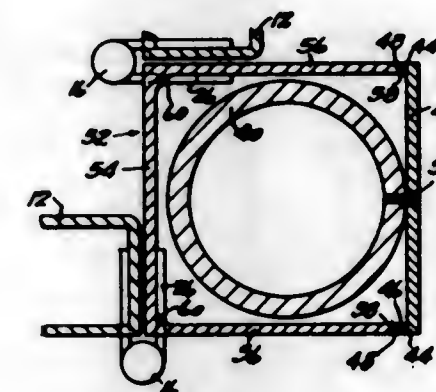
window or door, an intermediate, resiliently compressible diaphragm section secured to the mounting web, and an outer, substantially rigid rub strip section secured to the diaphragm section and arranged for abutting frictional engagement with a movable window or door.

3,385,002  
HOLLOW CORE DOOR  
Edward G. Quinif, Farmington, Mich. (% Walled Lake Door Co., 19335 Beech-Daly Road, Detroit, Mich. 48240)  
Filed Mar. 14, 1966, Ser. No. 534,199  
1 Claim. (Cl. 49-501)



The hollow core door of this invention comprises a border frame, a core within the frame, and outer panels secured to opposite sides of the frame and confining the core within the frame. The core is composed of a plurality of interconnected laths and is extended to a stressed position wherein the laths move apart to form an open cellular structure.

3,385,003  
METAL BUILDING TUBE FOR  
MOUNTING HINGES  
Harry L. Owen, 907 Cedar St.,  
Niles, Mich. 49120  
Filed Mar. 21, 1966, Ser. No. 536,102  
8 Claims. (Cl. 49-504)



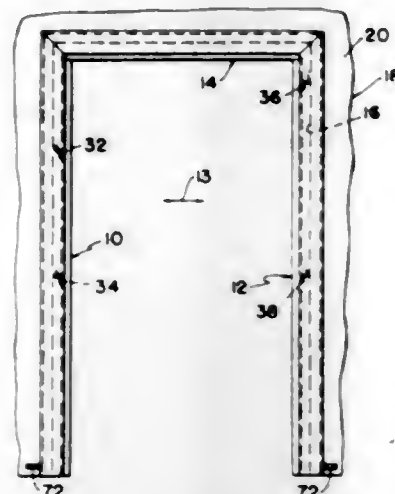
A metal building member having a slot in one wall through which a door hinge extends. Said door hinge is secured in face engagement with an adjacent angularly extending wall of said building member. The internal corner of said building member at the junction of the slotted wall and the adjacent wall is provided with a fillet through which the hinge passes.



3,385,004

**BUILDING STRUCTURE**

Donald R. Oehler, Lake City, and Robert O. Johnson, Erie, Pa., assignors to Fenestra, Incorporated, Chicago, Ill., a corporation of Michigan  
Filed May 2, 1966, Ser. No. 546,895  
3 Claims. (Cl. 49—504)

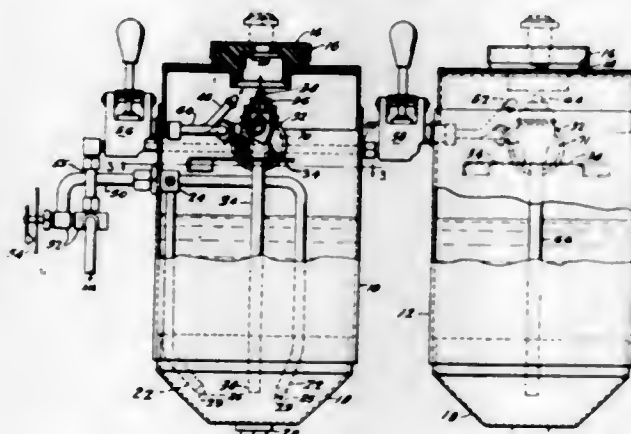


A door frame structure including jamb members having a channel-shaped cross section with side walls extending at less than ninety degrees from the front wall of the cross section thereof to positively grip both sides of a door opening, anchor clips secured to the bottom of the jamb members for positioning the jamb members in a door opening in conjunction with a Z-shaped spacing member extending between the side walls of at least one of the jamb members. The door frame structure further includes a head member extending between the upper ends of the jamb members and connected thereto by means of a mitered joint, tongue and groove aligning structure operable between the upper end of the jamb members and the ends of the head member and a rectangular aligning and stiffening channel member secured within the upper ends of the jamb members and over the mitered joints between the jamb and head members.

3,385,005

**WET CLEANER FOR SPARK PLUG**

Ross E. Nielsen, Toledo, Ohio, assignor to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware  
Filed Sept. 10, 1965, Ser. No. 486,332  
7 Claims. (Cl. 51—8)

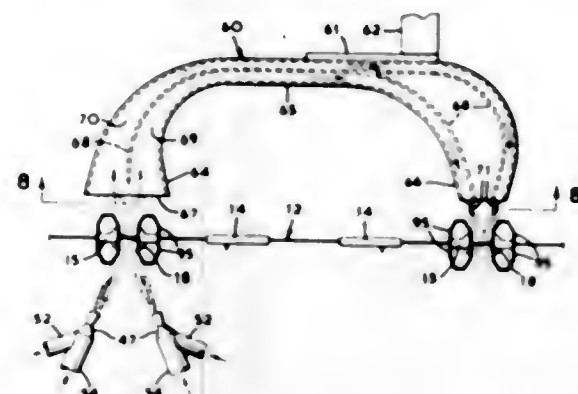


A wet type spark plug cleaner having a slurry tank and a rinsing tank. The spark plug is cleaned over the slurry tank by a blast of abrasive slurry. A blast of air then removes most of the slurry. Any remaining slurry is removed in the rinsing tank by a blast of water. The spark plug is dried by a blast of air. The cleaner is operated from an external source of compressed air.

3,385,006

**METHOD AND APPARATUS FOR ABRADING ARTICLES**

Hugh L. Miller, Downsview, Ontario, and Kvetoslav Turecek, Brampton, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada  
Continuation-in-part of application Ser. No. 362,552, Apr. 16, 1964, which is a division of application Ser. No. 175,690, Feb. 26, 1962. This application Oct. 21, 1965, Ser. No. 499,248  
19 Claims. (Cl. 51—8)

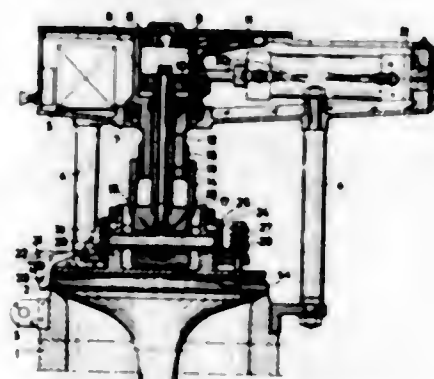


A method and apparatus for abrading articles by impingement of particulate abrading material, where the material can pass through the article. The material is directed against one side of the article, collected on its other side, accelerated and redirected against that other side whereby both sides of the article are abraded.

3,385,007

**GRINDING APPARATUS FOR VALVES**

Erik Andersen, Grønland 82, Drammen, Norway  
Filed Jan. 7, 1965, Ser. No. 423,933  
6 Claims. (Cl. 51—29)



Valve-grinding apparatus comprises a clamp for releasably grasping the periphery of the valve head, and actuating means for oscillating the clamp about the axis of the valve stem. Fluid pressure means are provided for engaging and releasing the clamp, and also for raising and lowering the clamp bodily or for counterbalancing a desired portion of the weight of the valve.

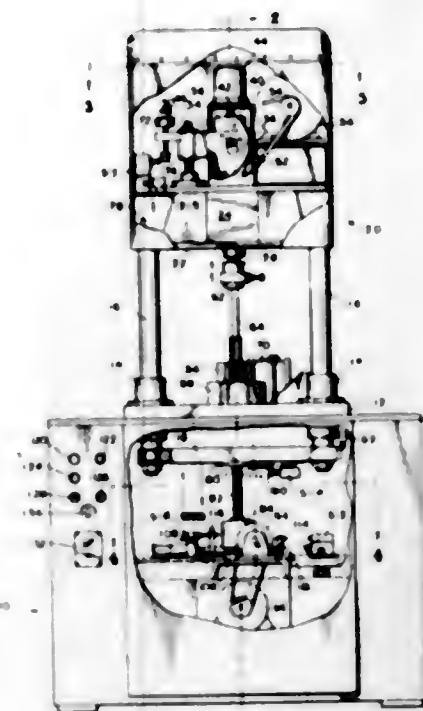
3,385,008

**LAPPING MACHINE TOOL**

Richard S. Gentry and George A. Sowden, Indianapolis, Ind., assignors, by mesne assignments, to Richard S. Gentry, Indianapolis, Ind.  
Filed Feb. 25, 1966, Ser. No. 530,105  
10 Claims. (Cl. 51—34)

An improved lapping machine tool. A lapping tool is biased forward by an air cylinder and is reciprocated by a cam which retracts the tool against the bias and controls the rate of its advance under the limited bias force. Work piece resistance arrests the tool at an intermediate point in its forward strokes, and as the lapping progresses to overcome such resistance, the tool advance beyond such

arrest point actuates a switch to energize a feed motor which advances the stroke range. Such switch is adjustable to adjust the operating stroke length. The tool reciprocating mechanism is mounted on a head above the

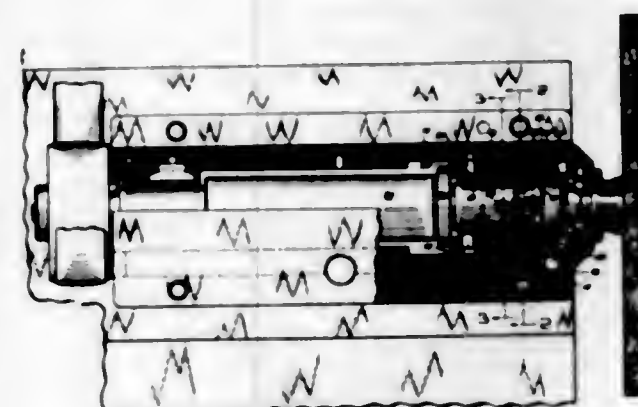


work piece table. The feed motor is housed in the base and is an air cylinder which operates through adjustable strokes to actuate a feed screw to lower the head. An electrical motor operates the feed screw for rapid feed.

3,385,009

**SPINDLE BEARINGS**

Willi Henry Lueders, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.  
Filed Feb. 3, 1964, Ser. No. 342,164  
13 Claims. (Cl. 51—168)



9. In combination, a bearing, a grinding wheel spindle rotatably supported in said bearing,

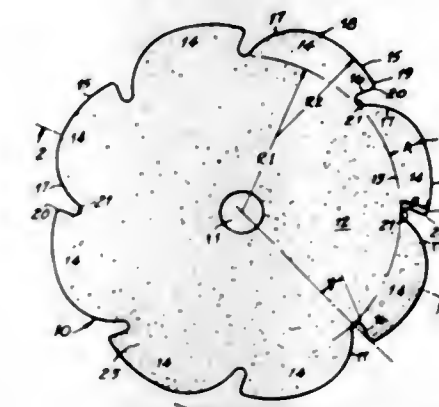
- (a) a grinding wheel on said spindle,
- (b) peripherally spaced grooves defining peripherally spaced hydrodynamic bearing elements in the portion of said bearing adjacent a workpiece for determining the normal radial position of said spindle,
- (c) means for permitting said spindle to yield radially when out of round portions of a workpiece engage said grinding wheel comprising
- (d) a second portion of said bearing substantially opposite said first portion and having at least one hydrostatic bearing element,

- (e) means for circulating lubricant through said grooves,
- (f) means to supply lubricant under pressure to said hydrostatic bearing element to urge said spindle against said peripherally spaced hydrodynamic bearing elements,
- (g) said hydrostatic pressure being less than that exerted on the spindle by said out of round portions of said workpiece.

3,385,010

**ABRASIVE DISC**

Leland H. Vorce, Farmington, and Lionel G. Belanger, Southfield, Mich., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts  
Filed Mar. 25, 1966, Ser. No. 537,363  
6 Claims. (Cl. 51—395)

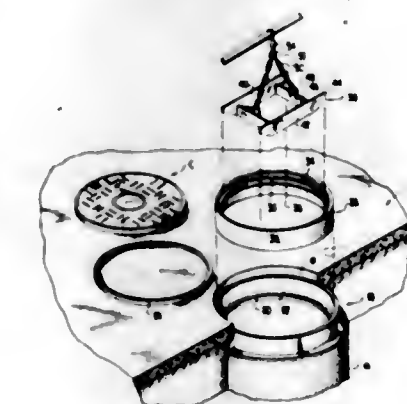


1. A coated abrasive disc comprising a continuous, substantially planar, abrasive coated base member having a circular central portion and a plurality of interrupted segments integral with said circular central portion, uniformly spaced therearound, and extending outwardly therefrom in the same plane as said central portion; each of said segments being separated from the next adjacent segment by a non-radial slot inclined from the periphery towards the interior of the disc in the direction in which said disc is to be rotated in use; and each of said segments having its outermost periphery formed by an arc of lesser radius than the radius of said circular central portion; the leading edge, with reference to the direction in which said disc is rotated in use, of said outermost periphery of said segments being at a greater distance from said circular central portion than the trailing edge of said outermost periphery of said segments.

3,385,011

**LIFT ASSEMBLY FOR SPACING RING**

Norwood L. Sorrell, Benson, N.C. 27504  
Filed Nov. 10, 1966, Ser. No. 593,572  
2 Claims. (Cl. 52—19)



A lift assembly for raising and lowering of an annular object closely fitted within an opening, the assembly in-

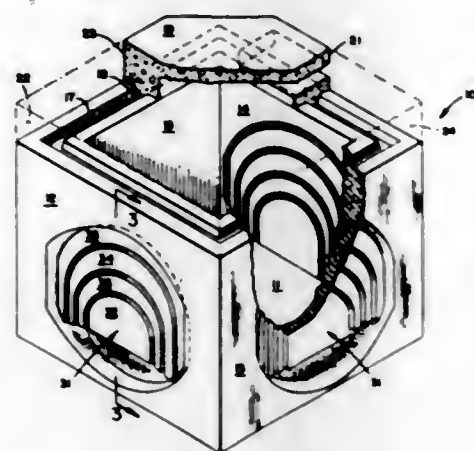


cluding a multi-point frame contacting the object at spaced locations and a cross bar with jacks for raising and lowering the bar to avoid canting or tilting of the object.

3,385,012

**FRANGIBLE CONCRETE RECEPTACLE**

Harold A. Lovegreen, Walnut Creek, Calif., assignor to Christy Concrete Products Incorporated, Emeryville, Calif., a corporation of California  
Filed Sept. 8, 1965, Ser. No. 485,713  
3 Claims. (Cl. 52-21)

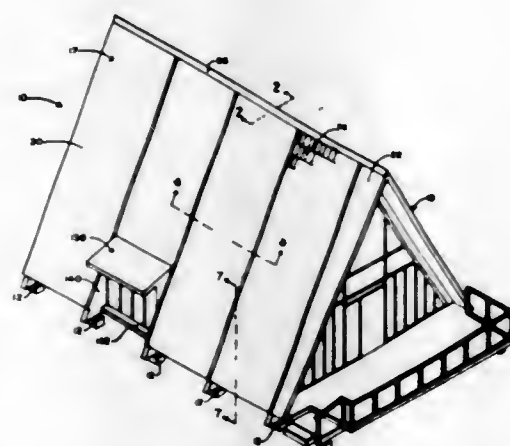


A concrete receptacle or catch basin having sidewalls and a bottom wall, the sidewall including a multiple knockout consisting of a plurality of progressively smaller, coplanar knockouts which are progressively thinner as they decrease in size and having opposed recesses about each knockout on the inner and outer walls to define breaklines. The lower end of the sidewall below the knockouts is recessed to form a relieved area for receiving the end of a pipe and for permitting it to be abutted so that the inner wall of the pipe is substantially continuous with the inner wall of the bottom of the receptacle or catch basin.

3,385,013

**PREFABRICATED DELTA BUILDING STRUCTURES**

Page E. Severson, P.O. Box 246,  
Jacksonville, Ore. 97530  
Filed July 26, 1965, Ser. No. 474,713  
20 Claims. (Cl. 52-90)

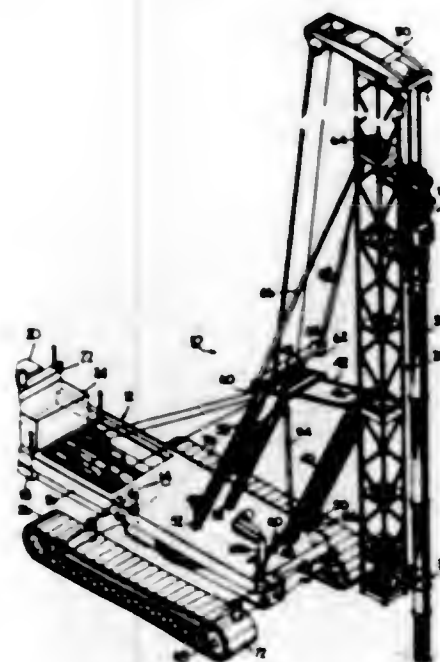


This invention has to do chiefly with peripheral shell features of prefabricated buildings of the delta type, and components thereof.

3,385,014

**PORTABLE DERRICKS**

Stanley C. Haug, Brooklyn, N.Y., assignor to Raymond International, Inc., New York, N.Y., a corporation of New Jersey  
Continuation-in-part of application Ser. No. 401,365, Oct. 5, 1964. This application Jan. 13, 1966, Ser. No. 520,476  
8 Claims. (Cl. 52-116)

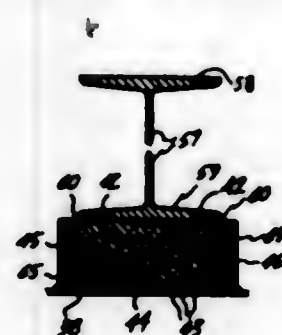


A movable derrick structure such as a pile driving rig having a leader and crawler tracks, all of which are secured with special linkages and actuating arrangements for permitting the device to be collapsed into a compact unit for transportation.

3,385,015

**BUILT-UP GIRDER HAVING METAL SHELL AND PRESTRESSED CONCRETE TENSION FLANGE AND METHOD OF MAKING THE SAME**

Homer M. Hadley, Seattle, Wash., assignor by community property survivorship agreement to Margaret S. Hadley  
Continuation-in-part of application Ser. No. 501,589, Oct. 22, 1965. This application Apr. 20, 1966, Ser. No. 544,001  
12 Claims. (Cl. 52-223)

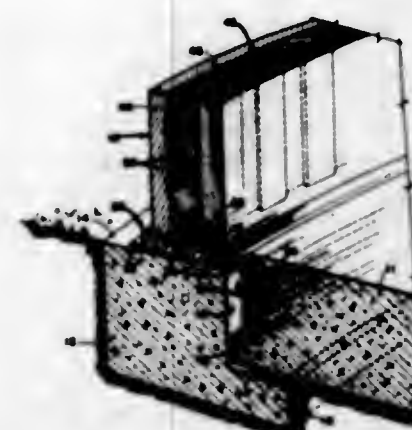


1. A built-up girder comprising a rolled metal structural shape including a plate web having substantially flat flanges on opposite edges thereof, the girder tension flange including a unitary metal shell defining a peripherally continuous hollow and having one of said structural shapes's flat flanges forming a wall portion of said shell, prestressing strands extending along such hollow with their lengths substantially parallel to the length of the girder, and concrete in the hollow of said shell engaged with said shell and prestressed by said strands.

3,385,016

**JOINT CONSTRUCTION AND WATERSTOP BEARING PAD THEREFOR**

Theodore R. Crom, Gainesville, Fla., assignor to The Crom Corporation, Gainesville, Fla., a corporation of Florida  
Filed May 6, 1966, Ser. No. 548,293  
11 Claims. (Cl. 52-224)



A joint construction comprising a foundation having a top, an upstanding wall supported on the foundation top, and a floor, a waterstop-bearing pad having a wall support section positioned on the foundation top beneath the wall for supporting the wall, preventing liquid leakage from the bottom of said wall and providing a bearing action enabling horizontal movement of said wall relative to said foundation, said waterstop-bearing pad further comprising a floor engaging section embedded in said floor near the periphery thereof to prevent liquid leakage therefrom, the floor engaging section having a connecting portion connected to the inner part of said wall support section to provide flexibility between the wall support and floor-engaging sections and to isolate the foundation from any liquid contained by the wall and floor. The bottom of the wall support section rests upon the foundation and is free from integral connection therewith so that the waterstop-bearing pad need only be placed on the rectangular shoulder of the foundation during fabrication of the joint structure. The pad according to the invention therefore isolates the foundation contained by the floor and wall, and facilitates installation by providing a single unit that serves both as a waterstop and bearing pad.

3,385,017

**INSTALLATION FOR THE CONTROL OF CRACK FORMATION IN CONCRETE STRUCTURES**

Chester I. Williams, 347 Greenbrier, SE.,  
Grand Rapids, Mich. 49506  
Filed June 10, 1965, Ser. No. 462,825  
4 Claims. (Cl. 52-378)

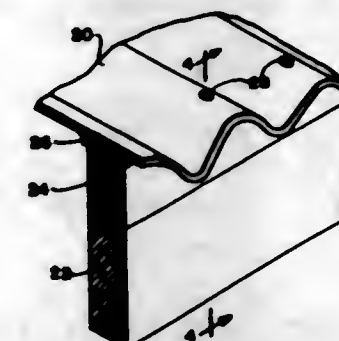


Devices for the control of the formation of cracks in concrete by positioning resilient strips at the surface plane of horizontal slabs with adjustable legs supporting a stiffening member extending along the edge of the strips, and by the installation of reinforcing rods traversing at a non-perpendicular angle a vertical fracture plane defined by strips secured to wall-forming panels.

3,385,018

**MULTIPART SEALING ELEMENT FOR CORRUGATED PANEL ASSEMBLIES**

Henry A. Harry, 415 N. Country Club Drive,  
McHenry, Ill. 60050  
Filed Oct. 10, 1966, Ser. No. 589,777  
13 Claims. (Cl. 52-403)

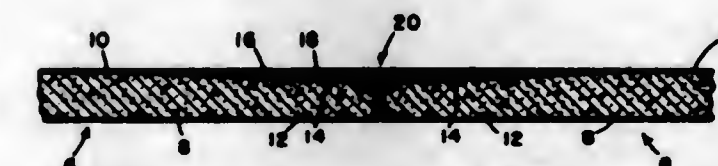


A two-piece sealing strip in which the under surface is flat and the outer surface is sinuous, wherein the underpart is basically a low-cost relatively thick element and the outerpart is a strip of better material and having good sealing qualities and is flexible so as to conform to the underpart either before or during assembly of the two between a support and corrugated panel.

3,385,019

**WALLBOARD AND WALL STRUCTURE**

Ralph E. Frank, Williamsville, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware  
Filed Feb. 4, 1960, Ser. No. 6,700  
1 Claim. (Cl. 52-417)

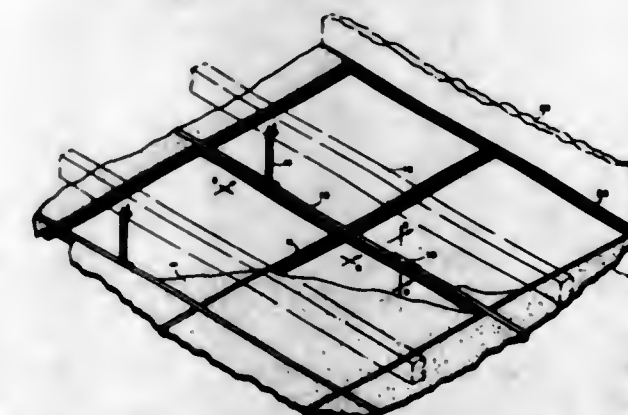


1. Plasterboard of improved joint cement retention property consisting essentially of a core of set gypsum crystals and paper liners covering said core, a tapered edge at one face of said paper-covered core, and shallow, discontinuous joint cement-retaining depressions in said paper and core at said tapered edge, said depressions being disposed within said tapered edge surface in a plurality of transverse and longitudinal rows and extending through a broken portion of said paper, and adapted to underlie the edges of tape when assembled.

3,385,020

**SUSPENDED CEILING SYSTEM**

Melvin L. Olson, Issaquah, Wis., assignor to Simpson Timber Company, Seattle, Wash., a corporation of Washington  
Filed Mar. 8, 1965, Ser. No. 437,930  
1 Claim. (Cl. 52-495)



1. A ceiling suspension system comprising; a plurality of parallel spaced coplanar generally horizontal runners,



a plurality of elongated cross-pieces carried by said runners and together therewith providing a supporting grid for carrying ceiling panels at a given ceiling level, said runners and cross-pieces each being of a generally inverted T-shape in transverse cross-section so that each runner and each cross-piece has a respective pair of generally horizontal arms and a respective upstanding leg with the top of said arms being at said given ceiling level, longitudinal grooves extending along the opposite sides of the legs of the runners, the ends of said cross-pieces having projecting tongues fitting into said grooves, and a plurality of hanger means interfitting with said grooves for suspending said grid from an overhead structure.

3,385,021

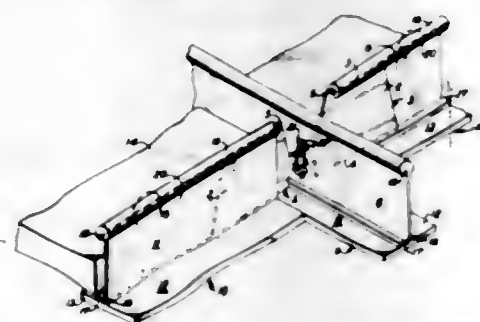
# SUPPORT GRID FOR PANELS FOR A FALSE CEILING

Louis Francis Jacques Nys, Grimbergen, Belgium, assignor, by mesne assignments, to Eternit, a new Belgian societe anonyme

Filed Feb. 3, 1966, Ser. No. 524,774

Claims priority, application Belgium, Feb. 15, 1965, 659,760

1 Claim. (Cl. 52-665)



A support for the panels of false ceilings comprising longitudinal and transverse members of inverted T-section connected together at intersection locations by planar bodies which secure opposed transverse members to a continuous longitudinal member such that the transverse members are aligned and the flanges of the longitudinal and transverse members lie in the same plane. The planar bodies are tightly fitted at their edges in grooves in the respective opposed transverse members and are flush with different faces of the webs of the transverse members. The bodies have fingers which engage the web of the longitudinal member at the intersection locations.

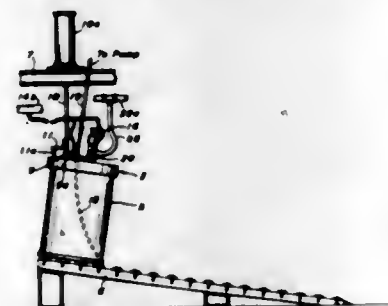
3,385,022

# METHOD AND APPARATUS FOR ASEPTICALLY FILLING DRUMS

James B. Anderson, Mount Lebanon Township, Allegheny County, Pa., assignor to H. J. Heinz Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 13, 1966, Ser. No. 536,236

10 Claims. (Cl. 53-11)



1. The method of aseptically filling a drum with a flowable liquid which comprises confining the top end of the drum in which there is a filling opening against a filling head with a space between the end of the drum and the filling head and

with an opening in the filling head registering with the filling opening in the drum, introducing steam into the space between the end of the drum and the filling head, entering a suction lance into the drum through the registering openings in the filling head and the drum, the lance extending to the bottom of the drum and withdrawing air from the drum and inducing a flow of steam from said space into the drum and at the same time withdraw condensate from the bottom of the drum, continuing the flow of steam and the removal of the condensate through the lance until the interior of the drum and its atmosphere are sterile and then withdrawing the suction lance while continuing to supply steam to said space between the filling head and the drum, then supplying the flowable liquid to the drum through a tube entered through said registering openings until the drum has been filled, removing the filling tube from said openings while still continuing said steam supply to the space between the drum and filling head, finally inserting a closure through the filling head into the filling opening of the drum while the atmosphere of steam is maintained to aseptically seal the opening, and thereafter removing the drum from under the filling head.

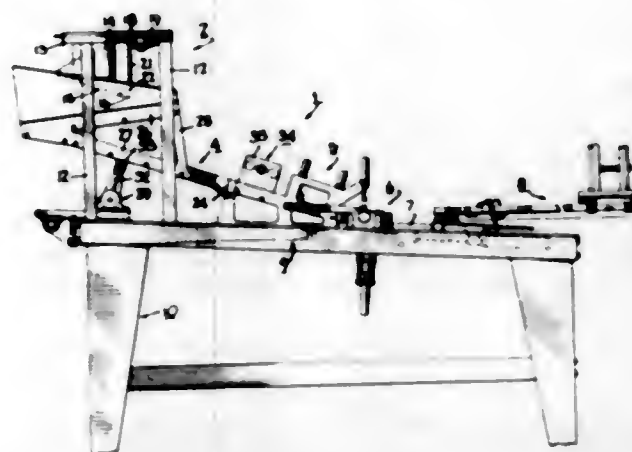
3,385,023

# APPARATUS AND METHOD FOR PACKAGING SHUTTLE BOBBINS

Thomas E. Westall, Marlon, N.C., and Andrew M. Sabo, South Windham, Conn., assignors to The American Thread Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 31, 1965, Ser. No. 484,070

24 Claims. (Cl. 53-26)



The machine shakes the bobbins from the hopper into the chutes and segregates a predetermined number of aligned rows of bobbins onto the removable floor. The bobbins are then clamped while the floor is removed and thereafter released to drop under gravity into boxes automatically fed to a position below the floor.

3,385,024

# METHOD OF FORMING A MULTIPLE-UNIT PACKAGE

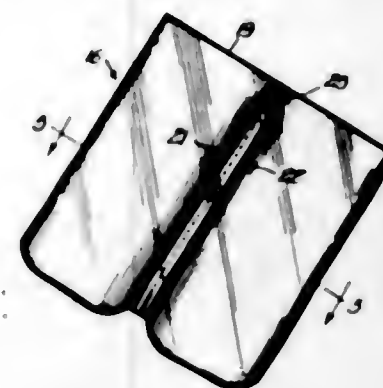
Thomas E. Plazze and Walter C. Curtis, Mount Vernon, Ohio, assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Original application May 10, 1965, Ser. No. 454,606, now Patent No. 3,332,548, dated July 25, 1967. Divided and this application Feb. 11, 1966, Ser. No. 526,886

5 Claims. (Cl. 53-29)

1. A method of forming a multi-unit package which comprises folding a rectangular sheet of plastic film upon

itself and sealing along opposite sides to provide a tubular section open at one end thereof and closed at the other end by a gusset-type fold, placing in the tubular section a pair of inner bags in which product portions are completely enclosed and sealed so that the inner bags are in longitudinally extending, laterally spaced relation within the outer bag, sealing across the mouth of the outer bag and trimming away the waste material outside of the seal



line, applying a pair of longitudinally extending, laterally spaced seals in the center portion of the outer bag while the inner bags are held in spaced relation so as to enclose the same in separate compartments, and providing a weakened severance line between the two center longitudinal seals so as to enable the outer bag to be readily torn into two units with each unit completely enclosing an inner bag and its associated product portion.

3,385,025

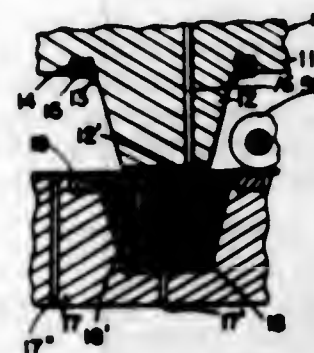
# PACKAGING MACHINERY AND METHOD

Jerome H. Lemelson, 85 Rector St.,

Metuchen, N.J. 08840

Continuation-in-part of application Ser. No. 201,231, May 21, 1962. This application Oct. 22, 1965, Ser. No. 501,315

11 Claims. (Cl. 53-30)



An apparatus and method are provided for forming sheet materials into containers and the like which also includes means for packaging a product within the formed container during the forming operation. In one form of the invention, a container member is formed between co-operating dies and a fluent product is dispensed into the container member directly through the forming die. In another form, material to be packaged is disposed on a flat sheet which is moved past a die containing sheet material formed therein and operative to form an enclosure for said material from both said sheet materials. The apparatus also includes a sheet forming means comprising a rotary array of female dies cooperating with male dies for automatically forming articles such as packaging components.

3,385,026

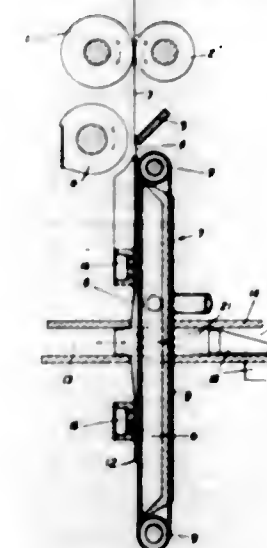
# WRAPPING MACHINES

Alfred Schormund, 62 Kornstrasse, Gevelsberg, Westphalia, Germany

Filed May 25, 1965, Ser. No. 458,547

Claims priority, application Great Britain, June 4, 1964, 23,095/64

5 Claims. (Cl. 53-228)



A wrapping machine is described by means of which wrapping material is wrapped around an article, the machine comprising a conveyor, which may be in the form of a twin-conveyor belt or a twin-conveyor drum which holds the wrapping material by suction while the wrapping material is being fed transversely across a path for articles to be wrapped. Opposite the conveyor and at each side of said path, a stationary suction block is provided for removing the wrapping material by suction from the conveyor when the suction exerted by the conveyor ceases or is reduced. The suction blocks hold the wrapping material stationarily until an article to be wrapped is pushed against the wrapping material causing the same to slide along the suction blocks and to be folded around the leading end of the article, the wrapping being subsequently completed in any convenient and known manner.

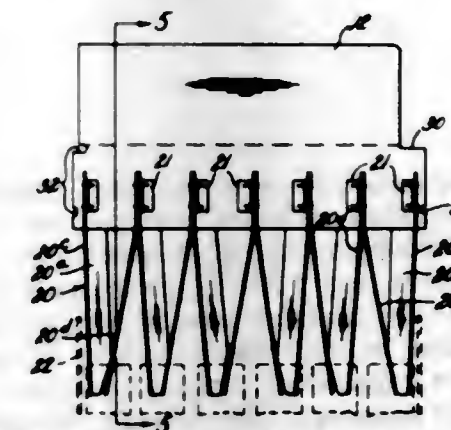
3,385,027

# GRID FOR BOTTLE PACKING APPARATUS

Bruce G. Copping, Akron, and Theodore L. Barker, Cuyahoga Falls, Ohio, assignors to Geo. J. Meyer Manufacturing Co., Cudahy, Wis.

Filed July 27, 1966, Ser. No. 568,211

8 Claims. (Cl. 53-248)



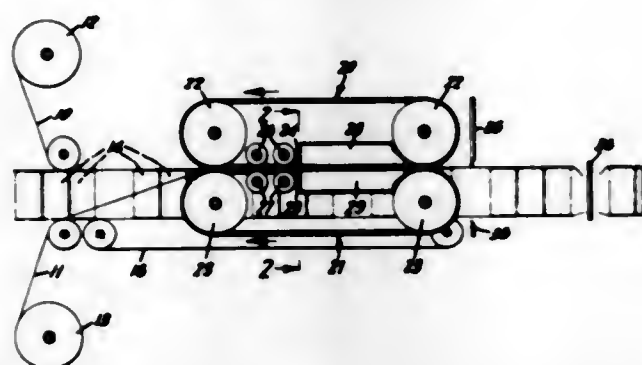
The packing grid has a pair of spaced parallel side plates, and one or more divider plates between and parallel to the side plates to form equal size open elongated channels for receiving a line of articles in each channel. A plurality of resilient fingers are secured at their upper ends to the plates and extend substantially vertically downwardly therefrom. Half of the fingers have flat surfaces at their upper ends parallel to the plates and half have flat surfaces at their upper ends perpendicular to the plates.



3,385,028

## PACKAGING MACHINE

Edward S. Pierce, Sinking Spring, Pa., assignor, by mesne assignments, to E. I. du Pont de Nemours and Company, a corporation of Delaware  
Filed Feb. 2, 1965, Ser. No. 429,806  
1 Claim. (Cl. 53-373)



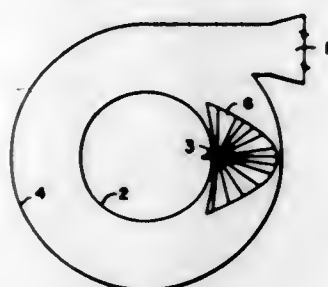
A machine for packaging articles in heat-sealable packaging film comprising a pair of endless belts suitably guided into closely spaced parallel runs to confine therebetween overlapping edge portions of the packaging film, and means for heating the confined edge portions to sealing temperature, said endless belts being formed of tightly coiled steel wire springs the outer surfaces of which are removed by milling or grinding down until slightly more than half the diameter of the wire is left to provide the coil spring with a substantially continuous cylindrical outer surface which contacts the confined film on a substantially unbroken line along which the heat seal between the overlapping portions of film is formed.

3,385,029

## COOLING AND SEPARATING REACTIVE GAS FROM DISPERSED SOLID OR MOLTEN PARTICLES

Richard J. de Vries, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 30, 1966, Ser. No. 538,826  
Claims priority, application Netherlands, Apr. 12, 1965, 65-4,620  
1 Claim. (Cl. 55-59)



Hot reactive gases are separated from mixtures thereof with finely dispersed particles, such as are obtained by iodative dehydrogenation of hydrocarbons at an elevated temperature, e.g. 550° C., in the presence of solid or molten particles containing metal compounds, e.g. certain metal oxides or hydroxides, such as lithium hydroxide, which are capable of binding hydrogen iodide, by passing the hot mixture at high velocity through an essentially unobstructed cyclone separator while injecting atomized water into the cyclone separation zone at a point at which most of the solid or molten particles have already been separated from the gas, generally where the gas has completed three-quarter of a turn from its direction of entry into the cyclone, with the amount of water being sufficient to be essentially completely vaporized by the hot gas while cooling the hot gas to a temperature no higher than about 450° C., and without condensing any

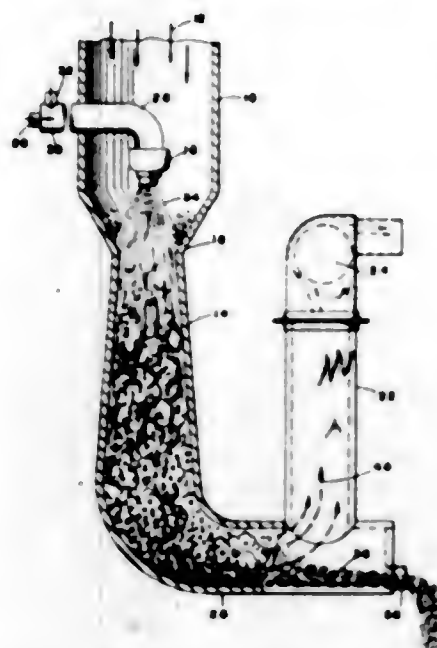
of the gas, without subjecting any appreciable proportion of the solid or molten particles to direct contact with liquid water.

3,385,030

## PROCESS FOR SCRUBBING A GAS STREAM CONTAINING PARTICULATE MATERIAL

Samuel Letvin, York, Pa., assignor to Fabricating Engineering Company, Inc., York, Pa., a corporation of Pennsylvania

Filed Sept. 28, 1966, Ser. No. 582,752  
5 Claims. (Cl. 55-90)



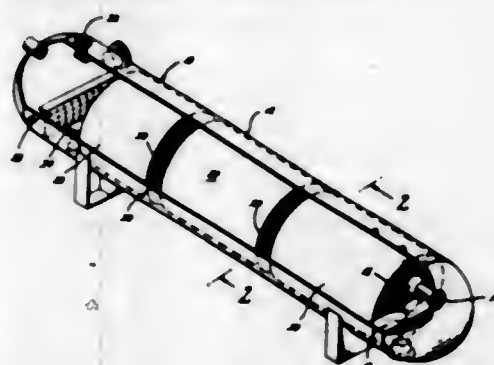
A process to scrub contaminated gases containing a substantial percentage of solid particulate material of micron and sub-micron size and remove the same therefrom by producing a spray of finely divided liquid particles of which the major portion do not exceed approximately micron size and discharging the same at a high velocity into a stream of said contaminated gases to greatly accelerate the velocity thereof and substantially saturate the path of movement of said stream of gases while producing substantial turbulence and thereby form small globules of said liquid particles around said solid particles which serve as nuclei therefor, and impinging said droplets against a smoothly curved surface to agglomerate said solid particles into a concentrated fluid stream thereof which is flowed away from the cleaned gas stream to separate the contaminating material therefrom, and withdrawing said cleaned gas stream along a desired path.

3,385,031

## GAS AND LIQUID SEPARATOR

Robert Edward McMinn, Oklahoma City, Okla., assignor to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware

Filed Mar. 3, 1966, Ser. No. 531,552  
10 Claims. (Cl. 55-202)



The present invention relates to an apparatus for separating gas and liquids in petroleum streams by gravita-

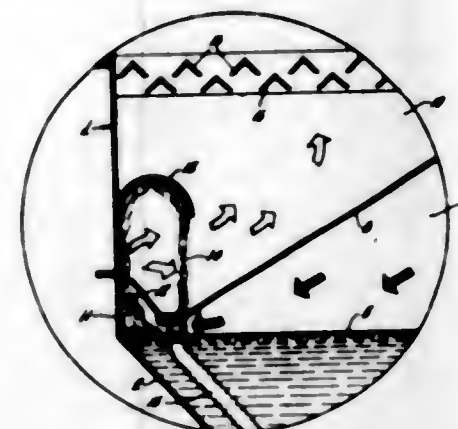
tional and coalescent action. Smooth, circular plates are disposed longitudinally and concentrically within a horizontal vessel wherein the petroleum stream enters at one end and the separated components exit at the opposite end.

3,385,032

## APPARATUS FOR WET-CLEANING DUST-LADEN GASES

Léon Crabbé, Domäne-de-Waroux, Belgium, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden

Filed Nov. 30, 1965, Ser. No. 510,586  
Claims priority, application Sweden, Dec. 3, 1964, 14,595/64  
6 Claims. (Cl. 55-249)



Apparatus wherein dust-laden gases are caused to wipe across the surface of a body of washing liquid to remove dust particles therefrom. The apparatus has a partition to separate the casing of the apparatus into an inlet chamber and a discharge chamber which are connected by an elongated slot through which the gas must pass. An extension of the partition is pivoted within the slot to afford control of the gas flow through the slot and to provide a provide a venturi effect. A baffle above the slot forms a liquid curtain through which the gas flows upon leaving the slot. A drop separator is provided between the slot and the discharge opening.

3,385,033

## DUST FILTER

Harry H. Basore and Richard D. Noland, Overland Park, Kans., assignors to W. C. Wiedemann & Son, Inc., Kansas City, Mo., a corporation of Missouri  
Filed Nov. 22, 1965, Ser. No. 508,986  
3 Claims. (Cl. 55-302)



A continuously self-cleaning dust filter of simple construction includes substantially flat filter bags in spaced-

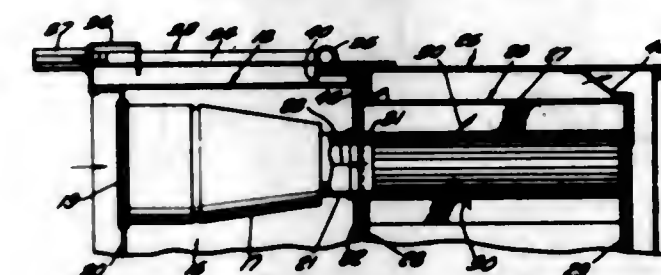
apart parallel relation with a nozzle directing dust-laden air in a circular path parallel to and between the sides of the bags. The bags are mounted on frames easily removable from the apparatus by detachable hooks and a simple air flow control system includes flap valves movable alternately between passageway blocking positions which cause filtered air outflow and filter cleaning inflow sequentially with respect to the several filter bags.

3,385,034

## TWO-STAGE FILTER HOUSING AND SEAL ARRANGEMENT

Richard S. Farr, Los Angeles, Calif., assignor to Farr Company, El Segundo, Calif., a corporation of California

Filed Feb. 17, 1966, Ser. No. 528,233  
4 Claims. (Cl. 55-337)



A filter apparatus having two filtering stages each contained in a separate housing with the housings assembled together for operation where one filtering stage employs a disposable cartridge and has a flange of resilient material clamped between the two housings to form the seal therebetween by an inclined ridge on one housing embedding itself in the flange and a peripheral bead on the flange filling a peripheral gap between the two housings.

3,385,035

## CHROMATOGRAPHIC COLUMN

Marie-Blanche Dismier, Sceaux, Bernard Roz, Antony, and Georges Gaiocchon, Paris, France, assignors, by mesne assignments, to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France

Filed July 5, 1966, Ser. No. 562,794  
Claims priority, application France, July 16, 1965, 24,875, Patent 1,451,420  
10 Claims. (Cl. 55-386)

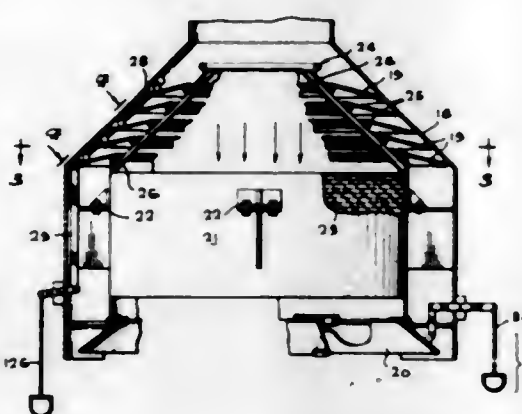


The chromatograph casing contains a chromatographic filler which has embedded therein a plurality of elongated



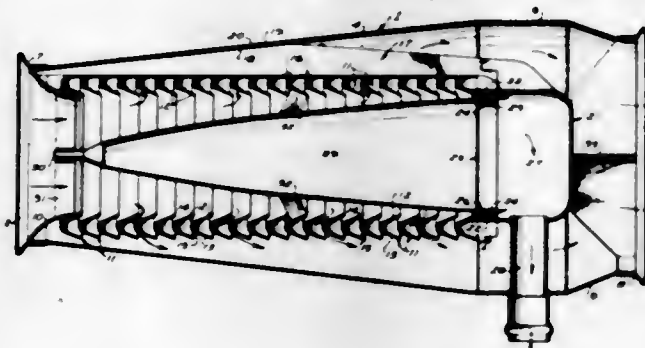
elements to improve dispersion of solute. The elongated elements can be heatable and may be of copper, glass, etc.

**3,385,036**  
**PORTABLE SUPERCLEAN AIR COLUMN DEVICE**  
James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Walter Kiszko, Costa Mesa, Calif.  
Filed Sept. 6, 1966, Ser. No. 577,549  
6 Claims. (Cl. 55-418)



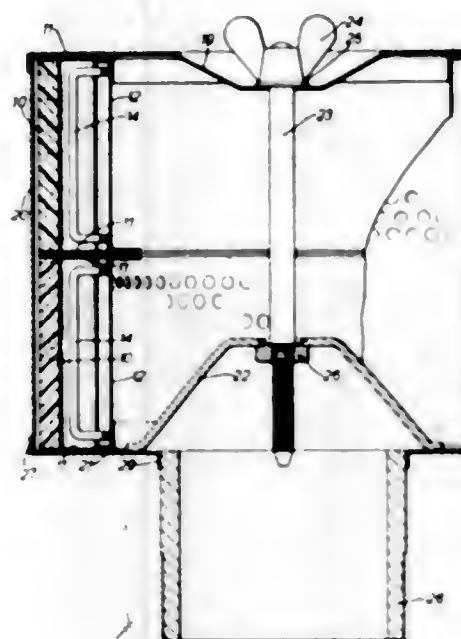
A portable apparatus for producing a high velocity annular air column surrounding a central core of low velocity, filtered, superclean air to provide an atmosphere equivalent to that of a clean room at any desired work location. A plurality of adjustable louvers in an annular cavity of a projecting hood proportionally controls the volume of air delivered to the projecting hood central filter core and the annular passage. A second set of adjustable louvers controls the exhaust aperture size of the annular passage which governs the thickness and velocity of the annular air column.

**3,385,037**  
**INERTIAL AIR CLEANER**  
Richard S. Farr, Los Angeles, and Paul A. Labadie, Redondo Beach, Calif., assignors to Farr Company, El Segundo, Calif., a corporation of California  
Filed Feb. 10, 1966, Ser. No. 526,515  
4 Claims. (Cl. 55-443)



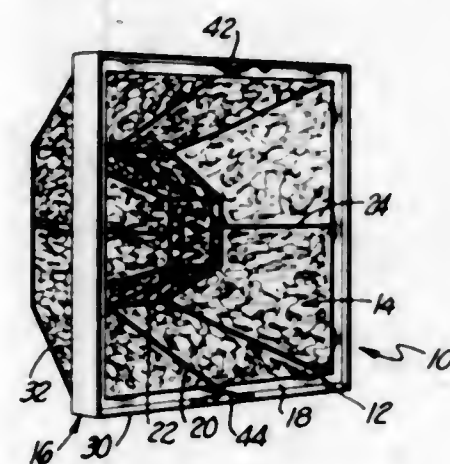
An air cleaner of the inertial separating type having an elongated housing with the inlet and outlet axially spaced and aligned with a series of annular baffles between the inlet and outlet and forming passageways between baffles causing the air flow to first be reversed in a direction toward the inlet and then directed toward the outlet and, at the base of the baffles away from the inlet, a collecting chamber having an opening facing the inlet for receiving the inertially separated particulate matter with an outlet from the chamber to exteriorly of the device. A core positioned interiorly of the baffles continually decreases the flow area from the inlet toward the base of the baffles and exteriorly of the baffles the passage to the outlet continually increases in size.

**3,385,038**  
**FILTERS**  
Maurice Davis, Mead Works, Parsons Mead, Croydon, England  
Filed June 21, 1965, Ser. No. 465,648  
Claims priority, application Great Britain, June 24, 1964, 26,219/64  
2 Claims. (Cl. 55-484)



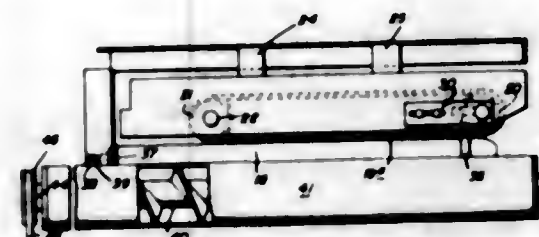
A filter element comprising a cylindrical corrugated peripheral wall of cellular resilient material, end members of the same material at each end of the corrugated wall, an inner support for the corrugated wall and an outer housing, said end members being squeezed between the inner support and outer housing.

**3,385,039**  
**FILTER**  
Valentine J. Burke and John M. Burke, Los Angeles, Calif., assignors to Burke and Company, Los Angeles, Calif., a corporation of California  
Filed Dec. 20, 1966, Ser. No. 607,594  
5 Claims. (Cl. 55-501)



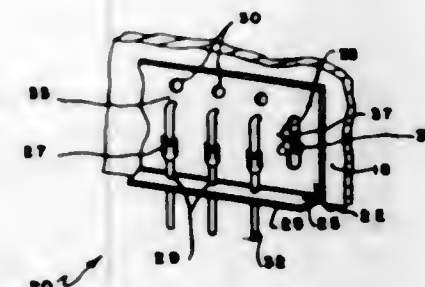
The filter of this invention has first and second compression grids and a filter element positioned between the grids. Each of the grids is fastened to a frame member, and the frame members are securable together to clamp the edges of the filter element. The grids and the filter element are formed as a semi-inverted pyramid. By separation of the frames and the grids the filter element is replaceable. This abstract is not considered to define the invention.

**3,385,040**  
**COTTON HARVESTING DEVICE**  
William Alvin Ward, Rte. 2, Memphis, Tex. 79245  
Filed Sept. 29, 1965, Ser. No. 491,325  
7 Claims. (Cl. 56-33)



1. For use with a self-propelled vehicle, a cotton harvesting device comprising
  - (a) a structural attachment forwardly of the vehicle having a longitudinal fore and aft passageway for the cotton plants therethrough as the vehicle is driven forwardly,
  - (b) a rotary stripper roll mounted in said attachment in the passageway thereof with an axis of rotation inclined from front to rear and in substantially the direction of movement of the harvester,
  - (c) an endless stripper member also mounted in said attachment in the passageway and disposed on an inclination from front to rear and having an inner rearwardly moving run confronting and spaced laterally from the stripper roll to form a stalk-receiving throat therebetween,
  - (d) means for rotating said stripper roll in a direction in which its peripheral portion moves upwardly through the throat for stripping the cotton bolls upwardly, and
  - (e) means for continuously driving the endless stripper member so that the stalks of the plants entered in the throat are given an upward stripping action at the roll side and a rearward and rolling motion at the endless stripper member side for cleanly removing the cotton bolls and simultaneously effecting clearing action preventing clogging or the necessity for stopping the device for cleaning.

**3,385,041**  
**COMB ATTACHMENT FOR LAWNMOWERS**  
Donald R. Douglas, 4367 Quebec St., Vancouver, British Columbia, Canada  
Filed Aug. 31, 1965, Ser. No. 483,974  
8 Claims. (Cl. 56-255)



1. A comb attachment for lawnmowers, the latter having a frame member ahead of and above the mower's cutting blades, comprising an elongated tine holder attachable to said frame member and extending transversely of the mower, a plurality of elongated vertically extending tines slidably secured for vertical movement to the tine holder, each of said tines having a laterally extending detent arranged at its upper end, and detent engaging

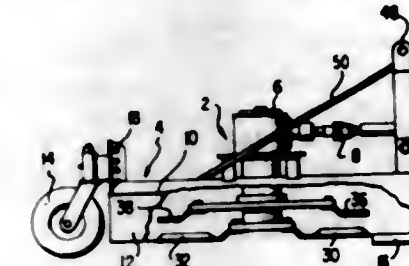
means formed in the tine holder releasably engageable with the detent of each tine when the lower end of the latter is positioned so as to extend a predetermined distance below the tine holder.

**3,385,042**  
**BERRY HARVESTER**  
David E. Christie and Karl E. Winkler, Portland, Oreg., assignors to Oeco Corporation, Portland, Oreg., a corporation of Oregon  
Original application Oct. 28, 1963, Ser. No. 319,249, now Patent No. 3,325,984, dated June 20, 1967. Divided and this application Mar. 20, 1967, Ser. No. 654,667  
10 Claims. (Cl. 56-330)



In a berry harvesting machine comprising a ground-traversing carriage and means mounted upon the carriage to dislodge the berries from the plants as the carriage moves along the length of a row of plants, the invention comprises a novel means to catch the falling berries and direct them to one or more points of disposal. Such means comprises opposing series of generally flat successively overlapping discs individually mounted on reciprocative supports and urged by force-applying means into contact with the sides of the row of plants so as to form aprons conforming to contour of the berry plants and any posts being traversed by the harvester. The discs are in rolling contact with the plants so as to avoid any abrasive damage to the stalks.

**3,385,043**  
**ROTARY MOWER**  
James Seymore, Selma, Ala., assignor to Bush Hog, Inc., Selma, Ala., a corporation of Delaware  
Filed Feb. 19, 1965, Ser. No. 433,988  
6 Claims. (Cl. 56-503)



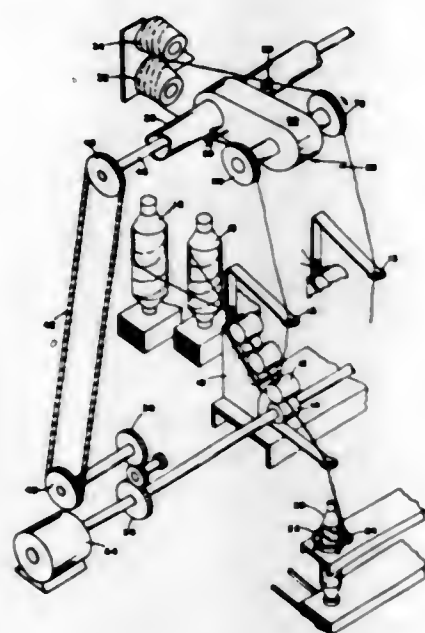
The cutting and shredding machine comprising the instant invention is equipped with means to provide double shredding of vegetable matter, including double counter rotating blades that are housed in a suitable enclosure, being equipped with pivotally mounted, shaped blades to increase the suction and to thereby increase the shredding action on the vegetable matter.

**3,385,044**  
**TEXTILE STRAND-SPINNING APPARATUS**  
Gordon Campbell Anderson, Clemson, John Allen Barker, Seneca, and Philip Bradbury Tarbox, Clemson, S.C., assignors to Maremont Corporation, Chicago, Ill., a corporation of Illinois  
Filed Aug. 9, 1966, Ser. No. 571,219  
8 Claims. (Cl. 57-12)

The specification discloses strand-tensioning apparatus having a pair of positive rotary strand take-up rolls rotat-



ing at a predetermined rate for removing an extensible strand from a strand package at low tension and subjecting it to a predetermined tension draft to elongate it. Its major elements include a rotary strand holding pulley preventing movement of said strand relatively thereto, a drive shaft for restricting the speed of rotation of the pulley in the direction of advance of the strand to a predetermined rate less than that of the take-up rolls to produce the predetermined tension draft and an overrunning clutch interposed between the drive shaft and the pulley,



the clutch normally engaging the pulley with the drive shaft by reason of the force provided to the pulley by the strand under tension draft and automatically declutching the pulley from the drive shaft for relative movement therebetween in the direction opposite to that of the advance of the strand upon failure of the tension draft. Also disclosed is an adjustable drag for the pulley providing a drag force substantially less than the opposing force provided by the tension draft, effective to stop the pulley upon failure of the tension draft and to stop removing the strand from its package.

3,385,045

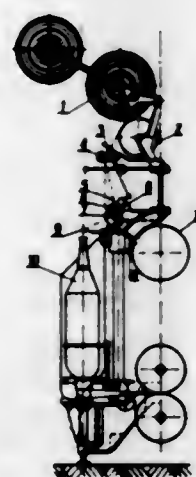
## RING SPINNING FRAME

Wladyslaw Slowiak, ul. Grazyny 11/51,  
Bielko-Biala, Poland

Filed June 14, 1966, Ser. No. 557,568

Claims priority, application Poland, June 16, 1965,  
P 109,580

5 Claims. (Cl. 57—36)



A ring spinning frame with a drawing apparatus in which the delivery rollers thereof are offset at a distance

from the axis of the spindle which is greater than that of the supplying rollers thereof situated above the delivery rollers. Furthermore, the spinning frame is equipped with a suction extractor having a suction nozzle which is fitted below the delivery rollers.

3,385,046

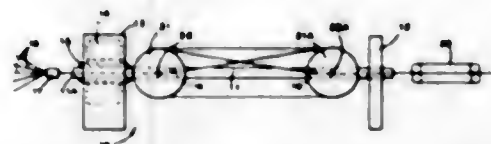
## DRIVE FOR ACCUMULATOR STRANDING MACHINES

Friedrich Schatz, Hannover, Germany, assignor to Kabel- und Metallwerke Gutehoffnungshütte Aktiengesellschaft, Hannover, Germany, a corporation of Germany

Filed Feb. 1, 1967, Ser. No. 613,210

Claims priority, application Germany, Mar. 3, 1966,  
H 58,693

5 Claims. (Cl. 57—60)



An accumulator strander having two sets of accumulator wheels for guiding strandular material and each set of wheels being mounted in yokes means which have central guide means for guiding the strandular material into and out of the stranding means. Also, the yoke means carrying the wheels are driven by means whose axis of rotation is coincidental with the axis of the guide means of the yokes.

3,385,047

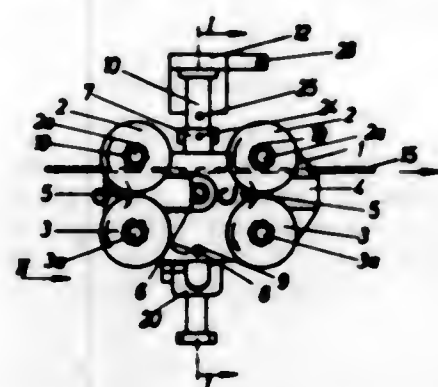
## APPARATUS FOR MANUFACTURING A CRIMPED CREPE YARN

Kurt Schwabe, Hammelburg, Germany, assignor to Firma Kugelschacher Georg Schafer & Co., Schweinfurt, Germany

Filed Oct. 31, 1966, Ser. No. 590,763

Claims priority, application Germany, Nov. 10, 1965,  
K 57,626

10 Claims. (Cl. 57—77.45)



1. An apparatus for producing a crimped yarn, said apparatus comprising a support frame, a support plate mounted on said frame, at least one twisting tube for said yarn rotatably mounted on said plate, a pair of shafts for each twisting tube, said shafts being rotatably mounted on said plate, a roller member fixed to one end of each of said shafts and engaging said twisting tube to rotatably drive said tube, a whorl fixed to the other end of each of said shafts, a driving belt extending between said whorls, a carrier member extending immediately adjacent said frame, means resiliently connecting said carrier member to said frame to urge one of at least one pair of said whorls against said belt to drive their corresponding tube, the positions of said carrier member and said support plate being adjustable with respect to said frame to permit combinations of whorls to engage said belt according to the desired direction of tube rotation.

3,385,048

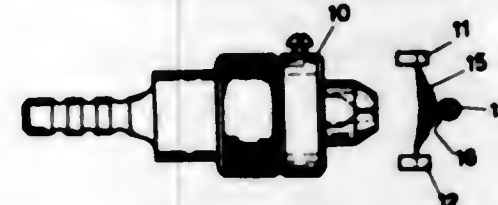
## MULTIFILAMENT YARN

Piero Giacobone, deceased, late of Milan, Italy, by Emilia Manfredini Giacobone, administratrix, Milan, Italy, and Domenico Nicita, Como Maderno, Italy, assignors to Seta Viscosa Società Nazionale Industrie Applicazioni Viscosa S.p.A., Milan, Italy, an Italian company

Original application Feb. 8, 1963, Ser. No. 257,274, now Patent No. 3,238,590, dated Mar. 8, 1966. Divided and this application Feb. 10, 1966, Ser. No. 526,630

Claims priority, application Italy, Feb. 19, 1962,  
Patent 700,695

3 Claims. (Cl. 57—140)



1. As an article of manufacture, a multifilamentary thread consisting of a plurality of man-made single filaments in essentially non-twisted relationship and connected to each other along the length of the thread by a plurality of false knots, and made by feeding a bundle of said filaments across a jet of a pressurized gaseous medium impinging on said bundle at essentially right angles thereto, while causing said bundle to move slidingly over an elongate convex stationary surface disposed transversely to the direction of movement of the bundle of filaments and at the opposite side of said bundle from said jet, said surface being of small radius compared to the area of said jet where it impinges on said bundle so that the gaseous medium divides and flows around both sides of said convex surface, said thread comprising filaments deviated with respect to the axis of said thread and superimposed in a plane, extending in the direction of movement of said thread and containing the generatrix of said convex surface, as a result of the resistance of said surface to individual displacement of the filaments by said gaseous medium as the filaments move freely transversely of said jet and on said surface only.

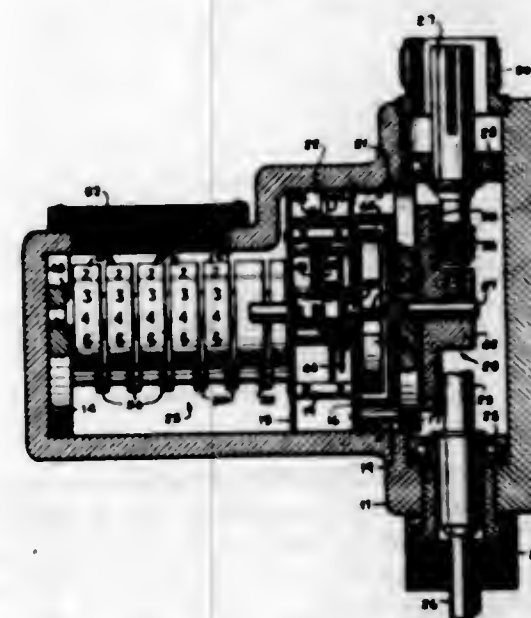
3,385,049

## TIMING DEVICE FOR ENGINES AND THE LIKE

Newton B. Perkins, Ridgefield, Conn., assignor to Twen Inc., Danbury, Conn., a corporation of Connecticut

Filed Nov. 23, 1965, Ser. No. 509,280

1 Claim. (Cl. 58—149)



A device for indicating total operating time of a diesel engine or the like, including an elapsed-time-indicating

counter mechanism driven by a shaft which is limited to a constant rate of rotation by an escapement, and a slipping frictional assembly for transmitting torque to the counter shaft from the take-off shaft of a diesel engine. In one form, the slipping frictional assembly comprises a cup rotated by the take-off shaft through reduction gearing, and an S-shaped spring connected to the counter shaft and having its ends in slipping frictional contact with the inner wall of the cup. In another form the assembly comprises a first disk rotated by the take-off shaft through reduction gearing and a second disk connected to the counter shaft and in frictional contact with the first disk; the second disk is axially movable relative to the counter shaft and tends to undergo axial movement away from the first disk as the first disk rotates but is spring biased against such axial movement.

3,385,050

## BEADED CHAIN

Bartley E. Hall, Newtown, Conn., assignor to Auto-Swage Products, Inc., Shelton, Conn., a corporation of Connecticut

Filed Mar. 8, 1966, Ser. No. 532,753

2 Claims. (Cl. 59—78)



1. A beaded chain which comprises: a plurality of hollow metal beads, each having a pair of diametrically positioned holes extending therethrough; a plurality of wires each extending through a hole in each of two adjacent beads, said wire having enlarged end portions larger than said holes to prevent withdrawal from said beads; an end bead having at least one hole therein and secured to said chain by one of said wires; and a ring member integrally welded to said end bead.

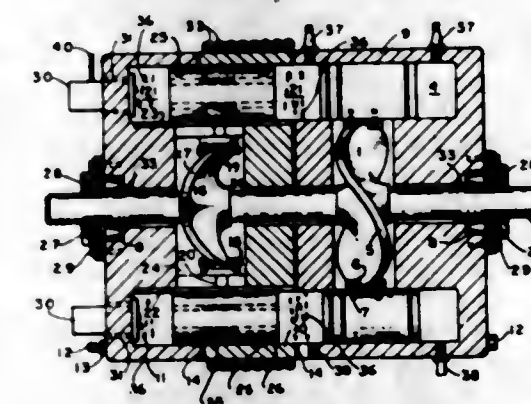
3,385,051

## STIRLING CYCLE ENGINE WITH TWO WAVE CAM MEANS, TWO PISTON BANKS AND DRIVESHAFT

Donald A. Kelly, 58—06 69th Place,  
Maspeth, N.Y. 11378

Filed Feb. 10, 1967, Ser. No. 615,095

7 Claims. (Cl. 60—24)



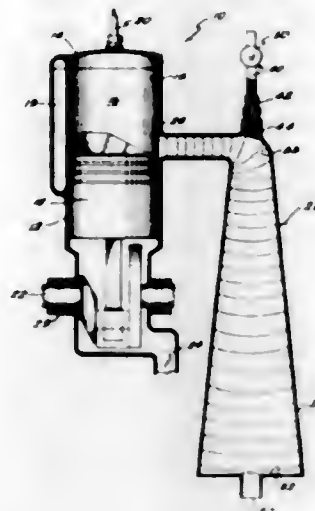
A Stirling cycle engine having a drive shaft and a plurality of power pistons arranged axially about said drive shaft, and a power wave cam co-axially mounted on the drive shaft; a plurality of displacer pistons arranged axially about said drive shaft, and a displacer wave cam co-axially mounted on the driveshaft.



3,385,052

**EXHAUST SYSTEM**

Theodore J. Holtermann, Milwaukee, Gerald Haft, Brookfield, and Ralph W. Blumer and Raymond C. Nydahl, Menomonee Falls, Wis., assignors to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware  
Filed Dec. 1, 1965, Ser. No. 510,784  
15 Claims. (Cl. 60—30)

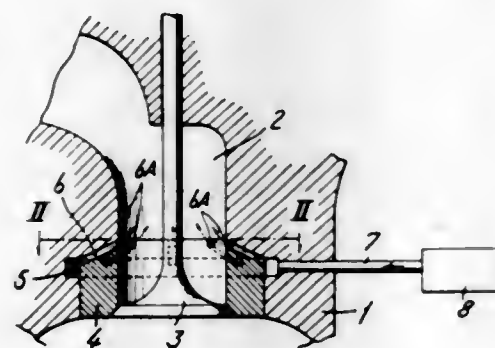


Disclosed herein is a method of operating an internal combustion engine comprising the steps of discharging burned gases from a combustion chamber through an exhaust port to an exhaust passage to obtain timed return of a pressure wave to the exhaust port by injecting a liquid into the burned gases discharged from the combustion chamber. Also disclosed herein is an internal combustion engine having means for timing the return to an exhaust port of a pressure wave in an exhaust passageway, including means for supplying cooling liquid to the passageway. As disclosed herein an internal combustion engine includes an exhaust passageway increasing in internal cross-sectional area in the direction away from an exhaust port and terminating in a wall transverse to said direction. Said passageway also includes therein means defining an opening which is located adjacent to the wall and which has a relatively small area as compared to the area of the wall.

3,385,053

**APPARATUS AND METHODS FOR PURIFYING THE EXHAUST GASES OF AN INTERNAL COMBUSTION ENGINE**

Soichiro Honda, Shinjuku-ku, Tokyo, and Shizuo Yagi and Akira Ishizuya, Kitaadachi-gun, Japan, assignors to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Yamato-machi, Kitaadachi-gun, Saitama-ken, Japan  
Filed Sept. 6, 1966, Ser. No. 577,510  
Claims priority, application Japan, Sept. 15, 1965, 40/56,096  
7 Claims. (Cl. 60—30)



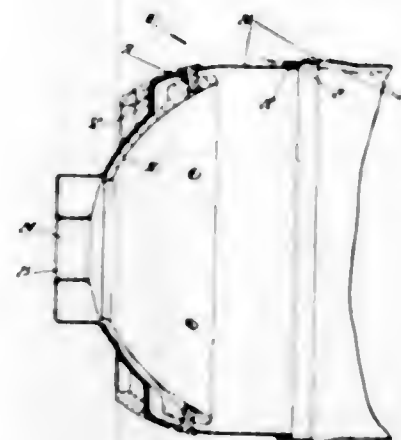
An air passage is formed between a valve seat member and the body of an exhaust valve of an internal combustion engine, and air is supplied through the air passage and flows along a straight path which is inclined in the direction of exhaust gas flow in the exhaust gas passage. The air is directly introduced into the exhaust gas passage and purifies the exhaust gases while also cooling the valve seat member.

tion engine, and air is supplied through the air passage and flows along a straight path which is inclined in the direction of exhaust gas flow in the exhaust gas passage. The air is directly introduced into the exhaust gas passage and purifies the exhaust gases while also cooling the valve seat member.

3,385,054

**FLAME TUBE**

Martin Land, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company  
Filed Oct. 12, 1966, Ser. No. 586,298  
Claims priority, application Great Britain, Oct. 20, 1965, 44,503/65  
3 Claims. (Cl. 60—39.65)

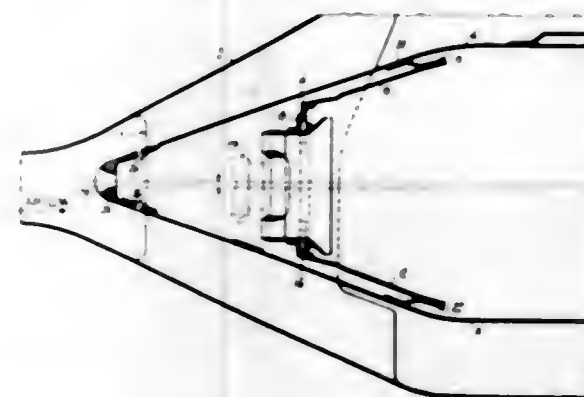


The disclosure of this invention pertains to a flame tube for a gas turbine engine combustion chamber in which a heat retaining hollow member is positioned in the upstream end of the flame tube so that primary combustion takes place within said member and the inner surface of said member is isolated from all cooling air whereby said member becomes very hot and this fact will in itself promote combustion.

3,385,055

**COMBUSTION CHAMBER WITH FLOATING SWIRLER RINGS**

Theodore R. Koblish, Wallingford, and Lawrence J. Lauck, Wapping, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed Nov. 23, 1966, Ser. No. 596,675  
5 Claims. (Cl. 60—39.69)

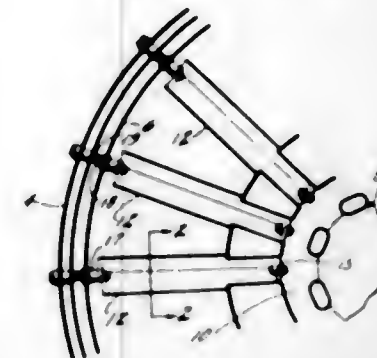


An annular combustion chamber in which the swirler rings within the combustion chamber are axially restrained while being free to move radially, the radial movement being sufficient to accommodate the thermal expansion of the annular chamber walls thereby insuring that at maximum power conditions the center lines of the fuel nozzle, swirler vanes and combustion chamber are coaxial.

3,385,056

**SELF-REGULATING FLAMEHOLDER**

Blair C. Forbes, Rockville, and Peter T. Vercellone, New Haven, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed Feb. 3, 1967, Ser. No. 613,771  
7 Claims. (Cl. 60—39.72)

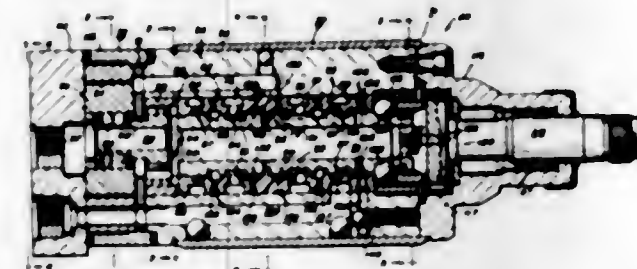


A flameholder construction located in the afterburner of a gas turbine engine, each flameholder being movable and self regulating between positions of high drag and low drag, independent of any external actuating means. In addition, the flameholder construction may either extend radially across the afterburner, circumferentially around the afterburner or be a combination of both.

3,385,057

**HYDRAULIC CONTROLLER**

Francois C. Pruvot and David C. Shropshire, Lafayette, Ind., assignors to TRW Inc., a corporation of Ohio  
Filed Aug. 25, 1964, Ser. No. 392,055  
34 Claims. (Cl. 60—52)



10. A fluid controller including in combination a housing, a gear set in said housing and comprising a fixed stator and a rotatable rotor, said stator having teeth forming a plurality of chambers, said housing forming fixed wall means adjacent the facing surfaces of said rotatable rotor along which leakage from said gear set may occur, valve means in said housing for porting pressure fluid from a pump to said gear set and from said gear set to a mechanism to be actuated, and passageway means for introducing pressure fluid from the pump to said valve means which passageway means includes an opening through the central portion of said rotor whereby pressure fluid from the pump is present at the juncture between the facing surfaces of said rotor and said fixed wall means to reduce the pressure differential between the central portion of said rotor and said chambers of said gear set and thereby reduce leakage.

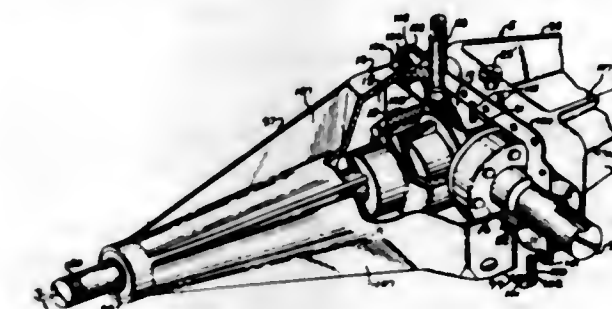
3,385,058

**HYDRAULIC DRIVE AXLE**

James R. Root, 3412 Norton, Independence, Mo. 64052, and John R. Westell, 5430 W. 100th Terrace, Overland Park, Kans. 66207  
Filed Sept. 7, 1965, Ser. No. 485,405  
5 Claims. (Cl. 60—53)

1. A hydraulic drive axle assembly comprising:  
(a) a housing having a hollow interior providing a fluid reservoir,

(b) a hydraulic pump mounted in said fluid reservoir and having a body portion and a reaction member, with a port in said body portion providing communication between the reservoir and the reaction member of said hydraulic pump, and a second port in said body portion for discharge of the fluid,  
(c) means connected to the hydraulic pump for driving the reaction member,  
(d) a valve control block in said reservoir connected to the hydraulic pump having flow passages therein in communication with the discharge port in the body portion of the hydraulic pump, and having outlet ports, said valve block having a through bore,  
(e) a valve stem disposed in said through bore of the valve block and having a plurality of openings therein which, upon selective settings of the valve stem, communicate with the various flow passages within the valve block,



(f) said valve stem having side walls defining a hollow interior and a transverse partition dividing the interior of the valve stem into an upper and lower chamber, wherein a flow passage in said valve block extending between the pump and the valve stem communicates with the upper chamber of the valve stem through an opening in said valve stem,  
(g) two hydraulic motors in said fluid reservoir, each being comprised of a motor housing and a reaction member, said motor housings being mounted on said valve block with each having an inlet port in communication with the outlet port of the valve block, said valve block having a second flow passage extending from the valve stem to the hydraulic motors which communicates through said outlet ports with the upper chamber of said valve stem through a second opening to provide a fluid flow passage from the hydraulic pump to the hydraulic motors, and a discharge port to discharge the fluid to the reservoir,  
(h) driven shafts operably connected to the reaction member of the hydraulic motors and extending out of the housing.

3,385,059

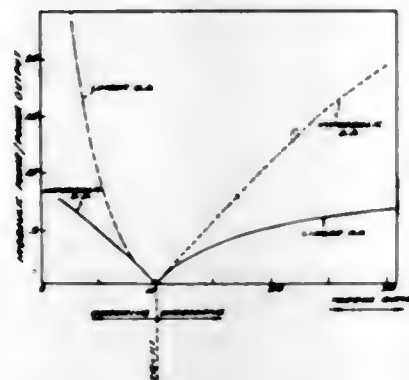
**HYPERLINEAR HYDROSTATIC POWER TRANSMISSION SYSTEM HAVING BOTH LINEAR AND HYPERBOLIC CHARACTERISTICS**

Richard L. Leonard, Farmington, and Po-lung Liang, Lincoln Park, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware  
Filed Oct. 12, 1966, Ser. No. 586,284  
15 Claims. (Cl. 60—53)

13. A hydrostatic unit comprising a rotor, radial pumping chambers in said rotor, radially movable pumping elements in said chambers, a cam ring surrounding said rotor and engageable with said pumping elements, means for positioning said cam element eccentrically with respect to the axis of rotation of said rotor, a manifold in said rotor, radial ports in said rotor communicating with each chamber, a high pressure port and low pressure port in said manifold, said manifold port communicating successively with each of said radial ports as said rotor is moved with respect to said manifold, and pre-expan-



sion valve means for establishing communication between said low pressure manifold port and each pumping chamber as the associated pumping element begins its ex-

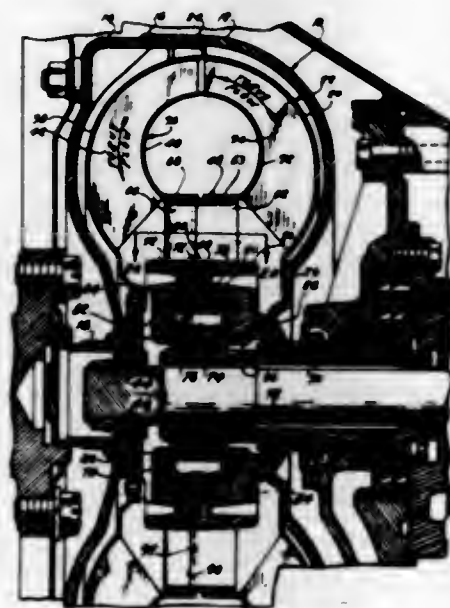


pansion stroke at an instant prior to the instant when the associated radial port establishes fluid communication with said low pressure manifold port.

### 3,385,060 HYDROKINETIC TORQUE CONVERTER MECHANISM WITH MULTIPLE SECTION REACTOR BLADES

Herbert C. Lazarus, Plymouth, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed May 2, 1966, Ser. No. 546,889  
7 Claims. (Cl. 60-54)



This specification describes a hydrokinetic torque converter unit having a bladed stator situated between the flow exit section of the bladed turbine and the flow entrance section of the bladed impeller. The stator, including its radially positioned blades, has two sections. The blade sections are joined together in abutting relationship to define continuous blade sections having extreme flow directing blade angles. The individual blade sections are die-cast as separate units by using axial-draw dies.

### 3,385,061 FORMATION OF THE CIRCUIT IN HYDRODYNAMIC TORQUE CONVERTERS

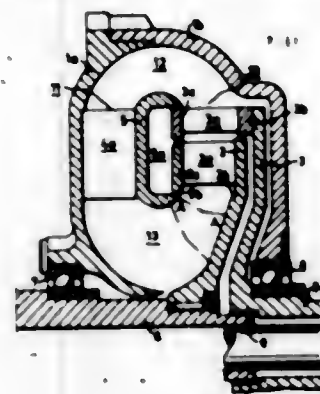
Alf Lysbom, Karlspån 11, Stockholm, Sweden

Filed June 20, 1966, Ser. No. 558,799  
Claims priority, application Sweden, June 28, 1965, 8,483/65

5 Claims. (Cl. 60-54)

Flow losses in a hydrodynamic torque converter are reduced by providing an improved configuration for an inner bend of a torus-shaped working chamber in the converter. The through-flow area of the inner bend of a

working chamber circuit is formed with a successively increasing restriction of at least 5% in order to obtain a maximum restriction ahead of the impeller entrance at a certain radial section of the inner bend. Also, a sealing

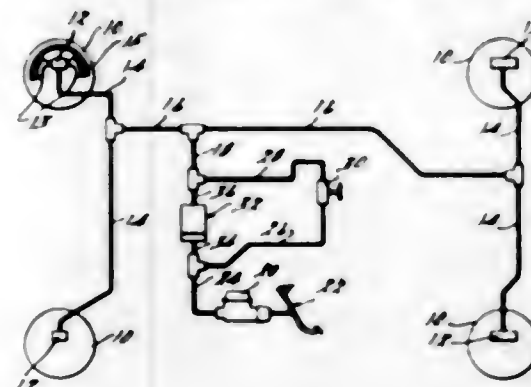


slot may be formed between a portion of a curved reaction blade ring and an adjacent impeller blade ring to reduce flow separation by a Coanda effect produced by leaking current through the sealing slot.

### 3,385,062 BRAKE SYSTEM

Lamont A. Cadmus, Sylvania Township, Lucas County, Ohio, assignor to Kaiser Jeep Corporation, Toledo, Ohio, a corporation of Nevada

Filed May 9, 1966, Ser. No. 548,481  
6 Claims. (Cl. 60-54.5)

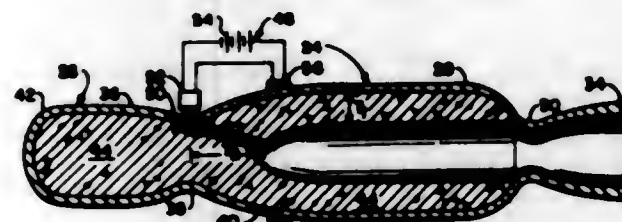


A brake system having a valve selectively operable for maintaining the brakes in engagement with a preselected pressure upon actuation by the vehicle operator.

### 3,385,063 MULTI-STAGE SOLID PROPELLANT MOTOR

Ralph J. Brown, Jr., Mountain View, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 19, 1962, Ser. No. 180,881  
1 Claim. (Cl. 60-225)



1. A multi-stage solid propellant rocket motor including at least a first stage and a second stage; said first stage including a combustion chamber section and rearwardly thereof throat and nozzle sections; said second stage being forwardly of said first stage and including a combustion chamber section and rearwardly thereof throat and nozzle sections; said second stage nozzle section being continuous and in fixed relation with said first

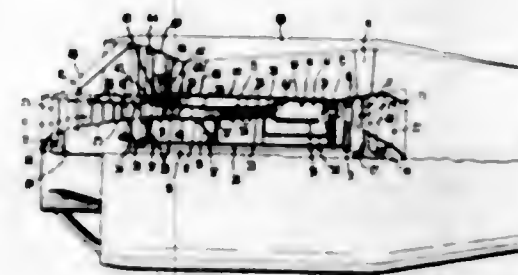
stage combustion chamber section; a generally uniform thickness of solid propellant grain lining the walls of said first stage combustion chamber section and the rear portion of the walls of said second stage nozzle section, additional solid propellant grain filling said second stage combustion chamber, said second stage throat section and the forward portion of said second stage nozzle section, the thickness of said solid propellant grain lining said walls being equal to or less than the distance between said second stage throat section and the forward portion of the first stage combustion chamber.

### 3,385,064 GAS TURBINE ENGINE

Geoffrey Light Wilde and James Alexander Petrie, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company

Filed Jan. 5, 1967, Ser. No. 607,451  
Claims priority, application Great Britain, Jan. 7, 1966, 747/66

12 Claims. (Cl. 60-226)



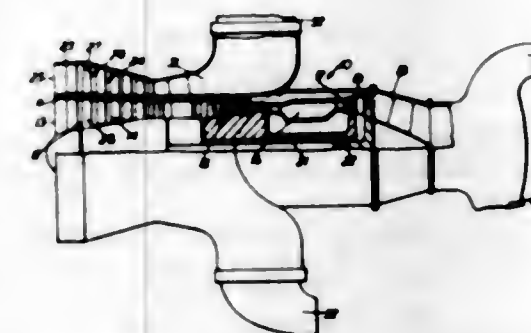
A gas turbine engine having low and high pressure compressors connected by respective shafts to low and high pressure turbines, all housed within an inner casing, and a fan disposed outwardly of the inner casing and driven by an intermediate pressure turbine located between the high and low pressure turbines, and preferably also driving an intermediate pressure compressor.

### 3,385,065 GAS TURBINE JET PROPULSION ENGINE

John Frederick Coplin, Littleover, England, assignor to Rolls-Royce Limited, Derby, Derbyshire, England, a company of Great Britain

Continuation of application Ser. No. 427,302, Jan. 22, 1965. This application Apr. 21, 1967, Ser. No. 632,828  
Claims priority, application Great Britain, Feb. 21, 1964, 7,468/64

5 Claims. (Cl. 60-226)

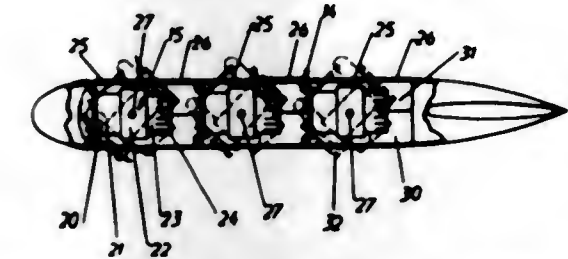


A gas turbine engine of the vectorable thrust type used in V.T.O.L. and S.T.O.L. aircraft, the engine being provided with a completely separate and distinct axial compressor means for supplying air to vectorable nozzles mounted forwardly of the normal propulsion nozzles. The distinct and separate compressor means for the vectorable nozzles is driven by the compressor means for the forward propulsion nozzles, the designs of each compressor means being the most optimum for its particular function.

### 3,385,066 V.T.O.L. AIRCRAFT ROTATABLE POWER PLANT

John Albert Mullins, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed July 21, 1966, Ser. No. 566,836  
Claims priority, application Great Britain, Aug. 6, 1965, 33,871/65  
7 Claims. (Cl. 60-228)

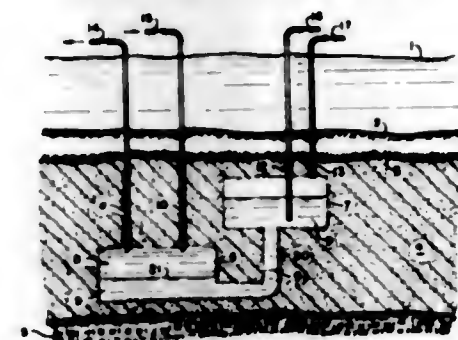


The invention concerns aircraft power plant having a plurality of vertical lift jet engines mounted in a pod, the engines being normally disposed horizontally but being rotatable to a position in which their longitudinal axes are at an angle to the horizontal. Parts of the pod spacing the engines axially apart are slidable over the next adjacent engine when it is desired to effect rotation thereof.

### 3,385,067 METHOD OF UNDERGROUND STORAGE IN A RESERVOIR

Wouter H. van Eck, The Hague, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 8, 1966, Ser. No. 532,789  
Claims priority, application Netherlands, Mar. 10, 1965, 65-3,027  
3 Claims. (Cl. 61-5)



A method for storing a liquid product in an underground storage reservoir comprising two cavities interconnected below their highest parts by a conduit. The conduit is filled with a displacing fluid heavier than and immiscible with the liquid product. The cavities are partially filled with the displacing fluid and the remaining volume of one cavity is charged with pressurized gas while the remaining volume of the other cavity is filled with liquid product. In this manner, fluid may be flowed and displaced selectively from one cavity to another solely under the combined pressure of the pressurized gas.

### 3,385,068 METHOD OF MAKING TRENCH DAM

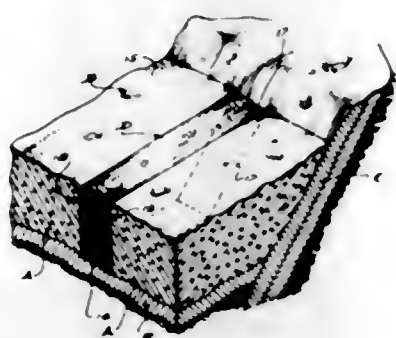
Arthur L. Armestrong, 455 E. Ocean Blvd., Long Beach, Calif. 90802

Filed Nov. 14, 1966, Ser. No. 593,923  
9 Claims. (Cl. 61-1)

The method of making an impervious aggregate and clay filled dam including washing an aggregate or aggregates of rock, gravel and sand to remove all lubricous material, next, screening and dividing the aggregate into groups of granules of substantially equal size and equal volume, with the size of granules of each group of granules being approximately twice the size of the next smaller size group of granules, the size of granules



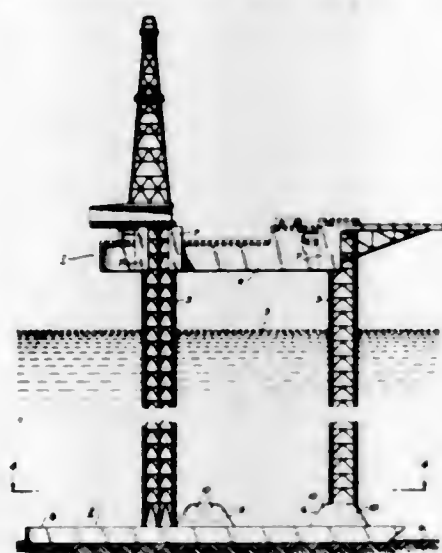
going to make up the group of smallest size granules being larger than one-thirty-second of an inch ( $\frac{1}{32}$ ), next, commingling the groups of granules to establish an aggregate, next, mixing the aggregate with a volume of dry, expansive, impervious clay sufficient to fill the interstices established by the granules when the granules are in bridging contact with each other and when the clay is moistened, next, or simultaneously with mixing the



aggregate and clay, digging a trench along a dam site and filling the trench as it is established with mud slurry to shore the trench and simultaneously establishing and/or depositing the aggregate and clay mixture in the trench behind and following said slurry of mud whereby the mud is displaced and progressively advanced through the trench by the admixture and whereby the clay is moistened by the water in the mud.

3,385,069

**MOBILE MARINE PLATFORM APPARATUS**  
John C. Estes, Beaumont, Tex., assignor to Bethlehem Steel Corporation, a corporation of Delaware  
Filed Oct. 7, 1966, Ser. No. 585,119  
2 Claims. (Cl. 61-46.5)



The hull of a mobile marine platform comprises two or more horizontally spaced, parallel ballastable pontoons aligned parallel to the direction of tow. Bracing elements extend between and are secured to the top surfaces of the pontoons. Two vertical columns are secured to the pontoons and one vertical column to the midpoint of a bracing element. An operating platform is mounted to the columns in vertically adjustable relationship to the hull.

3,385,070

**SHELL-LESS CAST-IN-PLACE CONCRETE PILE**  
Richard V. Jackson, Dallas, Tex., assignor to The Tecon Corporation, Dallas, Tex., a corporation of Delaware  
Filed July 14, 1965, Ser. No. 471,928  
7 Claims. (Cl. 61-53.66)

A method for installing cast-in-place concrete pile using a shell casing driven into the ground and then filled with concrete. After the concrete has hardened, the shell is

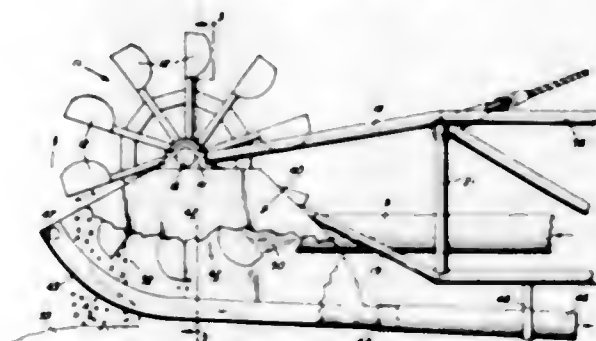
vibrated at a relatively high frequency and pulled out of the ground leaving a cast-in-place concrete piling of exact and uniform outer dimensions. The concrete piling may be made in the form of solid pilings or tubing and may



be provided with pre-stressing tendons and means for post-tensioning after the concrete has hardened and before the shell casing has been withdrawn from the hardened concrete piling.

3,385,071

**HANDLING FLUENT MATERIAL**  
Frank O. Paulson, 308 Parkwood Estates Drive, Charleston, S.C. 29407  
Filed Sept. 2, 1966, Ser. No. 577,069  
12 Claims. (Cl. 61-63)



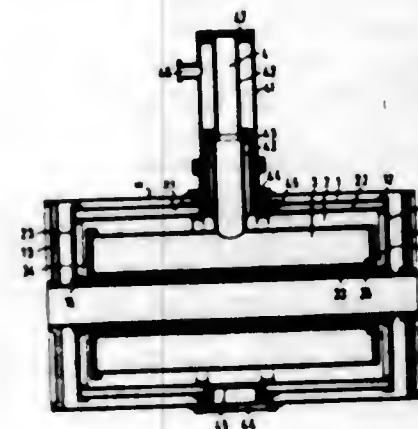
1. In a hydraulic material handling system for handling a fluid mixture of liquid and solid particles having a discharge means for delivering the fluid mixture against a series of movable concave buckets wherein the mixture is separated into a predominantly liquid portion and a predominantly solid particles portion, the combination therewith of trough means to intercept said liquid portion and convey it apart from said solid particles portion.

3,385,072

**CRYOSTAT**  
Helmut Marsing, Hetzles, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany  
Filed Aug. 8, 1966, Ser. No. 571,117  
Claims priority, application Germany, Aug. 7, 1965, S 98,717  
10 Claims. (Cl. 62-45)

In a cryostat adapted to house a structure such as a superconductive magnetic coil and provided with a substantially horizontal tubular inner chamber accessible from the outside there is an outer horizontal hollow container of cylindrical configuration and an inner horizontal hollow container of cylindrical configuration situated within said outer container, and vertically extending tubular means connected to and carrying said outer and inner containers and including at least an outer tube connected to said outer container and an inner tube situated within said outer tube and connected to said inner

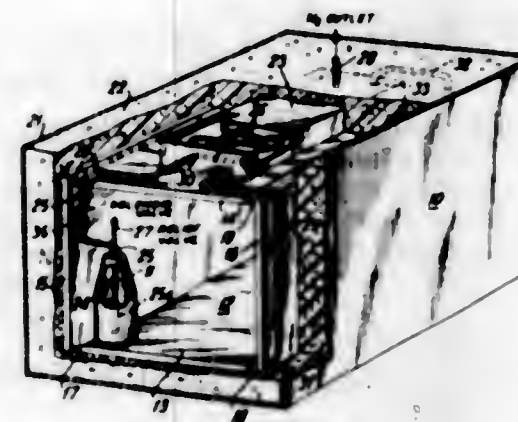
container, said outer container including a ring fixed to said outer tube and a pair of cylindrical walls, said ring and said cylindrical walls having means for removably



connecting said cylindrical walls respectively with said ring, said cylindrical walls respectively extending in opposite directions from the latter.

3,385,073

**REFRIGERATION SYSTEM FOR SHIPPING PERISHABLE COMMODITIES**  
Charles D. Snelling, Allentown, Pa., assignor to Cryo-Therm, Inc., Fogelsville, Pa., a corporation of Delaware  
Filed Oct. 6, 1966, Ser. No. 584,858  
15 Claims. (Cl. 62-45)

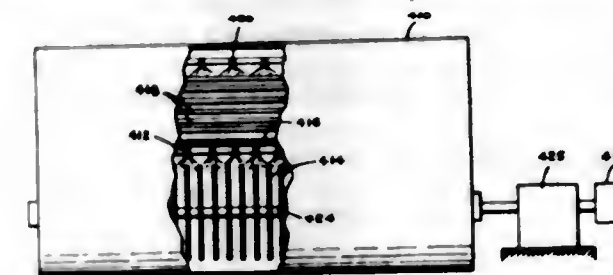


A refrigeration system for shipping perishable commodities in transport compartments is disclosed comprising heat exchange means, means for maintaining the heat exchange means at a refrigerating temperature, a heat transfer circulating system coupled to the exchange means for controlling the temperature of perishable commodities, and a heat transfer fluid in the circulating system in amounts such that the major portion of the heat transfer circulating system is substantially flooded with the heat transfer fluid.

3,385,074

**FREEZE CRYSTALLIZATION, WASHING AND REMELTING ON A COMMON ROTARY SURFACE**  
David Aronson, Upper Montclair, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware  
Continuation-in-part of application Ser. No. 425,967, Jan. 15, 1965. This application Oct. 4, 1965, Ser. No. 492,779  
10 Claims. (Cl. 62-58)

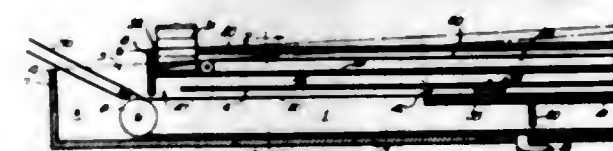
A system for extracting a relatively pure solvent from a solution including flash freezing solvent on crystal form-



ing surfaces and washing and melting the crystals while they remain on the surfaces. The surfaces are rotated within a single chamber to provide uniform crystal growth and to remove adhering solution from the crystals.

3,385,075

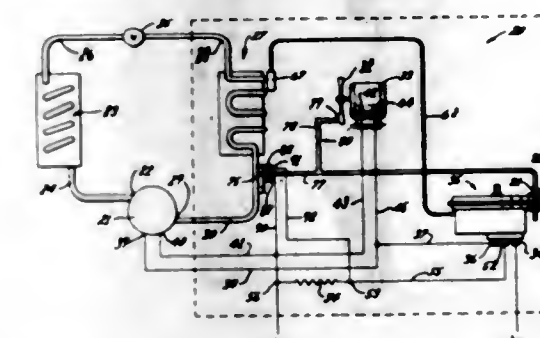
**METHOD AND APPARATUS FOR FREEZING FOODS**  
Jorge O. Casale, Chicago, Ill., assignor to Libby McNeill & Libby, Chicago, Ill., a corporation of Maine  
Filed Aug. 25, 1965, Ser. No. 482,483  
5 Claims. (Cl. 62-63)



1. In a method of freezing tomatoes the steps which comprise: conveying whole tomatoes through a first tunnel, pre-cooling the whole tomatoes within the tunnel by exposure to cool gas, sub-dividing the tomatoes, conveying the sub-divided tomatoes through a second tunnel, pre-cooling the subdivided tomatoes in a second tunnel, spraying the sub-divided tomatoes in the second tunnel directly with a spray of a volatile cryogenic coolant to substantially reduce the temperature of the tomatoes and exposing the sub-divided tomatoes within the second tunnel to the cold gaseous coolant evolved from said cryogenic coolant spray to complete the freezing and promote temperature equalization of the tomatoes, and thereby utilize substantially the complete cooling capacity of the volatile cryogenic coolant.

3,385,076

**DEFROST SYSTEM AND PARTS THEREFOR OR THE LIKE**  
Franklin R. Edwards, Rosemont, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware  
Filed Oct. 23, 1965, Ser. No. 503,301  
12 Claims. (Cl. 62-140)



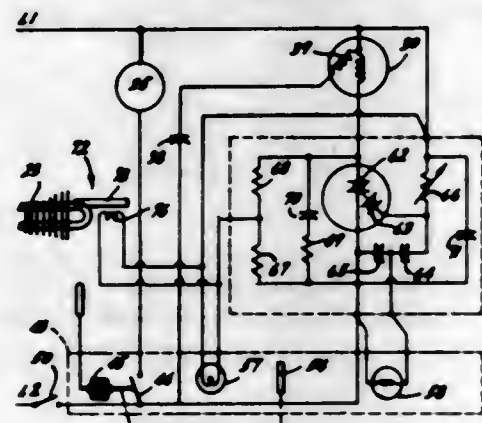
This disclosure relates to a defrost system having a frost creating surface means and heater means for defrosting



the surface means when the heater means is activated by a device sensing that a dynamic flow of fluid pressure being directed against the surface means from a nozzle means spaced from the surface means has been restricted a particular amount to automatically indicate that a defrost cycle should take place, the nozzle means being carried by a bimetal member that is heated during a defrosting cycle to move the nozzle means away from the frost creating surface means during such defrosting cycle.

### 3,385,077 AIR CONDITIONER

Kenneth E. Marsteller, Willow Grove, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware  
Filed Feb. 23, 1967, Ser. No. 617,910  
11 Claims. (Cl. 62-180)



An air conditioner having a temperature control system, which, in addition to cycling the compressor between predetermined temperature limits, modulates air flow passing over the evaporator and into the room in accordance with room temperatures in excess of such limits. Modulation of air flow is accomplished by varying the speed of the fan inducing such flow, through a solid state electrical circuit controlled by an optical system comprising a lamp, a photocell, and an interposed shutter arrangement actuated by a thermostat. An evaporator icing sensor is arranged to vary the intensity of the lamp to insure continued operation of the fan at higher speeds as icing temperatures are approached, thereby to prevent evaporator icing.

### 3,385,078 EVAPORATION COOLER

Orville J. Toters, 411 Omaha Way, Vancouver, Wash. 98661  
Filed Oct. 28, 1966, Ser. No. 594,969  
4 Claims. (Cl. 62-316)

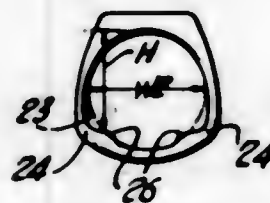


An evaporation refrigerator consisting of a vertical container having foaminous sidewalls and a foraminous

hinged front door. The vertical walls and door of the container are covered with multiple layers of burlap. A water bucket is detachably-secured on the top wall of the container, the bucket being provided with a bail for suspending the entire assembly. A cup-shaped wick rests on the top rim of the bucket with its center portion depending to the bottom of the bucket and its outer wall portions depending into moisture-transmitting contact with the burlap layers on the vertical walls and door of the container.

### 3,385,079 FINGER RING HAVING BOTTOM INNER KEYWAY

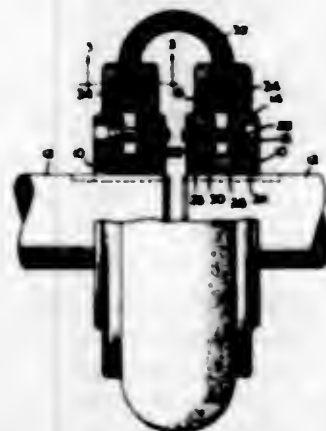
John H. von Hollen, P.O. Box 185, Cedar Grove, N.J. 07009  
Filed Dec. 15, 1965, Ser. No. 513,926  
4 Claims. (Cl. 63-15)



A ring having an internal surface contour which more closely approximates the cross-sectional shape of the finger than conventional circular rings and which also includes a bridge section with a recess therein for accommodating the tendons and flesh on the underside of the finger, whereby rotation of the ring on the finger is effectively prevented.

### 3,385,080 FLEXIBLE SHAFT COUPLING

Gerald T. Sorenson, 910 Elm Grove Road, Elm Grove, Wis. 53122  
Filed Apr. 5, 1966, Ser. No. 540,244  
6 Claims. (Cl. 64-11)

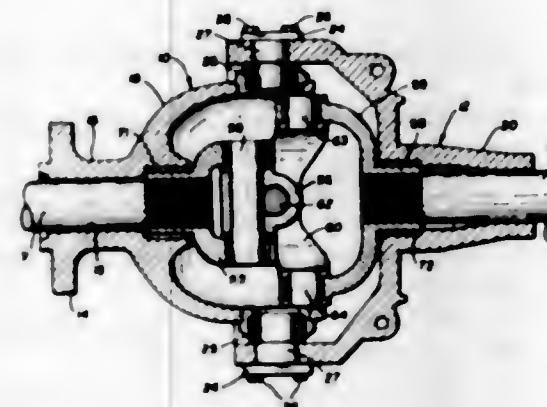


1. A coupling for connecting two shafts in end-to-end relationship comprising:
  - a bushing of the mutually adjacent end of each of said shafts, each of said bushings having at least one tapered external surface thereto;
  - an annular structure surrounding each of said bushings, said structure including a pair of longitudinally spaced radially extending components, at least one of said components having an internal surface tapered to correspond with the tapered external surface of said bushing for abutting contact therewith;
  - a flexible annular drive means between said annular structures having a pair of transverse inwardly extending edges thereto, axially projecting enlarged portions on each edge of said member extending into the space between the components of the respective annular structures; and

means between the components of said annular structure to provide movement of at least one of the components toward the other for contracting said bushing about said shaft and clamping of the enlarged portion of said flexible means therebetween.

### 3,385,081 CONSTANT VELOCITY UNIVERSAL JOINT

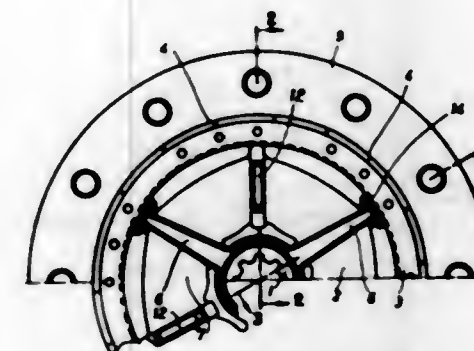
Francis L. Wier, Englewood, Colo., assignor to The American Coleman Company, Littleton, Colo., a corporation of Nebraska  
Continuation-in-part of application Ser. No. 424,643, Jan. 11, 1965. This application July 14, 1966, Ser. No. 565,254  
6 Claims. (Cl. 64-21)



A wide angle turn, constant velocity universal joint has a drive and a driven shaft each provided with facing yokes arranged at 90° to each other with one yoke pivotally mounted to a shaft and the other pivotally mounted on a ring, and the shaft and ring being pivotally connected together.

### 3,385,082 TORSIONAL VIBRATION BALANCER

Hans Deuring, Burscheid, and Rolf Rocke and Hans-Joachim Tolkedorf, Opladen, Germany, assignors to Goetzwerke Friedrich Goetze A.G., Dusseldorf, Germany  
Filed Sept. 20, 1966, Ser. No. 580,652  
Claims priority, application Germany, Sept. 20, 1965, G 44,730; Oct. 1, 1965, G 44,823  
10 Claims. (Cl. 64-27)

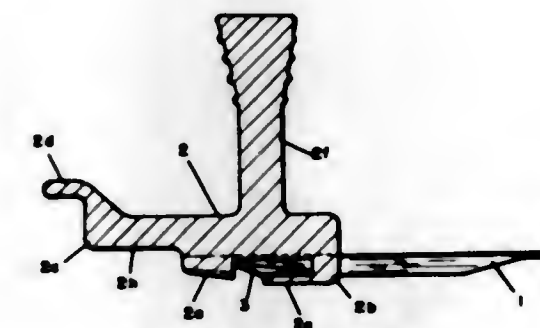


A torsional vibration balancer for use in a motor vehicle disc clutch having a central hub provided with arm portions and an outer two-piece housing provided with a plurality of recesses, the balancer essentially including a polygonal elastic element defining a plurality of columnar springs and a plurality of metal plates connected to the elements between alternate pairs of springs and rigidly connected to the housing, each hub arm portion being

connected between a respective adjacent pair of springs at a point between two succeeding metal plates.

### 3,385,083 DEVICE FOR TRANSFERRING STITCHES LATERALLY AND TRANSVERSELY ON MANUAL KNITTING MACHINES

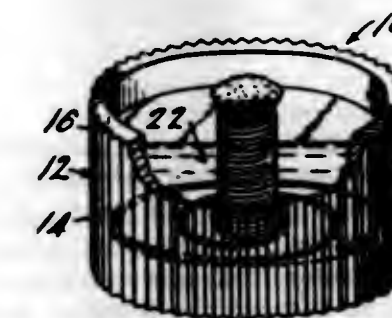
Ernst Erb, Basel, Switzerland, assignor to Erba Maschinenbau AG, Basel, Switzerland, a corporation of Switzerland  
Filed July 21, 1965, Ser. No. 473,708  
Claims priority, application Switzerland, July 22, 1964, 9,631/64  
3 Claims. (Cl. 66-90)



A device for the transfer of stitches laterally or transversely which is secure in operation. A body member with a profiled part has releasably mounted therein spaced parallel stitch transfer elements. The transfer elements are made of thin sheet steel of U-shaped cross-section having recesses at the sides. The profiled part is provided with two spaced slotted strips to receive the transfer elements and one of such strips is provided with an inwardly directed nose to receive a locking strip to releasably lock the transfer elements in the body member. Each transfer element has a rounded point and a concavity at the back adjacent such point to secure accurate cooperation with the needle in transferring the stitch and also the U-shaped construction allows secure cooperation with the needle to receive the stitch.

### 3,385,084 SIMULATED CANDLE AND WICK HOLDER

Robert D. MacDonald, Tecumseh, Mich., assignor to Cardinal of Adrian, Inc., Adrian, Mich., a corporation of Michigan  
Continuation-in-part of application Ser. No. 530,314, Feb. 28, 1966. This application Dec. 19, 1966, Ser. No. 602,715  
10 Claims. (Cl. 431-310)



1. A device for producing light and heat comprising a one-piece receptacle of light-transparent plastic material having a sidewall and a bottom of a predetermined size and shape for receiving a combustible liquid, a wick, and a wick holder comprising a cylindrical portion and a base, said cylindrical portion extending upwardly from the cen-

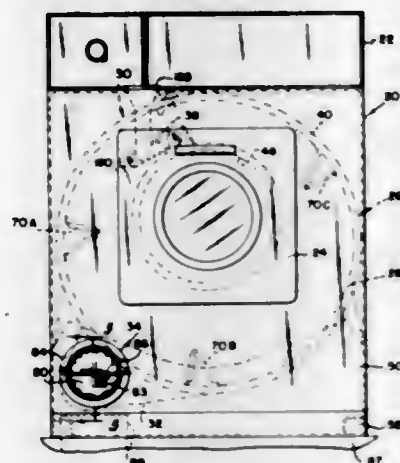


ter of said base, and said base having a size and shape similar to the bottom of said container to maintain said cylindrical portion and said wick centrally in said container.

3,385,085

## LAUNDRY EQUIPMENT

Lewis O. Engel, Euclid, Ohio, assignor to Happ Corporation, Cleveland, Ohio, a corporation of Virginia  
Original application Feb. 25, 1964, Ser. No. 347,296, now Patent No. 3,270,529, dated Sept. 6, 1966. Divided and this application Apr. 14, 1966, Ser. No. 563,311  
5 Claims. (Cl. 68-18)

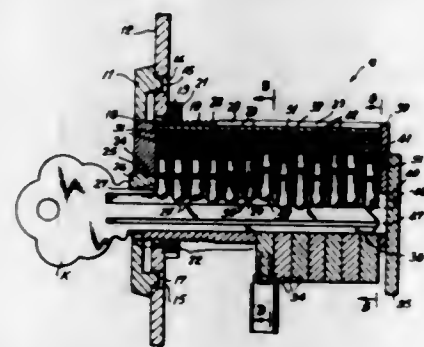


A system for controlling and removing suds in a laundry machine having a rotatable tub through which water is recirculated by a pump. The suds are forced through a vent pipe under pressure established by rotation of the tub in which the clothes are washed. The speed of the tub may be increased when increased suds removal is required.

3,385,086

## KEY OPERATED SWITCH MECHANISM

George P. Patriquin, Gardner, Mass., assignor to Independent Lock Company, Fitchburg, Mass., a corporation of Massachusetts  
Filed Feb. 17, 1966, Ser. No. 528,166  
8 Claims. (Cl. 70-364)

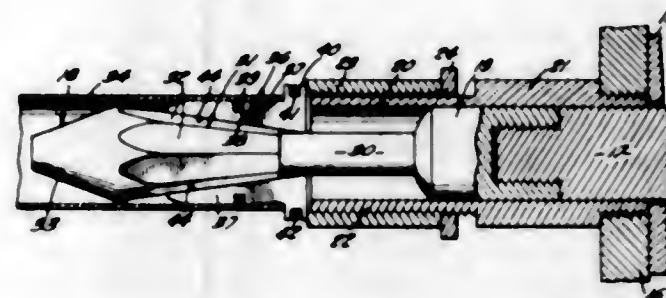


A switch operating device comprising a housing, a cylindrical plug rotatably mounted in the housing, the plug having a keyway, and a plurality of switch operator cams rotatably mounted on the plug in a space defined between the plug and the housing, lock pins movably mounted in cross bores extending through the housing, the cams and into the plug, the combination including key means insertable into a keyway formed in the plug for aligning the lock pins in a selected manner whereby when the junction of the lock pins in a cross bore is disposed at the junction of the plug and cam, the cam will remain stationary when the plug is rotated, and when the pin junction is disposed at the shear line between the cam and the housing, the cam will rotate with the plug.

3,385,087

## SWAGING TOOL

Gerald W. Huth, Burbank, Calif., assignor to Huth Manufacturing Corporation, Burbank, Calif., a corporation of California  
Filed Feb. 18, 1966, Ser. No. 528,454  
8 Claims. (Cl. 72-36)

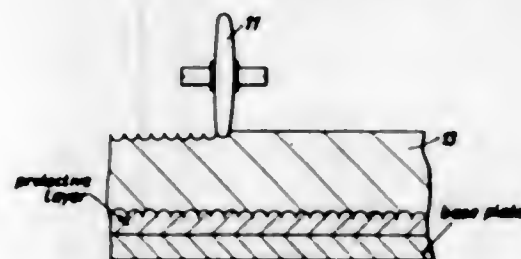


4. A swaging tool for expanding tubing, and the like, comprising  
a body adapted to be coupled with hydraulic ram means, said body including a scale thereon,  
expander means mounted within said body and having a portion extending from said body, said expander means being adapted to be moved longitudinally by said hydraulic ram means,  
said portion of said expander means extending from said body including a tapered portion,  
jaw means mounted coaxially over a portion of said expander means and having an interior tapered substantially the same as the tapered portion of said expander means, said jaw means being formed of a plurality of movable segments and being expandable by said expander means upon longitudinal movement thereof, and  
adjustor means movably mounted on said body for engaging said jaw means and adjusting the longitudinal position thereof with respect to said expander means, said adjustor means exposing said scale to thereby indicate the degree of adjustment of said jaw means.

3,385,088

## METHOD FOR THE PRODUCTION OF COMPACT INJECTION MOLDING TOOLS

Rudolf Mandler, Berlin-Halensee, Germany, assignor to Interdia GmbH, Zug, Switzerland  
Filed Nov. 6, 1964, Ser. No. 409,617  
Claims priority, application Germany, Nov. 7, 1963, D 42,911  
1 Claim. (Cl. 72-46)

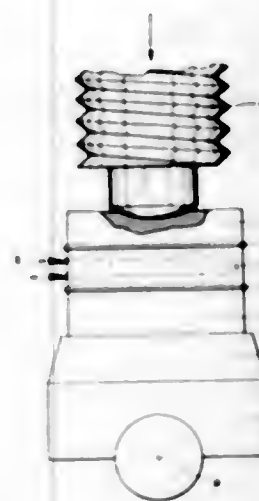


Disclosed is a method of forming a molding tool used for producing cylinder lens screens from thermo-plastic material. A molding tool in the form of a steel plate of several centimeters thickness is first embossed on one side and that side is then covered with a removable pressure resistant layer. Then the other side is embossed in a similar and preferably identical manner. The protective layer on the first side may be subsequently removed if desired. More accurate screens are obtained since the tool is subjected to practically equal embossing forces on both sides.

3,385,089

## DEVICE FOR RELIEVING UNDESIRABLE COMPRESSIVE STRESSES IN MACHINES

Hans Weinzinger and Glawak Veitl, Linz, Austria, assignors to Vereinigte Österreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria  
Filed Oct. 12, 1965, Ser. No. 495,174  
Claims priority, application Austria, Oct. 13, 1964, A 8,701/64  
6 Claims. (Cl. 72-244)

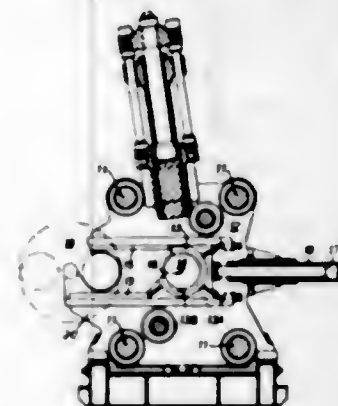


In the particular embodiments of the invention described herein, a member made of thermoplastic material is inserted between the components of a rolling mill stand, and a heating device is provided to soften the thermoplastic material when the stand is jammed. In one embodiment, two thermoplastic plates, disposed on opposite sides of a heating plate, are inserted between the upper and lower pressure plates for each screw spindle. Another embodiment utilizes a heating device embedded in a thermoplastic plate which is disposed between the upper and lower roll chocks.

3,385,090

## EXTRUSION PRESS

Arthur Raymond Walker, Winton, Bournemouth, England, assignor to Davy and United Engineering Company Limited, Sheffield, Yorkshire, England  
Filed Feb. 1, 1966, Ser. No. 524,287  
7 Claims. (Cl. 72-263)

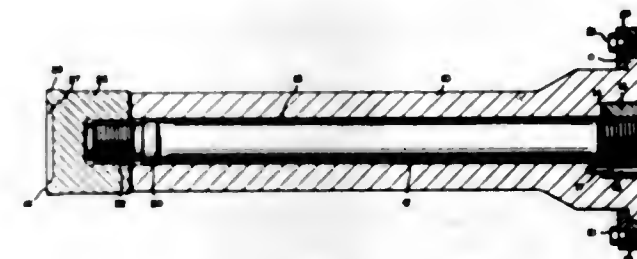


The invention relates to extrusion presses provided with rotatable die-change apparatus positioned to one side of the press away from the press axis and having two die-holding arrangements. The die to be replaced may be moved from its support in the press into one of the holding arrangements and a replacement die positioned in the other holding arrangement. The apparatus may then be rotated until the replacement die is so positioned that it can be easily moved into the press.

3,385,091

## DUMMY BLOCKS FOR EXTRUSION PRESSES

Relza John Hess, Penfield, N.Y., assignor to Farrel Corporation, Rochester, N.Y., a corporation of Connecticut  
Filed Apr. 28, 1965, Ser. No. 451,414  
1 Claim. (Cl. 72-273)

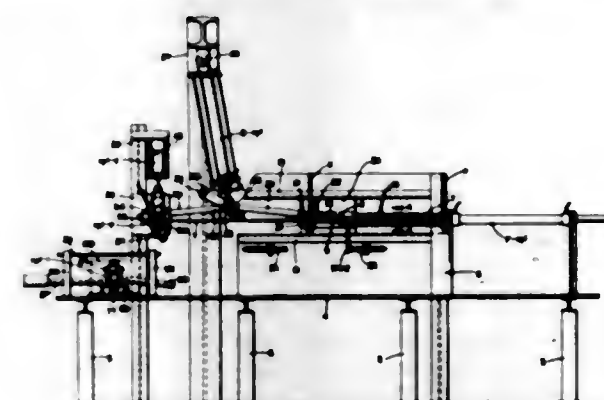


A fixed dummy block is secured to the front end of a hollow extrusion plunger by an elongate stud which is secured at its rear to the plunger. The stud has a guide portion of enlarged diameter adjacent its front that fits the bore of the plunger with enough clearance to allow some float of the block but is of appreciably smaller diameter than the bore of the plunger for the remainder of its length to achieve flexibility. The front face of the block is plane adjacent its periphery and centrally dished. It is of enlarged diameter adjacent its front.

3,385,092

## TUBE-BENDING MACHINE

Victor P. Scott, Canton, Ohio, assignor to Macomber, Incorporated, Canton, Ohio, a corporation of Ohio  
Filed Jan. 5, 1966, Ser. No. 518,893  
16 Claims. (Cl. 72-381)



1. Tube and bar-bending apparatus for forming a zig-zag bent web member, comprising means for intermittently moving a tube and the like longitudinally there-through, a longitudinally slidable plate, a die upon said slidable plate located in the path of the tube and the like, a second die located in the path of the tube and the like beyond the first named die, said second die being mounted upon a longitudinally immovable portion of the apparatus, tube clamping means cooperating with said second die, a bending die located between said first and second dies and movable transversely across the path of the tube and the like, a pair of toggle levers pivotally connected together and to the bending die at one end, one toggle lever being pivotally connected at its other end to the sliding plate, the other toggle lever being pivotally connected at its other end to said longitudinally immovable portion of the apparatus, means for moving the clamping means relative to the second die and means for moving the bending die transversely across the path of the tube and the like to form successive V-shaped bends therein, one of said toggle levers having a longitudinal slot at the pivotal connection to the bending die to prevent binding of the tube upon retraction of the bending die.



3,385,093

**WIRE, ROD AND TUBING STRETCHING MECHANISM**

Henry E. Menser, Hammond, Ind., assignor of one-eighth to Thomas H. Vance, Hammond, Ind.  
Filed Oct. 5, 1965, Ser. No. 493,014  
3 Claims. (Cl. 72-392)

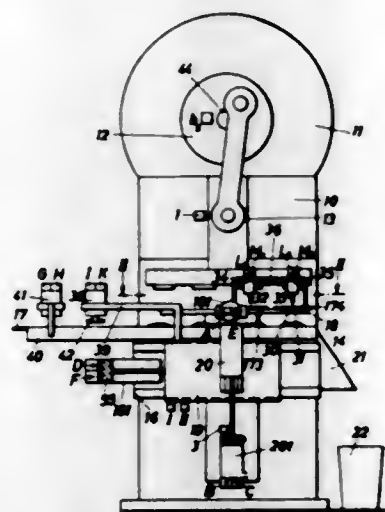


An elongated rigid support member including anchor means on one end portion, a fluid motor on the other end portion, an upstanding lever arm pivotally secured at its lower end to the support member intermediate the opposite end portions thereof and a tension member being operatively connected between the lever and the fluid motor means for pivoting the former relative to the elongated support member, elongated tethering means being provided and including one end adapted for securement to the end portion of the support member remote from the fluid motor at points spaced longitudinally therealong and a second end adapted to be secured to one end of an elongated member to be stretched with the free end portion of the lever being provided with second means adapted to be secured to the other end of an elongated member to be stretched.

3,385,094

**SINGLE STAGE PRESSES**

Ludwig Wilhelm Brütting, 36 Grillenberger St., Zirndorf, near Nürnberg, Germany  
Filed July 9, 1965, Ser. No. 470,870  
12 Claims. (Cl. 72-419)



A single stage press is combined with a strip feeder and workpiece conveyor for feeding sheet material to the press and for advancing the workpieces formed from the strip sequentially to a series of work stations. The workpiece conveyor includes a plurality of workpiece clipping means which are movable simultaneously on the independent and mutually perpendicular axes.

3,385,095

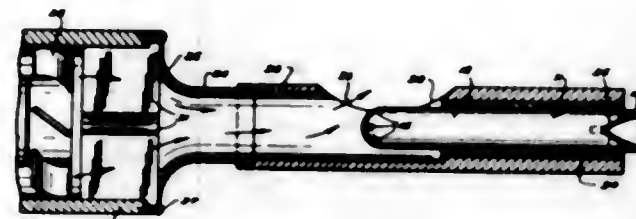
**CHECKOUT DEVICE FOR FLUID DATA SENSORS**

Richard V. De Leo, Hopkins, and Floyd W. Hagen, Minneapolis, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota

Filed Mar. 14, 1966, Ser. No. 534,031  
13 Claims. (Cl. 73-4)

A check out device for fluid data sensors including a member for receiving the sensor, and means for provid-

ing a fluid flow through the member in a preselected relationship to the sensing ports on the sensor so that the operation of the sensor can be checked without remov-



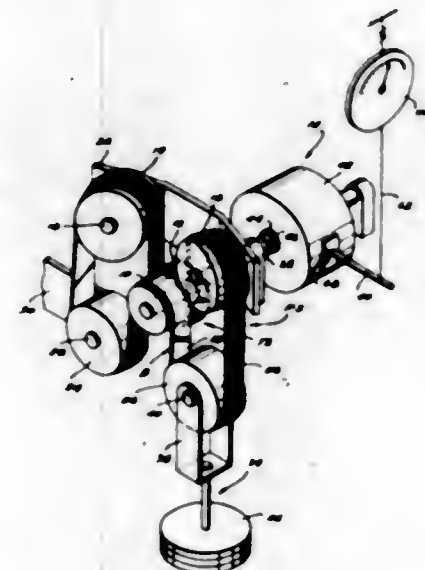
ing it from its mounting. The unit is a portable hand-held device having a fan for providing the fluid flow and which can be plugged into an electrical outlet for power.

3,385,096

**SLIP STEP PULLEY DYNAMOMETER FOR TESTING BELTS**

James Adams, Jr., Packanack Lake, N.J., assignor to Raybestos-Manhattan, Inc., Passaic, N.J., a corporation of New Jersey

Filed June 29, 1966, Ser. No. 561,601  
6 Claims. (Cl. 73-9)



A belt testing machine characterized by achieving a forced slip imparted to the test belt by means of a pulley system over which the belt is trained, the pulley system including a two-step motor operated pulley, half of the motor pulley face (one step of the two-step pulley) being larger in diameter than the other half (the other step of the two-step pulley) by the desired percentage of slip, the steps of the two-step pulley thus having a difference in diameter selected for introducing a forced predetermined slip to the movement of the belt. The other pulleys of the system are for the purpose of training the belt path, one of these other pulleys being employed for applying

and regulating the tension applied to the belt. The belt speed is regulated by the speed of revolution of the motor and the step pulley diameters.

3,385,097

**DEFLECTION TRANSMISSION LINK**

Allen T. Green, Sacramento, Calif., assignor to the United States of America as represented by the Secretary of the Air Force  
Filed Oct. 20, 1965, Ser. No. 499,121  
2 Claims. (Cl. 73-16)



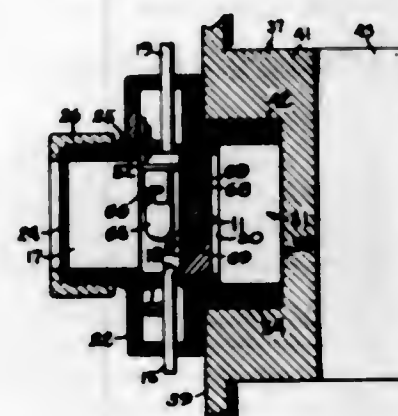
An apparatus for transmitting the deflection of a test specimen located in a high temperature environment to a measuring instrument comprising; two concentric tubes for circulating a cooling fluid through the apparatus, mounting means, a probe to contact the test specimen and bias means to contact said probe with the test specimen.

3,385,098

**DEW POINT MEASURING APPARATUS**

Bruno Schafer, Ludwigshafen, Germany (% Ipsen Industries, Inc., P.O. Box 500, Rockford, Ill. 61105)

Filed Aug. 31, 1966, Ser. No. 576,397  
Claims priority, application Germany, Sept. 7, 1965, Sch 37,688  
7 Claims. (Cl. 73-17)

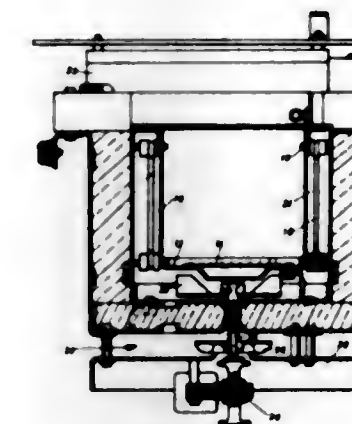


1. In an apparatus for measuring the dew point of a gas, the combination of, a collector having a moisture collecting surface on one side thereof, means for directing a flow of gas against said collecting surface, a thermoelectric cooler having a cooling side disposed adjacent the opposite side of said collector and being operable to remove heat from said collector to condense the moisture in the gas on said collecting surface, means between said cooling side and said collecting surface defining a series of grooves and a series of lands alternating with the grooves, said lands being disposed in heat-transferring relation with said cooling side and with spaced zones of said collecting surface overlying the lands, and thermal insulation disposed within said grooves to insulate zones of said collecting surface overlying the grooves from said cooling side whereby moisture in the gas condenses more rapidly on the zones of the collecting surface overlying the lands than on the insulated zones to present a contrasting appearance on the collecting surface.

3,385,099

**GAS CHROMATOGRAPH WITH FURNACE**  
Paul Diem, Kornwestheim, Hans Gerlach, Sipplingen (Bodensee), and Dietrich Jentzsch and Eberhard König, Überlingen (Bodensee), Germany, assignors to Bodenseewerk Perkin-Elmer & Co. G.m.b.H., Überlingen (Bodensee), Germany

Filed Jan. 12, 1965, Ser. No. 424,992  
Claims priority, application Germany, Jan. 15, 1964, B 74,999  
4 Claims. (Cl. 73-23.1)



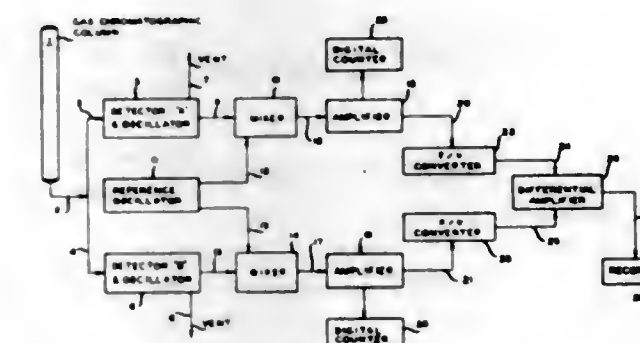
A gas chromatograph, in which a main oven is used to program the column, has the sample injection block and the detector embedded in a thick insulating cover of the main oven. An auxiliary heater is utilized to heat the detector. Preferably this same auxiliary heater also is used to control the temperature of the sample injector. The arrangement allows maintaining the detector and injector at a different desired temperature from the programmed temperature of the column. It also minimizes the problem of effectively insulating the electrical leads to the detector, as well as heat losses in the various gas line connections.

3,385,100

**PIEZOELECTRIC DETECTOR SYSTEM FOR FLUID COMPONENTS**

Richard W. Michael, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 30, 1965, Ser. No. 452,398  
5 Claims. (Cl. 73-23.1)



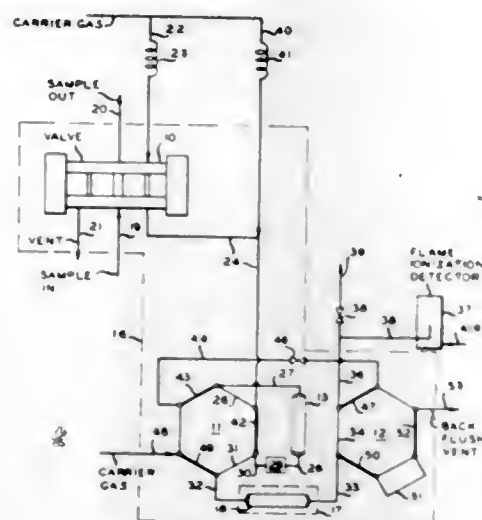
A detection system which employs at least two piezoelectric detectors, one of which is oscillating at a frequency higher than a reference oscillator and the other of which is oscillating at a frequency lower than the reference oscillator, the output frequency of each detector and its associated oscillator being beat against the reference oscillator output frequency to produce two difference frequencies.



3,385,101

## CHROMATOGRAPHIC ANALYZER

Lewis B. Roof, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
Filed Nov. 16, 1964, Ser. No. 411,238  
5 Claims. (Cl. 73-23.1)

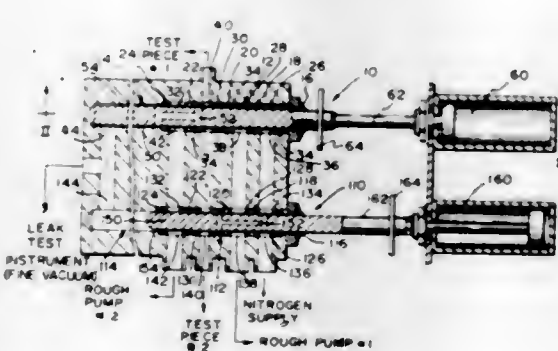


A multicomponent sample is introduced into a first chromatographic column maintained at an elevated temperature. After at least two of the components of the sample are eluted from the first chromatographic column and are passed into a second chromatographic column maintained at a lower temperature than the first chromatographic column, the first column is backflushed. The backflushed effluent from the first column and the effluent from the second column are sequentially passed to an ionization detector. The second column can be inside a cooled chamber which is positioned, along with the first column and associated valves, in a heated chamber.

3,385,102

## RAPID CYCLE LEAK DETECTION OF PLURAL TEST PIECES

Walton E. Briggs, Lynnfield, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts  
Filed Apr. 21, 1966, Ser. No. 544,312  
9 Claims. (Cl. 73-40.7)

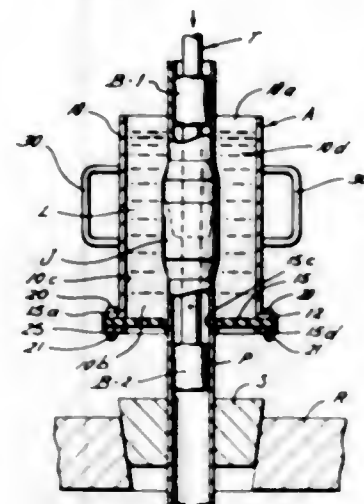


Leak detection apparatus capable of providing 100% testing of small units at rates on the order of 1200 per hour. The apparatus comprises (1) fine vacuum gas analysis instrument such as a mass spectrometer with (1a) an accessory fine vacuum pumping means for producing the so called "high vacuum" levels needed for operation of a mass spectrometer, (2) an inlet port for a test unit, and (3) roughing pump means all interconnected via (4) a tunnel valve body and (5) a spool form valving member.

3,385,103

## PIPE LEAK INDICATING APPARATUS

John P. Wilkerson, Pasadena, Tex., assignor to Loomis Hydraulic Testing Company, Inc., a corporation of Texas  
Filed Apr. 25, 1966, Ser. No. 544,909  
4 Claims. (Cl. 73-45.5)

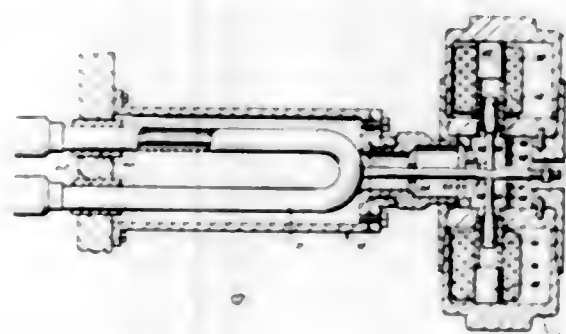


An apparatus for indicating leaks in pipes wherein a cylindrical shell is provided with a lateral sealing disk at its lower end so that the pipe, including any collars, joints, or other enlargements, may pass through the sealing disk without losing the liquid in the shell. The interior of the pipe being tested is pressurized, and any leak in the pipe will be indicated as bubbles in the liquid in the shell.

3,385,104

## MASS PRESENCE SENSING APPARATUS

William B. Banks, Houston, Tex., assignor to Automation Products, Inc., Houston, Tex., a corporation of Texas  
Continuation-in-part of application Ser. No. 381,610, July 6, 1964. This application Mar. 3, 1966, Ser. No. 531,641  
12 Claims. (Cl. 73-67.2)



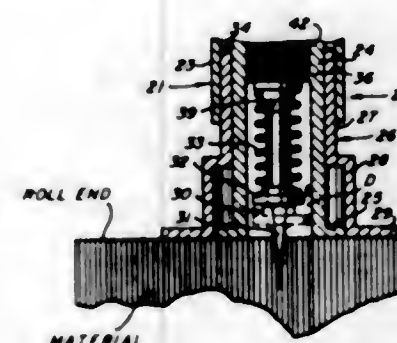
A spring frequency compensating means for use with a vibratory mass presence sensing apparatus and which has first and second ends, the first end of which is connected to and vibrates with the body and the second end which is securely supported for vibration about the second end whereby the frequency compensating means acts as part of the vibration system but is less affected by environmental conditions which change the natural frequency of the body. A spring frequency compensating means, which is positioned out of contact with and thus unaffected by the material to be measured, for connection to a vibrating mass presence sensing apparatus for reducing the effects of environmental conditions wherein the spring compensating means has a higher natural resonant frequency than the vibrating body, such as by means of a length substantially shorter than the body and may include one or more compensating means. A mass presence sensing apparatus for flowing materials having a vibrating U-shaped body wherein a frequency com-

pensating means is connected adjacent the free end of the body and is positioned parallel to the plane of the body.

3,385,105

## ROLL TIGHTNESS TESTER

William G. Smith, Corner Brook, Newfoundland, Canada, assignor of one-half to Wleslaw D. Markowski, Exton, Pa.  
Filed Oct. 22, 1965, Ser. No. 502,002  
Claims priority, application Canada, Aug. 18, 1965, 938,479  
2 Claims. (Cl. 73-159)

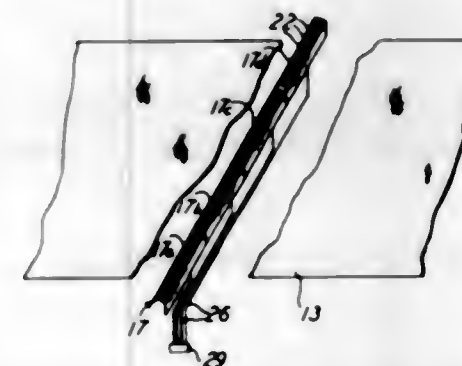


A method and apparatus for determining a measure of tightness of the winding of a roll of material such as a paper roll by inserting the tapered probe into the end of a roll, axially loading the probe to an equilibrium position of penetration where the axial resistance is equal to the applied load and indicating the tightness of the material as a function of probe penetration. The apparatus generally comprises a body member with an indicator mounted thereon, which indicator has a slightly tapered conical probe spring urged outwardly of the body, a sleeve being provided to surround the probe and an outer skirt to surround the sleeve; spring means being provided for urging the skirt outwardly of the body. When a measure is taken the skirt is retracted and permits the probe to penetrate the layers of the roll and the tightness is indicated on the indicator as a measure of probe penetration.

3,385,106

## METHOD AND MEANS FOR DETECTING SAG IN A SHEET

James W. Fargo, Kenosha, and Thomas W. Fargo and Robert E. Wood, Racine, Wis., assignors to Western Publishing Company, Inc., Racine, Wis., a corporation of Wisconsin  
Filed June 30, 1966, Ser. No. 563,929  
10 Claims. (Cl. 73-159)

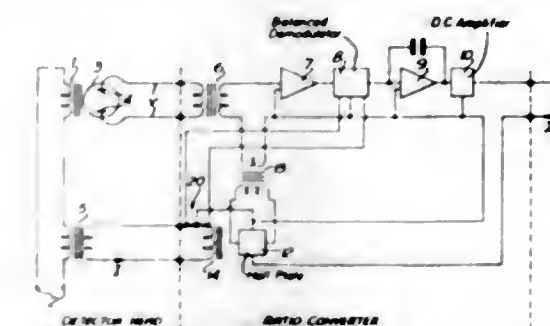


Method and means for detecting sag in a sheet wherein sensors are dispensed below the sheet and separately across the width of the sheet for detecting the portion of the sheet which may sag. The sensors are shown to be electrically operative, and signalling means and recording means are connected with the sensors for showing and recording the sag and the location thereof.

3,385,107

## APPARATUS FOR CONVERTING THE RATIO OF TWO ALTERNATING ELECTRIC SIGNALS INTO A DIRECT CURRENT

Ian Carrodus Hutcheon, Luton, and Derrick Norman Harrison, Kings Stanley, Stroud, England, assignors to George Kent Limited, London, England, a corporation of England  
Filed Aug. 6, 1965, Ser. No. 477,760  
Claims priority, application Great Britain, Aug. 13, 1964, 33,026/64  
8 Claims. (Cl. 73-194)

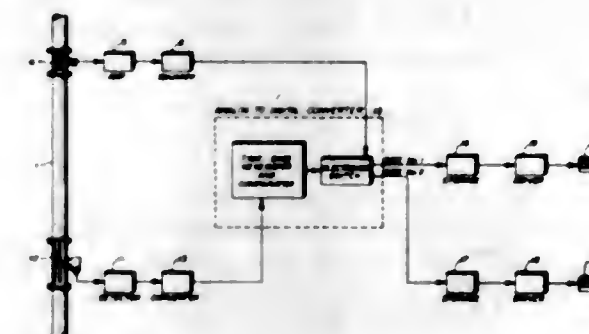


An electrical ratio converter apparatus for providing a DC output signal proportional to the ratio of two AC input signals and having an AC input amplifier, a balanced demodulator, an integrating smoothing circuit, a DC output amplifier for connection to output measuring apparatus, and a feedback circuit including a Hall device, wherein the integrating smoothing circuit includes a low-drift DC amplifier, and the said demodulator, smoothing circuit and DC amplifier cooperate to provide high level forward path quadrature rejection.

3,385,108

## NET OIL COMPUTER

John B. Rosso, Tulsa, Okla., assignor to Combustion Engineering Inc., New York, N.Y., a corporation of Delaware  
Filed June 7, 1966, Ser. No. 555,765  
6 Claims. (Cl. 73-194)



An electric circuit includes a flow meter and a capacitance responsive to a flow stream of a mixture of fluids. A generator provides a periodically varying voltage which the circuit compares to an analog voltage from the capacitance. The voltage resulting from the comparison gates the voltage pulses from the flow meter to a structure manifesting the flow of one of the fluids of the mixture.

3,385,109

## VACUUM OPERATED LIQUID LEVEL GAGE SENDING UNIT

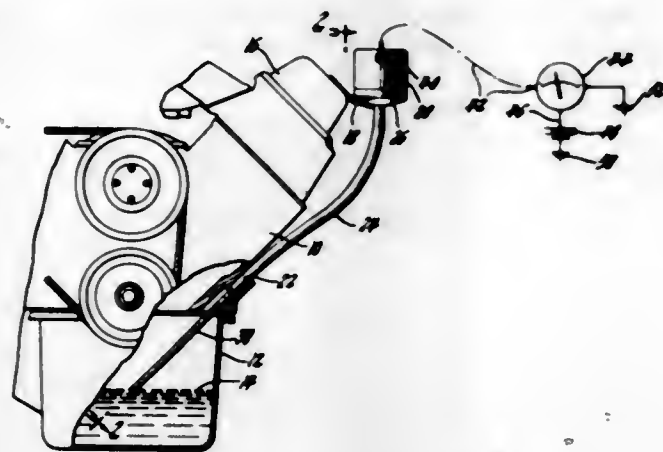
Arthur T. Crane, Burt, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Jan. 3, 1967, Ser. No. 606,714  
8 Claims. (Cl. 73-313)

This invention relates to liquid level indicating devices and more particularly to a unit activated by the applica-



tion of a vacuum to cause a float in the unit to impart a signal in accordance with a liquid level thereby to oper-

tioned so as to be energized when the shaft moves predetermined distances against the force of said opposing means.



ate an electrical gage which may be remote from the liquid.

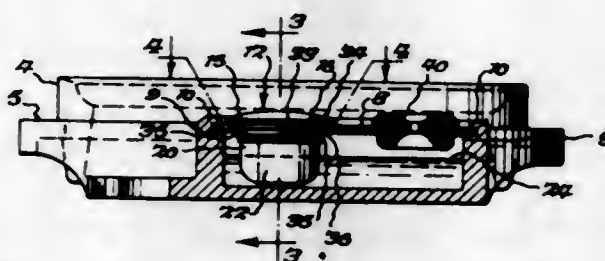
3,385,110

## LUBRICATOR LEVEL INDICATOR

Hyatt B. Atwood, Buffalo, and James N. McLean, Tonawanda, N.Y., assignors to Herr Manufacturing Company, Inc., Buffalo, N.Y.

Filed Dec. 2, 1965, Ser. No. 511,134

3 Claims. (Cl. 73-327)



The disclosure relates to lubrication of rings used in the spinning and twisting of yarns and particularly to indicators which indicate at a glance the level of lubricant in the oil cups. The disclosure also shows means for holding the indicators in correct relation to the oil cups or containers.

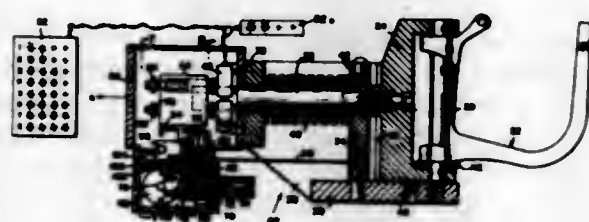
3,385,111

## MEASURING APPARATUS

John H. McGinn, 321 Berkeley Road, Merion Station, Pa. 19066

Filed Nov. 15, 1965, Ser. No. 507,941

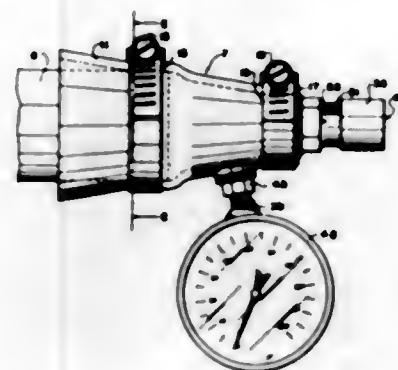
10 Claims. (Cl. 73-380)



8. A dynamometer for measuring the propulsive force exerted by an oarsman comprising an oarlock rotatably mounted in a yoke having a shaft extending therefrom adapted to slide axially, a frame positioned around the shaft to guide its movements in sliding back and forth, means limiting the axial movement of the shaft, means operatively connected to the shaft and opposing its axial movement in one direction, and measuring means posi-

A valve of the type used for obtaining samples for gas chromatographic analysis. An outer tubular member surrounds a composite inner tubular member comprising an outer shell and inner packing. These elements are provided with suitable aligned inlet and outlet ports. A reciprocable plunger is provided with a plurality of relatively short channels lying along the axis of the plunger, both ends of each channel includes a lateral opening for alignment with selected adjacent pairs of ports. Move-

3,385,112  
APPARATUS FOR CHECKING INTERNAL COMBUSTION ENGINES  
Earl C. Pruitt and Calvin L. Hughes, El Dorado, Kans., assignors to Wayne D. Cox, Jr.  
Filed July 16, 1965, Ser. No. 472,452  
4 Claims. (Cl. 73-420)



This invention relates to a new apparatus for checking engines, especially internal combustion engines, and/or the exhaust system thereof. In a more specific aspect, this invention relates to testing the condition of an engine with new apparatus to measure pressure on the exhaust system of the engine. In a still more specific aspect this invention relates to new apparatus for checking internal combustion engines by comparing relative pressure as indicated on a pressure gauge mounted on an exhaust pipe by creating a restriction therein to cause back pressure from the internal combustion engine. Additionally, this invention relates to an apparatus for checking internal combustion engines having a body means mountable upon the engine exhaust means and having a gauge means on said body means to measure the pressure within the exhaust means.

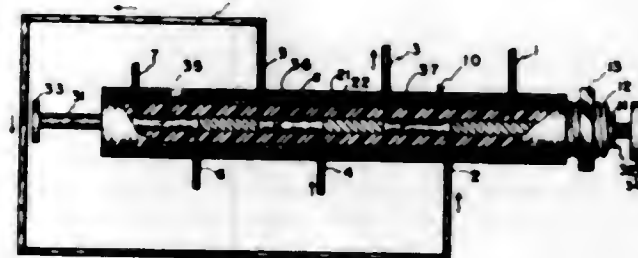
3,385,113

## MULTI-PORT VALVES

Reno Joseph Harris, Baton Rouge, La., assignor to Precision Sampling Corporation, a corporation of Louisiana

Filed Nov. 3, 1965, Ser. No. 506,230

7 Claims. (Cl. 73-422)



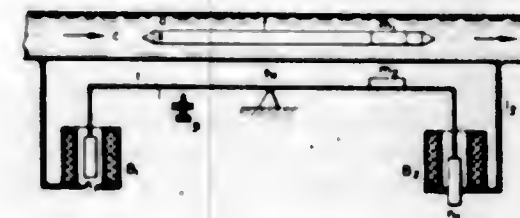
ment of the plunger within the valve changes the path of flow.

3,385,114

## DEVICE FOR CONTINUOUS LIQUID SPECIFIC GRAVITY MEASURING

Bartolomeu Capelo da Fonseca Franco Frazão, Lisbon, Portugal, assignor to Companhia União Fabril, S.A.R.L., Lisbon, Portugal, a Portuguese firm  
Filed Jan. 25, 1966, Ser. No. 522,960  
Claims priority, application Portugal, Feb. 26, 1965, 43,662

3 Claims. (Cl. 73-434)



An apparatus for measuring continuously the specific gravity of a fluid passing through a piping of nonferromagnetic material. A tubular float is pivotally mounted at one end in the piping and immersed in the fluid. A self-balancing electromagnetic weighing set is rigidly connected to the piping. The weighing set has a pivoted lever with a ferromagnetic core at one end and a permanent magnet at the other end. A second permanent magnet is mounted on the float and a third permanent magnet is mounted on the lever of the weighing set acting repulsively on the second magnet. A pivoting of the float due to a change in specific gravity of the fluid in the piping causes a pivoting of the lever which gives rise to a voltage change in the electromagnetic system which is recorded so as to register the specific gravity of the fluid circulating in the piping.

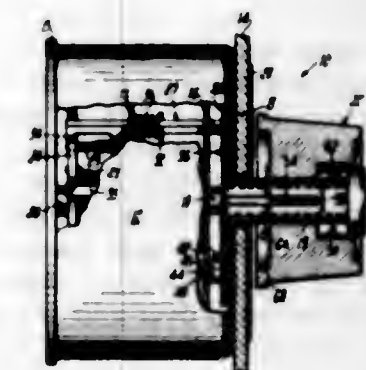
3,385,115

## CENTER PUSHBUTTON TIMER

James A. Draghi, Manchester, Conn., assignor to M. H. Rhodes, Inc., Hartford, Conn., a corporation of Delaware

Filed May 26, 1966, Ser. No. 553,104

6 Claims. (Cl. 74-354)



1. A preset timer comprising a frame, timing means including a setting shaft supported on said frame and rotatable in one angular direction from an initial timed-out position to set a desired time cycle and rotatable in an opposite angular direction in a time controlled manner toward said timed-out position, a movable control member supported on said frame for controlling an operation to be timed, a timing release shaft supported for movement on said frame, said release shaft posi-

tioned radially outwardly of the rotational axis of said setting shaft for releasably latching said control member, and means for operating said release shaft including an actuator coaxially mounted on one end of said setting shaft, and a lever having one end supported for pivotal movement on said frame and an opposite end disposed radially outwardly of said setting shaft in engagement with said release shaft, said lever being movable by said actuator for releasing said release shaft after the time cycle has been set.

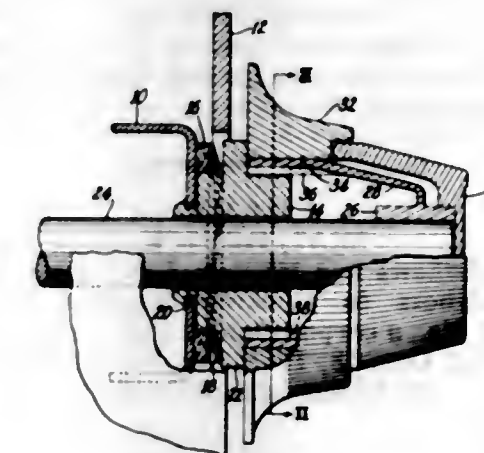
3,385,116

## COARSE-FINE CONTROL KNOB ASSEMBLIES

John H. Carlson, Danvers, and Hugh A. Robinson, Wrentham, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed May 23, 1966, Ser. No. 552,258

6 Claims. (Cl. 74-10.54)



1. A harmonic drive type dual control knob assembly for angularly adjusting a shaft comprising, in coaxial relation on the shaft, a circular spline freely receiving the shaft, a friction brake for resisting rotation of said circular spline about an axis of the shaft, a tubular flexspline having a spline portion circumferentially meshing at spaced localities of interengagement with the circular spline and another portion drivingly connected to the shaft, the splines of the flexspline exceeding those on the circular spline by two or a multiple thereof, and a fine adjusting knob mounted on said flexspline and formed internally to provide a wave generator for progressing said spaced localities of spline meshing, the frictional resistance to flexspline rotation afforded by said wave generator being less than that provided by said brake to the circular spline, the arrangement being such that the friction brake holds the circular spline against rotation during adjustive rotation of the fine adjusting knob, and the circular spline may be corotated as a coarse adjusting knob with the flexspline to drive the shaft in substantially 1:1 ratio.

3,385,117

## SINGLE DRIVING DEVICE OF A PLURALITY OF KITCHEN APPLIANCES

Arter K. H. Braun, Koenigsstein, Tannus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt, Germany

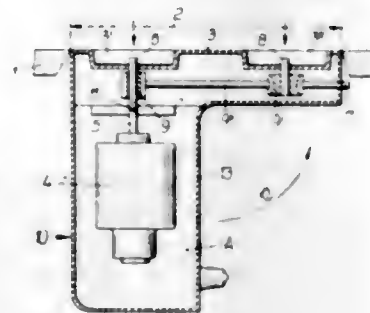
Filed Mar. 21, 1966, Ser. No. 535,978

10 Claims. (Cl. 74-16)

An appliance driving device, for a table-top having an opening, comprising a housing having a plurality of operating positions, means to rotate said housing about at least one axis parallel to the table top to bring said housing selectively into its operating positions; housing walls having parts formed to fit into and seal said opening in each of said operating positions; parts of said walls formed



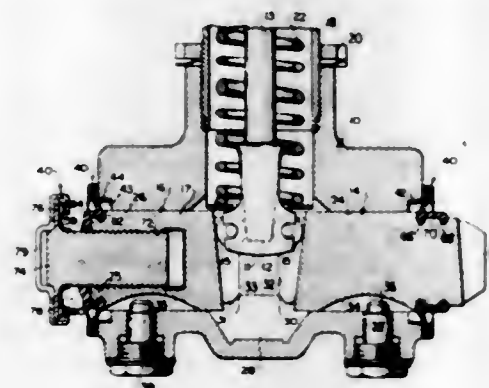
to provide working surfaces to supplement said table-top and to accommodate appliance accessories; at least one motor rigidly mounted within said housing; a motor drive shaft; a plurality of appliance connecting shafts mounted spaced in said walls perpendicularly to their respective said walls for use in said operating positions, parts of



said walls formed to provide appliance connecting shaft mounts at various elevations above the table top; shaft drive means to drive said appliance connecting shafts by said motor drive shaft; and at least one connecting shaft driven appliance for mating with said connecting shafts one at the time.

### 3,385,118 SEAL DEVICE

George P. Mathews and William J. Williams, Ashtabula, Ohio, assignors to Rockwell-Standard Corporation, Pittsburgh, Pa., a corporation of Delaware  
Filed Dec. 28, 1965, Ser. No. 516,852  
10 Claims. (Cl. 74-18.2)



A flexible seal device adapted to extend between a slidable brake shoe actuating plunger structure and an actuator housing comprises an elastomeric annulus of predetermined relaxed shape and an annular stiff retainer therefor, the annulus comprising a central hub having two axially spaced inwardly projecting plunger structure engaging lips and a radially outwardly extending axially flexible diaphragm terminating in an outer rim peripherally clamped to the retainer.

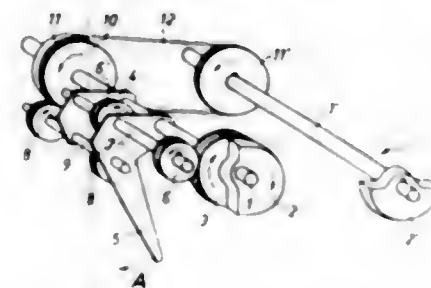
### 3,385,119

**SHAKING OR JARRING MECHANISM**  
Anton Edward Berger, Wendlingen, Germany, assignor to Delmag-Maschinenfabrik Reinhold Darnfeld, Esslingen (Neckar), Germany

Filed Oct. 18, 1966, Ser. No. 587,517  
Claims priority, application Germany, Oct. 22, 1965, D 48,486; Sept. 30, 1966, D 51,213  
10 Claims. (Cl. 74-61)

1. A shaking or jarring mechanism comprising a pair of parallel shafts laterally spaced from each other, an eccentric weight member on each shaft, a gear rigidly connected to and rotatable with each eccentric member, a rocker pivotably mounted on one of said shafts and adapted to be pivoted to any angular position within a complete circle, meshing gear means connecting said two

gears to each other for rotating said eccentric members simultaneously in opposite directions, a part of said gear means being rotatably mounted on said rocker and pivotable therewith about said one shaft so as to turn the

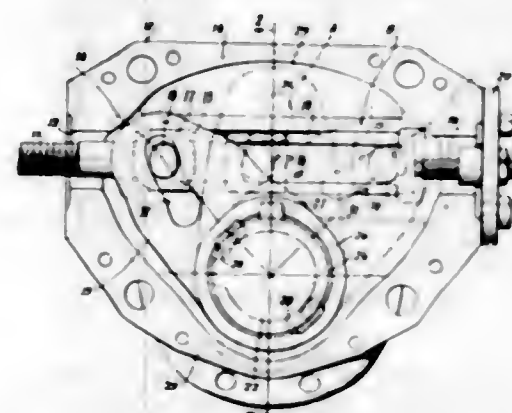


eccentric member about the axis of said shaft to a corresponding position relative to and independently of the position of the other eccentric member, and driving means connected to said gear means for driving said mechanism.

### 3,385,120

**AUXILIARY DRIVE UNIT FOR AN ACTUATOR**  
Peter Thomas Mence Nott, Ingatesone, Essex, England, assignor to Rotork Engineering Company Limited, Bath, England, a British company  
Continuation-in-part of application Ser. No. 330,964, Dec. 16, 1963. This application July 6, 1966, Ser. No. 563,258

10 Claims. (Cl. 74-107)



1. An auxiliary drive unit comprising a casing having a pair of longitudinally extending slots; an input member positioned in said casing for reciprocal movement therein; a pair of cross members mounted on said input member and extending at right angles thereto, said cross members being movable between a starting position and an ending position respectively located adjacent each end of said casing upon said movement of said input member; a roller rotatably mounted on each of said cross members and riding in a corresponding slot; an output shaft rotatably mounted in said casing, said output shaft having its longitudinal axis located in a plane transverse to the direction of movement of said input member, said plane passing through the midpoint of said two positions; a sleeve removably mounted over and engaging said output shaft; a pair of arms each having a longitudinal axis extending radially with respect to said output shaft; one end of each of said arms engaging said sleeve, and the other end of each of said arms being provided with a cam slot in which a corresponding cross member extends to transmit linear movement of said input member to rotary movement of said output shaft; said cam slots extending at an angle with respect to the longitudinal axis of said arms so that a greater torque is exerted on said output shaft during movement of said input member from said midpoint to said ending position, than from said starting position to said midpoint; and means to adjustably limit said movement.

### 3,385,121 METHOD AND APPARATUS FOR THE CYCLIC ROTATION OF CLUSTERS OF ARTICLES OF POLYGONAL PRISMATIC SHAPE

Eric Kenneth Curnow and Alfred Walter Gunter, Ottawa, Ontario, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada

Filed Apr. 26, 1965, Ser. No. 450,681  
Claims priority, application Canada, Mar. 10, 1965, 925,268  
8 Claims. (Cl. 74-128)



1. Apparatus for imparting intermittent and coextensive movement in alternate directions along a curved path to an article having a longitudinal axis disposed perpendicular the plane of said path and to turning said article about said longitudinal axis by selected acute angle during each movement in a selected one of said alternate directions, said apparatus comprising:

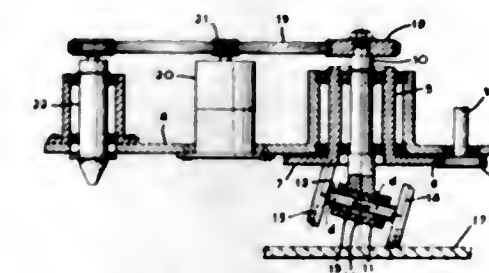
- (i) main support structure, and a unit comprising
- (ii) an article support rotatable about the said longitudinal axis of the article,
- (iii) elongate guide means having one end pivoted to said main structure and the other end carrying said article support, said guide means restraining said article support to movement along said curved path,
- (iv) an actuator on said main support structure having its moveable element coupled to said article support for imparting said movement along said curved path,
- (v) a series of projections on said article support, said projections being equally spaced and concentrically arranged in a plane perpendicular to and moveable about an axis aligned with the axis of said article support,
- (vi) pawl means mounted on said main support structure positioned for interaction with successive individual ones of said projections to impart said acute angular rotation to said article when said article support moves in said selected one of said alternate directions.

### 3,385,122

**DRIVE MECHANISM**  
George S. Jewell, Ancaster, Ontario, Canada, assignor to Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada, a company of Canada  
Filed Oct. 19, 1965, Ser. No. 497,882  
3 Claims. (Cl. 74-200)

In a line tracing machine, a friction wheel mechanism to provide a constant speed drive, comprising two friction wheels mounted on an axle which is fixedly tilted at a small angle relative to a driving surface which is a friction plate that rotates about a pivot point. One friction

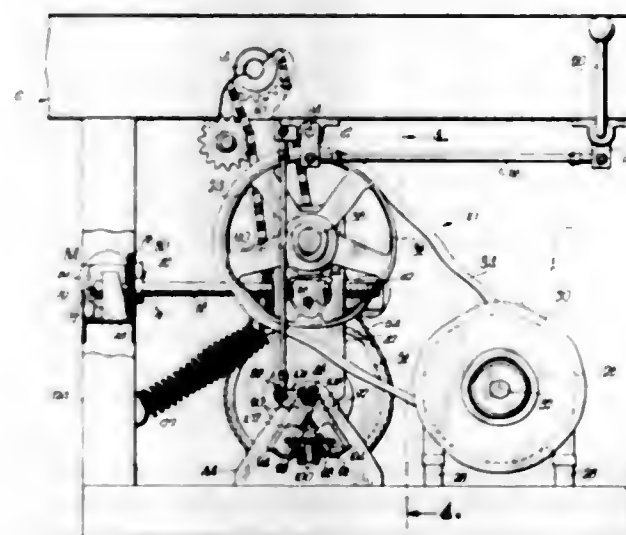
wheel is driven by the friction plate and each friction wheel is only in contact with one surface. The axle is allowed to rotate through any angle in the reference plane



about the pivot point. The distance from the pivot point to the centre of each wheel being adjustable and set such that the mechanism provides a constant speed drive.

### 3,385,123 DRIVE MECHANISM FOR ROLL DUPLICATOR

Donald A. Glaser, Woodrow W. Pendleton, and Carlton A. Bird, Emporia, Kans., assignors to Dide-Glaser, Inc., Emporia, Kans., a corporation of Kansas  
Filed Sept. 7, 1965, Ser. No. 485,340  
3 Claims. (Cl. 74-230.17)



A constant speed drive shaft is connected to a driven shaft by a belt and pulley assembly in which one of the pulleys is of the variable pitch type. Power from the driven shaft is transferred to a sprocket by a timing belt drive, the axes of rotation of the driven shaft and such sprocket being in parallelism. The driven shaft is journaled on mounting structure which may be pivoted about the axis of the sprocket, maintaining the axis of the driven shaft equidistant from the sprocket axis at all times. A servomechanism is coupled with the mounting structure to effect shifting of the latter as desired to control the speed of rotation of the sprocket.

### 3,385,124

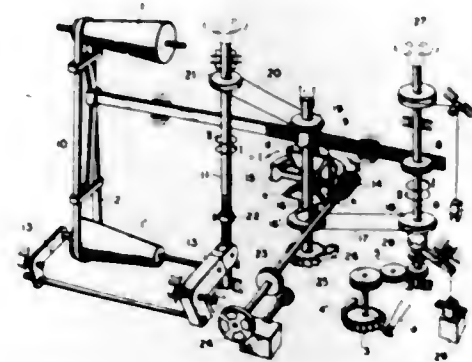
### APPARATUS FOR CONE BELT RETURN MOTION IN A FLY FRAME

Hidejiro Araki, Aichi-gun, and Kenji Tsujiloka, Kariya, Japan, assignors to Toyoda Automatic Loom Works, Ltd., Kariya, Japan  
Filed Nov. 8, 1966, Ser. No. 592,794  
2 Claims. (Cl. 74-242.3)

1. In a fly frame having a top cone drum, a bottom cone drum, a cone belt connecting said top and bottom cone drums, and a belt shifter for shifting said cone belt along said cone drums, an apparatus for cone belt return motion comprising a differential gear mechanism having one input member and two output members, cone drum lifting and lowering means for slackening and tensioning



said cone belt and connected to one of said two output members of said differential gear mechanism, means for actuating said belt shifter connected to the other of said



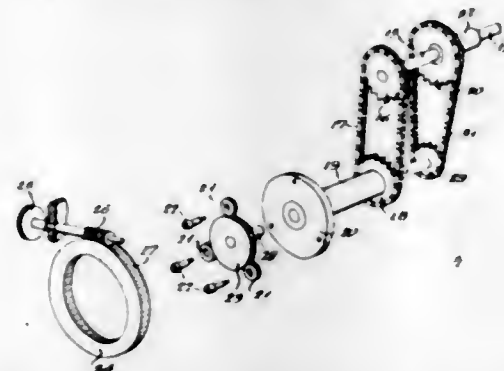
output members of the differential gear mechanism, and reversible rotating drive means driveably connected to the input member of said differential gear mechanism.

3,385,125

### DEVICE FOR CHANGING THE RADIAL RELATION OF TWO SHAFTS

William W. Plumb, Dallas, Tex., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed Sept. 21, 1964, Ser. No. 397,970  
3 Claims. (Cl. 74-395)



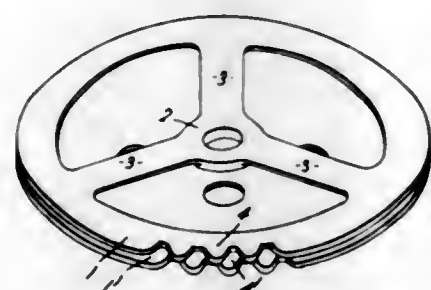
A mechanism for changing the operating position of a label-applying device in a machine for applying a label to a package so that the position of the label with respect to the package can be changed without stopping the machine, which includes a plurality of planetary gears meshed between a rotatable sun gear and a normally fixed rotatable ring gear.

3,385,126

### ANTI-BACKLASH GEAR

Maurice L. Flach, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 21, 1966, Ser. No. 544,163  
Claims priority, application Great Britain, May 21, 1965, 21,602/65  
5 Claims. (Cl. 74-440)



A one-piece double or split-type anti-backlash gear of moulded plastic material. The floating half-gear is spring biased by the resiliency of its integrally moulded spokes to

that the teeth of each half-gear are effective on opposite tooth flanks on a driving pinion in meshing relationship. The invention provides a cheap but permanent, alternative to the conventional arrangements using a rigidly mounted gearwheel and a floating one of the same diameter spring-coupled to the fixed one.

3,385,127

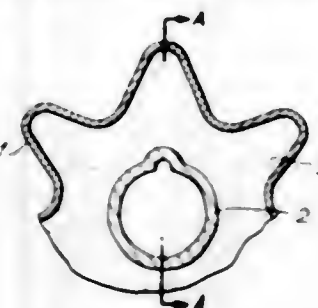
### GEARS FORMED OF SHEET METAL AND LIQUIDS

Masao Naruse, Tokyo, and Takehiko Kumasawa, Kurashiki-shi, Japan, said Kumasawa assignor to Shin-Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan

Original application Mar. 6, 1963, Ser. No. 263,273, now Patent No. 3,286,329, dated Nov. 22, 1966. Divided and this application Aug. 26, 1966, Ser. No. 575,371

Claims priority, application Japan, Mar. 12, 1962, 37/9,575

9 Claims. (Cl. 74-443)



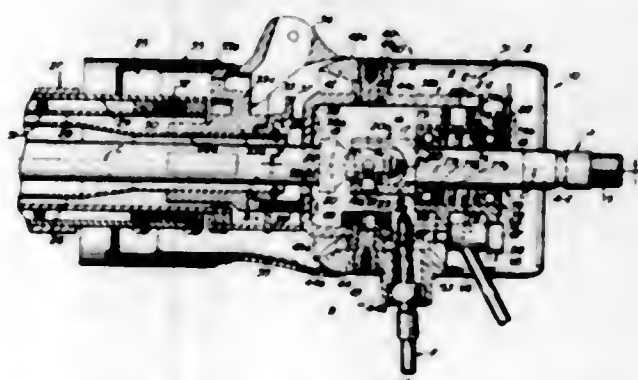
A toothed gear in which there is provided an enclosed space between an outer shell, a portion mounted in the outer shell and side plates; and a liquid filler material in said enclosed space.

3,385,128

### ADJUSTABLE STEERING MECHANISM

Thomas S. Reed, Glen Ellyn, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 26, 1965, Ser. No. 509,771  
7 Claims. (Cl. 74-493)



A tiltable steering column includes an outer housing with a J-shaped bracket having a tiltable head pivotally supported on the J-shaped bracket with interengaging teeth between the tiltable head and one leg portion of the J-shaped bracket.

3,385,129

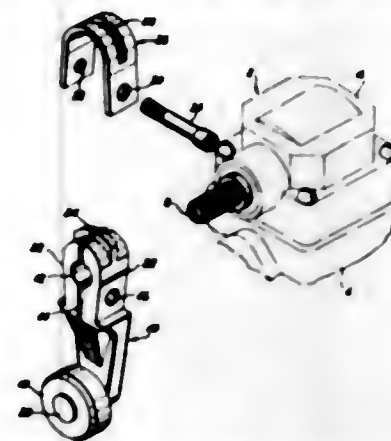
### MEANS FOR MOUNTING A LEVER TO A ROTATABLE SHAFT

Eugene F. Duncan and Carl E. Samers, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed July 7, 1966, Ser. No. 563,429  
6 Claims. (Cl. 74-545)

A reversible, hardened steel clamp surrounds the split end of a lever operator. A clamping screw passes transversely through the clamp and lever on the "free-end"

side of the shaft opening to take into a threaded hole in one leg of the clamp. Clamping pressure is applied by drawing the ends of the clamp together with the screw,



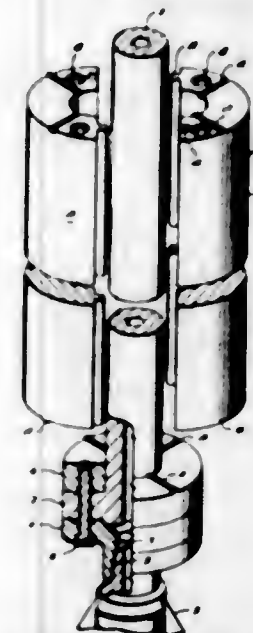
the pressure being localized to the plane of the transverse centerline of the shaft by lateral ribs on the lever and bends formed on the clamp legs.

3,385,130

### DOVETAILED DRILL COLLAR

Elvin G. Boice, Richmond, Va., assignor to Reed Roller Bit Company, Houston, Tex., a corporation of Texas

Filed Sept. 24, 1965, Ser. No. 490,025  
1 Claim. (Cl. 74-572)



In the making of large bore holes on the order, for example, of 48 inches to 72 inches in diameter for use in atomic bomb tests, vertical mine shafts, access bores and ventilation or escape shafts for mines, it is necessary to employ in the drilling procedure an enormous amount of drilling weight for use with the large drilling bit. The drill collar may weigh between 100,000 to 300,000 pounds and its diameter may be nominally 60 inches when employing a bit 72 inches in diameter. A drilling rig conventionally can accommodate only three drill collars connected end to end for a distance of 90 feet but said conventional collars thus connected would not provide the necessary weight for drilling large bore holes. The drill collar herein disclosed is intended for use under large bore hole conditions.

The drill collar of this invention has a central stem to which weights may be added to or removed from laterally thereof without the necessity of raising the weights over the upper end of the central stem. The central stem may be on the order of sixteen inches in diameter. The drill collar may be supported in a normal fashion from the top of the central member when installing or removing the weights therefrom, since each of the weights is provided for lateral installation about the central stem.

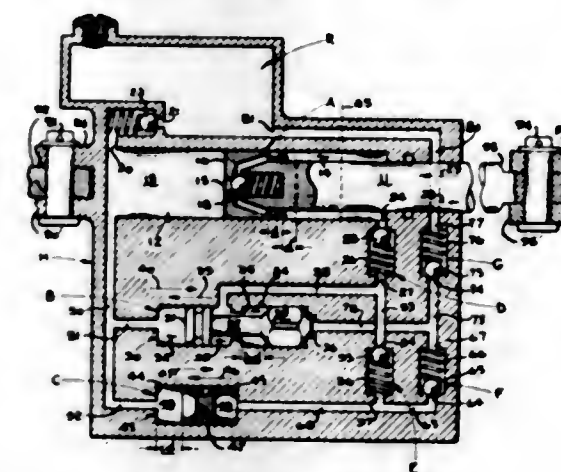
Thus, the weight does not have to be lifted over the top of the central stem, which usually is about 30 feet long, in order to install or remove such weight from the central stem.

3,385,131

### VIBRATION DAMPING MECHANISM

Leland V. Hall, 4169 Motor Ave., Culver City, Calif. 90230, and William B. Westerburg, 3321 Poinsettia, Manhattan Beach, Calif. 90266

Filed Aug. 19, 1966, Ser. No. 573,569  
10 Claims. (Cl. 74-574)



1. In an apparatus having first and second body members interconnected such that oscillatory movements of one body member can occur with respect to the other body member, and a damping mechanism for producing damping forces acting in opposition to oscillatory movements of the one body member such that damping forces of a predetermined magnitude act in opposition to any oscillatory movement having an amplitude falling within a preselected range of amplitudes, said damping mechanism comprising:

- (A) a source of liquid;
- (B) pump means having liquid-filled variable-volume first and second compartments of a character such that a decrease in the volume of one compartment causes a corresponding increase in the volume of the other compartment for affecting the pressurized condition of the liquid in said compartments, said pump means being interconnected between the first and second body members such that oscillatory movements of one body member occurring with respect to the other body member cause variations in the volumes of said compartments such that said volume variations correspond to the amplitudes of said oscillatory movements, and the pressurizing effect of said volume variations on the liquid in said compartments produces damping forces acting in opposition to the oscillatory movements of said one body member;
- (C) first liquid-conducting means connecting the source of liquid and the first compartment of the pump means such that liquid is conducted from the source into the first compartment when the pressure magnitude of the liquid in said compartment is less than the pressure magnitude of the liquid in said source;
- (D) second liquid-conducting means connecting the first and second compartments of the pump means such that liquid is conducted from said first compartment into said second compartment when the pressure magnitude of the liquid in said second compartment is less than the pressure magnitude of the liquid in said first compartment;
- (E) a mechanism responsive to compartment volume variations of the pump means for establishing a preselected range of amplitudes for the one body member oscillatory movements, said mechanism comprising



metering means having variable-volume first and second chambers of a character such that an increase in the volume of one chamber causes a corresponding decrease in the volume of the other chamber;

(F) third liquid-conducting means connecting said metering means to the pump means and the source of liquid such that variations in the volumes of the first and second compartments of said pump means are effective for transferring liquid from said compartments into the first and second chambers of the metering means for causing corresponding variations in the volumes of said chambers such that transferring liquid from said first compartment into said first chamber is effective for transferring liquid from said second chamber into said source of liquid, said third liquid-conducting means including

- a first passageway interconnecting the pump means first compartment and the metering means first chamber,
  - a second passageway connecting the pump means second compartment to the second chamber of the metering means, and
  - a third passageway connecting said metering means second chamber to the source of liquid;
- said metering means being so constructed and arranged that the capacities of the variable-volume first and second chambers are limited to preselected maximums such that preselected variations in the volumes of the first and second compartments of the pump means are required for filling said chambers with liquid to said preselected maximum capacities, and said preselected variations in the volumes of said first and second compartments being effective for establishing the preselected range of amplitudes for oscillatory movements of the one body member; and

(G) pressure-responsive means associated with the pump means, the metering means, and the source of liquid for establishing the predetermined magnitude of the forces acting in opposition to one body member oscillatory movements having amplitudes falling within said preselected range of amplitudes, said pressure responsive means including

- a plurality of valve means associated with the third liquid-conducting means for effecting a closed condition of the second passageway to liquid in the second chamber of the metering means and an open condition of said second passageway to liquid in the second compartment of the pump means when the pressurized condition of said second-compartment liquid exceeds a predetermined first pressure magnitude, and for effecting a closed condition of the third passageway to liquid in the source of liquid and an open condition of said third passageway to metering means second-chamber liquid when the pressurized condition of said second-chamber liquid exceeds a predetermined second pressure magnitude.

3,385,132

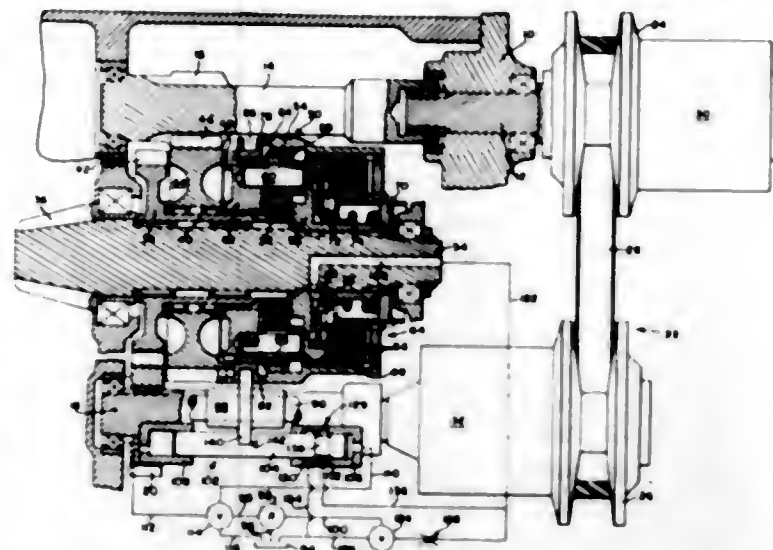
**TRANSMISSION CONTROL**

Edgar Paul Browning, Cedar Falls, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed May 23, 1966, Ser. No. 552,111  
10 Claims. (Cl. 74-689)

A combined variable-speed and planetary transmission having an engine-driven shaft which drives a variable-speed shaft through an infinitely-variable belt drive. The variable-speed shaft drives the sun gear of the planetary train, the ring gear of which is clutchable to the output

shaft. An annular collar is hydraulically shiftable on the planetary carrier to lock the ring gear to the carrier, locking up the gear train so that the output is driven by



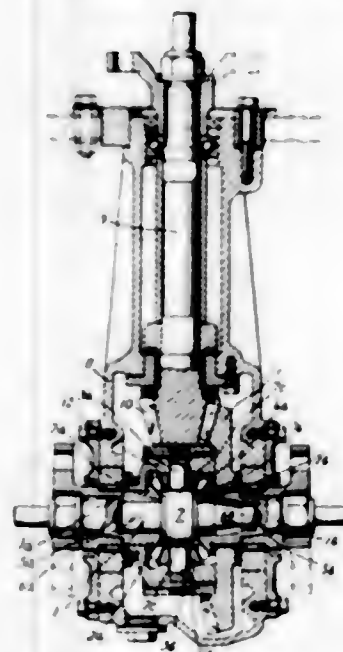
the variable-speed shaft; or to connect the carrier to the engine-driven shaft, establishing a dual input drive through the planetary gear train.

3,385,133

**DIFFERENTIAL GEAR MECHANISM**

Hiroshi Terao, Shizuoka-ken, Japan, assignor to Honda Giken Kogyo Kabushiki Kaisha, Chuo-ku, Tokyo, Japan

Filed Jan. 27, 1966, Ser. No. 523,390  
Claims priority, application Japan, Sept. 30, 1965,  
40/79,211  
4 Claims. (Cl. 74-710)



A differential mechanism in which a core shaft has one end fixedly secured in an output shaft and an opposite end rotatably secured in the other output shaft, the core shaft having an integral cylindrical spacer thereon which contacts the end faces of the pinion gears and the end faces of the bevel gears.

3,385,134

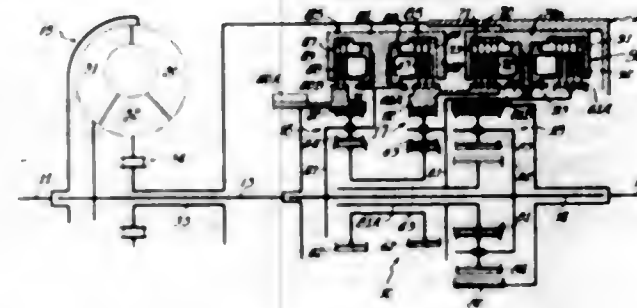
**TRANSMISSION MECHANISM**

James W. Crooks, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 13, 1965, Ser. No. 513,437  
5 Claims. (Cl. 74-759)

An improved automatic transmission mechanism providing five forward driving ratios through a planetary gear train in which each ratio is established by selective engagement of two friction devices of the overall four in the

transmission and in which the planetary gear sets are connected in such a manner that each shift from one ratio to the next is made by releasing only one of the engaged

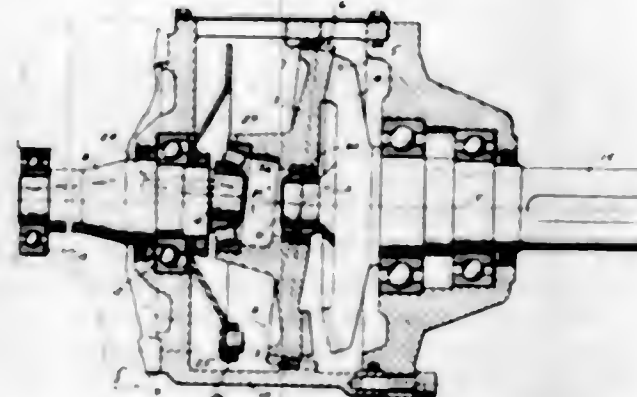


friction devices engaging another at no time necessitating releasing both engaged friction devices and engaging two different ones.

3,385,135

**MECHANICAL REDUCTION GEAR SYSTEM**

Bengt Sigurd Lennart Strandberg, Gullanget, Sweden, assignor to Aktiebolaget Haglund & Soner, Ornskoldsvik, Sweden, a corporation of Sweden  
Continuation of application Ser. No. 434,861, Feb. 24, 1965. This application July 26, 1967, Ser. No. 656,296  
5 Claims. (Cl. 74-800)



1. A mechanical reduction gear assemblage coupling a drive shaft (8) and a driven shaft (15) for driving the driven shaft at a predetermined rate of reduction, said gear assemblage comprising in combination:

- (a) a stationary gear casing (10);
- (b) a drive shaft (8) and a driven shaft (15) rotatably supported by said casing (10) in axial alignment with each other and extending into the casing;
- (c) a first journal (14) secured to said drive shaft (8) eccentrically in reference to the rotational axis thereof;
- (d) a primary gear (3) having an axially extended hub, the outer end of the hub being rotatably seated on said eccentric journal (14);
- (e) a second journal (31) mounted co-axially with said shafts and having a peripheral bearing surface convexly curved in reference to the axes of the shafts, the inner end of the hub of the primary gear having a concave bearing surface (30) rotatably seated on said second journal to impart to said primary gear (3) a non-rotational but cyclically nutating motion in response to a rotation of said drive shaft;
- (f) a secondary gear (4) fixedly mounted on said driven shaft, having on its side facing the primary gear conically disposed teeth;
- (g) a toothed ring (7) provided on an inner wall surface of said casing (10) concentrically with the axis of the drive shaft (8), the teeth of said ring extending lengthwise of said axis;
- (h) said primary gear (3) having a peripheral first ring (6) of teeth in mesh with said toothed ring (7) in any nutational position of the primary gear and on its side facing the secondary gear a second

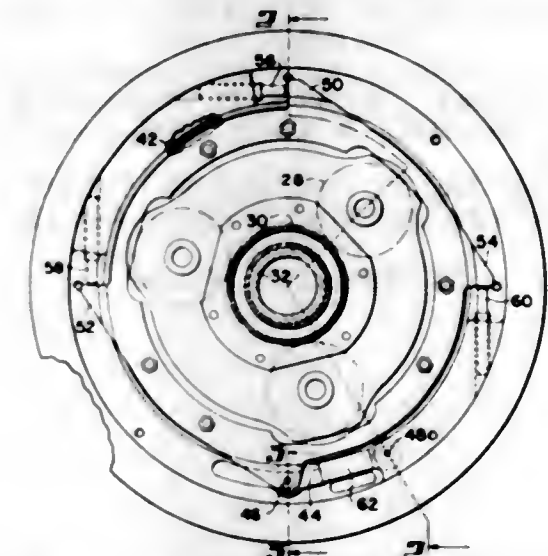
ring (5) of teeth in mesh with the teeth of the secondary gear, the number of teeth of the first ring of the primary gear being equal with the number of teeth of the casing ring and the number of teeth of the second ring of the primary gear being different from the number of teeth of the secondary gear;

(i) the radial center plane (B-B) of the toothed ring (7) on the casing (10), the radial center plane (C-C) of the peripheral toothed ring (6) on the primary gear (3) and the planes (D-D; E-E) of the meshing teeth (5) of the primary gear (3) and the secondary gear (4) all intersect at a common point (A), said common point constituting the center of the concave bearing surface (30) of the second journal (31).

3,385,136

**STRAIN GAUGE TORQUEMETER FOR MEASURING THE TORQUE IN EPI-CYCLIC TRANSMISSION**

Robert V. Berry, Trumbull, and Harry L. Ruzicka, Jr., Monroe, Conn., assignors to Avco Corporation, Stratford, Conn., a corporation of Delaware  
Filed Mar. 15, 1966, Ser. No. 534,523  
2 Claims. (Cl. 74-801)



The ring gear of a planetary gear set is mounted in bearings but is restrained from rotation by a fixed link carrying a strain gauge. The strain on the link measures shaft torque. Stops are provided for preventing rotation in the event of link failure.

3,385,137

**POSITIVE INDEXING MECHANISM**

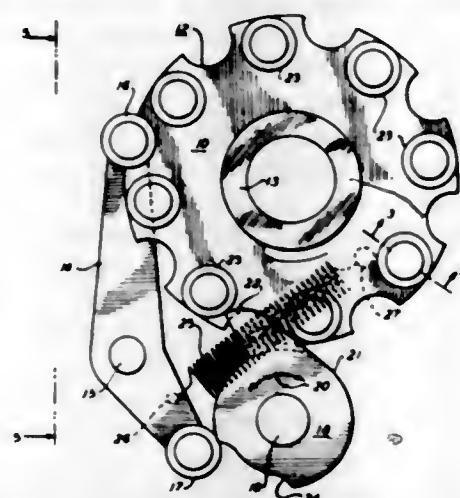
Allan Barden, 16 Katherine Drive, Lake Hiawatha, N.J. 07034  
Filed July 20, 1966, Ser. No. 566,530  
9 Claims. (Cl. 74-822)

1. A positive indexing mechanism for use in connection with a rotatably mounted driven wheel having a plurality of circumferential, inwardly directed slots and having a plurality of drive pins thereon, conforming to the stations of rotation to be imparted to the wheel, said indexing mechanism comprising an arm pivotally mounted adjacent the wheel, an arm operating roll on said arm and a locking roll also disposed on said arm, in spaced relation to said arm operating roll, being adapted for locking engagement with a wheel slot on movement of the arm in one direction, a driver for intermittent engagement with a drive pin for rotating the wheel from station to station on rotation of the driver, and for alternate engagement of the driver with the arm operating roller, to dispose the rocking roll in the wheel slot, locking the wheel.

8. In a positive indexing mechanism for use in connection with a rotatably mounted driven wheel as set forth in claim 1, said cam finger projecting from the driver



beyond the circumferential portion thereof, and a cam portion formed in said drive arm so that, on engagement of said operating roller of the arm with said cam portion, part of a carrier for several fluid-operated work clamping devices each of which comprises one or more pairs of work-engaging members.



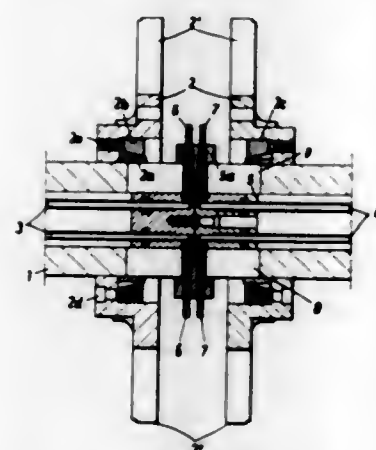
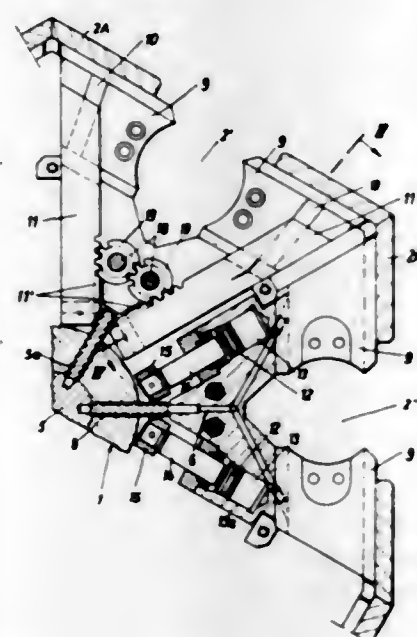
the said arm will be moved to move the locking roller out of the locking slot of the wheel and the driver finger will engage the drive pin, to rotate the wheel one station.

### 3,385,138 WORK SUPPORT FOR MULTI-STATION MACHINE TOOLS

Kurt Wüsteney, Dützen, über Minden, and Otto Lehmann, Senne, Germany, assignors to Werkzeugmaschinenfabrik Gildemeister & Comp., Akt.-Ges., Bielefeld, Germany

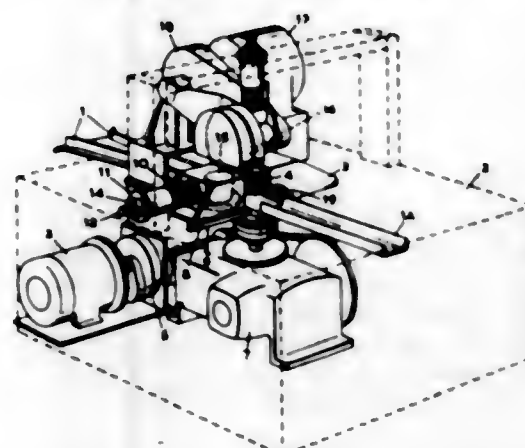
Filed Jan. 13, 1966, Ser. No. 520,495  
Claims priority, application Germany, Jan. 13, 1965,  
W 38,341

10 Claims. (Cl. 77-64)



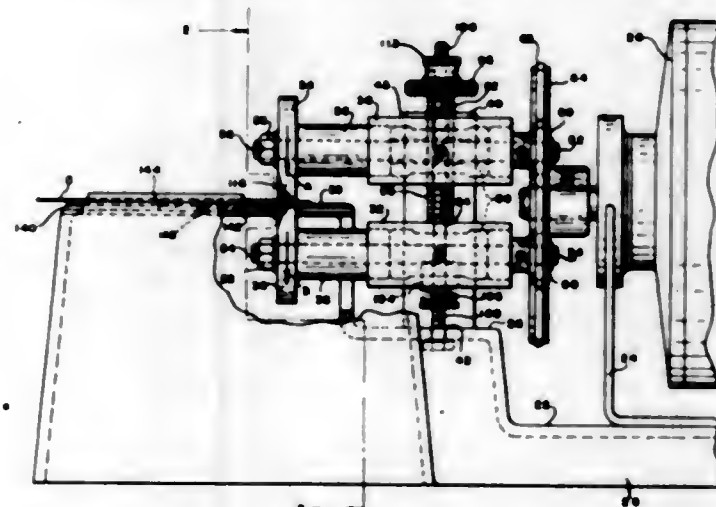
A work support for an opposed-head machine tool wherein an indexible shaft supports two disks forming

3,385,139  
**CABLE STRIPPING**  
Frank Lloyd, Gateshead, England, assignor to The English Electric Company Limited, London, England, a British company  
Filed June 12, 1967, Ser. No. 645,440  
Claims priority, application Great Britain, June 10, 1966,  
25,951/66  
8 Claims. (Cl. 81-9.51)



This invention is concerned with a machine for use in stripping off one or more layers of a cable casing quickly and efficiently. The machine comprises racking means, preferably a spiked driving wheel with a cooperating pressure wheel, for gripping the cable and feeding it longitudinally past a cutter, preferably a lamina grinding wheel, which cuts a longitudinal groove in the cable casing, after which the material on opposite sides of the groove can be splayed apart to enable the casing to be pulled off the cable core.

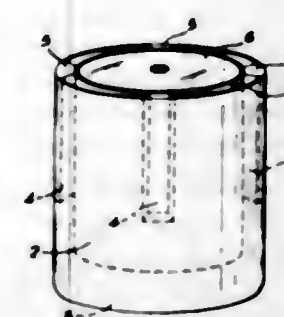
3,385,140  
**FLAT MULTI-CONDUCTOR STRIPPING  
APPARATUS**  
Hubert J. Carpenter, Manlius, and Kenneth L. Dunn, Fayetteville, N.Y., assignors to Carpenter Manufacturing Co. Inc., Manlius, N.Y., a corporation of New York  
Filed June 15, 1967, Ser. No. 646,311  
8 Claims. (Cl. 81-9.51)



Insulation stripper for use in the stripping of multi-conductor cable having conductors disposed in side-by-side relation and in a common plane, comprising a pair of parallel shaft bearings and shafts rotating at high speed in the same direction with like fiberglass insulation stripping wheels mounted on the shafts adjacent one another but spaced apart, screw adjustment means for fixing the

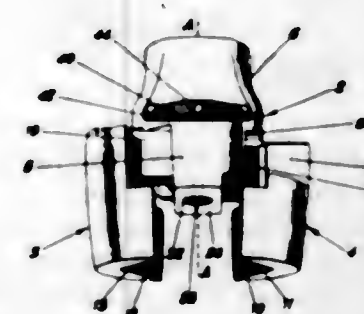
spacing between the adjacent peripheries of the wheels to correspond to the thickness of the conductors being stripped of insulation, whereby the adjacent peripheral elements of the wheels move in opposite directions to oppose the stripping forces exerted upon the opposite sides of the cable inserted between the wheels for insulation stripping.

3,385,141  
**OIL FILTER GLOVE HAVING INTERNAL SPACED  
FILTER ENGAGING ELEMENTS**  
Benton E. Norman, 501 Vermelle,  
Hot Springs, Ark. 71901  
Filed Sept. 23, 1966, Ser. No. 581,493  
2 Claims. (Cl. 81-90)



An oil filter removing boot with imperforate bottom and side wall embracing the oil filter. The side wall is spaced from the oil filter by spacers which grip the filter. In a preferred embodiment the spacers are axial strips on the side wall. In another embodiment the spacers are pivoted dogs on the side wall.

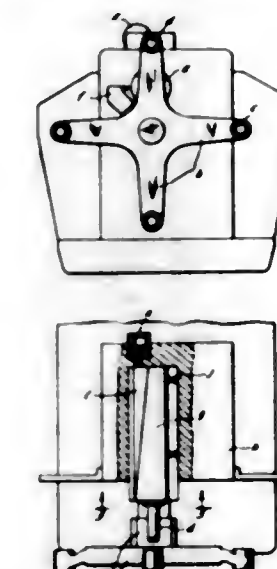
3,385,142  
**ADJUSTABLE HEADS FOR SOCKET WRENCHES**  
Thomas E. Cunningham, 1583 Hilldale Ave.,  
Niagara Falls, Ontario, Canada  
Filed Dec. 23, 1966, Ser. No. 604,355  
8 Claims. (Cl. 81-130)



An adjustable head for a socket wrench having a housing and a pair of jaws, each jaw having a toothed rack which engages a pinion within the housing whereby on rotation of the pinion the jaws move simultaneously so as to always be equidistant from the longitudinal axis of the housing. A feature is that the jaws may be locked in any desired position.

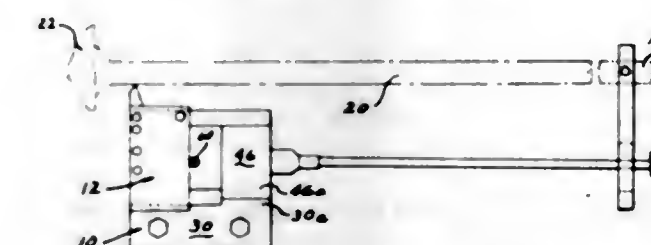
3,385,143  
**TURRET LATHE ADJUSTING STRUCTURE**  
Georg Walk, Rheyt, Germany, assignor to A. Monforts Maschinenfabrik, Monchengladbach, Germany, a corporation of Germany  
Filed Dec. 27, 1965, Ser. No. 516,358  
Claims priority, application Germany, Dec. 30, 1964,  
M 63,657; Oct. 23, 1965, M 67,029  
7 Claims. (Cl. 82-24)

In turret lathes with turrets having axes parallel to



dexed position of the turret for locating the tools accurately at their operating positions.

3,385,144  
**CUTTING TOOL MOUNTING APPARATUS FOR  
LATHES AND THE LIKE**  
David E. Stromberg, Traverse City, Mich., assignor to Stromberg Tool Company, Traverse City, Mich., a corporation of Michigan  
Filed Apr. 22, 1966, Ser. No. 544,524  
9 Claims. (Cl. 82-24)



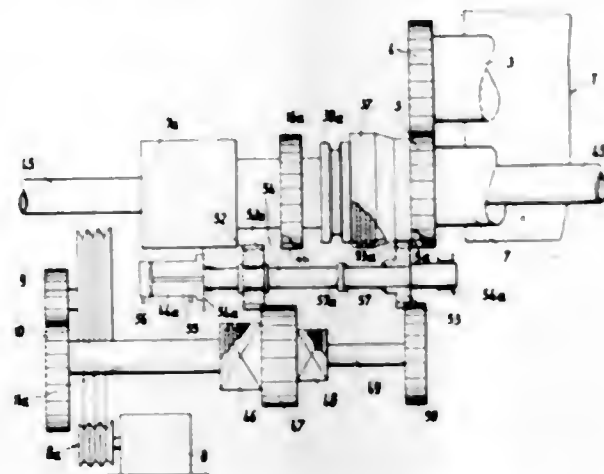
A cutting tool-mounting attachment for engine lathes including a base which is attachable to the carriage portion of the lathe and a tool-mounting member which is slidably carried on the base and spring-biased on the base into a normal position where the cutting tool carried thereby is advanced along the workpiece by the carriage for normal cutting operation, and further including a stop means in the form of a rigid link coupled to the tool-holding member and extending along the lathe for direct contact with an abutment means in the form of a stop or abutment fixedly secured with respect to the lathe, such that upon direct contact of the stop means and the afore-said abutment, the tool-holding member is stopped at a predetermined position along the workpiece whereas the base structure secured to the carriage portion is allowed to continue onward with the carriage portion by overcoming the biasing spring between the base and the tool-holding member, such that the lathe can be run at high speed while cutting threads or the like into the workpiece without danger of running the cutting tool past the desired point on the workpiece.

3,385,145  
**MACHINE TOOL**  
Hans Jacoby, Bielefeld, Germany, assignor to Werkzeugmaschinenfabrik Gildemeister and Co. Akt.-Ges., Am Hauptbahnhof, Bielefeld, Germany  
Filed Jan. 5, 1966, Ser. No. 519,174  
9 Claims. (Cl. 82-29)

A multiple-spindle machine tool wherein the spindles can be disconnected from the main drive and can be



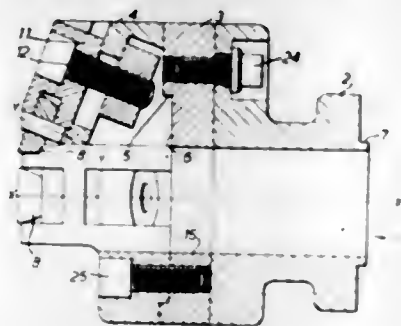
driven serially by an auxiliary drive which is outwardly adjacent to the circle described by the rear ends of spin-



dies and can rotate one spindle at a time during intervals between indexing movements of the spindle carrier.

### 3,385,146 BOX TOOLS

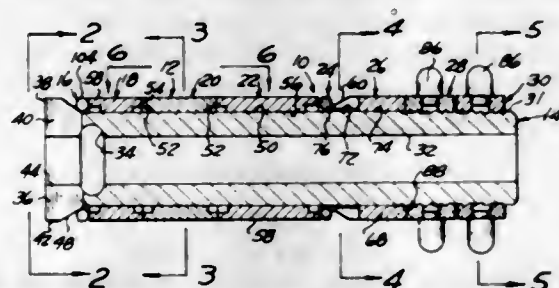
Kenneth Aubrey Joseph Head, 2 Edmund St., Swindon, England  
Filed Dec. 12, 1966, Ser. No. 601,089  
4 Claims. (Cl. 82-35)



A roller box tool for a turret lathe has a body formed in two parts, namely a mounting part for fixing to the machine turret, and a roller carrier part on which are mounted adjustable rollers and a turning tool holder; the two parts have locating surfaces which interengage to provide accurate relative location and the mounting part comprises a mounting section for attachment to the turret face and a location section which locates relatively to the roller carrier and is in the form of a plate bolted to the mounting section with a degree of float laterally of the turning axis when the bolts are slackened and with tool fitted.

### 3,385,147 EXPANSIBLE BORE-FITTING HOLDER

Andrew Eisele, 20460 Brookwood Ave., Dearborn Heights, Mich. 48127  
Filed Aug. 12, 1966, Ser. No. 572,075  
7 Claims. (Cl. 82-44)



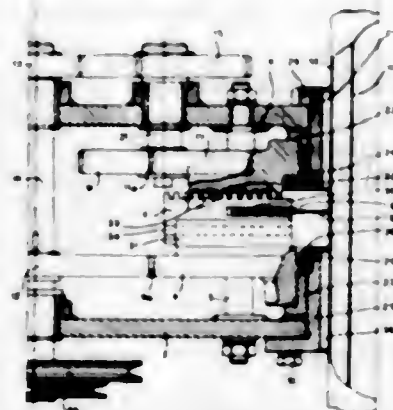
1. An expansible bore-fitting holder, comprising an elongated body having an enlarged forward end portion with a rearwardly-tapered ring-expanding surface thereon, a first resilient split ring mounted on said body in engagement with said rearwardly-tapered surface,

a spacer unit having a bore telescopically receiving said body and having a forward end engaging said first split ring, a second resilient split ring mounted on said body in engagement with the rearward end of said spacer unit, a ring expander mounted on said body and having a forwardly-tapered portion disposed in engagement with said second split ring, and means for urging said ring expander into radially-expanding engagement with said second split ring and concurrently urging said second split ring and said spacer unit and said first split ring axially along said body member toward said enlarged rearwardly-tapered forward end and thereby effecting radially-expanding engagement of said rearwardly-tapered surface with said first split ring, said expander having a substantially sharp forward edge internally engaging said second split ring and said expander having circumferentially-spaced slots therein dividing said tapered portion into spaced rearward fingers.

### 3,385,148 MACHINE TOOL FOR CUTTING AN ASSEMBLY OF COAXIAL TUBES INTO PARTS, PARTICULARLY THE CHANNELS OF A PRESSURE-TUBE NUCLEAR REACTOR

Learco Di Piazza, Bodio, René Leroy, Comerico, and Ermelino Monzani, Milan, Italy, assignors to European Atomic Energy Community—Euratom, Brussels, Belgium

Filed Apr. 13, 1965, Ser. No. 447,717  
Claims priority, application Belgium, Apr. 16, 1964, 519,192  
5 Claims. (Cl. 82-70.2)



1. A cutting machine for sectioning tubes coaxially and loosely mounted one into the other, comprising:  
(a) at least three generally horizontal cutting discs each having an upper face and a cutting bevelled edge; said upper face declining slightly from the center thereof toward said bevelled edge in relation to the horizontal plane and said edge declining more sharply than said upper face in relation to said plane;  
(b) means mounting said cutting discs equidistantly around said tubes, and  
(c) means causing radial displacement of said discs in relation to said tubes.

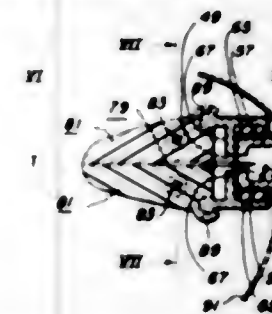
### 3,385,149 CUTTER MECHANISM FOR FABRIC OR SHEET MATERIAL

Joseph H. Johnson, Memphis, Tenn., assignor to National Manufacturing Company, Inc., Memphis, Tenn.  
Filed Feb. 8, 1966, Ser. No. 525,995  
6 Claims. (Cl. 83-175)

A cutter mechanism for fabric or thin flexible sheet material is disclosed which is adapted for use in cutting or severing sheet material along a rectilinear cut. The cutter mechanism includes an elongated platen member over which the sheet of material to be cut is adapted to be placed and a pivotally mounted clamping rail means

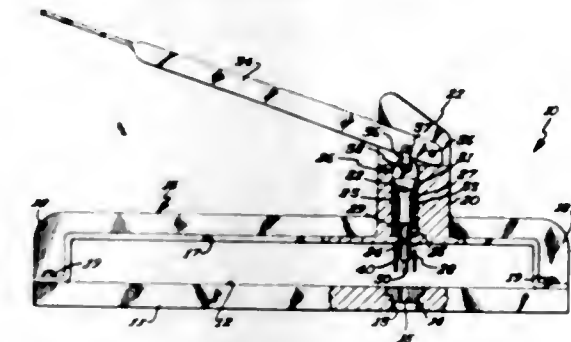
adapted to be pivoted into a position to clamp the sheet of material. The platen member has perpendicularly arranged primary and secondary surfaces and the clamping member has corresponding perpendicularly arranged

itate intercell welding. Means is provided to properly align the casings relative to the punch apparatus.



### 3,385,152 PAPER PUNCH

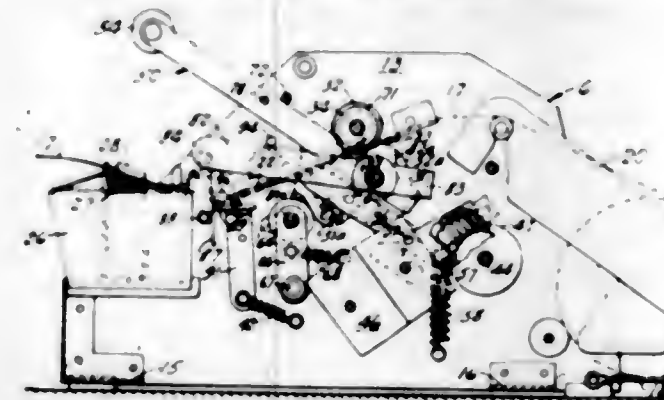
John R. Brown, 5541 Pleasant Ave. S. 55419, and Harlan W. Yates, both of Minneapolis, Minn.; said Yates assignor to said Brown  
Filed June 20, 1966, Ser. No. 558,888  
3 Claims. (Cl. 83-633)



primary and secondary clamping surfaces so that when the sheet material is clamped, the bight thereof will be disposed in a substantially U-shape along the top, bottom and end surfaces of the platen member. A carriage having a sharp-edge blade fixed thereto is movably secured on a pair of spaced runners to guide the carriage back and forth during the cutting of the sheet material.

### 3,385,150 TAPE DISPENSER

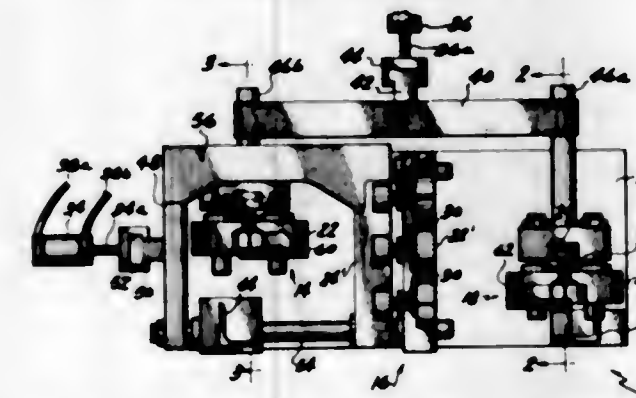
Alfred P. Krueger, Southbury, Conn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware  
Filed Mar. 24, 1966, Ser. No. 537,167  
4 Claims. (Cl. 83-241)



A random length electric tape dispenser having a control arm movable from a rest position to and past a tape feeding position which arm has a cam for controlling the position of a drive roll to move the same out of the tape feeding position in the rest position or when advanced past the operative position toward a severing position.

### 3,385,151 PIERCING PUNCH APPARATUS

Walter Carl Kirchberger and William Herman Rietz, Menomonee Falls, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware  
Filed Oct. 24, 1965, Ser. No. 504,661  
5 Claims. (Cl. 83-513)

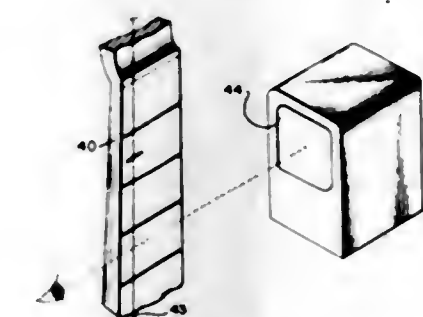


A piercing punch apparatus for forming openings in transversely disposed partitions of battery casings to facil-

A punch device for use in simultaneously perforating a plurality of similar answer sheets, including a substantially flat base having an opening therethrough, and a die positioned within said opening. A generally U-shaped support member secured to the base and extending upwardly therefrom, and having a body member integrally formed therewith intermediate the ends thereof. The body having a vertical bore therethrough accommodating an elongate punch therein. A spring engaging the punch and body member to urge the punch in an upward direction but permitting downward yielding movement thereof. An elongate actuating lever having one end pivotally connected to the body member, and a link extending between and pivotally connected to the lever and to the punch so that pivoting movement of the lever produces vertical shifting movement of the punch.

### 3,385,153 METHODS OF TUNING MUSICAL INSTRUMENTS

Carol E. England, 923 Maplewood Drive, Pittsburgh, Pa. 15234  
Filed May 18, 1965, Ser. No. 456,774  
5 Claims. (Cl. 84-455)

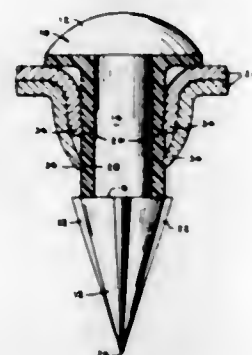


1. A method of tuning stringed musical instruments which comprises:  
(a) providing a stroboscopic light source which operates on a given frequency;  
(b) altering the effective vibrating length of the string to be tuned to a length which if the string were at the desired playing frequency it would vibrate at a rational fraction of a multiple frequency of the strobe light;  
(c) positioning the strobe light in alignment with the string to be tuned;



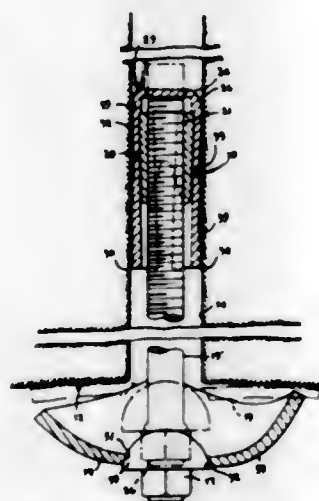
- (d) adjusting the tension in the string to be tuned so that a standing wave form appears as viewed against the strobe light; and  
(e) returning the string to its original length whereby the string will then vibrate at the desired playing frequency.

**3,385,154**  
**SHEET METAL FASTENER**  
Louis F. Miklos, Lake County, Ind.  
(6151 Delaware St., Gary, Ind. 46409)  
Filed Dec. 12, 1966, Ser. No. 600,851  
3 Claims. (Cl. 85-10)



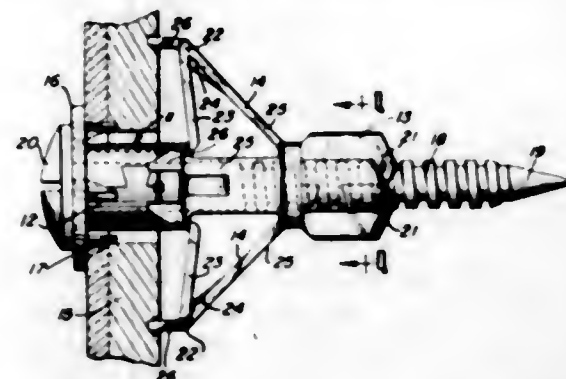
A nail device for connecting sheet metal being formed with a tapered end having a circular base which is larger in diameter than that of the cylindrical shank portion so as to provide a radially projecting shoulder therearound. A coat of elastomeric plastic is bonded to the shank and the overall diameter of the plastic coated shank is coextensive to slightly larger than that of the circular base of the tapered end. Upon piercing insertion of the nail device through the sheet metal, the ruptured edges thereof will become imbedded in the elastic plastic coat on the shank to effectively fasten the sheet metal to the nail device of this invention.

**3,385,155**  
**MINE ROOF BOLT EXPANSION ANCHOR**  
Leslie T. Mitchell, P.O. Box 381, Guelph, Ontario, Canada  
Filed June 17, 1966, Ser. No. 558,470  
Claims priority, application Canada, Dec. 21, 1965, 948,279  
1 Claim. (Cl. 85-62)



An improved rock anchor unit combining a strengthened crown structure and a triangular tension indicating washer.

**3,385,156**  
**SELF-DRILLING ANCHOR BOLT ASSEMBLY**  
Constantine D. Polos, Park Ridge, Ill., assignor to Dan Polos Industries, Inc., Addison, Ill., a corporation of Illinois  
Filed Mar. 30, 1966, Ser. No. 538,778  
6 Claims. (Cl. 85-68)



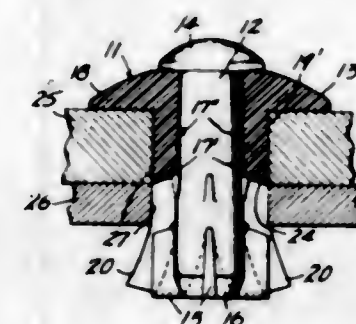
A self-drilling anchor bolt assembly provided with integral rotary means for drilling the hole in which the assembly is placed for use.

**3,385,157**  
**PLASTIC FASTENER**  
George M. Rapeta, Park Ridge, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Illinois  
Continuation of application Ser. No. 54,649, Sept. 8, 1960.  
This application Mar. 3, 1967, Ser. No. 633,645  
10 Claims. (Cl. 85-72)



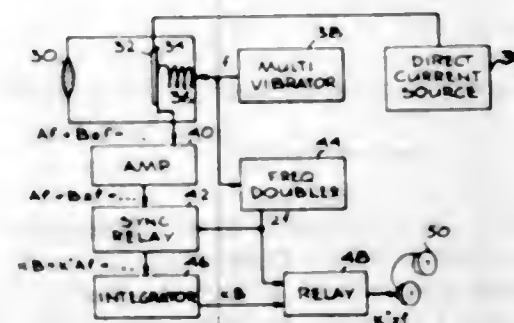
A plastic anchor or fastener for connection to an apertured work structure, which plastic fastener has a slotted shank providing separate sections to be expanded by a drive pin or expansion member. The shank sections have a peripheral portion defined by the plurality of alternate ribs and grooves providing a progressively diminishing mass, portions of the ribs being compressed into the grooves during assembly with the work structure and thereby presenting anchoring shoulders.

**3,385,158**  
**TWO-PART MOLDED BLIND RIVET**  
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware  
Filed July 27, 1966, Ser. No. 568,316  
3 Claims. (Cl. 85-77)



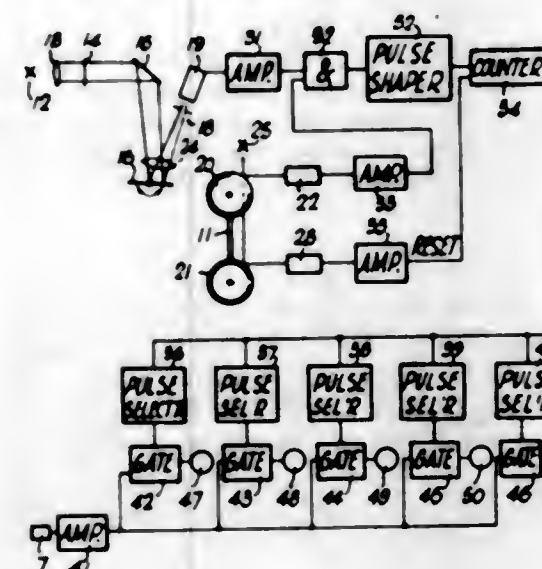
A blind rivet comprising a pin and sleeve part, the former having locking lugs which engage in slots separating the locking elements at one end of the sleeve part.

**3,385,159**  
**RANGING INSTRUMENT**  
James C. Bliss, Los Altos, and Hewitt D. Crane and Brian D. King, Palo Alto, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of Health, Education, and Welfare  
Filed June 1, 1964, Ser. No. 371,369  
6 Claims. (Cl. 88-1)



A lens is positioned to focus the light received from an object at a photocell which is vibrated at a fundamental frequency toward and away from said lens. The vibrational direction is along the optical path of said lens and traverses the focus plane of the lens. The photocell is made to have a nonlinear light to electrical signal output response characteristic. As a result, its electrical output is a signal having second harmonics and multiples thereof of the frequency of vibration of the photocell. The output signal may thereafter be processed to provide an indication, such as an audio signal among the presence of which indicates the presence of an object within the zone of interest and the amplitude of said signal indicates the position of said object within said zone of interest.

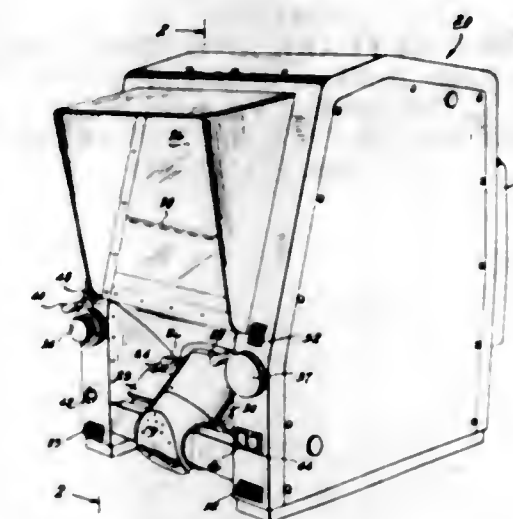
**3,385,160**  
**SCANNING SPECTROPHOTOMETER WITH PULSE REFERENCING**  
John Barker Dawson, Otley, and Duncan Jackman Ellis, Yeading, near Leeds, England, assignors to National Research Development Corporation, London, England, a British corporation  
Filed Jan. 25, 1965, Ser. No. 427,684  
Claims priority, application Great Britain, Feb. 4, 1964, 4,751/64  
4 Claims. (Cl. 88-14)



A high speed scanning spectrophotometer is provided which comprises a rotatable diffraction grating which repetitively oscillates to and fro, a slit through which light from the diffraction grating is directed and a detector for

receiving the light after it passes through the slit and converting the light into a repetitive electrical signal train. The spectrophotometer further comprises means including a mirror secured to the back of the diffraction grating for generating, in synchronism with the movement of the diffracting grating, a repetitive reference pulse train the pulses of which occur at instants corresponding to predetermined wavelengths of the spectrum of the repetitive electrical signal train, selection means for selecting a pulse of the reference train to gate the corresponding part of the signal train and means for measuring the magnitude of the gated portion of the signal train.

**3,385,161**  
**READER-COPIER APPARATUS**  
Ira M. Sage, New York, and Peter P. Fungitore, Bronx, N.Y., and Peter J. Totino, Edgewater, N.J., assignors to Old Town Corporation, Brooklyn, N.Y., a corporation of New York  
Filed Nov. 20, 1964, Ser. No. 412,729  
9 Claims. (Cl. 88-24)

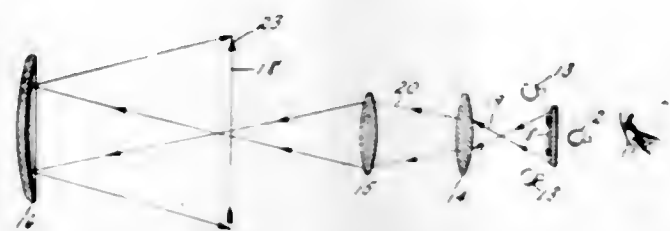


The reader-copier enlarges microfilm images and displays them on a large viewing screen. An editing bar extends across the screen and can be moved up and down the screen by the operator to delineate a certain portion of the image from the remainder of the image. Electrostatic copying means is provided for making copies of the images. Means directly coupled to the editing bar are provided for feeding from a roll a length of electrostatic copy paper proportional to the distance between the editing bar and the top of the viewing screen. Also, a corona charging unit is coupled to the editing bar so that the charging unit will charge only the amount of copy paper that is to be used in making the copy. An electrostatic copy developing unit is provided which has a magnetic toner applicator which is movable into and out of contact with the copy paper at the beginning and end of each developing operation. A disposable dispenser for toner powder is provided, and a flexible web is used for mixing the toner powder with the carrier particles in the developer unit. Novel means are provided for cutting the copy paper to correspond to the length of the copy printed thereon. The cutting means include a notching device which notches the paper, and means for sensing the notch and actuating a knife to cut the paper. The knife has a novel shearing action in which the blades move in the direction of the paper while they are cutting it so as to prevent binding of the paper in the blades. Novel means are provided for displaying an identification number on the viewing screen simultaneously with the display of the microfilm information, and printing that identification number on the copy paper adjacent the copy being made.



### 3,385,162 HIGH EFFICIENCY MIRROR PROJECTION SYSTEM

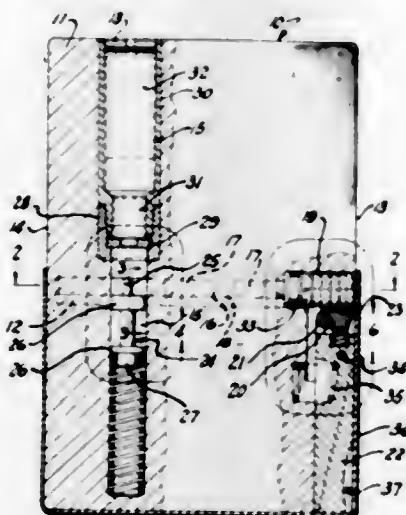
Tad J. Gaudyn, Box 22568, U.P.R. Station, Rio Piedras,  
San Juan, Puerto Rico 00928  
Filed Feb. 10, 1966, Ser. No. 526,626  
2 Claims. (Cl. 88—26)



A high efficiency mirror projection system including a holder for a subject image to be projected, a plurality of light sources for illuminating the subject image, an image magnifying lens, an object lens, and a concave spherical mirror.

### 3,385,163 LAUNCHER FOR FLARE AND SMOKE SIGNALS

Nicholas Kotikov, 3132 Unruh Ave.,  
Philadelphia, Pa. 19149  
Filed Oct. 20, 1967, Ser. No. 676,879  
7 Claims. (Cl. 89—1)

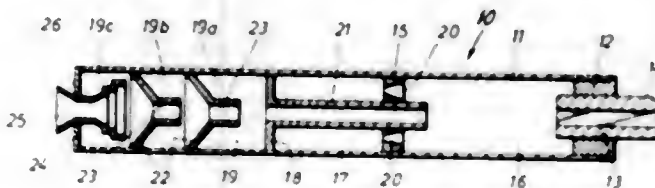


A launcher for flare and smoke signals comprising a rectangular container having therein parallel rows of vertical cavities. The aforesaid container houses in each of the cavities either flare or smoke signalling material and spring-loaded firing mechanisms. A trigger rod containing a plurality of recesses in each side thereof is mounted in a horizontally disposed cavity in the container. Horizontal movement of the trigger rod aligns the recesses of the trigger rod with the vertically disposed cavities for the release of the firing mechanisms.

**3,385,164  
SILENCER FOR SMALL ARMS**  
Karl-Heinz Walther, Ulm (Danube), and Siegfried F. Hübner, Stuttgart-Heumaden, Germany, assignors to Carl Walther, Ulm (Danube), Germany  
Filed May 6, 1966, Ser. No. 548,203  
Claims priority, application Germany, May 14, 1965, W 39,154  
8 Claims. (Cl. 89—14)

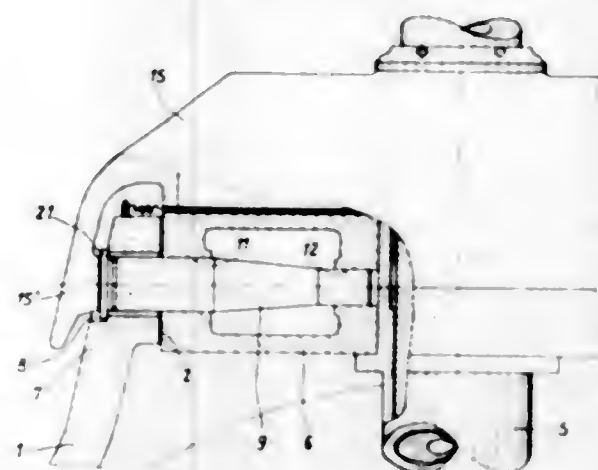
A firearms silencer comprising a tubular casing with a plurality of partition means therein to define a number of chambers with a passage therethrough for the projectile and a tube connecting the apertures of the partitions forming the second chamber from the muzzle end of the casing

for the passage of the projectile. There are openings in the partition between the first and second chambers with



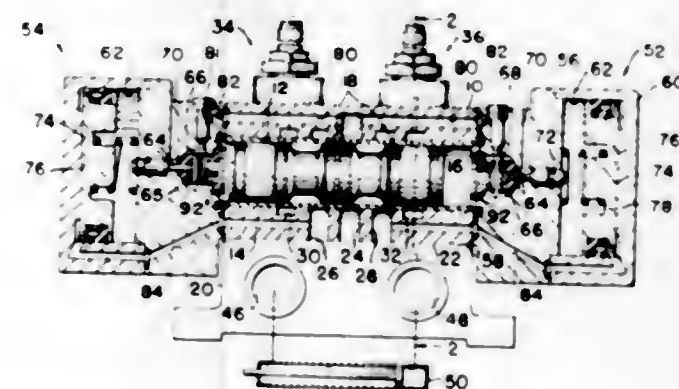
the openings tapering inwardly toward the second chamber.

**3,385,165  
CRADLE MOUNTINGS FOR GUNS IN  
ARMORED TURRETS**  
Otto Hildebrandt, Dusseldorf, and Franz Horn, Osterath (Lower Rhine), Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany  
Filed June 30, 1966, Ser. No. 561,928  
Claims priority, application Germany, July 3, 1965, R 41,013  
8 Claims. (Cl. 89—37)



A gun mounting in an armored turret having a cradle with laterally extending bearing members and an armored turret to receive a gun mounting cradle and bearing members with an armored shield connected to the gun cradle and covering the bearings. A gas and water-tight seal is provided between the turret and pin bearings.

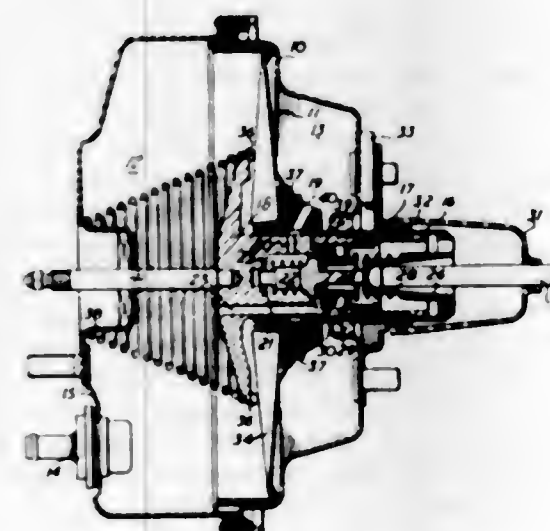
**3,385,166  
PNEUMATIC RECIPROCATING VALVE**  
Kenneth K. Krofke, Parma, Ohio, assignor to Airmatic Valve, Inc., Cleveland, Ohio, a corporation of Ohio  
Filed Aug. 15, 1966, Ser. No. 572,410  
9 Claims. (Cl. 91—306)



1. A pneumatically actuated reciprocating valve for alternately supplying pressure fluid to opposite ends of a power cylinder or the like, comprising a valve body

having a bore therein, an inlet port and a pair of work ports communicating with said bore, a valve spool reciprocable in said bore and operable upon reciprocation thereof alternately to connect each work port with said inlet port and the other work port to exhaust, means connecting said work ports to opposite ends of the power cylinder, passage means connecting said inlet port to opposite ends of said valve spool, each said passage means including a restricted orifice therein, an exhaust passage communicating with each end of said bore and a normally closed poppet valve in each said exhaust passage, pressure responsive means associated with each of said poppet valves and means connecting each work port with one of said pressure responsive means for actuating the latter, said pressure responsive means being operable upon actuation thereof to open the poppet valve associated therewith and exhaust one end of said bore thereby to permit the pressure fluid in the opposite end of said bore to shift said spool toward said one end of said bore, said pressure responsive means being operable to open their respective poppet valves only upon completion of a work stroke by the power cylinder.

**3,385,167  
FLUID PRESSURE OPERATED BOOSTERS**  
Alexander John Wilson, Warwickshire, and Harold Fineman, Birmingham, England, assignors to Girling Limited, Birmingham, England, a British company  
Filed Nov. 21, 1963, Ser. No. 325,227  
Claims priority, application Great Britain, Nov. 21, 1962, 43,985/62  
10 Claims. (Cl. 91—369)

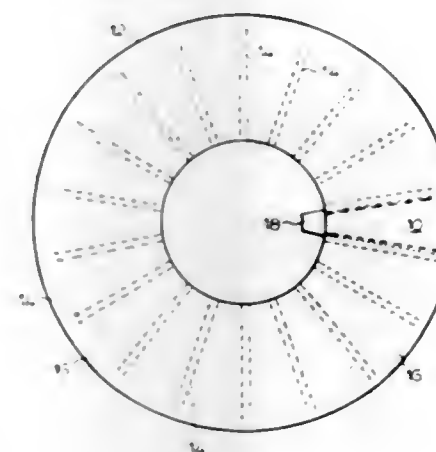


1. A fluid-pressure operated booster comprising a housing, a diaphragm dividing the housing into front and rear chambers and including a control valve mechanism comprising a pair of concentric sleeves of which the inner sleeve is generally of mushroom shape having on its forward end a head of substantial diameter, a valve spool working in a blind bore in the inner sleeve and having a valve stem engaging with a forwardly extending axial portion of the outer sleeve which is recessed to receive an actuating rod, and a flexible rubber insert connected to the inner sleeve and against which the valve spool seats resiliently to prevent air entering the rear chamber when the booster is de-energised and both chambers are connected to a source of vacuum, a centrally apertured resilient or flexible sheet metal disc in front of the diaphragm and engaging at its inner edge with a forwardly facing annular shoulder on the outer sleeve and at an intermediate point in its radial length with abutment means on the head of the inner sleeve, in which operation

of the actuating rod moves the outer sleeve forwardly to apply a forwardly directed force to the inner edge of the disc and at the same time advancing the valve spool until the rubber insert engages with an annular seating in the inner sleeve thereby cutting off the vacuum supply to the rear chamber, further movement of the actuating rod moving the valve spool away from the rubber insert so that air is allowed to pass into the rear chamber energising the booster and subjecting the diaphragm to differential pressure which moves the diaphragm forwardly taking with it the outer sleeve and actuating a force transmitting member through the inner sleeve and causes the disc to dish or deform conically and apply a rearwardly directed force to the outer sleeve by the engagement of the inner edge of the disc with the annular shoulder of the outer sleeve, which force is transferred to the actuating rod to provide pedal "feel."

### 3,385,168 DIFFERENTIAL PRESSURE OPERATED BOOSTERS

Harold Fineman, Moseley, Thomas G. Lawson, Sheldon, and Reginald M. Bowmer, Kingsheath, Birmingham, England, assignors to Girling Limited, Tyseley, Birmingham, England  
Filed Mar. 28, 1966, Ser. No. 537,841  
Claims priority, application Great Britain, Mar. 30, 1965, 13,344/65  
6 Claims. (Cl. 91—369)



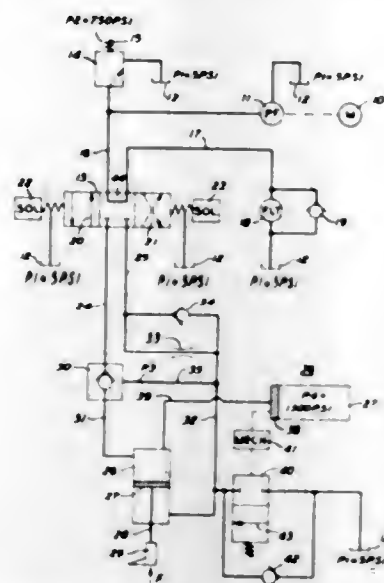
For use in differential pressure operated booster a deformable annular plate structure for applying a force against an operator's foot to provide feel, the plate comprising a composite structure of a pair of identical sheets of plastic or the like in face to face relationship and radially joined together along circumferentially spaced lines to provide pockets for the insertion of individual fingers, the slots simultaneously maintaining the fingers in circularly spaced and radially fixed relationship thereby defining a radially slotted annular plate.

**3,385,169  
HYDRAULIC SYSTEM FOR MAINTAINING THE  
POSITION OF A FLUID MOTOR**  
Albert L. Hale, Berkeley Heights, N.J., and Francis A. Reidy, Brooklyn, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Filed Sept. 30, 1965, Ser. No. 491,593  
12 Claims. (Cl. 91—390)

A hydraulic system is disclosed which controls within a specified range the position of a component and also allows for relief movement of the component when subjected to forces above a predetermined magnitude. On

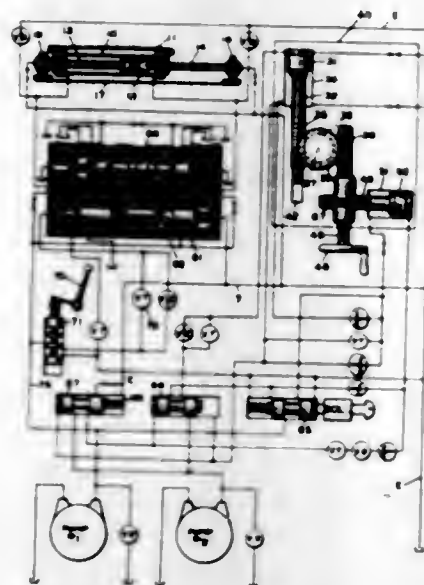


removal of this force the component is returned to its last position. The relief and return mechanism operates



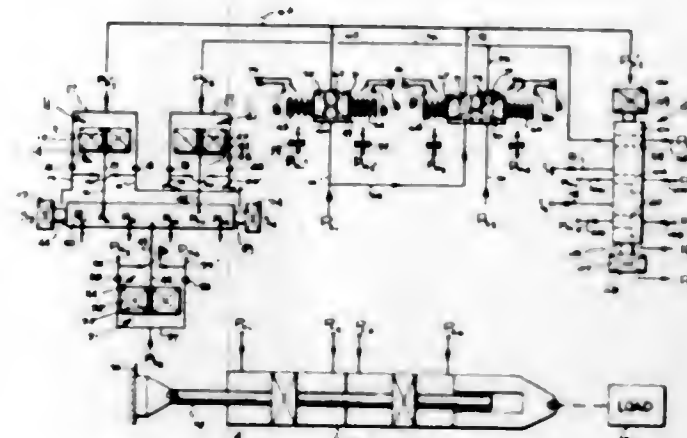
the same regardless of the position of the component at the time the force is applied.

**3,385,170**  
**SELECTOR VALVE FOR A HYDRAULIC CIRCUIT**  
Ralph E. Price and Kurt M. Gebel, Waynesboro, Pa., assignors to Landis Tool Company, Waynesboro, Pa.  
Filed Nov. 17, 1965, Ser. No. 508,236  
8 Claims. (Cl. 91-411)



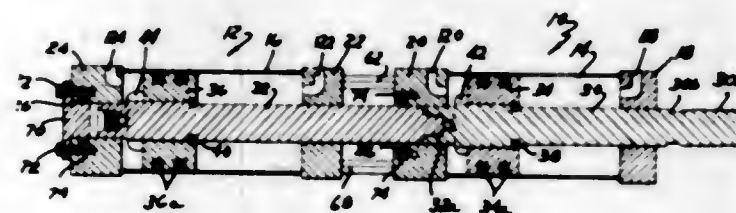
The apparatus of this application relates to grinding machines in which a common supply of fluid under pressure is used to actuate both the traverse mechanism and the feed mechanism. After a grinding wheel has been advanced to a position to begin a grinding operation, a valve is shifted to disconnect the feed mechanism from the common supply prior to initiating the traverse movement of the work relative to the grinding wheel. The valve which disconnects the feed mechanism from the supply of fluid which continues to provide a traverse movement, acts to connect the feed mechanism with a relatively low volume supply of fluid under pressure. The lower pressure and volume are sufficient to hold the grinding wheel in grinding position and also to actuate the portion of the feed mechanism which acts through the hand wheel shaft to advance the grinding wheel a short distance at a rate suitable for grinding. Thereafter, when the traverse mechanism is reversed, a momentary increase in pressure which normally occurs at the reversal point will not be transmitted to the feed mechanism.

**3,385,171**  
**HYDRAERIC REDUNDANT CONTROL SYSTEM HAVING STEADY STATE FAILURE DETECTION CAPABILITY**  
Derek Wood, San Valley, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware  
Filed Dec. 27, 1965, Ser. No. 516,252  
7 Claims. (Cl. 91-461)



Disclosed is a redundant control system which includes three electro-hydraeric servo valves having common signals applied thereto. One control valve (power valve) is connected to an actuator which in turn is connected to position a load in accordance with the common command signals applied to the servo valve, one of the servo valves having output pressure signals applied to end areas of the control valve for controlling the positioning of the same to in turn control the flow of hydraeric fluid to the actuator as is well known. Each of the servo valves includes a flapper-nozzle combination with a feedback spring connected between the control valve and the flapper. The output signals from the two remaining servo valves are utilized in the system as monitor signals. The monitor signals are connected respectively through restriction orifices to the end areas of slide valves through which hydraeric fluid under pressure is ported. The slide valves have indicators connected thereto (for example, switches which actuate indicator lamps) to provide a signal to an operator that an error has occurred. There is also provided an engage valve through which the flapper-nozzle signal from one of the servo valves may be applied. In the event of a failure of the flapper-nozzle or servo valve which applies the control signals to the control valve, the output signal from this one monitor may be applied to the control valve, thereby to assume the control function of the system.

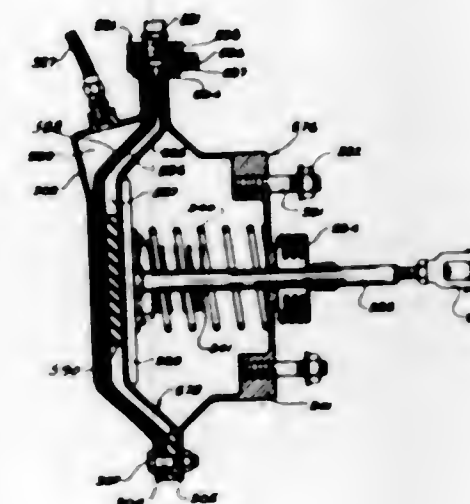
**3,385,172**  
**DETACHABLY GANGED VARIABLE CAPACITY CYLINDER CONSTRUCTION**  
Sylvan James Kamlinga, 2445 Fletcher Drive NE., Grand Rapids, Mich. 49506  
Filed Mar. 31, 1966, Ser. No. 539,090  
5 Claims. (Cl. 92-61)



A fluid power system comprised of a plural number of individual power cylinders detachably ganged together in an end-to-end aligned manner, wherein the attachment

between each end-to-end pair of such cylinders comprises a plurality of stud-like connecting members extending between the adjacent end closure plates of such a pair of cylinders to space such end plates a predetermined distance and rigidly interconnect such pair of cylinders.

**3,385,173**  
**AIR BRAKE CYLINDER CONSTRUCTION**  
Arthur B. Eaga, 728 1/2 Franklin Ave., Columbus, Ohio 43205  
Original application Apr. 29, 1963, Ser. No. 282,525.  
Divided and this application Jan. 25, 1966, Ser. No. 539,600  
5 Claims. (Cl. 92-62)



A dual chamber air brake cylinder is provided for use in braking systems for vehicles wherein both a main fluid pressure system and an auxiliary fluid pressure system are provided for supplying pressure to the brake mechanisms. The disclosure particularly relates to brake systems where the auxiliary fluid pressure system automatically supplies pressure to the brake cylinders upon failure of the main fluid pressure system of the vehicle. The cylinders disclosed utilize two flexible diaphragms both of which are operable to force the brake actuating rod towards its brake applying position.

**3,385,174**  
**MODIFIED DIAPHRAGM ASSEMBLY**  
Howard C. Crosland, Dutchess County, N.Y., assignor to Chemical Rubber Products, Inc., Beacon, N.Y., a corporation of New York  
Filed Oct. 4, 1965, Ser. No. 492,383  
3 Claims. (Cl. 92-100)

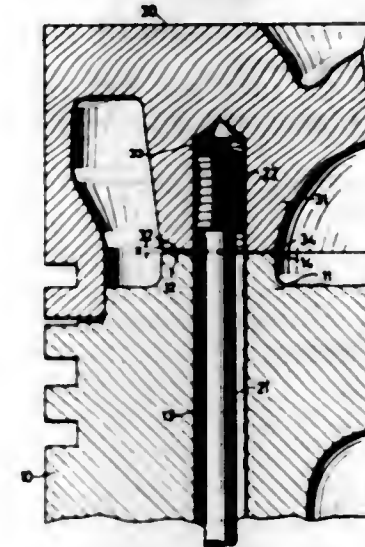


A diaphragm assembly with a continuous flexible diaphragm separating two rigid plate members, the two plate members having a recess and a corresponding projection opposite thereof to permit a snap-in fit of the rigid plate members in conjunction with the continuous diaphragm material to hold the assembly together without piercing the diaphragm.

**3,385,175**  
**PISTON**

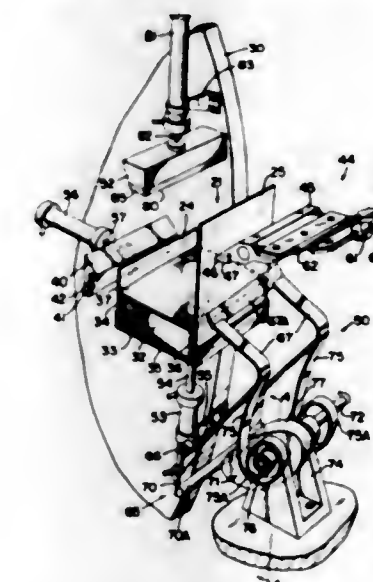
Alfred Meier, Neellingen, über Esslingen, and Rudolf Meier, Stuttgart-Weilmündorf, Germany, assignors to Mahle Komm.-Ges., Stuttgart-Bad Cannstatt, Germany

Filed Oct. 7, 1966, Ser. No. 585,087  
Claims priority, application Germany, June 15, 1966, M 69,849  
1 Claim. (Cl. 92-176)



A piston having a light metal body and a separable head of low heat conductivity held together with bolts, the surfaces of intersection of the body and head forming an outwardly diverging slot with said surfaces being in contact only at their inner edges at room temperature.

**3,385,176**  
**METHOD AND APPARATUS FOR MAKING A CIGARETTE PACKAGE CONSTRUCTION OR THE LIKE**  
William C. Whitaker, Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware  
Filed May 31, 1966, Ser. No. 553,732  
20 Claims. (Cl. 93-12)



1. Apparatus for forming container means from a blank comprising, folding means for folding opposed end portions of said blank in overlapping relation, said folding means including heating means for heat sealing said end portions together by heating a predetermined area thereof upon being brought into a heating position, interim holding means for holding said end portions in overlapped relation during removal of said heating means from said heating position, and clamping means engaging said entire area and holding said end portions clamped together



to provide an improved bond therebetween, said interim holding means cooperating with said heating means and said clamping means to hold said end portions in overlapped relation during the interim time required to physically remove said heating means and bring said clamping means in clamping position.

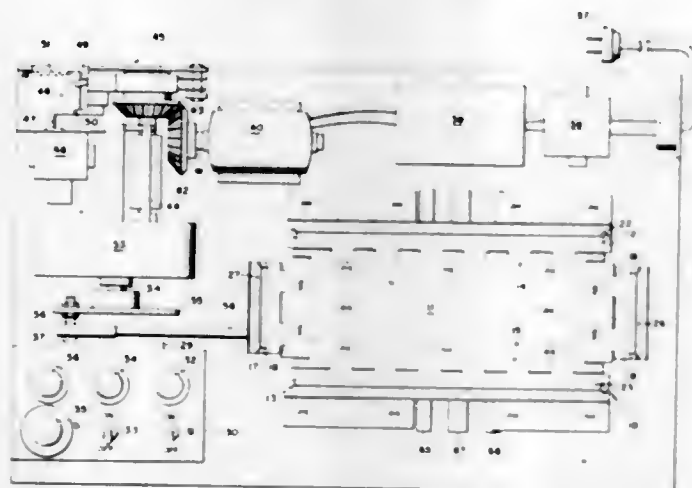
3,385,177

**MACHINE FOR SETTING UP CARTONS**

Frederick T. Waterhouse, Wilbraham, Mass., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 27, 1965, Ser. No. 483,033

8 Claims. (Cl. 93-49)



A machine for setting up collapsed display cartons having a hollow wall around the periphery of the formed carton, with pivotally attached walls raised in a predetermined order by means of a reciprocating carriage having particularly shaped cam follower tracks with three cam followers in those tracks, each connected to and controlling the movement of a reciprocating block and an idler wheel element connected to one of said blocks.

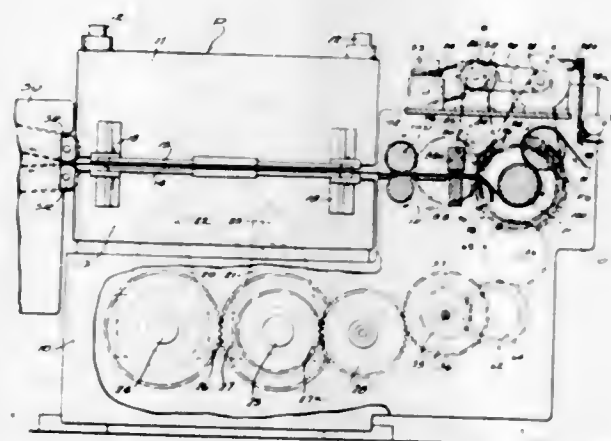
3,385,178

**DRIVE MECHANISM FOR CARTON BLANK FORMING PRESS**

Peter Zernov, Menomonee Falls, Wis., assignor to Zerand Corporation, Menomonee Falls, Wis., a corporation of Wisconsin

Filed Nov. 23, 1966, Ser. No. 596,478

5 Claims. (Cl. 93-58.3)



Carton blank forming presses in which a web is intermittently fed into and out of a blank forming press having a pair of continuously active metering feed rolls, a pair of positively driven and intermittently active feed rolls, a brake bar between the pairs of feed rolls to arrest the

travel of the web and build up a loop therein between the two pairs of rolls during each carton forming stroke of the press.

3,385,179

**CYLINDRICAL ARTICLE AND METHOD AND APPARATUS FOR THE PRODUCTION THEREOF**

Sheldon F. Roe, Jr., Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed June 1, 1965, Ser. No. 460,018

8 Claims. (Cl. 93-94)



This application discloses a method and apparatus for the production of a composite spirally-wound tube having first and second radially successive structural paper plies in which the structural plies are bonded to one another by a high molecular weight heat-softenable plastic material which is applied during the winding operation to one of the structural plies by extrusion at elevated temperature.

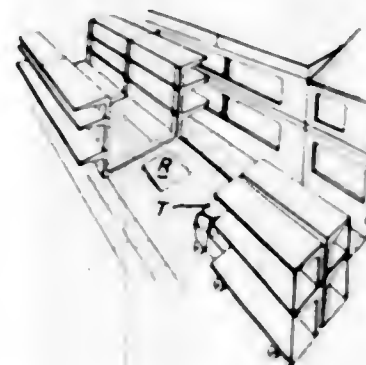
3,385,180

**CONSTRUCTION OF ROADS AND ASSOCIATED SURFACES**

John R. V. Dolphin, Whitchurch, England, assignor to T.I. (Group Services) Limited, Edgbaston, Birmingham, England

Filed Mar. 1, 1966, Ser. No. 530,934

5 Claims. (Cl. 94-1)



Roadways, especially city streets, are rebuilt with extra pedestrian ways by bringing up successively wheeled prefabricated units which contain the extra levels, so that the bases of the units overlie the existing roadway and then the base of each unit is imbedded in concrete to form the new roadway. The extra levels can be on sub-units of the main unit, which move apart laterally after the unit has been brought up to its final position, and form elevated sidewalks on opposite sides of the new roadway.

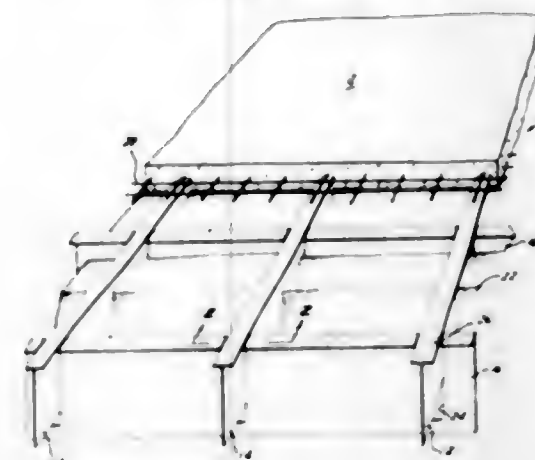
3,385,181

**REINFORCED CONCRETE PAVEMENT**

Ulrich W. Stoll, 612 S. Forest St., Ann Arbor, Mich. 48104

Filed Jan. 26, 1966, Ser. No. 523,223

4 Claims. (Cl. 94-8)



A concrete pavement structure in which a plurality of upright metal strips are arranged in a crisscross pattern and embedded in the base course so that they extend upwardly therefrom a predetermined distance. The metal strips are provided with top flanges, conventional steel reinforcing is supported on the flanges, and a concrete slab is cast on the base course so as to envelop and extend above the portions of the strips extending above the base course and the steel reinforcing.

3,385,182

**INTERLOCKING DEVICE FOR LOAD BEARING SURFACES SUCH AS AIRCRAFT LANDING MATS**

Leo M. Harvey, Los Angeles, Calif., assignor to Harvey Aluminum, Torrance, Calif., a corporation of California

Filed Sept. 27, 1965, Ser. No. 490,520

6 Claims. (Cl. 94-13)



Metallic load bearing planks for use with other similar planks in assembly of a horizontally disposed platform for movement of vehicles over uneven terrain, for aircraft landing mats, and the like, in which a plurality of load bearing planks are interlocked to prevent substantial vertical and horizontal movement relative to each other while providing for easy assembly and permitting normal expansion and contraction due to temperature change. Each load bearing plank includes female interconnecting means along one of its longitudinal edges and male interconnecting means along its remaining longitudinal edge. The female interconnecting means include a pocket means opening upwardly in a vertical direction and a horizontally disposed pocket means opening outwardly from the center line of plank in a horizontal direction. The male interconnecting means include a male member extending in a downward vertical direction for interfitting with the upwardly opening pocket means for limiting horizontal movement between the planks. The male interconnecting means further include a horizontally disposed arm means for insertion in close fitting relationship into the horizontally disposed pocket means to substantially eliminate vertical movement between adjacent planks.

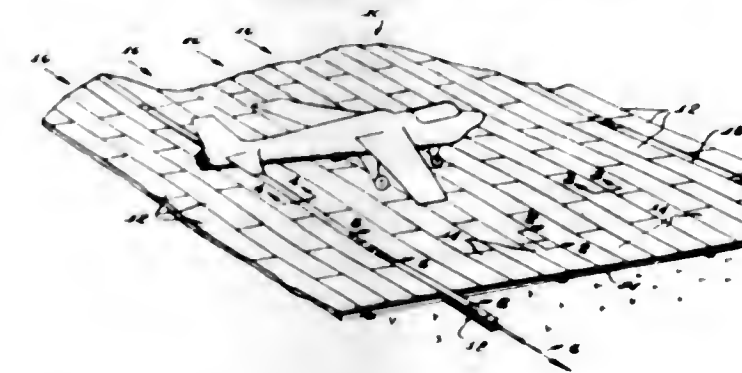
3,385,183

**KEYLOCK-TYPICAL SECTION**

George B. Kortz, Torrance, Calif., assignor to Harvey Aluminum, Torrance, Calif., a corporation of California

Filed Oct. 22, 1965, Ser. No. 502,668

3 Claims. (Cl. 94-13)



A modular load bearing platform including a plurality of rectangular load bearing plank interconnected in end-to-end relationship to form a plurality of parallel rows of load bearing planks with adjacent parallel rows being interconnectable with side connecting means. Removable coupling bar means are provided for interconnecting parallel rows of load bearing planks. The coupling bar means comprise a plurality of releasably interconnected elongated integral members which are slidably removable from the platform permitting disassembly of a portion of the load bearing platform and replacement of damaged load bearing plank(s) without disassembly and replacement of all load bearing planks from one end of the platform to the damage area. The members forming the coupling bar include ends bolted in overlapping relationship and fitting means for receiving tool means for effecting slidable removal and replacement of a coupling bar member.

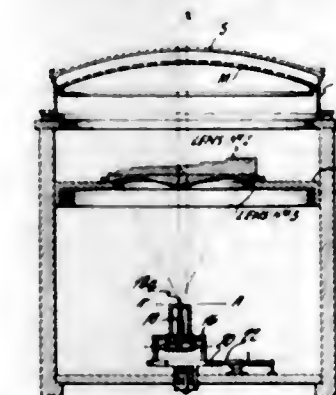
3,385,184

**OPTICAL SYSTEM FOR USE IN MAKING COLOR-PHOSPHOR MOSAIC SCREENS**

Edward G. Ramberg, Southampton, and David W. Epstein, Lancaster, Pa., assignors to Radio Corporation of America, a corporation of Delaware

Original application Mar. 19, 1964, Ser. No. 353,052, now Patent No. 3,279,340, dated Oct. 18, 1966. Divided and this application Feb. 18, 1966, Ser. No. 528,506

6 Claims. (Cl. 95-1)



In the direct photographic method of laying down a mosaic of color phosphor dots upon the screen-plate of a shadow mask type color kinescope by exposing a photo sensitive layer on the screen-plate to light from a point source through the shadow mask of the tube, the so-called "de-grouping" errors incident to the use of dynamically converged electron beams are minimized by the use of one or more discontinuous zone lenses in the path of the light in the screen printing apparatus. Preferably, two zone lenses are used successively, one lens having a

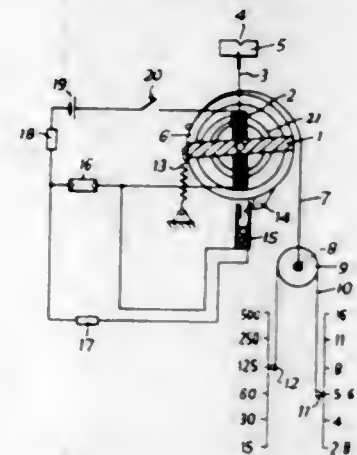


stepped profile consisting of alternate clear and intermediate opaque annular transmission zones and the other having a stepped profile consisting of alternate opaque and intermediate clear annular transmission zones respectively located complementarily relative to the clear and opaque zones, respectively, of the first lens.

### 3,385,185 PHOTOGRAPHIC CAMERA WITH EXPOSURE CONTROL MEANS

Heinz Schulze, Dresden, Germany, assignor to Veb Pentacon Dresden Kamera- und Kinowerke, Dresden, Germany

Filed Jan. 21, 1965, Ser. No. 426,982  
3 Claims. (Cl. 95-10)

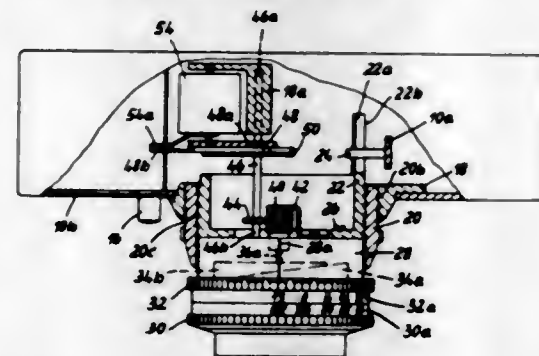


A camera comprising a galvanometer rotatably mounted in the camera housing. The moving coil of the galvanometer is provided with a pointer which is visible through a window in the housing and is adjustable in relation to a fixed mark also visible in the window. The galvanometer is movable bodily, against a spring attached to the outside of the magnet yoke, by diaphragm aperture and/or exposure time setting members. Also attached to the yoke is a cam which closes a switch in the galvanometer circuit so that the moving coil is fully deflected beyond the window under poor light conditions.

### 3,385,186 PHOTOGRAPHIC CAMERA MECHANISM

Gerhard Schwarz, Munich, Germany, assignor to Computur-Werk Gesellschaft mit beschränkter Haftung & Co., Munich, Germany, a company of Germany

Filed June 4, 1965, Ser. No. 461,305  
10 Claims. (Cl. 95-10)

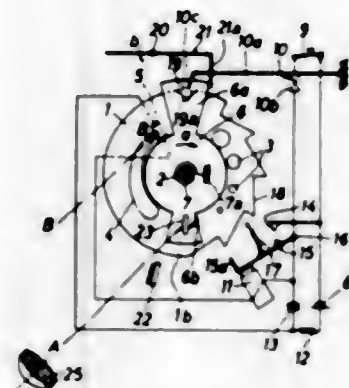


A photographic camera apparatus having a gear train interconnecting the time-diaphragm setting devices and a follow-up indicator which cooperates with the exposure meter indicator. The time-diaphragm setting devices cooperate with a summing gear and cam forming grooves which convert axial displacement to rotational movement of a gear train comprising a wide toothed wheel which registers with, and slides along, an axially immovable gear so that axial movement of the wide toothed gear during focussing does not disturb the time-diaphragm settings.

### 3,385,187 PHOTOGRAPHIC CAMERA

Fritz Bestenreiner, Garmisch, near Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

Filed Aug. 24, 1965, Ser. No. 482,041  
Claims priority, application Germany, Aug. 27, 1964, A 46,945  
20 Claims. (Cl. 95-10)



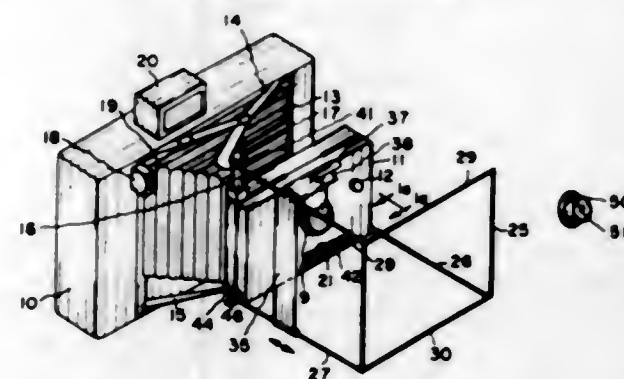
1. In a camera, an automatic exposure control assembly comprising a diaphragm member having apertures of different size; a normally uncocked shutter member arranged to prevent passage of light from the lens to said apertures in uncocked position thereof; means for cocking said shutter member; means for normally coupling said members so that, when released for movement toward uncocked position, said shutter member places said apertures serially into registry with the lens; and an electric delay circuit including a relay having a blocking portion arranged to release said members in response to energization thereof, means for energizing said relay in cocked position of said shutter member, aperture selecting means for deenergizing said relay in response to movement of said members from cocked position and with a first delay which is a function of the intensity of light coming from a subject so that said diaphragm member is blocked when the lens registers with that aperture whose size is designed for transmission of such light, and exposure time selecting means for reenergizing said relay in response to blocking of said diaphragm member and with a second delay which is again a function of said intensity so that at least said shutter member can return to uncocked position.

### 3,385,188 CAMERA CLOSE-UP ATTACHMENT

Irving A. Ellman, 1624 Sherbourne Road, Valley Stream, N.Y. 11580

Original application Oct. 4, 1965, Ser. No. 492,420.  
Divided and this application Apr. 3, 1967, Ser. No. 656,961

8 Claims. (Cl. 95-11)



A close-up attachment for a camera having a front portion with dimensions that approximately define the camera's field of view. The attachment has a generally rectangular front portion and a plurality of rearwardly extending elements for removably connecting the attachment

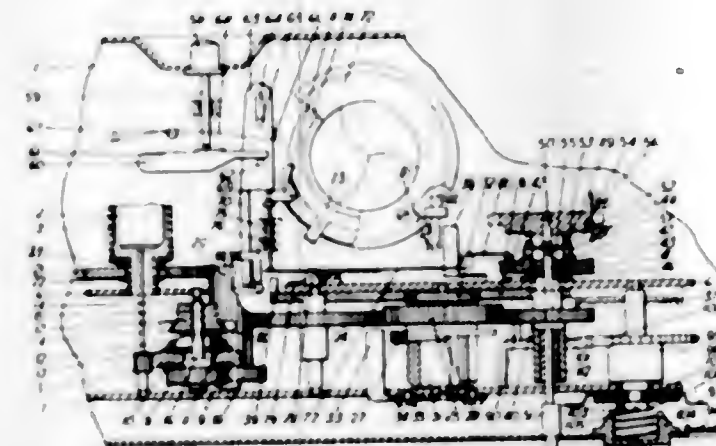
to a camera. At least two of the rearwardly extending elements are interconnected by a clamping device which permits the attachment to be clamped to a camera and also carries a flashlamp for illuminating an object being photographed.

### 3,385,189 PHOTOGRAPHIC CAMERA WITH AUTOMATIC FILM ADVANCE AND SHUTTER COCKING MEANS

Walter Hennig, Horst Strehle, and Manfred Wiessner, Dresden, Germany, assignors to Veb Kamera- und Kinowerke Dresden, Dresden, Germany

Continuation of application Ser. No. 454,765, Apr. 26, 1965, which is a continuation of application Ser. No. 254,300, Jan. 28, 1963. This application Sept. 30, 1966, Ser. No. 583,485

9 Claims. (Cl. 95-31)



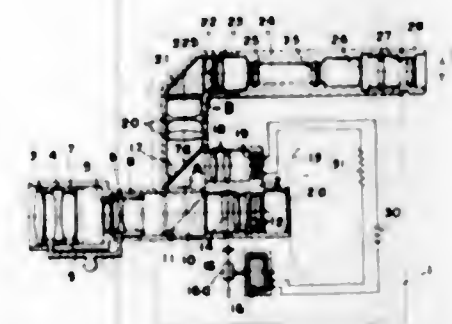
A photographic camera has an electric motor for cocking the shutter and winding the film. The motor drives a film take-up spool through a reduction gear transmission. A friction coupling is interposed between the transmission and the spool so as to limit the torque that can be applied to the film. A film transport sprocket can thus be positively blocked at the end of winding a frame, without undue transmission inertia being applied to the winding spool.

### 3,385,190 PHOTOMETRY SYSTEM FOR SINGLE LENS REFLEX CAMERAS OR CINE CAMERAS

Koji Shio and Takashi Higuchi, Yokohama-shi, Japan, assignors to Nippon Kogaku K.K., Chuo-ku, Tokyo, Japan, a corporation of Japan

Filed May 25, 1965, Ser. No. 458,602  
Claims priority, application Japan, Aug. 24, 1964, 39/47,124

3 Claims. (Cl. 95-42)

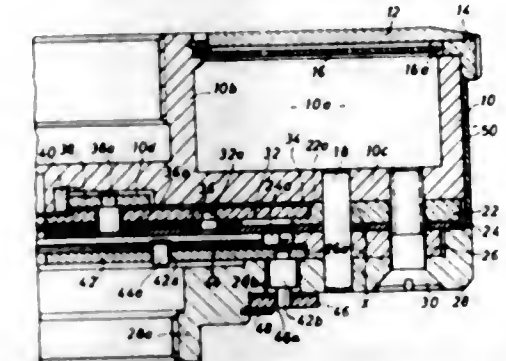


Photometry system for a camera having a built-in photoelectric cell in which a dividing mirror having reflective areas, is disposed in the path of the viewfinder light rays to direct the divided reflected and incident light rays proportionately between the focussing element and the surface of the photoelectric cell.

### 3,385,191 PHOTOGRAPHIC SHUTTER

Walter Miessen, Munich, Germany, assignor to Computur-Werk Gesellschaft mit beschränkter Haftung & Co.

Filed Oct. 21, 1965, Ser. No. 499,546  
Claims priority, application Germany, Mar. 29, 1965, C 35,449  
5 Claims. (Cl. 95-59)

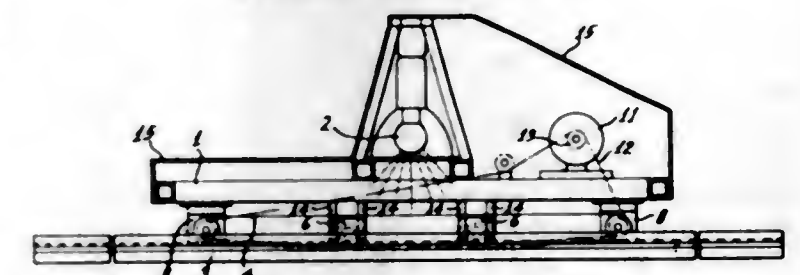


A photographic shutter comprising a housing, shutter blades and/or diaphragm blades, and associated driving rings for operating the blades arranged in the housing is provided with a plurality of annular disc-shaped spacers. The spacers which are superimposed on the housing and surround the optical axis thereof define spaces wherein the blades and their associated driving rings can be installed. The spacers are located in their appropriate positions by a pair of pins and are mounted on the housing by at least one screw.

### 3,385,192 PHOTOPRINTING APPARATUS AND PROCESS

Rune Torsten Qvarfort, Haganas, Sweden, assignor to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany

Filed Apr. 22, 1965, Ser. No. 450,033  
Claims priority, application Germany, Apr. 25, 1964, K 52,792  
6 Claims. (Cl. 95-75)



This invention relates to a photoprinting apparatus comprising a printing table, a movable carriage mounted on the table and carrying a light source and an endless light-pervious belt, belt-supporting pressure rollers mounted on the carriage, which rollers press the belt onto the table on both sides of the light source thereby forming an exposure area between them, the pressure rollers being mounted between two belt-supporting guide rollers which support the belt above the contact level of the belt on the table, and the included angle between the table and a portion of the belt between a guide roller and a pressure roller being between about 2 to 6°.

### 3,385,193 EXPOSURE DEVICE FOR PHOTSENSITIVE SURFACES

Francis J. Dougherty, Palatine, Ill., and William A. Strauss, Jr., Jarrettown, Pa., assignors to Chemical Micro Milling Company, Philadelphia, Pa., a corporation of Delaware

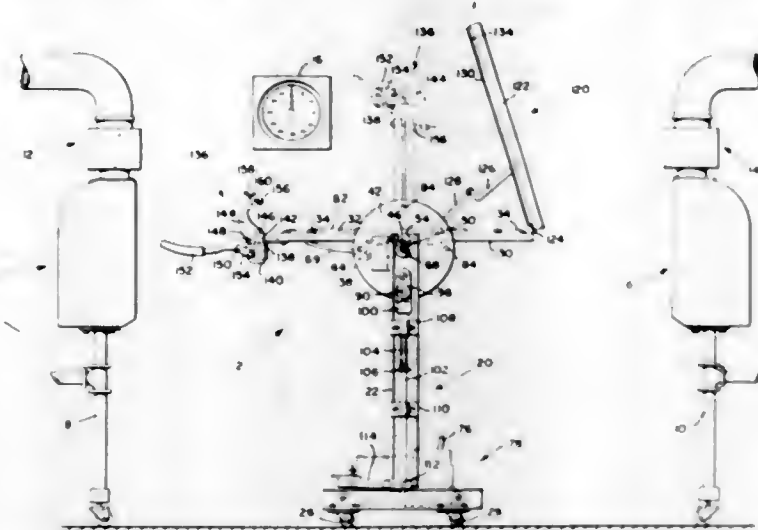
Filed Dec. 21, 1964, Ser. No. 419,726  
6 Claims. (Cl. 95-76)

A device for rotatably supporting photosensitive material on a light transmitting sheet to produce simultane-



ous exposures on opposite sides of the material. A flexible light transmitting cover member covers the material and

the upper portion providing an outside air inlet. At the lower portion of the housing an air inlet into the animal house is provided with pivoted damper plates beneath the inlet providing a baffling effect on the air flow so as to prevent direct downdrafts of air.



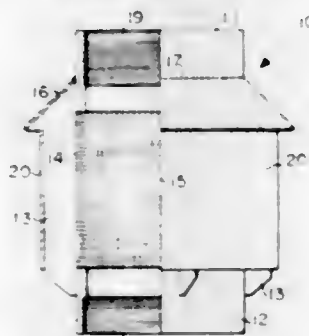
means are provided to exhaust the air from between the cover and the sheet.

3,385,194

**CONDUIT VENTILATOR**

John Gibson, Jr., King of Prussia, Pa., assignor to Anaconda Wire and Cable Company, a corporation of Delaware

Filed Aug. 24, 1966, Ser. No. 574,824  
5 Claims. (Cl. 98-1)



A ventilator for an electrical conduit, that will permit air circulation but exclude rain and vermin, comprises a lower circular fitting to attach to the end of the conduit, an upper fitting for a junction box, and a larger diameter protective tubular member connected between the two fittings. The space between the fittings is closed with a vermin screen and a rain hood, fixed to the upper fitting, extends over the protective member.

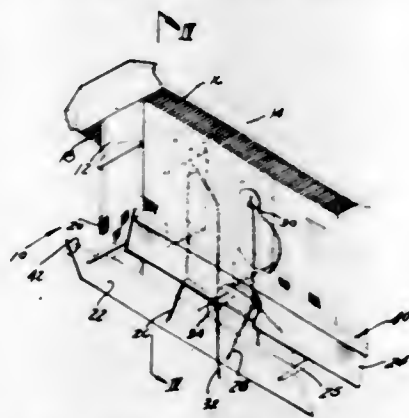
3,385,195

**AIR INLET FOR ANIMAL HOUSES AND THE LIKE**

Jack Parker, Holland, Mich., assignor to Big Dutchman Inc., Zeeland, Mich., a corporation of Michigan

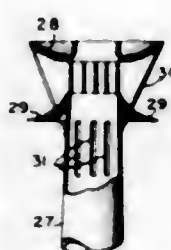
Filed Sept. 29, 1966, Ser. No. 582,921

5 Claims. (Cl. 98-40)



A ventilator for mounting on the roof of an animal house is disclosed and comprises a housing extending through the roof with a "T" shaped canopy member at

the upper portion providing an outside air inlet. At the lower portion of the housing an air inlet into the animal house is provided with pivoted damper plates beneath the inlet providing a baffling effect on the air flow so as to prevent direct downdrafts of air.



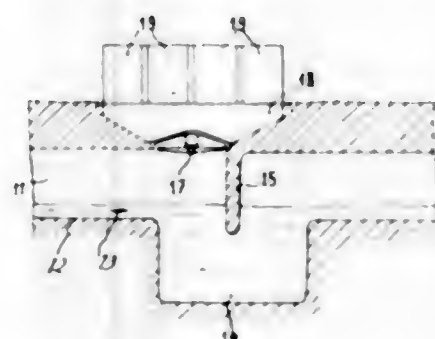
3,385,197

**WIND EJECTOR FOR COOLING TOWERS AND STACKS**

Henry Greber, 225 W. 80th St., Apt. 8-D, New York, N.Y. 10024

Filed Aug. 5, 1966, Ser. No. 570,574  
1 Claim. (Cl. 98-58)

An installation for purifying air adjacent e.g. a street structure having an underground canal for draining water includes a water trap having a sump in the bottom of the canal and a partition extending from the upper part of the canal into the sump, the installation enabling flow in the canal from the upstream side to the downstream side of the installation, but preventing flow of air in the canal from the downstream side of the installation to the upstream side thereof when there is water in the canal. An air flow ventilator in the upper part of the canal on the upstream side of the partition enables sucking air from the canal on the upstream side of the partition. Unpure air introduced into the canal at the upstream side of the installation is cooled by water in the canal and the condensable gases in the unpure air are thereby condensed so that the exhausted air has been substantially purified.

**3,385,196  
INSTALLATION FOR PURIFYING AIR ADJACENT TO STREET STRUCTURES**

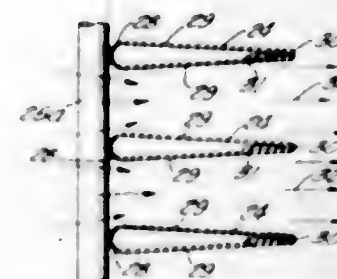
Gregori Messen-Jaschin, Sarnen, Switzerland, assignor to G. A. Messen-Jaschin, Sarnen, Switzerland, a corporation of Switzerland

Filed Apr. 29, 1966, Ser. No. 546,249  
Claims priority, application Switzerland, Apr. 29, 1965, 6,083/65  
6 Claims. (Cl. 98-49)

**3,385,198  
AIR FLOW DIRECTING AND PROTECTIVE GRILL**

Richard S. Farr, Los Angeles, Calif., assignor to Farr Company, El Segundo, Calif., a corporation of California

Filed May 11, 1966, Ser. No. 549,262  
4 Claims. (Cl. 98-121)

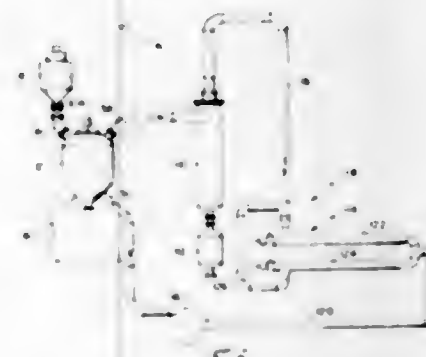


A grill apparatus for protecting and directing air flow into high volume air ingesting machinery. A multiplicity of air foil shaped and roll formed vanes are mounted in parallel spaced relationship a short distance apart with the nose portion of each vane connected to lateral reinforcing bars to provide protection with a minimum pressure drop across the grill.

3,385,199

**FLUID-SOLIDS CONTACT APPARATUS**

Horace L. Smith, Jr., Richmond, Va., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia  
Original application Jan. 24, 1966, Ser. No. 522,690, now Patent No. 3,329,506, dated July 4, 1967. Divided and this application May 3, 1967, Ser. No. 635,794  
19 Claims. (Cl. 99-236)



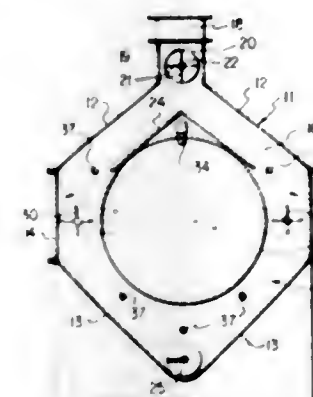
Apparatus for contacting fluids and particulate solids in which the solids are continuously circulated by cooperating streams of the contacting fluid and one or more mechanical flow directors, the particles moving upwardly in the central portion of a reaction vessel and migrating downwardly in the peripheral portion thereof. Provision may be made for spraying the circulating solids, for discharging them through the lower end of the reaction vessel, and for heating or otherwise treating and circulating the solids contacting fluid.

3,385,200

**COOKER FOR GRAIN OR THE LIKE**

Clarence Eugene Ellis, Box 6, Red Rock, Okla. 74651  
Filed July 19, 1966, Ser. No. 566,341  
3 Claims. (Cl. 99-237)

A grain cooker which embodies a centrally arranged heating and steaming unit surrounded by a spaced exterior shell so as to provide passages for the downward movement of grain on opposite sides of the central unit.



surfaces are arranged horizontally, or vertically. In the latter case they constitute curved slots in the tubular structure.

Grain is introduced near the top of the shell and removed near the bottom thereof in a continuous manner. Steam

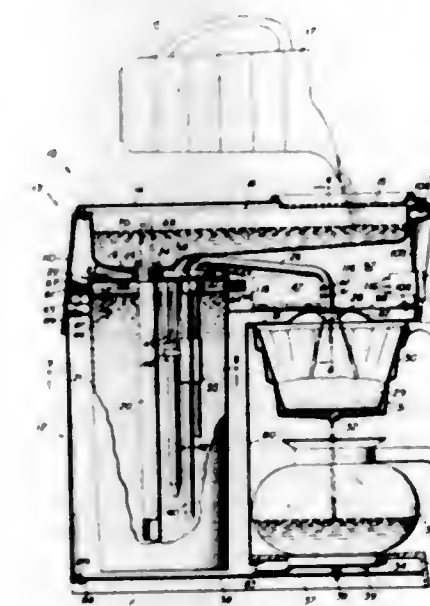
injection means deriving steam from the central unit are located in the passages together with means for agitating the grain.

3,385,201

**COLD WATER POUR IN BEVERAGE MAKER**

John C. Martin, Springfield, Ill., assignor to Bunn-O-Matic Corporation, Springfield, Ill., a corporation of Delaware

Filed Feb. 13, 1967, Ser. No. 615,449  
18 Claims. (Cl. 99-282)



Water for making coffee, tea, etc., is electrically heated in a tank of non-metallic heat insulating material and is siphoned out when cold water is poured into a shallow basin of similar material connected to the tank, secured to an enclosing hood, and overlying the electrical connections to a heater in the tank and electrical controls including an ambient temperature protective device for the heater. The hood and tank enclosure are formed by metallic extrusions and metallic trunk wrappers or by a one piece molding of non-metallic heat insulating material which has the basin molded integrally therewith.

3,385,202

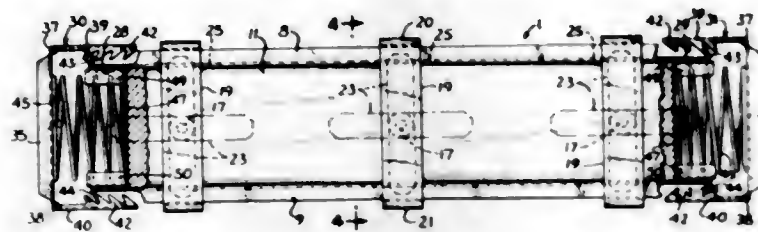
**LOAF MOLDING APPARATUS**

Ralph M. Foldenauer, Chicago, Ill., assignor to Bloomer-Fiske, Inc., a corporation of Illinois  
Filed Sept. 16, 1966, Ser. No. 580,006  
8 Claims. (Cl. 99-351)

Meat loaf molding apparatus has a mold body open at its opposite ends and along one side thereof. A closure for the side opening is removably retained in place by



locator bars that rest on lateral flanges on the mold body sides and by locking bars that project through the body

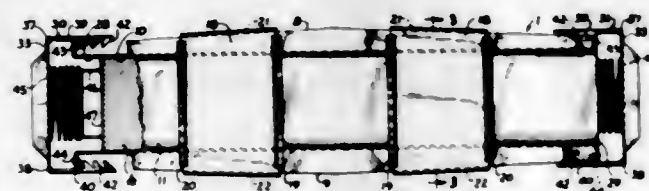


sides. Spring-biased end closures for the mold body have ratchet teeth that engage flanges on the body. Opposed pistons press the end covers into place.

### 3,385,203 MEAT MOLD

Ralph M. Foldenauer, Chicago, Ill., assignor to Bloomer-Fiske, Inc., a corporation of Illinois  
Continuation-in-part of application Ser. No. 580,006, Sept. 16, 1966. This application Apr. 19, 1967, Ser. No. 632,013

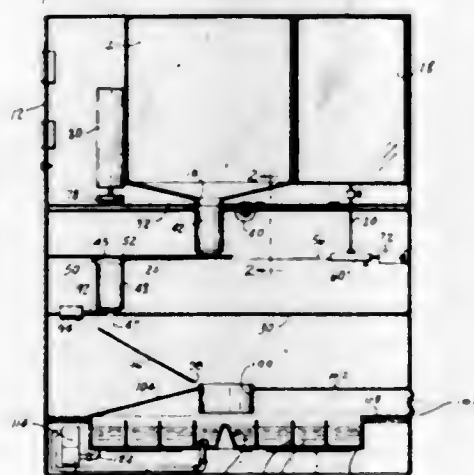
8 Claims. (Cl. 99—351)



A mold for cooking loaves of meat comprises an elongated body having a side opening for filling the mold, and spring pressed covers for the ends of the body. A closure for the side opening is held by clamps which are wedged onto the body and bear against the closure. A press is employed to mount the end covers onto the mold body and place the meat under pressure.

### 3,385,204 FOOD COOKING MACHINE

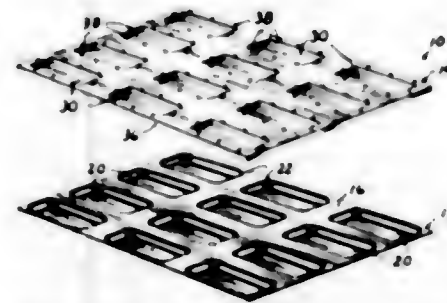
Vernon C. H. Richardson, Houston, Tex.  
(5312 Brae Burn, Bellaire, Tex. 77401)  
Filed Aug. 4, 1966, Ser. No. 570,196  
3 Claims. (Cl. 99—404)



A machine for mixing particulate food material with water to form an extrudable paste which is then extruded and cut into pieces which are cooked and delivered in a freshly cooked condition. The apparatus includes means for introducing liquid into particulate food material during the introduction of the material into the extruding mechanism, whereby a paste-like mass of uniform consistency is formed which may be readily extruded.

### 3,385,205 HALF-BUN BAKING PAN

Chester V. McCloud, 2354 NW. 18th St.,  
Oklahoma City, Okla. 73107  
Filed Oct. 21, 1965, Ser. No. 499,254  
2 Claims. (Cl. 99—439)

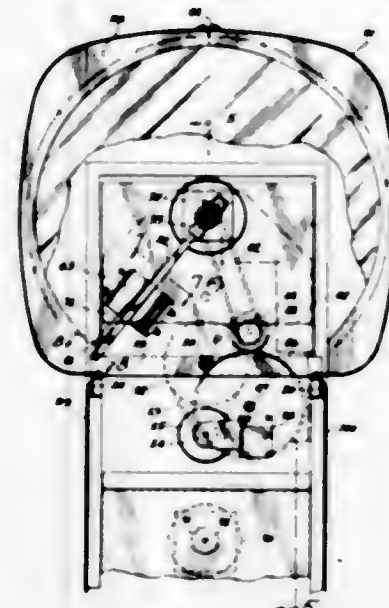


A metallic sheet having dough displacing recesses struck out of the material is concentrically superposed on a similar plate having dough containing recesses struck out of its material of larger dimension than the dough displacing recesses. Apertures in the top sheet, surrounding the dough displacing recesses, vent trapped air.

### 3,385,206 TYING MACHINE WITH INTERMITTENTLY DRIVEN MOTOR

Robert G. Brown and Joseph E. Trent, Washington, D.C.,  
assignors to B. H. Bunn Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 3, 1966, Ser. No. 583,733  
14 Claims. (Cl. 100—27)



A twine tying machine for tying bundles or the like wherein an intermittently operating motor is used for driving the twine arm and knoter instead of a continuously operated motor and mechanical clutch, the machine being further improved by the use of a unitized, readily replaceable knoter mechanism, a more readily threaded twine arm, a resilient brake mechanism, and a twine arm guard.

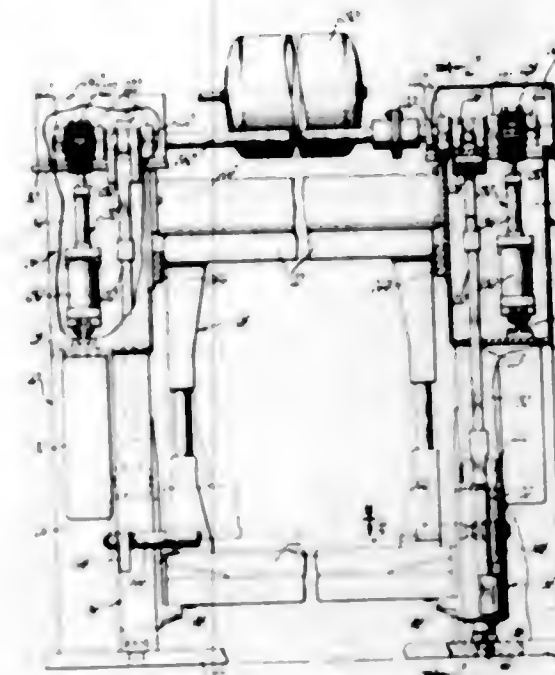
### 3,385,207 UNITIZED WELDING PRESS

Eric J. Optiz, Franklin, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 9, 1966, Ser. No. 593,190  
9 Claims. (Cl. 100—214)

1. A welding press comprising, a vertically extending frame, a counter-balance cylinder assembly including a vertically oriented piston having its base anchored to said frame and a housing concentrically received about said piston for sliding movement relative thereto, said

piston having an opening through which fluid under pressure can act against the inner surface of said housing, a shaft rotatably supported on an upper portion of said frame, a rod pivotally suspended at one end from said shaft and pivotally connected at the other end to said housing, means on the exterior surface of said housing



for supporting the movable platen of a welding fixture, fluid pressure means communicating with said piston for pressurizing the interior thereof to balance the load supported by said housing, and power means for reversibly driving said shaft to reciprocate said housing and thereby locate the movable platen in press-open and press-closed positions.

### 3,385,208 BALLING MACHINE

Samuel E. Clegg, 729 Bartlett Ave.,  
Plainfield, Ill. 60544

Continuation of application Ser. No. 398,350, Sept. 22, 1964. This application Nov. 25, 1966, Ser. No. 597,177  
11 Claims. (Cl. 100—218)

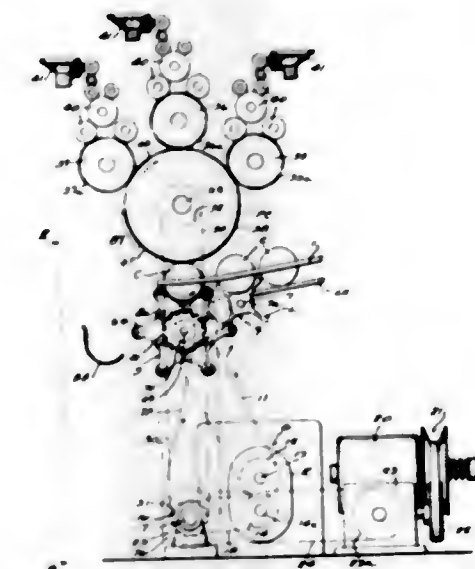


A balling machine is described for compressing the roots of a plant or tree, together with the earth in the vicinity of the roots, into a compact mass. The machine includes a cylindrical housing which is open at one end to receive a piston which is driven into the cylinder in the compressing operation. The opposite end of the cylinder is fitted with a closure member which may be swung away from the closed position so that the plant or tree may be pushed out the end into a suitable burlap or plastic sack. An opening is provided in either the piston or the closure member for receiving the trunk of the plant or tree.

### 3,385,209 PRINTING APPARATUS FOR CYLINDRICAL OBJECTS

Donald E. Freres, Racine, Wis., assignor to Sterling Tool Company, Racine, Wis., a corporation of Wisconsin

Filed Nov. 21, 1966, Ser. No. 595,898  
10 Claims. (Cl. 101—38)

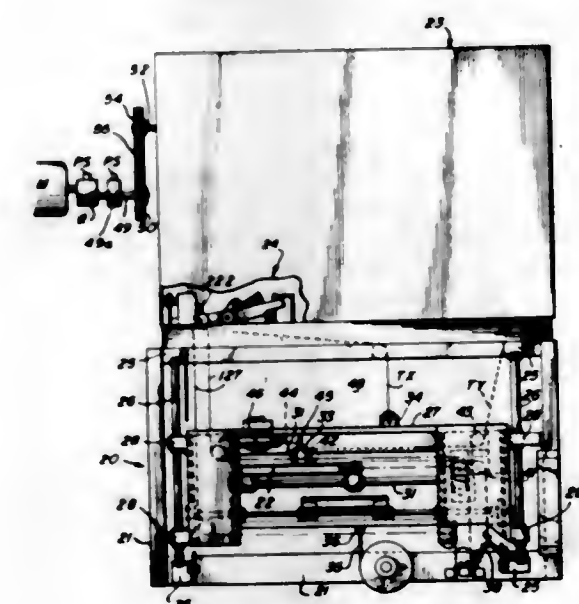


Apparatus for printing on cylindrical objects such as cans, bottles, or the like, and having means for positively rotating the unchucked cylindrical object and bringing it up to proper rotational speed prior to its being printed by an inked portion of a rotating printing cylinder.

### 3,385,210 PRINTER AND DIFFERENTIAL PRINT HEAD DRIVE MEANS FOR PRINTING BOWLING SCORES AND THE LIKE

Paul R. Hoffman, Grand Haven, Mich., assignor to Brunswick Corporation, a corporation of Delaware

Filed Oct. 14, 1965, Ser. No. 495,776  
22 Claims. (Cl. 101—93)



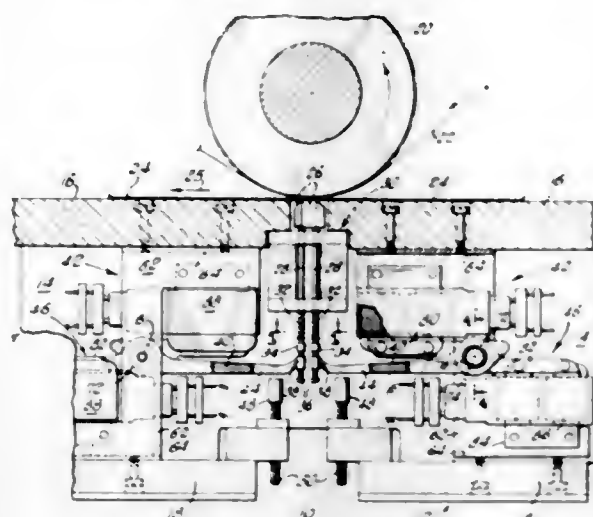
A printing system for printing bowling scores on a four-team score card wherein a printing head is moved parallel to the score card concurrently in the direction of two perpendicular axes along a vector of the axes in either direction from a central home position by a tape-driven differential, and type is set in the printing head by tape driven with the differential input to position the type and printer for proper printing of each bowler's score responsive to information received and held by the printer.



3,385,211

**SOLENOID ARRANGEMENT FOR HIGH SPEED PRINTER**

Francis H. Shepard, Jr., Berkeley Heights, N.J., assignor to Shepard Laboratories, Inc., Summit, N.J.  
Filed Dec. 15, 1965, Ser. No. 514,056  
11 Claims. (Cl. 101-93)

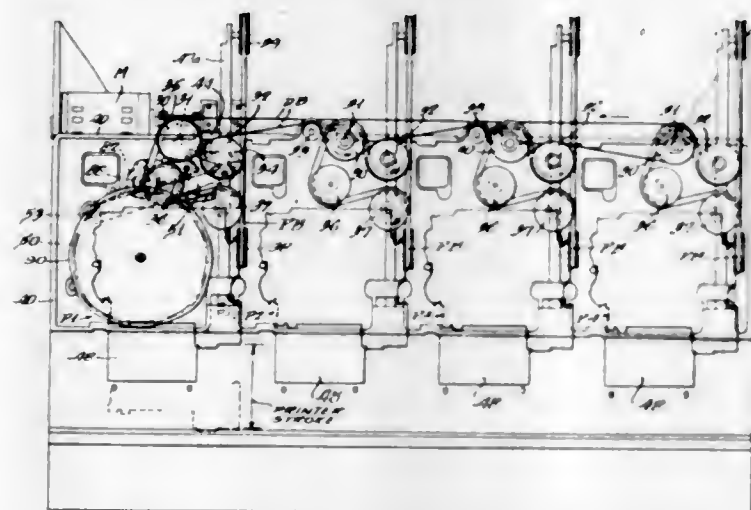


1. In a high speed printer of the character described, a first elongated hammer adapted to be fired end first against a type font and the like, a first hammer firing solenoid comprising a thin springy arm, an outer end of which engages said hammer, a pivot on said arm at a point along its length, an upstanding frame for supporting said pivot, said frame supporting said pivot in cantilever fashion, said pivot including an annular portion of rubber-like material which provides springiness in conjunction with the springiness of said arm, a yoke and coil assembly on said frame for actuating said arm, a second hammer similar to the first, a second solenoid similar to the first and containing a second arm, pivot and yoke assembly, said first arm being straight with its pivot intermediate its ends, said second arm being bent with said pivot near the area of bend, said first pivot being matched to said first arm and said second pivot being matched to said second arm to give substantially identical operating characteristics for said first and second solenoids, whereby said solenoids can be tightly packed in the printer and will operate said hammers uniformly.

3,385,212

**PRINTER POSITIONING MECHANISM**

Goodrich B. Pratt, Grand Haven, Mich., assignor to Brunswick Corporation, a corporation of Delaware  
Filed July 8, 1966, Ser. No. 563,754  
14 Claims. (Cl. 101-93)



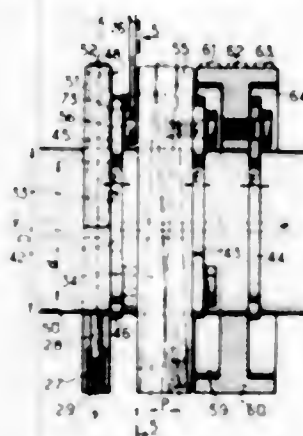
A printer drive system using a drive cam and follower for driving the printer through a cycle in one direction throughout a sequence of print positions over a surface

to be printed upon and a system for stopping the printer in a selected position which can include a commutator for detecting the cam position and comparing it with the selected print position. A system including a common drive which is selectively engageable with individual drive systems of all of a plurality of printers for driving any of the printers through the print position cycles; the printing operation of each printer can also be driven from the common drive.

3,385,213

**TYPE-DRUM MOUNTING ASSEMBLY IN PRINT DRUMS**

Alain Joseph Maurice Stephan, Paris, France, assignor to Société Industrielle Bull-General Electric (Société Anonyme), Paris, France  
Filed Mar. 13, 1967, Ser. No. 622,644  
Claims priority, application France, Mar. 24, 1966, 54,786  
14 Claims. (Cl. 101-110)

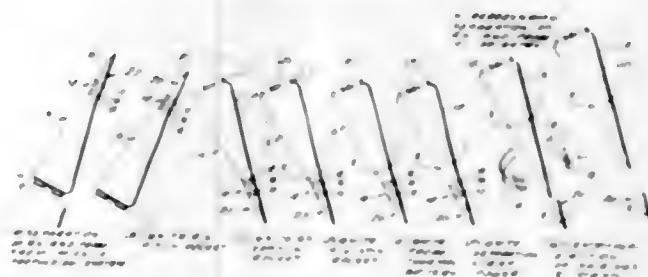


In a printing machine, a type drum comprising a plurality of type wheels mounted separately on a rotating shaft, each wheel being positioned on the shaft by means of a number of positioning members secured on one face of the wheel and each partly engaged in a positioning groove extending around the shaft to permit the adjustment of the angular position of each wheel on the shaft.

3,385,214

**TWO BODY FUZING SYSTEM**

Edwin Decker, East Meadow, N.Y., assignor to Sperry Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware  
Filed Sept. 1, 1965, Ser. No. 484,279  
9 Claims. (Cl. 102-70.2)



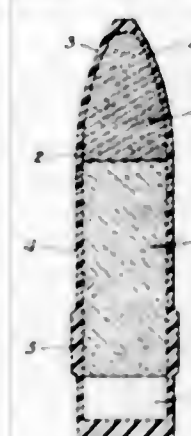
1. A missile including a vehicle, a probe and fastening means separably securing said probe to said vehicle; said probe having a higher ballistic coefficient than said vehicle; said probe including a device for generating a transmitted signal after separation of said probe from said vehicle; said vehicle including apparatus for detecting said transmitted signals and generating a command signal in response to detection of said transmitted signal; means for releasing said fastening means prior to said vehicle reaching the reentry portion of a trajectory reaching into outer space.

5. A method of controlling height of burst for a missile having a vehicle containing a warhead, said method including the steps of launching the missile with a probe of greater ballistic coefficient than said vehicle connected to said vehicle on a common trajectory extending into outer space, separating the probe from the vehicle during the downward portion of their common trajectory at a point prior to reentry, thereafter transmitting a signal from said probe to said vehicle, and exploding said warhead in response to receipt of said signal by said vehicle.

3,385,215

**DISINTEGRATING TRAINING AMMUNITION FOR FIREARMS**

Werner Jungermann, Karlsruhe, Baden, Germany, assignor to Industrie-Werke Karlsruhe Aktiengesellschaft, Baden, Germany, a corporation of Germany  
Filed May 5, 1967, Ser. No. 636,391  
Claims priority, application Germany, May 17, 1966, J 30,855  
5 Claims. (Cl. 102-92.7)

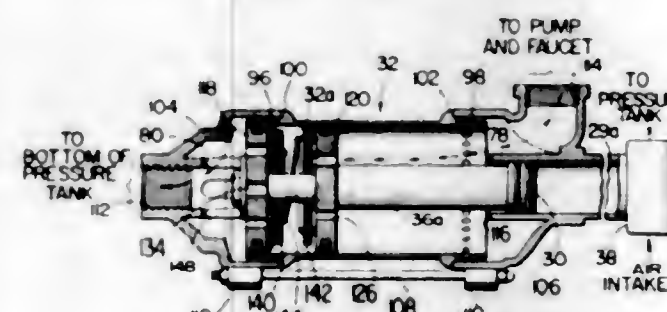


A disintegrating projectile comprising a projectile casing having a tapering front end and a cylindrical rear end closed by a flat base. The rear end of the casing has a cylindrical guide band thereon. The casing is filled, with the exception of a hollow space which terminates at the rear edge of said guide band, with one or more axially aligned cores of compacted metal powder, while said hollow space—and this constitutes the improvement—is filled with a semi-elastic seal consisting of a loose filling of metal powder.

3,385,216

**APPARATUS FOR REGULATING THE AIR VOLUME IN A WATER SYSTEM**

James H. Henderson, R.R. 2, Kewanna, Ind. 46939  
Filed Oct. 22, 1965, Ser. No. 502,254  
10 Claims. (Cl. 103-6)



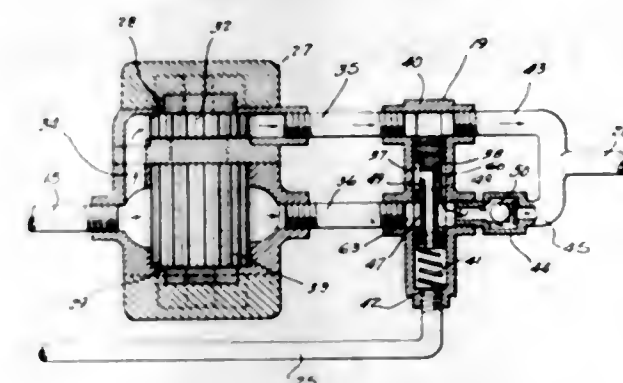
An apparatus for regulating the volume of air in a water pressure tank of a water system. The system is connected to a pressure water tank having an air connection and a water connection. The system includes a first device having a variable volume chamber for receiving and exhausting air, a second device connected to the first device and selectively responsive to bi-directional flow of

liquid for varying the size of the chamber, a one-way valve included in the first device for admitting air to the chamber from the atmosphere in response to an enlargement of the chamber and preventing the escape of air to atmosphere in response to a reduction in size of the chamber, the chamber having an exhaust port connected to the air connection of the tank, a flow-restricting device operatively connected to the exhaust port for cutting off flow of air in a direction from the tank toward the chamber when the level of water in the tank is at or above a first position and for permitting bi-directional flow between the chamber and the tank when the water level in the tank is at or below a second position which is spaced apart and below the first position, the second device having first and second variable volume compartments separated by a movable device, the movable device is movable between two extreme positions in response to differential fluid pressure, the first and second compartments having first and second ports operatively connected thereto, first and second valves are respectively connected to the first and second ports to allow flow of liquid only outwardly of the respective compartments, the first valve being open for exhausting liquid from said second compartment when the movable device is in one of the extreme positions and the second valve being open for exhausting fluid from said first compartment when the movable device is in the other of its extreme positions, the first port admits fluid into the first compartment and out of the second valve when the movable device is in the other of its extreme positions, the second port is connected to the water connection of the tank and admits fluid into the second compartment and out of the first valve when the movable device is in said one position, a pump is connected to the first port, the chamber is enlarged when the movable device moves toward the other position in response to the urging of the pump, and the chamber is reduced when the device is moved in the opposite direction in response to the fluid pressure in the tank.

3,385,217

**HYDRAULIC PRESSURE BOOSTER**

Marcus J. Bles, 8330 Leesburg Pike, McLean, Va. 22101  
Filed Feb. 21, 1966, Ser. No. 529,070  
10 Claims. (Cl. 103-11)

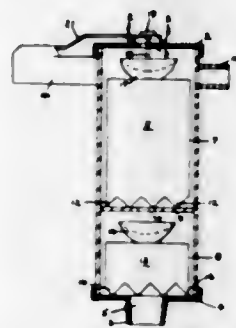


1. In a fluid supply and return system for a load device subject to temporary increases in working back fluid pressure due to heavy loading, a fluid-supply conduit, a pressure fluid source connected to said conduit, a fluid-return conduit, a fluid-output line adapted to be connected to the load device, and a fluid-pressure intensifier device connected between said supply conduit, fluid-output line and fluid-return conduit for increasing the supply fluid pressure delivered to said output line responsive to an increase in back pressure therein comprising a casing formed with a short motor compartment and a long motor compartment in axial alignment, parallel shaft means journaled in the casing and extending transversely



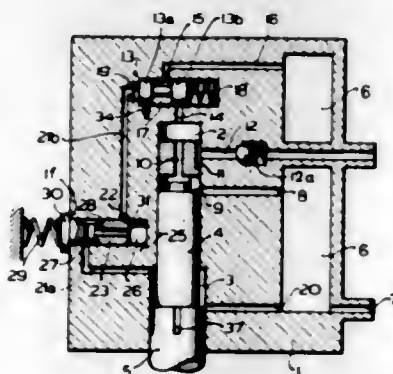
through the compartments, respective meshing pairs of long and short gear rotors mounted on said shaft means in said compartments, the meshing long gear rotors defining a low-pressure, high-volume fluid motor or pump and the meshing short gear rotors defining a high-pressure, low-volume fluid motor or pump, means connecting one side of said compartments to the fluid-supply conduit, means normally connecting the other side of said compartments to said output line, and means to connect the long motor compartment to the return line and simultaneously disconnect it from the output line responsive to a substantial increase in working back fluid pressure in said output line, whereby the meshing pair of long gear rotors are operated as a motor to drive the meshing short gear rotors acting as a pump to generate high-fluid pressure to compensate for the increase in working back fluid pressure.

**3,385,218**  
**HYDRAULIC PUMP SYSTEM**  
Robert West, 73 Wayne Blvd.,  
Madison, N.J. 07940  
Filed May 18, 1966, Ser. No. 551,009  
4 Claims. (Cl. 103-26)



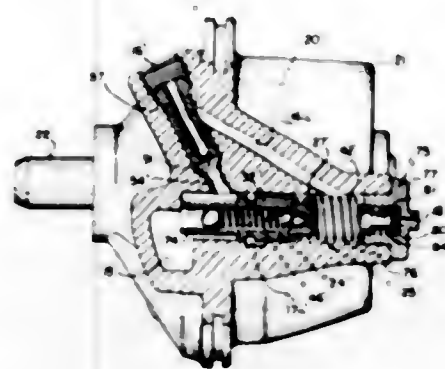
A hydraulic system employing a switch which controls an electric motor driven pump. The switch housing provides two chambers and a float in each chamber. One float actuates a switch and the other float valves a passage in the first chamber to effect the filling and emptying of the first chamber.

**3,385,219**  
**FUEL INJECTION PUMP**  
Konrad Eckert, Lodzerstrasse 2, Stuttgart-Bad  
Cannstatt, Germany  
Filed Aug. 11, 1966, Ser. No. 571,840  
Claims priority, application France, Aug. 12, 1965,  
28,187  
14 Claims. (Cl. 103-41)



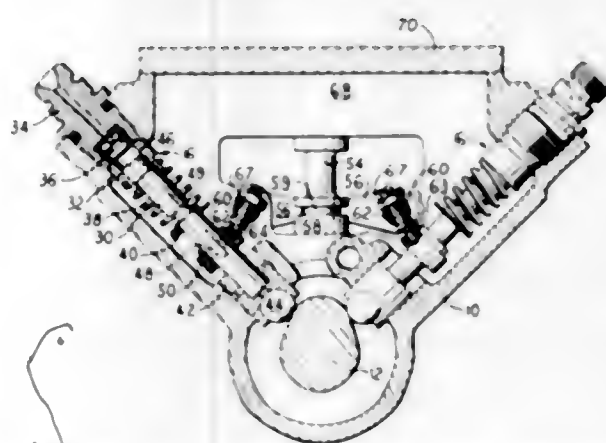
A fuel injection pump wherein a reciprocable valve controls the flow of fuel from a working chamber by way of a spill passage and wherein an auxiliary pump delivers fuel to a regulating cylinder which accommodates the valve. A single conduit which connects the auxiliary pump with the regulating cylinder contains an adjustable throttle which offers less resistance to flow of fuel into the regulating cylinder than to flow of fuel from the cylinder back to the auxiliary pump.

**3,385,220**  
**FLUID PUMP**  
Richard W. Dymond, East Detroit, Mich., assignor to  
Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio  
Filed Aug. 17, 1966, Ser. No. 572,940  
19 Claims. (Cl. 103-41)



The present invention relates, in general, to a fluid pump and, more particularly, to a fluid pump having a flow control means associated with the inlet and discharge thereof for controlling flow of fluid from the pump to a fluid system. The flow control means includes a valve member which is disposed in a bore and is operable between a closed position wherein fluid from the pump is directed to the system and an open position wherein fluid is bypassed from the system to a discharge passage. The valve member is moved from the closed position to the open position upon operation of an actuating valve by predetermined fluid pressure in one end of the bore which is connected in fluid communication with the fluid system.

**3,385,221**  
**MULTI-PLUNGER ENGINE FUEL OIL PUMP**  
John H. Parks, Peoria, Ill., assignor to Caterpillar Tractor  
Co., Peoria, Ill., a corporation of California  
Filed Mar. 7, 1967, Ser. No. 621,165  
1 Claim. (Cl. 103-41)

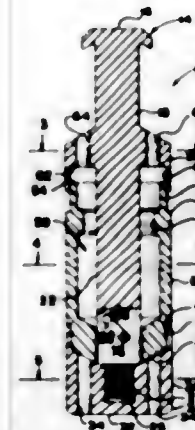


An engine fuel pump assembly with one plunger for each engine cylinder having the plungers arranged in alignment in one or two lines and individual volume setting means for each plunger included in a simple volume control linkage between a governor actuated member and the plungers.

**3,385,222**  
**PLUNGER DEVICE**  
Jerry K. Gregston, 3609 Brentwood,  
Odessa, Tex. 79760  
Filed Mar. 6, 1967, Ser. No. 620,737  
10 Claims. (Cl. 103-52)

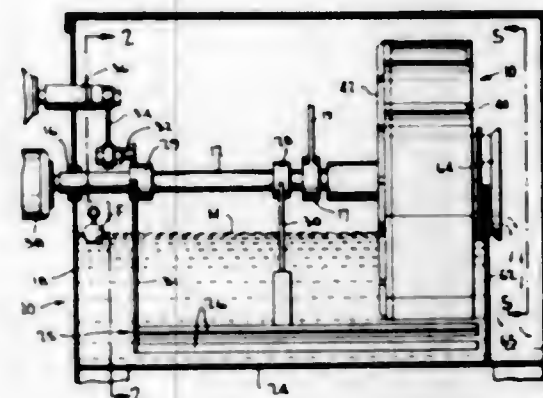
A plunger, or free piston, which is received in close tolerance relationship within the eduction tube of a well bore hole. The plunger is fabricated into an upper cylindrical body, a lower cylindrical body, and a rotatable

reciprocating centrally located main or movable body member. The plunger is provided with longitudinally extending passageways extending therethrough. Upon the plunger striking a stop means provided at the upper and lower extremity of the eduction tube, inertia moves the



main body member in a reciprocating and rotational manner to thereby open or close the passageways. In the open position the plunger is free to fall through a column of fluid. In the closed position the plunger acts as a piston to lift a column of fluid located in the tube.

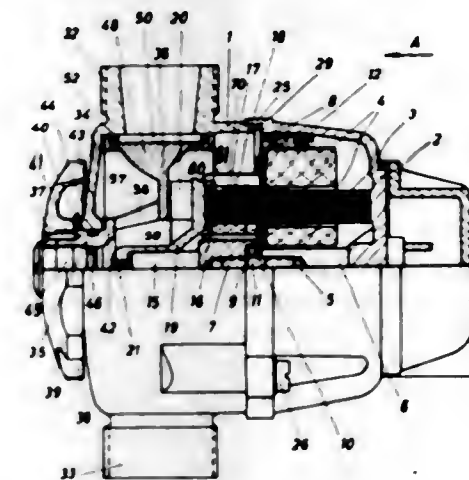
**3,385,223**  
**ROTARY LIQUID METERING WHEEL**  
Emil J. Bartholet, Leonia, N.J., assignor to Komline-Sanderson Engineering Corp., Peapack, N.J., a corporation of New Jersey  
Filed Sept. 8, 1966, Ser. No. 578,062  
7 Claims. (Cl. 103-85)



1. In a metering wheel adapted for rotation in a given direction about a horizontal axis, with its lower portion immersed in a fluid material to be metered, and in which said wheel is formed to provide a plurality of metering buckets having liquid intake and discharge openings adjacent their radially-inner and outer extremities respectively, said buckets defining generally-spiral passages for elevating and delivering measured charges of the fluid material from the said intake openings to the discharge openings, the improvement in accordance with which each bucket is provided between its intake and discharge openings with a metering edge portion disposed below a plane common to the lower extremities of said intake and discharge openings whereby to drain off excess material to a predetermined level as same passes therebeneath enroute from the intake opening to the discharge opening, to leave a carefully-measured volume of the material in said bucket for subsequent movement to and through the discharge opening thereof, the cross-sectional area and configuration of said bucket between said metering edge

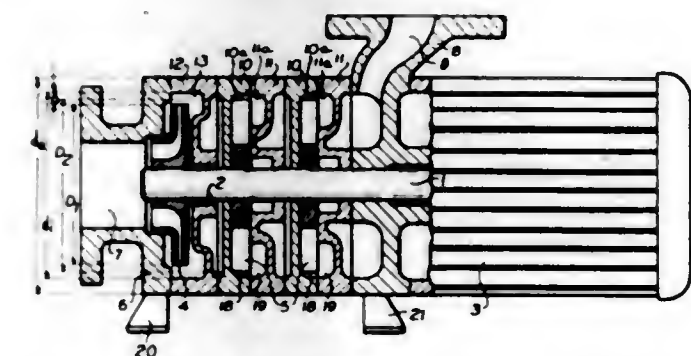
portion and the discharge opening being arranged to convey said measured volume of fluid material to the discharge opening while maintaining its surface at a level below that of the metering edge portion.

**3,385,224**  
**CONTROLLABLE LIQUID CONVEYING ASSEMBLY**  
Hermann Jaun, Regensdorf, Zurich, and Hans Moser, Zurich, Switzerland, assignors to Micro-Electric AG, and Hans Moser  
Filed Mar. 23, 1966, Ser. No. 536,692  
Claims priority, application Germany, Mar. 25, 1965,  
M 64,655  
13 Claims. (Cl. 103-97)



A pump has a control element mounted within its pump housing. On this control element is mounted sealing means to seal the inlet and the outlet of the housing. The control element furthermore has passages for directing fluid within the housing to and from the pump impeller. The control element is adjustable between a position in which the inlet and outlet openings are sealed closed and a position in which these openings are in communication with the pump impeller.

**3,385,225**  
**ROTARY PUMP**  
Walter Antonius Hagemann, Holstein, Germany, assignor to Slemen & Hinesch m.b.H., Itzehoe, Holstein, Germany  
Continuation-in-part of application Ser. No. 467,949,  
June 29, 1965. This application Apr. 18, 1967, Ser.  
No. 631,709  
3 Claims. (Cl. 103-105)



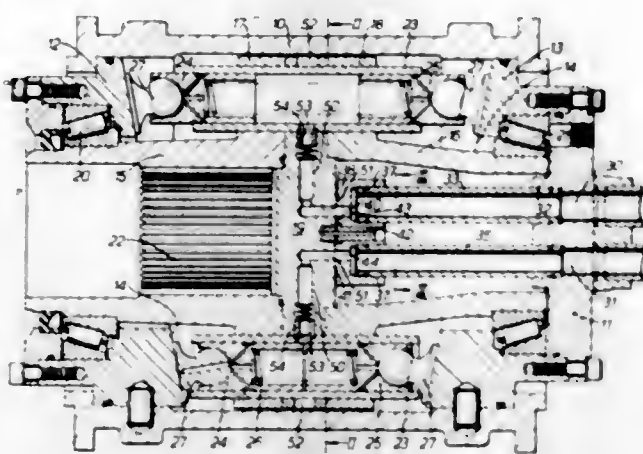
A rotary multiple stage pump having a first impeller of a diameter smaller than the diameter of a succeeding impeller operating in a side channel chamber which extends to the inner surface of the peripheral wall of a substantially cylindrical casing common to both impellers. The difference in impeller diameters is sufficient to accommodate fluid-guiding means associated with the first impeller in the common casing which has a substantially uniform outer diameter.



3,385,226

**HYDRAULIC PUMPS OR MOTORS**

Oswald H. Thoma, Cheltenham, England, assignor to Unipat A.G., Glarus, Switzerland, a Swiss company  
Filed June 24, 1966, Ser. No. 560,258  
Claims priority, application Great Britain, Jan. 22, 1966, 2,998/66  
5 Claims. (Cl. 103-162)

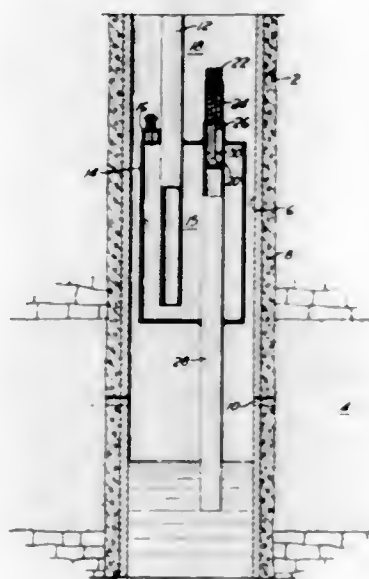


An opposed axial piston pump or motor comprising a rotor formed with parallel cylinder bores in each of which is fitted a liner sleeve, with pairs of opposed pistons sliding in each sleeve and valve means for controlling the admission and discharge of fluid from the cylinders, the communicating passages between the cylinders and the valve means including radial drillings which intersect the inner and outer walls of the cylinder bores, the outer sections being closed by the cylinder sleeves, whereas ports in the sleeves communicate with the inner passage sections.

3,385,227

**BOTTOM HOLE SEPARATOR**

Walter J. Hart, Jr., Odessa, Tex., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Nov. 14, 1966, Ser. No. 594,194  
9 Claims. (Cl. 103-234)

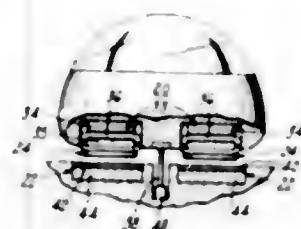


Apparatus for intermittently producing liquids from a well penetrating a subterranean formation producing gas and liquids in which a housing is mounted on the lower end of production tubing which opens into the housing. Liquid is conducted from within the well below a gas-oil interface therein into the housing, and gas is periodically introduced into the housing to displace the liquid therein upwardly through the production tubing. Pressure responsive valves control flow of fluids into the housing.

3,385,228

**TRANSPORTATION SYSTEM**

Kwangho Chung, Hartford, Conn., assignor to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut  
Filed Apr. 16, 1965, Ser. No. 448,728  
11 Claims. (Cl. 104-134)



Apparatus for supporting, propelling and guiding of a vehicle utilizing air bearings for vertical support and a linear induction motor for propulsion and guidance. The stator is secured to the vehicle to cooperate with an electrically conductive track forming the armature of the motor with the air bearing cooperating with the track to provide support.

3,385,229

**ARTIFICIAL SKIING SURFACES**

Edward J. Ahern, Manchester, N.H., assignor to S. A. Felton and Son Company, Manchester, N.H., a corporation of Maine  
Filed June 30, 1966, Ser. No. 561,963  
6 Claims. (Cl. 104-173)



An artificial skiing surface comprising a network of strip members joined together in mesh forming relationship. The upper surfaces of the strip members are provided with brush bristles or other resilient projections for forming a non-continuous sliding surface having properties similar to natural snow.

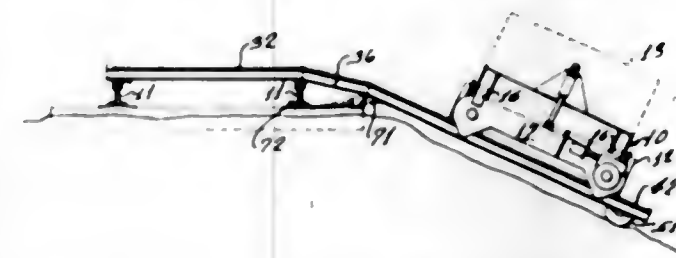
3,385,230

**RAILROAD SET-OFF APPARATUS**

Royce G. Kershaw and Royce G. Kershaw, Jr., both of 2066 Allendale Road 36111; Henry W. Copeland, Jr., 1028 S. Court St. 36104; and John T. Brooks, Jr., 3536 Bridlewood Drive 36111; all of Montgomery, Ala.  
Filed Jan. 3, 1967, Ser. No. 607,067  
10 Claims. (Cl. 105-177)

Apparatus for setting off a rail supported vehicle having an auxiliary trackway connected for pivotal movement relative to an extensible trackway with a power

operated rotary drive member positively engaging the auxiliary and extensible trackways to move the vehicle



selectively from a position over a railroad track to a position alongside the railroad track.

3,385,231

**SEQUENTIALLY ACTUATED MATING HOPPER DOORS**

George B. Dorey, Westmount, Quebec, Canada, assignor to Continental Transport Appliances Limited, Montreal, Quebec, Canada, a corporation of Canada  
Filed Oct. 11, 1965, Ser. No. 494,397  
8 Claims. (Cl. 105-250)

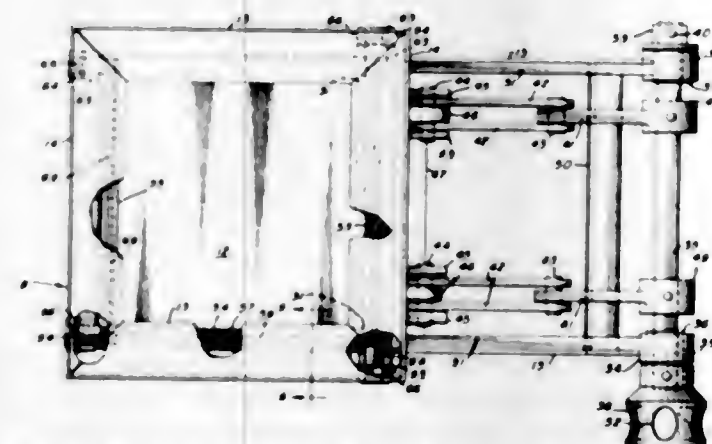


An operating mechanism for paired hopper doors of railway hopper cars in which a winding mechanism is connected at one end to a rotatable shaft. The other end of the mechanism carries an equalizer bar with arms of unequal lengths having two links connected to it, one at each end of the bar and each link is connected to a hopper door. The linkage is so constructed that when the shaft is turned, the mechanism winds about the shaft and closes the doors, one door closing before the other so that its edge may overlap the edge of the first closed door.

3,385,232

**RESILIENT HOPPER DOOR SEALING MEANS**

Gordon B. Dorey, Westmount, Quebec, Canada, assignor to Continental Transport Appliances Limited, Montreal, Quebec, Canada, a corporation of Canada  
Filed June 22, 1964, Ser. No. 376,832  
6 Claims. (Cl. 105-253)



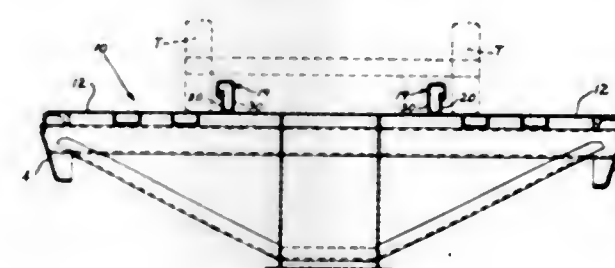
In a railway car hopper and hopper door lading discharge assembly, a sealing and packing means for preventing escape of lading while the door is closed while allowing entrapped air and moisture to escape. The means comprises four elements, one for each edge of the door and

consisting for one edge of a tubular neoprene gasket or the like and for each of the other three edges a rigid rod having spirally wrapped thereon a tape having cemented to its outer surface by their ends, short lengths of moisture-resistant polyamide yarn resulting in an uneven, resilient, surface of closely packed yarn. Apertures in the hopper structure are provided for inserting the elements into place and holding them there, without removing any parts of the hopper assembly.

3,385,233

**GUIDE RAIL STRUCTURE FOR RAILWAY FLAT CARS**

Erling Mowatt-Larsen, Glenwood, Ill., assignor to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey  
Filed Dec. 14, 1966, Ser. No. 601,648  
8 Claims. (Cl. 105-368)

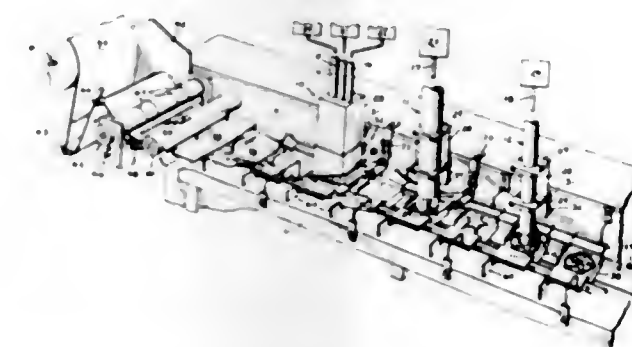


This disclosure relates to a guide rail structure for a railway flat car to guide roadway vehicles, such as tractor and trailers, along the deck of the railway car and to accommodate roadway vehicles having different wheel spacings. Specifically, the disclosure is directed to a pair of generally parallel guide rails which extend longitudinally along the deck of the railway car, each rail being mounted for selective movement between different lateral spacings in a direction transversely of the deck thereby adjustable for roadway vehicle wheel spacings of different widths.

3,385,234

**METHOD AND APPARATUS FOR MAKING A CONFECTION NOVELTY**

Ralph F. Anderson, 332 Calvin Park Blvd., Rockford, Ill. 61108  
Filed June 1, 1965, Ser. No. 460,012  
12 Claims. (Cl. 107-1)



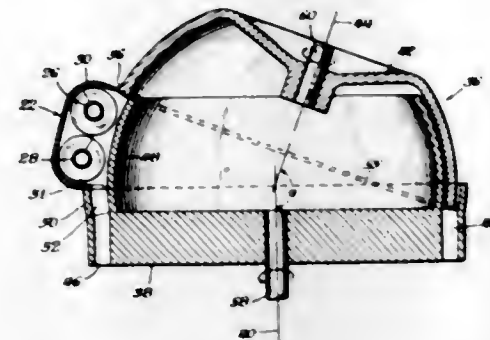
A strip of wrapping material is withdrawn from a roll and has end segments cut into individual receivers. An endless conveyor continuously advances the receivers past several nozzles. The nozzles are orbited and extrude a continuous web of ice cream. A cutter is positioned at each of the first two nozzles to cut discrete charges from the web. The third nozzle has a design impressing apparatus thereon to affix a design simultaneously with the third charge of confection. The receiver is folded over the charges to complete the operation.



3,385,235

**WAFERIZING MACHINE**

Calvin P. Rickard, La Grange Park, and Edward Sverelka, Chicago, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware  
Filed Oct. 25, 1966, Ser. No. 589,438  
7 Claims. (Cl. 107-14)

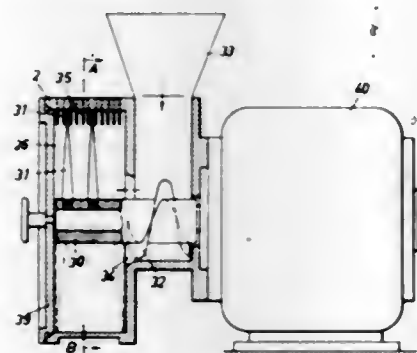


1. In a machine of the character described for forming crop material into wafers, the combination of: a frame; a first wheel rotatably mounted on the frame about a first axis; a second wheel rotatably mounted on the frame about a second axis converging with the first axis at an angle of less than 180°; inner and outer concentric walls integral with the first wheel, the walls being radially spaced to form an annular channel for receiving the material; the first wheel being formed with a plurality of axially extending die openings disposed between the walls; a die press integral with the second wheel, the die press having an annular end tangential at one side with the die openings and having its diametral opposite side spaced from the die openings; feed means to deliver the material into the channel substantially at said opposite side of the die press; and, means to move the first and second wheels in conjoint rotation to extrude the material in the channel through the die openings.

3,385,236

**PASTRY-MAKING PROCESS**

Frederik Hendrik Leeuwrik, Lochem, Netherlands, assignor to Werner Bahlken, Hannover, Germany  
Filed Feb. 24, 1965, Ser. No. 434,788  
Claims priority, application Germany, Feb. 28, 1964, B 75,649  
2 Claims. (Cl. 107-54)



1. The high speed method of making individual batches of pastry dough within a high speed centrifugal mixer having rapidly rotating mixing members which consists in  
(a) introducing a desired quantity of flour into the high speed mixer,  
(b) subjecting the flour to rapidly rotating mixing members to render the flour into a floating condition,  
(c) spraying a desired quantity of finely divided water into the mixer thereby applying a thin layer of water on the floating flour particles,

(d) continuing the mixing to form a mass of dough,  
(e) adding other additives as required to the mass and  
(f) subjecting the mass to further turbulence.

3,385,237

**METHOD AND APPARATUS FOR APPLYING TOPPING TO WAFERS**

Bruce W. Brunson, Dick Sporte, and William R. Dufendach, Grand Rapids, Mich., assignors to Werner Machinery Company, Grand Rapids, Mich., a corporation of Michigan  
Filed Dec. 2, 1965, Ser. No. 511,131  
8 Claims. (Cl. 107-54)

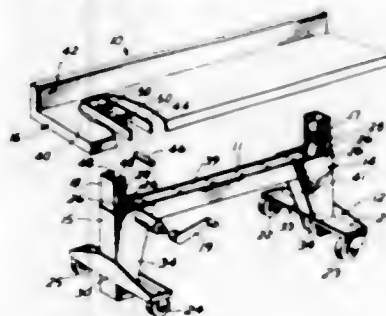


8. A method of applying topping to a plurality of individual objects moving in a given direction along a given path and arranged in partially aligned relationship in a plurality of successive rows extending transversely of said direction and also arranged in a plurality of columns extending in said direction; the first step of detecting at one station along said path at least one object in each row; subsequently at a second station located along said path downstream of said first station, the second step of positioning and aligning each object in each successive row while advancing said rows in said direction so that each object will be perfectly aligned with the other objects in its row and with the other previously aligned and positioned objects in its column; at a third station along said path downstream of said second station, the third step of providing a topping-dispensing head and arranging it to operate on said objects which have been previously positioned and aligned in said rows and columns so as to dispense a topping thereon; the initiation of said second and third steps of positioning and aligning and the dispensing of said head being governed by the above said first detection step.

3,385,238

**MOBILE ELEVATING TABLE**

Richard S. Jay, Evanston, Ill., assignor to Jarke Corporation, Chicago, Ill., a corporation of Illinois  
Filed Sept. 28, 1966, Ser. No. 582,598  
8 Claims. (Cl. 108-147)



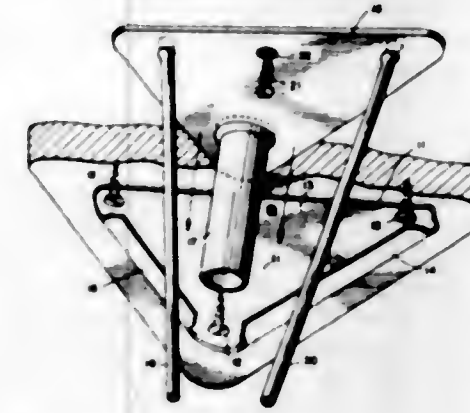
A mobile elevating table including, generally, a base having a pair of spaced apart, vertically disposed pedestals in which a pair of support columns, which are affixed to the table top, are slidably retained. Caster support assemblies are also affixed to the base, for permitting one man to easily and safely maneuver a full load of material. A ball-screw and nut assembly is retained in each of the pedestals, to vertically elevate the support

columns, and hence the table top. The ball-screw drive minimizes the effort required to manually elevate loads, by means of a hand crank, and a friction disc is interposed within the ball-screw drive so as to prevent the load from free-falling or back driving the crank.

3,385,239

**TABLE AND LEG SUPPORTS THEREFOR**

Ralph L. Foster, La Grange Park, and John W. Krulstink, Des Plaines, Ill., assignors to Dentin Manufacturing Company, Melrose Park, Ill., a corporation of Illinois  
Filed Dec. 8, 1965, Ser. No. 512,355  
2 Claims. (Cl. 108-156)

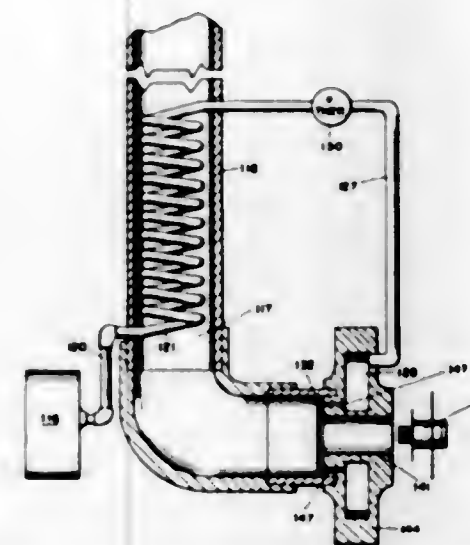


1. In combination with a table top, a latch plate secured to the underside of the table at a corner portion thereof, said plate being generally V-shaped having an open inner side and downwardly- and inwardly-inclined and forwardly-extending spring flanges carried by the other two sides, said flanges being spaced apart at their forward ends at the point of the latch plate, and a leg-equipped slide plate releasably engaging said latch plate in edge-gripping relation with said flanges and having a forward portion protruding through the space between the forward ends of said flanges and forwardly of said flanges.

3,385,240

**WASTE DISPOSAL**

Robert D. Allen, 379 Niles-Cortland Road SE., Warren, Ohio 44484  
Filed Mar. 17, 1966, Ser. No. 535,114  
6 Claims. (Cl. 110-7)

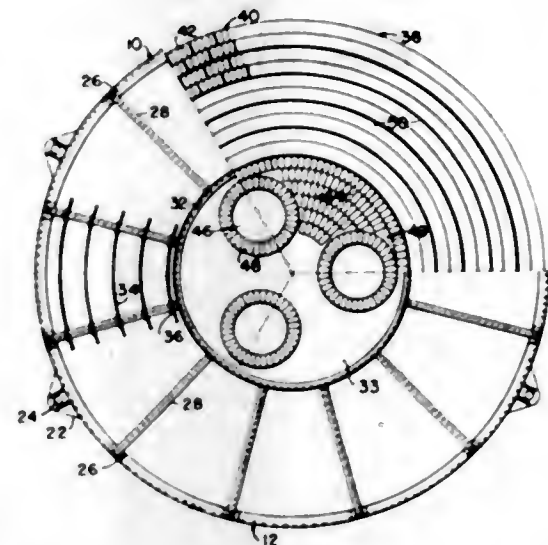


The burner disclosed herein has a burning chamber connected in series with a flue. A gun type burner is connected to said burning chamber and a coil is disposed in the flue. The coil is connected to a pump and pumps waste material through the coil where it is pre-heated and extruded into the burning chamber. In its broadest concept, the material may be extruded into an arcuate burning chamber.

3,385,241

**ELECTRIC FURNACE ROOF**

Robert L. Alvis and Robert P. Copeland, Independence, Mo., and John F. Wooley, Gibsonia, Pa., assignors to Geo. P. Reintjes Co., Inc., Jackson County, Mo., a corporation of Missouri  
Filed Feb. 4, 1966, Ser. No. 525,183  
5 Claims. (Cl. 110-99)

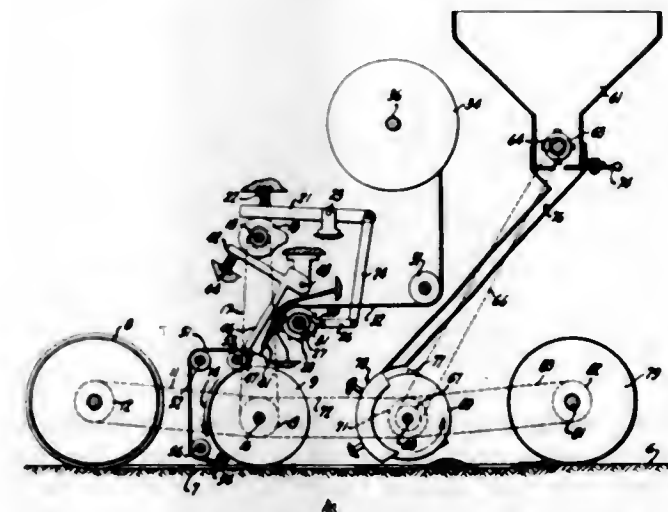


A roof for an electric furnace which roof is normally horizontal in its position of use but which is tilted with the furnace when the furnace is tapped, the roof having a peripheral element supported by the furnace and a framework extending inwardly from the peripheral element and connected to a central hub. The framework supports a brickwork arch which has a central portion within the hub and a marginal portion between the hub and the peripheral element, the marginal portion being supported by a number of spaced members rigid to the framework, certain of the bricks of the marginal portion being suspended from said members by hangers which engage the member and a loop carried by a corresponding brick, the clearance between the loop and the member being limited so that when the roof is tilted the bricks of the marginal portion are restrained against any substantial shifting movement.

3,385,242

**METHOD OF AND APPARATUS FOR PLANTING SEEDS**

William J. Chancellor, Davis, Calif., assignor to The Regents of the University of California, Berkeley, Calif.  
Filed Sept. 8, 1966, Ser. No. 577,855  
2 Claims. (Cl. 111-1)

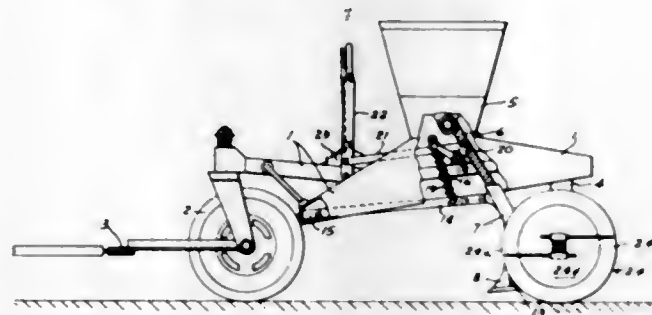


A planting machine advances over the ground and at timed intervals feeds a perforated tape, bearing seeds spaced like the perforations, to a severing device that cuts



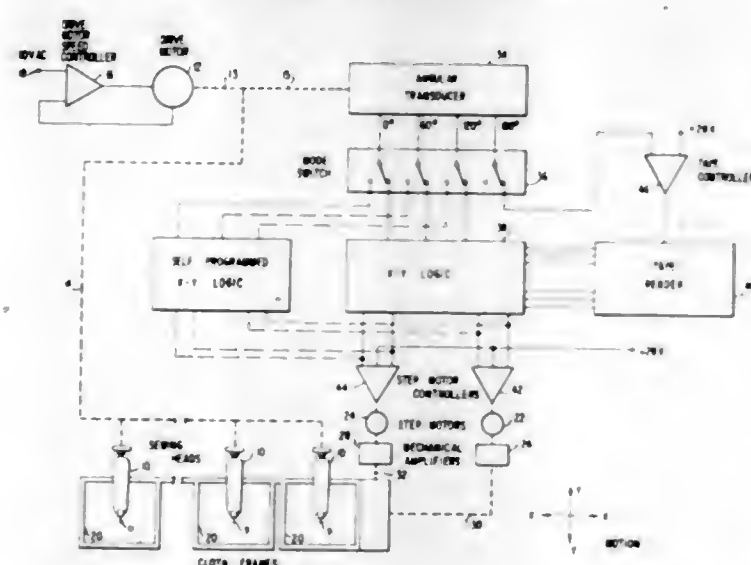
off a tape section having one seed. A conveyor engages the severed section and releases it to fall upon the ground. Covering material carried on the machine is placed over the section on the ground.

**3,385,243**  
**SEED DRILL**  
Clarence Robert Zimmerman, Box 6,  
Almira, Wash. 99103  
Filed Oct. 22, 1965, Ser. No. 500,772  
3 Claims. (Cl. 111-85)



A furrow opener is fixed to the lower portion of the drill seed tube. The opener has a narrow blade extending along its bottom edge to open a seed trench and has a front face inclining downwardly and forwardly from the seed tube. This furrow opener has a shovel wing affixed thereto on one side thereof and diverging from the opener and tube from front to rear. The shovel wing has its lower edge above the narrow blade. There is a packer wheel rotatably mounted alongside the seed tube on the side thereof opposite the shovel wing. The packer wheel pressure acts to force the soil into the trench made by the narrow blade to cover seed therein without packing the soil downwardly over the seed and the shovel wing keeps soil from rolling over the trench from the other side, thus limiting the depth of the soil over the seed.

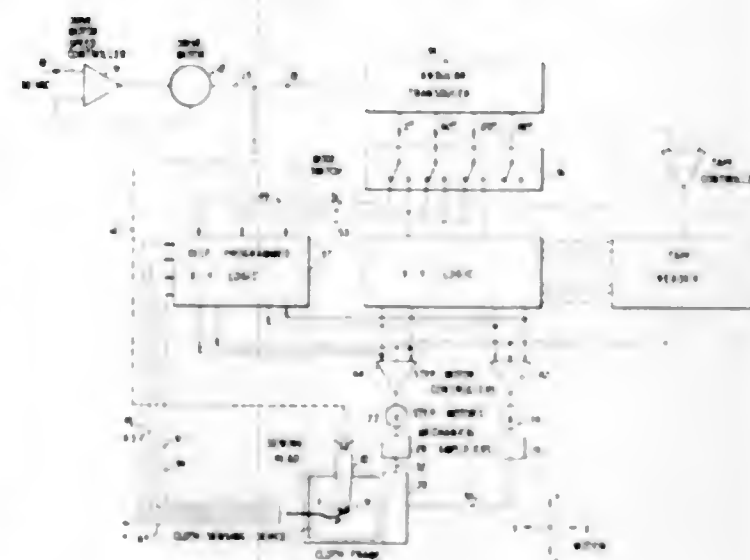
**3,385,244**  
**ELECTRONIC CONTROL SYSTEM FOR AUTOMATED SEWING MACHINE APPARATUS**  
Willard A. Ramsey and Jerry M. Minchey, Greenville, S.C., assignors to Her Majesty Underwear Company, Mauldin, S.C., a corporation of South Carolina  
Filed Oct. 31, 1966, Ser. No. 590,641  
13 Claims. (Cl. 112-2)



1. An electronic control system for automated sewing machine apparatus and the like comprising, in combination: at least one sewing head; first motor means including a drive shaft coupled to said at least one sewing head for operating said sewing head; timing means coupled to said drive shaft for providing a plurality of enabling signals in accordance with the angular position of said drive

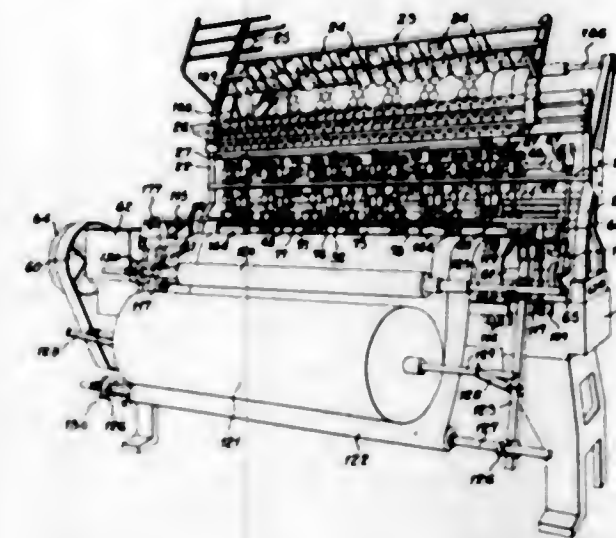
shaft; a frame adapted to hold fabric under tension for operation thereon by said sewing head and operable to move in predetermined directions with respect to said sewing head; second motor means coupled to said frame for moving said frame in response to command signals applied thereto; programmer means, adapted to produce control signals for said control system, coupled to said timing means for receiving one enabling signal of said plurality of enabling signals at a selected angular position for energization of said programmer means; and logic circuit means coupled to said timing means and said programmer means for generating said command signals applied to said second motor means in response to said control signals and the other enabling signals of said plurality of enabling signals to selectively move said frame in said predetermined directions during a selected portion of a revolution of said drive shaft.

**3,385,245**  
**ELECTRONIC CONTROL SYSTEM FOR A SELF-PROGRAMMING SEWING MACHINE APPARATUS**  
Willard A. Ramsey and Jerry M. Minchey, Greenville, S.C., assignors to Her Majesty Underwear Company, Mauldin, S.C., a corporation of South Carolina  
Filed Oct. 31, 1966, Ser. No. 590,669  
13 Claims. (Cl. 112-2)



1. An electronic control system for automated sewing machine apparatus and the like comprising, in combination: sewing means; fabric sensing means selectively located adjacent said sewing means to sense the presence and position of a work piece of fabric and generating a plurality of electrical signals in accordance therewith; first motor means including a drive shaft coupled to said sewing means for operating said sewing means; a frame adapted to hold said work piece of fabric under tension for operation thereon by said sewing means and operable to move in coordinate directions with respect to said sewing means; timing means coupled to said first motor means for generating a plurality of timing signals in accordance with the angular position of said drive shaft during each complete rotation thereof; second motor means coupled to said frame for moving said frame in said coordinate directions in response to command signals applied thereto; and a logic circuit coupled to said timing means and said fabric means, receiving input signals therefrom comprising said timing signals and said detection signals for generating said command signals applied to said second motor means, said logic circuit including means for determining an edge of said work piece in accordance with said detection signals from said fabric sensing means and causing said frame to move so that said sewing means follows and operates on said edge.

**3,385,246**  
**QUILTING MACHINES**  
Kurt Schlegel, Old Westbury, N.Y.  
(% Edgewater Machine Co., College Point, N.Y. 11356)  
Filed Aug. 19, 1963, Ser. No. 302,801  
25 Claims. (Cl. 112-118)

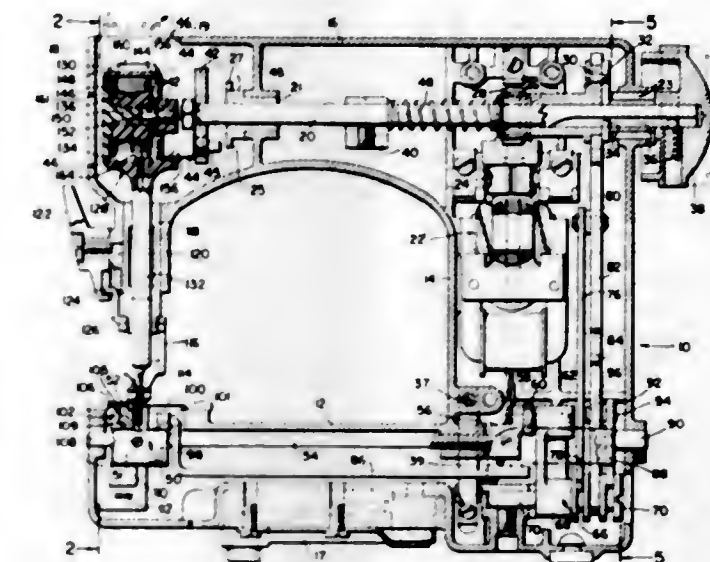


1. A quilting machine which comprises a stitching unit comprising at least three spaced parallel needle bars, each needle bar having needle mounting elements mounting a plurality of needles, said needles being arranged on each of said needle bars in pairs of needles closely spaced to form a double line of stitches, said pairs of needles being widely spaced along each needle bar, a needle plate below said needle bars having openings for the passage of said needles therethrough, shuttle bars below said needle plate, one pair for each pair of needles reciprocable transversely of said needle bars, a shuttle basket for each needle bar on each shuttle bar, the shuttle baskets on each side of each pair of needles being positioned to pass on opposite sides of the needles of said pair, yokes supporting said three needle bars, a pair of guide bars for each yoke, each of said guide rods being rigidly secured to its respective yoke and extending upwardly from said yoke and spaced in a plane transverse to the length of said needle bars, pairs of brackets, one for each pair of guide rods, positioned one above the other to guide said guide rods, and means to reciprocate said yokes upwardly and downwardly to reciprocate the needles at successive intervals downwardly through said openings in said needle plate and reversely, a fabric feed unit positioned to pass an assembly of quilting elements over said needle plate, said fabric feed unit comprising fabric supply rolls for said quilting elements having shafts journaled to relate with said rolls, an apron between said supply rolls and said needle plate, draw-off rolls positioned to draw quilted fabric from said needle plate, means to drive said draw-off rolls to advance said quilting assembly between each reciprocation of said needles and to shift said unit to pass said assembly of quilting elements transversely of its direction of passage to said needles between reciprocations of said needles and a common drive shaft for said means to reciprocate said yokes and for said means to advance said quilting assembly and to shift said fabric feed unit.

**3,385,247**  
**SEWING MACHINES**  
Ralph E. Johnson, Boonton, and Eric D. Anderson, Millington, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey  
Filed Dec. 13, 1965, Ser. No. 513,383  
4 Claims. (Cl. 112-218)

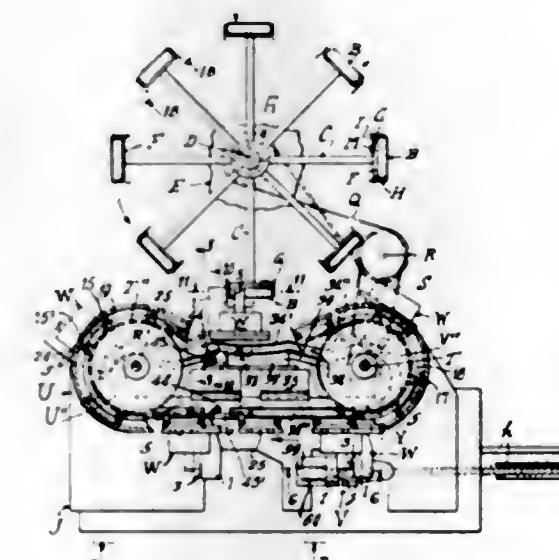
A disposable unitary cartridge formed with a needle thread support and a needle bar and mounted in the head of a sewing machine for endwise reciprocation. The car-

tridge is constructed of a nonmetallic material and includes a needle thread carrying bobbin rotatably mounted



thereon, the cartridge being driven in endwise reciprocation by connection to a shaft rotatably journaled in the bracket arm.

**3,385,248**  
**MACHINE FOR ATTACHING SPOUTS TO CONTAINERS**  
Milton H. Klausmann and Henry J. Brucker, Summit, N.J., assignors to Seal-Spout Corporation, Mountain-side, N.J., a corporation of New Jersey  
Filed Feb. 21, 1966, Ser. No. 528,997  
9 Claims. (Cl. 113-1)



1. A machine for mounting on a container wall a pouring spout that includes a body having side flanges to be pushed edgewise through a zone of said container wall during mounting of the spout, said machine comprising means for supporting and moving a container in a horizontal arcuate path continuously in one direction with one end open and said zone of the container wall disposed radially to said path, and a unit including a vertical support element juxtaposed to and movable synchronously with the container along and in a course approximately concentric with said path of the container that constitutes a spout inserting station, and means for guiding and driving said unit along said course, said unit also including a mount movable in said support element laterally of said path into juxtaposition to said container wall and having movable parts



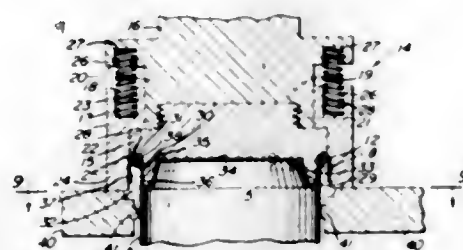
providing for the securing of a spout in said portion of said wall during said momentary movement.

3,385,249

**METHOD OF MAKING CONTAINERS**

John D. Czarnecki, Downers Grove, Ill., assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 13, 1965, Ser. No. 495,463  
9 Claims. (Cl. 113—120)



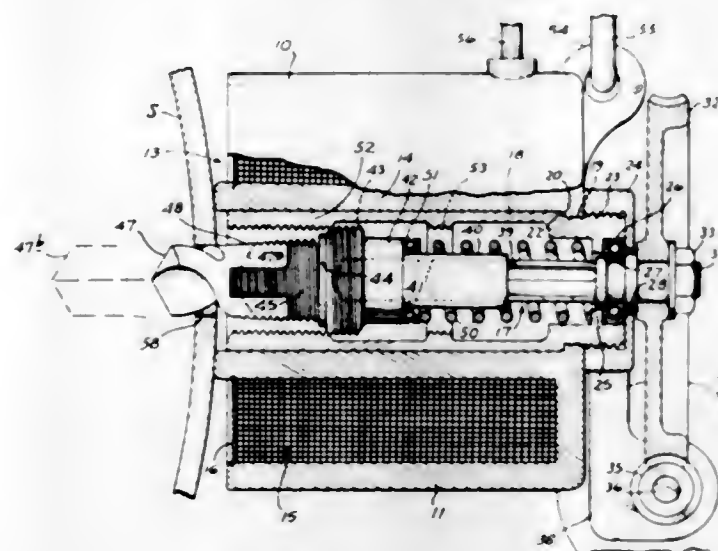
A method of making a container wherein a curl is formed on the body portion of the container simultaneously with the bending of a flange on a closure member into closure-member-securing relation to said curl.

3,385,250

**APPARATUS FOR CONNECTION TO SUBMERGED OBJECTS**

Clifford F. Raulle, 717 Birchwood Drive, Hillsboro, Oreg. 97123

Filed Aug. 8, 1966, Ser. No. 570,988  
2 Claims. (Cl. 114—44)



This invention concerns a submersible salvaging device which may be lowered into proximity with a submerged object which is magnetically attractable. It has a compound drilling and tapping tool, both formed upon the same body which first pierce the object by drilling a hole through the hull and immediately tap it to secure the device thereto under positive drive and bias.

3,385,251

**BALLAST ARRANGEMENT FOR TANK SHIPS**

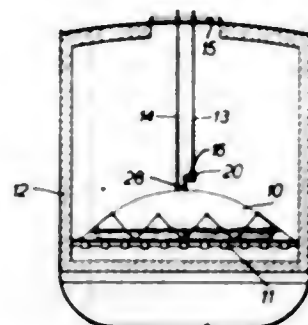
Geoffrey Joseph Grocott, Bearsted, Maidstone, Kent, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England

Filed June 23, 1967, Ser. No. 648,309  
Claims priority, application Great Britain, July 6, 1966, 30,267/66

9 Claims. (Cl. 114—125)

A tank ship contains a grating which supports a ballast bag in at least one of its cargo tanks. The grating sup-

ports the bag clear of the sump and the inlets and outlets in order to allow free access of cargo.



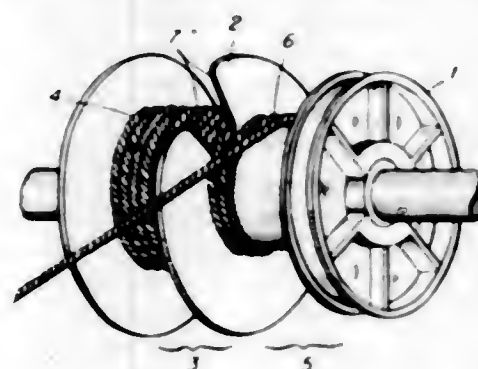
The arrangement is particularly useful for refrigerated tank ships since it eliminates the formation of ice and hydrocarbon hydrates in the cargo space.

3,385,252

**METHOD OF MOORING A SHIP TO A MOORING DEVICE**

Arne Sekkelsten, Arendal, Norway

Continuation of application Ser. No. 466,279, June 23, 1965. This application Mar. 1, 1967, Ser. No. 619,644  
1 Claim. (Cl. 114—230)



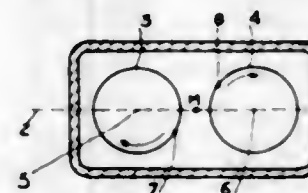
A method for mooring a ship to a dock or buoy in which there is a drum having a fixed flange separating the drum into two portions, there being a slot in this flange through which a rope can pass. The portion of the drum on one side of the flange serves as a storage drum portion, on which the full length of rope is stored when the winch is not in use, and from which the rope is payed out to moor the ship, the portion of the drum on the other side of the flange being a tension drum portion, on which a small length of rope is wound in one layer only by back-spooling after the free end of the rope has been secured to a mooring post or buoy.

3,385,253

**SYSTEM FOR TRANSFORMING A ROTATIONAL MOVEMENT INTO AN ALTERNATING TORSIONAL MOVEMENT**

Raymond Mathey, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie San Fil, a French corporation

Filed July 7, 1966, Ser. No. 563,424  
8 Claims. (Cl. 115—5)



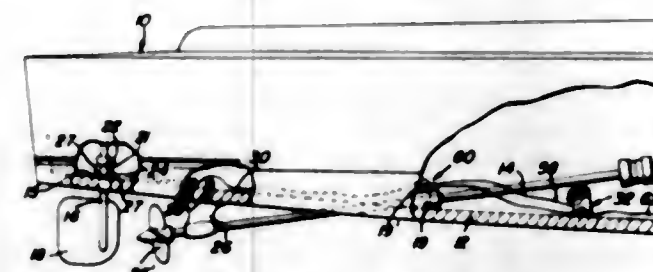
Arrangement for transforming a rotational movement into a vibrating movement in which two parallel shafts, which are rotated in the same direction, have respective identical unbalances offset by an angular shift, which is maintained equal to  $\pi$ .

3,385,254

**BOAT ELECTROLYSIS AND STATIC ELIMINATOR**

Sidney Goldberg, 527 Beach 72nd St., and Albert Leitman, 533 Beach 66th St., both of Far Rockaway, N.Y. 11692

Filed Oct. 14, 1966, Ser. No. 586,716  
5 Claims. (Cl. 115—5)



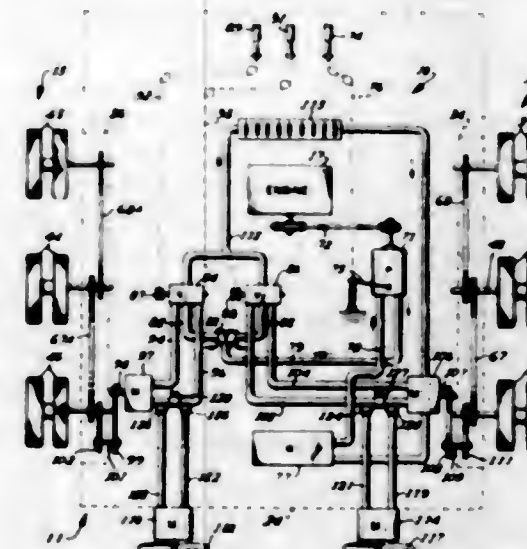
1. In combination with a boat hull of the type including a propeller shaft journaled therethrough, a support mounted in said hull adjacent a portion of said shaft disposed within said hull, electrical current conducting brush means movably supported from said support for movement of a portion thereof generally radially of said shaft and with said portion of said brush means engaged with said shaft, means biasing said brush means toward said shaft, a common electrical ground in said boat, means electrically connecting said brush means and said common ground, said common ground being adapted to have other metallic portions of said hull disposed for contact by water upon which said hull is floated also electrically connected thereto, said brush means including a pair of arms pivotally supported at one pair of corresponding ends from said support for oscillation about an axis generally paralleling said shaft, said arms being divergent toward the other pair of corresponding ends thereof and toward said shaft with said other pair of ends disposed on opposite side portions of said shaft and including opposing brush elements engaged with said shaft.

3,385,255

**VEHICLE DRIVE SYSTEM**

Willard C. Raymond, Edina, Chester L. Wyman, Bloomington, and Thomas N. Barka, Minneapolis, Minn., assignors, by mesne assignments, to Thomas N. Barka and David A. Berdahl

Filed May 10, 1966, Ser. No. 549,022  
15 Claims. (Cl. 115—1)



A track type amphibious vehicle having a floatable body and six wheels carrying endless tracks. All the wheels are driven by a hydraulic drive system having an internal combustion engine driving a positive displacement pump with a control to vary the discharge volume of the pump. Separate valves are used to couple the outlet of the pump

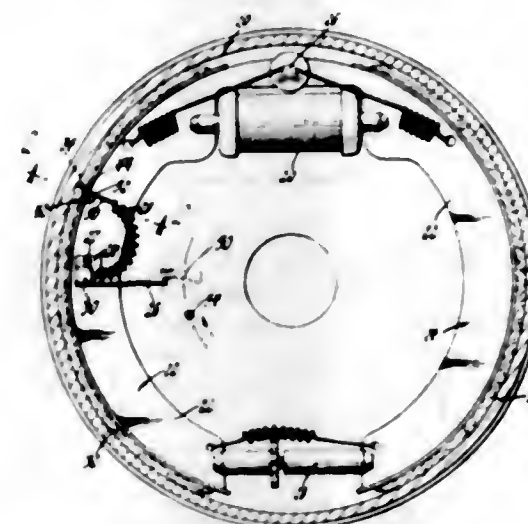
to separate positive displacement fluid motors operable to drive all the wheels on opposite sides of the vehicle. Each valve has a movable valving member selectively movable to forward, reverse and neutral positions to direct fluid to the motors or allow the fluid to freely flow in loops through the motors.

3,385,256

**VEHICLE BRAKE LINING WEAR INDICATING DEVICES**

Lothrop M. Forbush, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 28, 1967, Ser. No. 619,421  
6 Claims. (Cl. 116—67)



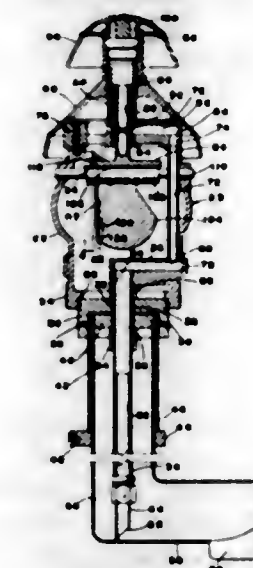
This disclosure describes vehicle brake lining wear indicating devices wherein the occurrence of sufficient lining wear releases a resilient member from an inoperative position so that it can assume an operative position and provide an audible signal to the vehicle operator. The resilient member comprises a spring that has one end adjacent a sound producing member. Sufficient lining wear causes a trigger member to release the spring for engagement by a cam member on the vehicle wheel so that the released end of the spring will strike the sound producing member and provide an audible signal as the wheel rotates.

3,385,257

**SIGNALLING DEVICE FOR MOBILE TANK VEHICLE**

Peter A. Madsen, Tartan Road, Richboro, Pa. 18954

Filed Feb. 1, 1966, Ser. No. 524,108  
10 Claims. (Cl. 116—109)



1. A signalling device for a mobile tank vehicle to indicate automatically during filling operations when the tank on said vehicle is nearly full, said signalling device

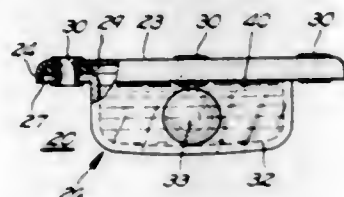


comprising in combination, a body connectable to a port in the top of the tank of said vehicle and communicating with the interior of said tank, an air inlet tube depending from and swivelly supported at its upper end by said body for rotation about a substantially vertical axis and terminating at its lower end in an extension extending substantially horizontally in use, vane means on said extension parallel to the axis of said extension, an air-operated whistle supported by the upper portion of said body exteriorly of said tank, and air passage means extending from between said air inlet tube and said whistle by air exhausting from said tank while being filled with liquid until said extension on said inlet tube is covered with liquid so as to close the same to further passage of air, said vane on said extension causing said extension to be disposed in trailing direction during the surging of liquid in said tank as when said vehicle is accelerating or decelerating, thereby to minimize the passage of liquid from said tank upwardly through said whistle during such surging.

3,385,258

**LUMINAIRE HAVING LEVEL INDICATOR**

Paul J. Curtin, and John Munaglan, South Milwaukee, Wis., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware  
Filed Jan. 16, 1967, Ser. No. 609,627  
9 Claims. (Cl. 116-114)

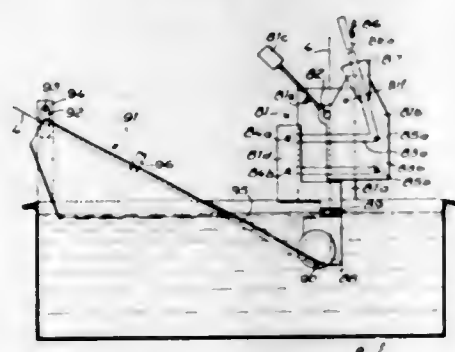


An outdoor luminaire having leveling means and a level indicator including an indicia bearing plate mounted below the luminaire and supporting a transparent container whose lower end is a spherical section. Disposed within the container is an indicator ball and a colorless dampening fluid having a freezing point substantially below that of water and a specific gravity substantially less than that of said indicator ball.

3,385,259

**WIRE-TINNING APPARATUS**

Nicolas Orban and Jean Gouguet, Paris, France, assignors to Société Anonyme Geoffroy-Delore, Paris, France  
Filed Jan. 9, 1963, Ser. No. 250,261  
Claims priority, application France, Jan. 10, 1962, 884,361  
4 Claims. (Cl. 118-68)



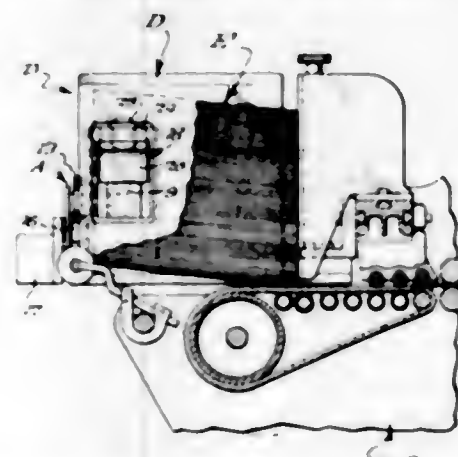
1. In wire-tinning plant, the combination of a tank containing a bath of molten tin; wire-guide means within the bath having an arcuate guide groove engageable by the wire for guiding same down into the bath and up out of the bath; a first support member swingable about a horizontal axis above the bath surface; a second support member having said guide means attached thereto

and pivotally connected to said first member by parallel linkage means for up and down displacement relative to said first member, and control means for displacing said second member relative to said first member independently of the swinging movements of said first member to control the depth of immersion of said guide means within the bath.

3,385,260

**APPLICATOR**

Harold B. Moors, Richboro, William E. Schwenk, Norristown, William J. Crothers, Jr., Bryn Mawr, and James N. Ademino, Ambler, Pa., assignors to International Paper Company, New York, N.Y., a corporation of New York  
Continuation of application Ser. No. 454,935, May 11, 1965. This application Aug. 14, 1967, Ser. No. 660,531  
8 Claims. (Cl. 118-202)



5. In a container blank feeding apparatus having a feed magazine adapted to hold a stack of flat fibrous container blanks, and means for successively withdrawing individual blanks from the bottom of said stack whereby to cause the remainder of the blanks in said stack to move downwardly; the combination of impregnating apparatus including a pre-heater maintained in contact with certain edge portions of said blanks during their downward movement through said feed magazine to heat said edge portions and render them receptive to an impregnant, an applicator roll having an absorbent and resilient surface and positioned below and closely adjacent to said pre-heater and in contact with said heated edge portions to apply an impregnant thereto, an impregnant-containing reservoir located beneath said applicator roll in such position that the lower portion thereof is immersed in said impregnant, means for maintaining said impregnant at a predetermined temperature, said applicator roll being friction driven by movement of said blanks when in contact therewith, means for mechanically driving said applicator roll when out of contact with the edges of said blanks whereby to maintain said applicator roll at a uniform temperature by transfer of heat from said impregnant, means for withdrawing said pre-heater and said applicator roll from contact with the edges of said blanks when said blank feeding apparatus is stopped, and means for actuating said applicator roll driving means whenever said applicator roll is withdrawn from contact with the edges of said blanks.

3,385,261

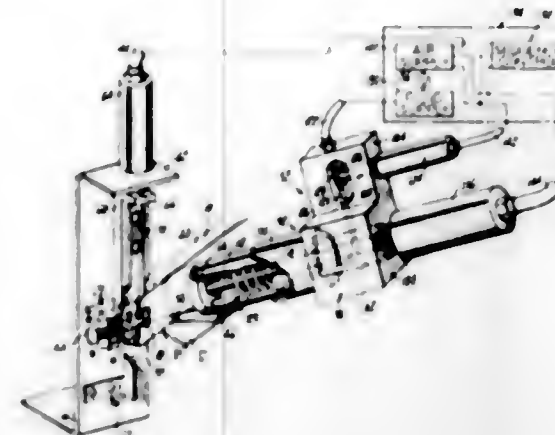
**APPARATUS FOR APPLYING LIQUID TO THE INTERIOR OF PARTS**

Ross G. Wittemann, Wethersfield, and Robert G. Nystrom, Glastonbury, Conn., assignors to Loctite Corporation, Newington, Conn., a corporation of Connecticut

Filed Dec. 16, 1965, Ser. No. 514,178  
8 Claims. (Cl. 118-317)

A system for the application of liquid to the interior portions of parts advancing in series is provided by the

use of a reciprocating liquid discharge nozzle which moves into and out of the interior of the parts; an operating sequence control (a) times the periodic opening of

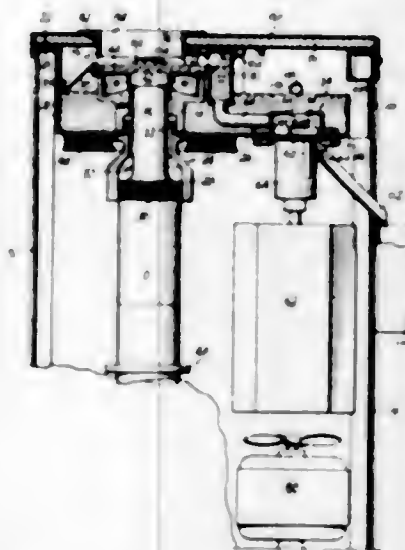


a liquid control valve to disperse liquid only when the nozzle is in the forward position and (b) upon movement of the nozzle to the retracted position, activates an ejector to positively and rapidly remove the treated part.

3,385,262

**ULTRASONIC SOLDERING OR PLATING APPARATUS**

Stanley E. Jacke and Everett A. Harris, Ridgefield, Conn., and Frank J. Macalus, Ardsley, N.Y., assignors, by mesne assignments, to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware  
Filed Sept. 18, 1964, Ser. No. 397,658  
13 Claims. (Cl. 118-429)

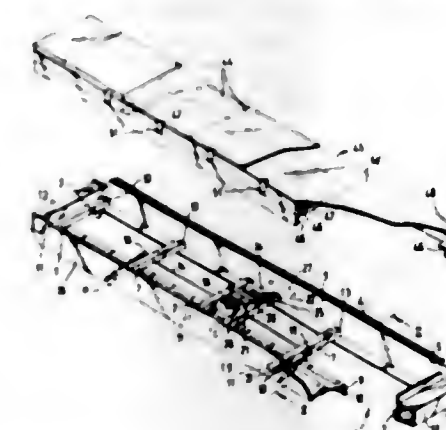


In an ultrasonic soldering or plating apparatus a container holding a quantity of molten metal is provided in its bottom or side with an opening through which an ultrasonic horn extends for causing ultrasonic energy to be imparted to the liquid metal by direct contact therewith. A metal reservoir underlies the container. Molten metal is permitted to leak through a small gap between the opening of the container and the ultrasonic horn, thus providing a leakage path from the container to the underlying reservoir and obviating the need for a tight seal. A pump pumps molten metal from the underlying reservoir to the upper container where such pumped metal is discharged as a surface stream across the level of the molten metal to continuously displace dross. The overflowing excess metal from the container is returned to the reservoir for recirculation by the pump.

3,385,263

**LEVELLING APPARATUS**

Ronald D. C. Bone, Upminster, Essex, England, assignor to Shandon Scientific Company Limited, London, England, a British company  
Filed Oct. 14, 1965, Ser. No. 496,060  
Claims priority, application Great Britain, Aug. 13, 1965, 34,698/65  
13 Claims. (Cl. 118-503)

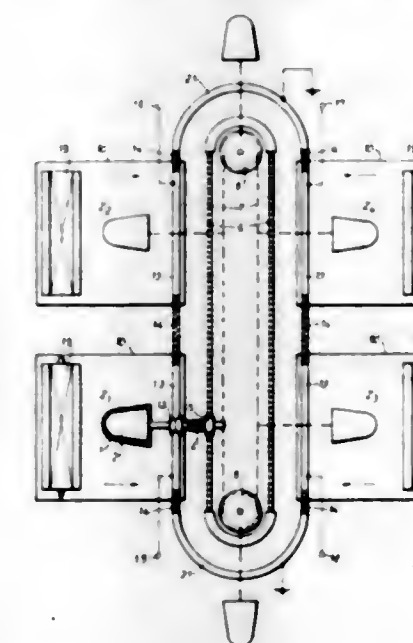


A clamp type work-holder including a resilient bed whereby plates of varying thicknesses may be retained with their upper surfaces lying in a common plane and substantially completely exposed except for edge portions engaged by flanges of upper elements of the clamp, at least one of which elements is pivotally associated with a cam actuated, spring biased lever.

3,385,264

**APPARATUS BY MEANS OF WHICH PARTICLES MAY BE APPLIED TO MOULDINGS AGAINST THE INFLUENCE OF GRAVITY**  
Gerhard Heyl, Cologne, Stammheim, Gunter Lutgens, Leverkusen, Friedrich Reich, Leverkusen-Bayerwerk, Anton Schmitz, Krefeld-Uerdingen, and Heinz Ludwig, Bamberg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Feb. 28, 1966, Ser. No. 530,568  
6 Claims. (Cl. 118-621)



Apparatus for applying particles such as flocks to moldings against the influence of gravity including separate flocking zones, earthed conductive particle-carrying belts for travel through appropriate flocking zones, moldings insulated from earth for travel through said zones in spaced above and facing relation to the particular belt portion thereat, and separate means for supplying a different level of high voltage to a given molding solely during

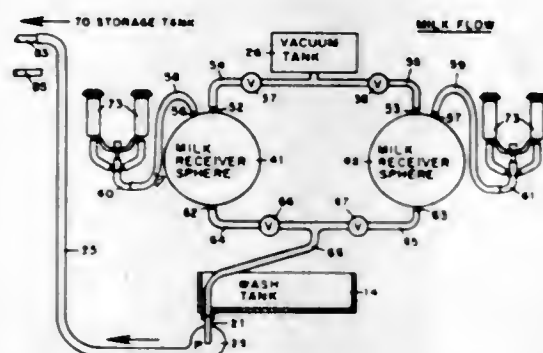


passage through a given zone to produce a correspondingly different intensity electric field in each individual zone to cause belt-carried particles to be applied against the influence of gravity to the molding thereat in dependence upon the intensity of such field.

3,385,265

**SANITIZING MILKING SYSTEM**

Lyle K. Schrader, Dublin, Ind., assignor to Golay & Co., Inc., Cambridge City, Ind.  
Filed Feb. 3, 1966, Ser. No. 524,735  
4 Claims. (Cl. 119—14.18)



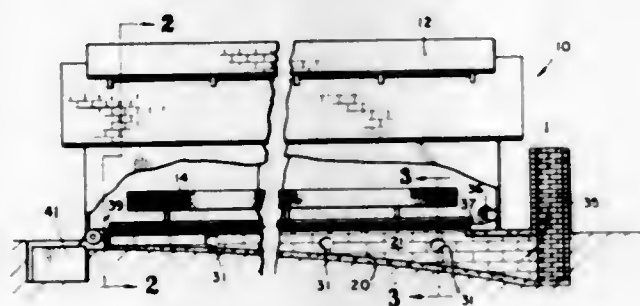
The device incorporates in one unit two milk receivers selectively used one alone or two together depending upon whether one or more cows are being simultaneously milked; a vacuum source; two sets of claws carrying each four teat cups and inflations; a pulsator in regular sequence intermittently stopping vacuum application through the cups to the teats of the cows; a water heater; a wash tank; a pump for selectively delivering milk from the receivers and wash water from the tank through the receivers, teat cup inflations, and the milk pipe to the bulk tank normally located remotely from the zone of milking. Tubing is provided to selectively set up the flows.

3,385,266

**MANURE HANDLING SYSTEM FOR ANIMAL HOUSE**

Mark Launder and Robert M. La Salle, Jr., Wabash, Ind., assignors to Horizons Unlimited—Problems Solved by Ideas Corporation, Wabash, Ind., a corporation of Indiana

Filed Oct. 31, 1966, Ser. No. 590,997  
14 Claims. (Cl. 119—22)

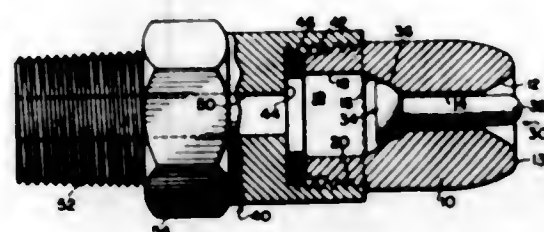


1. The combination with a bank of cage means arranged in a linear series and supported above means providing a chamber, each cage having a foraminous floor for passage of animal droppings and said chamber having a top member formed with a plurality of openings therethrough, an elongated strip of air-resistant, flexible material directly overlying said chamber top member and spanning substantially all of said openings, means for delivering air to said chamber to maintain a superatmospheric pressure therein whereby air escaping through said top member openings will support said strip substantially out of contact with said top member, and means for unidirectionally moving said strip serially below and past said cages to receive droppings thereon.

3,385,267

**ANIMAL DRINKING VALVE**

Charles P. Boegli, Woodlawn, and Delbert Steigerwald, Terrace Park, Ohio, assignor to The Fieldstone Corporation, Cincinnati, Ohio, a corporation of Ohio  
Filed Nov. 25, 1966, Ser. No. 597,089  
10 Claims. (Cl. 119—72.5)



The low pressure drinking valve includes a cap which has an axial passageway therethrough defining a cylindrical passage, a frusto-conical seating surface, and a cylindrical supply chamber joined to the flared end of said seating surface. A plunger operates in the passageway. The plunger has a cylindrical portion extending loosely through the cylindrical passageway and a substantially hemispherical soft portion forming a valve head cooperating with said frusto-conical seating surface. The valve is opened against said low pressure upon activation of the cylindrical portion. The frusto-conical surface may have a plurality of spaced concentric ridges extending circumferentially therearound to coact with the surface of the valve head to provide a more effective seal.

3,385,268

**METHOD OF OPERATING A ONCE-THROUGH VAPOR GENERATOR**

Theodore Smith Sprague, Hudson, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey  
Filed Jan. 18, 1965, Ser. No. 426,035  
10 Claims. (Cl. 122—32)

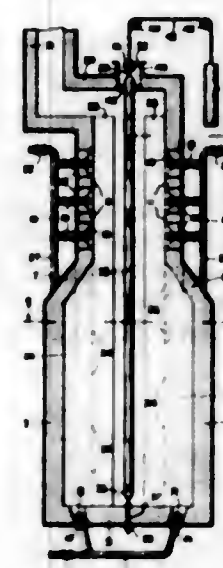


1. The method of operating a once-through steam generator having a vessel occupied by a bank of tubes which comprises directing a heating fluid through the tubes, supplying a vaporizable feed fluid to the vessel at subcritical pressure and vaporizing the feed fluid by directing it over and along the tubes in indirect heat absorbing relation with the heating fluid at a mass flow less than 400,000 pounds per hour per square foot and at a velocity in the range of 70 feet per second to 12 feet per second.

3,385,269

**TUBE HEATING FURNACE**

Robert M. Breckenridge, Maple Glen, Pa., assignor to Selsas Corporation of America, Dresher, Pa., a corporation of Pennsylvania  
Filed Jan. 26, 1967, Ser. No. 611,856  
7 Claims. (Cl. 122—240)



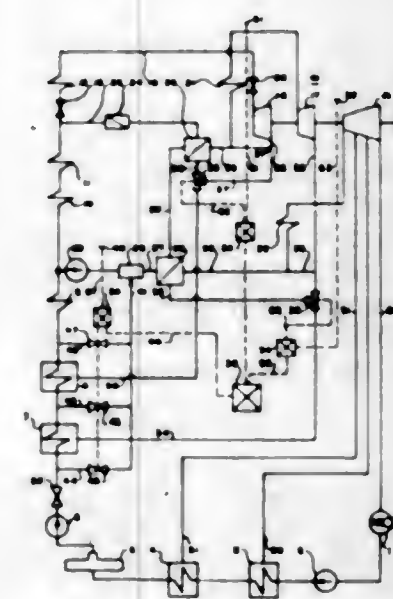
A multiple cell tube heater in which one cell is used to bring the fluid being heated almost to final temperature and a second cell is used to finish the heating. Said one cell is fired primarily with oil as a fuel with gas fuel being used to supplement the oil. The second cell is fired entirely by gas as a fuel to get accurate temperature control.

3,385,270

**STEAM POWER PLANT WITH FORCED-FLOW BOILER SYSTEM, PARTICULARLY FOR SUPERCRITICAL PRESSURE, AND A SUPERIMPOSED CIRCULATING SYSTEM**

Rupprecht Michel, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany  
Continuation-in-part of application Ser. No. 445,427, Apr. 5, 1965. This application Feb. 3, 1967, Ser. No. 613,793

4 Claims. (Cl. 122—406)



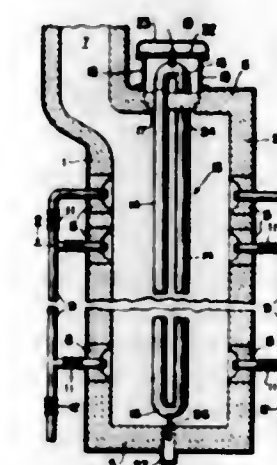
A temperature regulating system is combined with a steam power plant having a forced-flow system with a series-connection of working-medium supply source, a

preheater, an evaporator, a superheater having a finishing superheater surface, a load and intermediate superheater, and a circulating system superimposed upon the forced-flow system between a high-temperature point arrear of the evaporator and a low-temperature point ahead of the evaporator. The circulating system contains an impeller pump for withdrawing medium from the forced-flow system at the high-temperature point and recycling the medium back to the low-temperature point at least during start-up and partial-load operation of the plant. The regulating system includes a regulator which simultaneously regulates the steam temperature at the intermediate superheater and the temperature of the recycled medium at the pump. The regulator has a heat exchanger connected to the intermediate superheater and connected in the circulating system for cooling the recycled medium by steam substantially at the intermediate superheater temperature and an injector connected downstream of the low-temperature point which supplies feed-water therefrom to the circulating system.

3,385,271

**TUBE HEATER**

Kurt W. Fleischer, Ambler, Pa., assignor to Selsas Corporation of America, a corporation of Pennsylvania  
Filed Jan. 31, 1967, Ser. No. 612,948  
7 Claims. (Cl. 122—510)



The vertically extending passes of a tube coil are supported by the return bends at their upper ends. Each return bend is provided with a bracket through which a roller extends with the roller resting upon horizontal beams above the furnace chamber. Burners in the furnace chamber walls are placed to supply heat evenly throughout the length of each coil pass.

3,385,272

**ENGINE OR POWER DRIVEN MACHINE WITH PISTONS ORBITING IN A TOROIDAL CYLINDER**

Zbigniew Winogrodzki and Jerzy Wardynszkiewicz, Wrocław, Poland, assignors to Wrocławski Zakład Przemysłu Maszynowego Lesnictwa, Wrocław, Poland

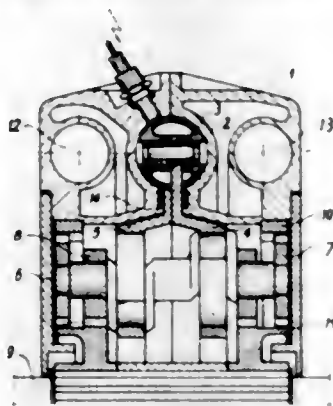
Filed Mar. 6, 1967, Ser. No. 620,789  
Claims priority, application Poland, Mar. 11, 1966, P 113,435

5 Claims. (Cl. 123—18)

An engine or a power driven machine, according to the invention described below, consisting of four pairs of pistons orbiting in a toroidal cylinder. The orbiting of the piston occurs by an angular uniform motion with a simultaneously superimposed oscillating motion, resulting in the formation of working chambers of variable volumes. The admission of the engine is performed by



means of suction ducts through intake openings made in the generating surface of the cylinder, and the exhaust



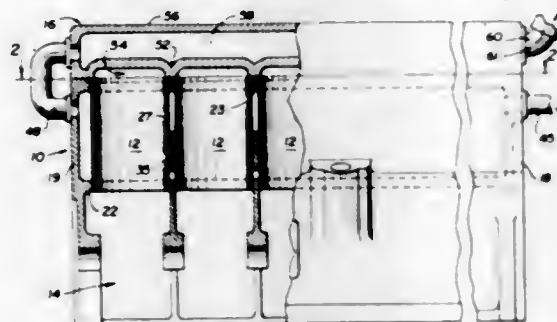
is performed through similar exhaust ducts. The ignition is effected by spark elements.

3,385,273

### COOLING SYSTEM FOR INTERNAL COMBUSTION ENGINE

Forest S. Baster, Beachwood, Ohio, assignor to White Motor Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Sept. 10, 1965, Ser. No. 486,408  
14 Claims. (Cl. 123-41.74)



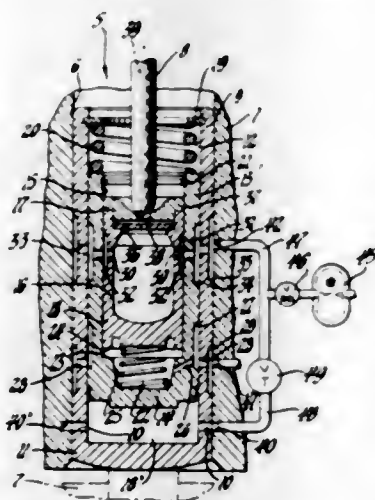
An internal combustion engine in which the cooling jacket of the cylinder block is connected in series with the cooling jacket of the cylinder head. Transverse baffles are located within the engine block between adjacent cylinder sleeves and are apertured to direct the flow of cooling liquid through the block in essentially a zone surrounding the upper portions of the cylinder sleeves.

3,385,274

### VARIABLE STROKE HYDRAULIC VALVE LIFTER

Rudolph C. Shunta, Detroit, and William H. Haverdink, Milford, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 13, 1967, Ser. No. 653,054  
5 Claims. (Cl. 123-90)



A spring-returned, cam-actuated push rod and rocker mechanism having a variable stroke hydraulic tappet in-

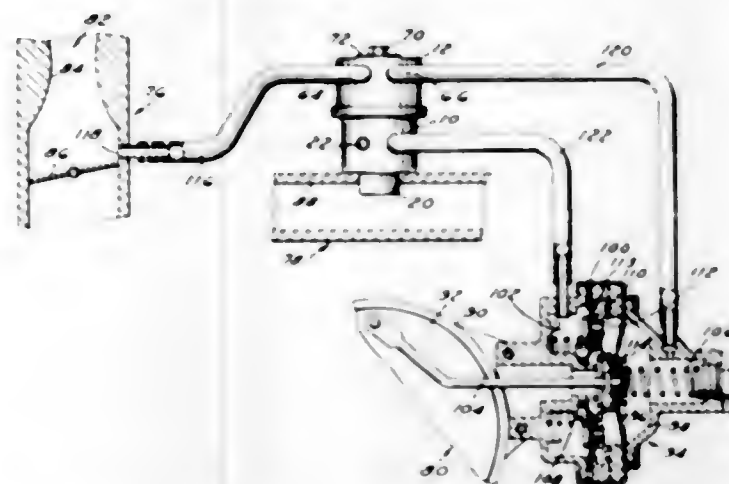
terposed between the push rod and cam, the tappet having a plunger drivably abutting the push rod and drivable in turn by a piston-like inner member resting on a column of hydraulic fluid contained in an outer cylinder-like member which drivably engages the cam, the hydraulic fluid being supplied under adjustably controlled pressure from a pump to a port in the outer member which is open only between lift strokes of the tappet, i.e. during the dwell and lower portions of the cam lift cycle.

3,385,275

### IGNITION DISTRIBUTOR ADVANCE CONTROL MECHANISM FOR A RECIPROCATING ENGINE

Donald M. Burnia, Pontiac, and William M. Hutchison, Allen Park, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 11, 1967, Ser. No. 674,476  
10 Claims. (Cl. 123-117)



This mechanism is used with a dual diaphragm distributor to advance the ignition timing when the engine is decelerating and also advance the timing when engine temperature exceeds a predetermined maximum while the engine is idling. A housing is divided into lower and upper chambers by a plate carrying a thermally responsive valve. A pressure responsive valve extends through the plate. The bottom of the housing fits into an opening in the intake manifold so intake manifold vacuum is applied to the lower chamber. Hoses connect the upper chamber to the carburetor throttle bore and to the advance diaphragm of the distributor and another hose connects the lower chamber to the retarding diaphragm of the distributor. During normal operation, vacuum in the throttle bore passes through the upper chamber to position the advancing diaphragm. When the engine is decelerating, high manifold vacuum opens the pressure responsive valve to transmit manifold vacuum into the upper chamber, thereby advancing the ignition timing. When the engine is idling at normal temperature, manifold vacuum in the lower chamber acts on the retarding diaphragm to retard ignition timing for emission control. If the engine temperature exceeds a predetermined maximum, the thermally responsive valve opens to admit manifold vacuum to the upper chamber and thereby advance the ignition timing.

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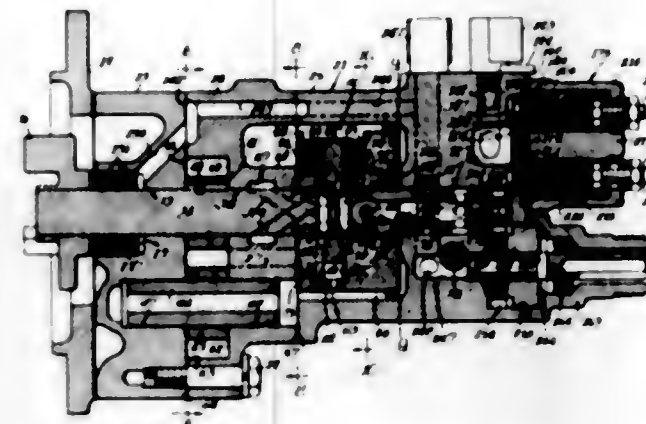
### FUEL SUPPLY APPARATUS

Neville H. Reiners, David T. Marks, and Edward D. Smith, Columbus, Ind., assignors to Cummins Engine Company, Inc., Columbus, Ind., a corporation of Indiana

Filed Oct. 7, 1965, Ser. No. 493,656  
37 Claims. (Cl. 123-140)

This apparatus includes an engine-driven fuel pump and a novel engine-driven pressure regulator responsive to the pressure of the fuel discharge by the fuel pump

and to the speed of the engine for regulating the pressure of the fuel furnished to the engine. A novel maximum speed governor responsive to engine speed is provided for restricting the flow of fuel from the pump to the engine above a preselected high engine speed. A novel,



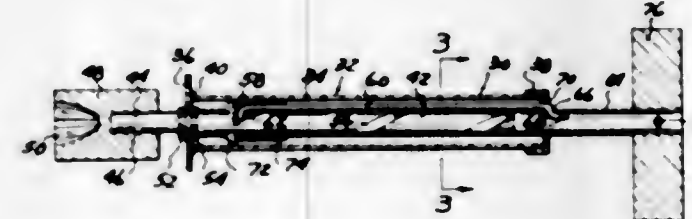
manually actuated, fuel flow control valve or throttle valve which, when the manual actuator for the valve is in the closed or idle position, is responsive to the upstream pressure of the pumped fuel and to resilient biasing means to control the flow of fuel to the engine.

3,385,277

### SAFETY ROTATIONAL STARTING APPLIANCE

Frank Ledesma, 3552 15th St., Wyandotte, Mich. 48192

Filed Oct. 4, 1966, Ser. No. 584,126  
3 Claims. (Cl. 123-185)



This safety rotational starting appliance for model airplane engines has an elongated casing in which is rotatably mounted a spirally-grooved engine starter shaft disposed in telescoping relationship within a tubular reciprocatory handle shaft drivingly connected thereto by an external parallel guiding connecting rod, the bent forward end of which projects through the handle shaft into the spiral groove and the rearward end of which is secured to the handle shaft. Between these ends the connecting rod is guidedly engaged by the edges of a notch in the rearward end cap of the casing to permit relative sliding while preventing relative rotation therebetween. A coupling on the forward end of the starter shaft grips a hub on the engine shaft and rotates it to start the engine when a rearward pull on the handle shaft rotates the spirally-grooved starter shaft.

3,385,278

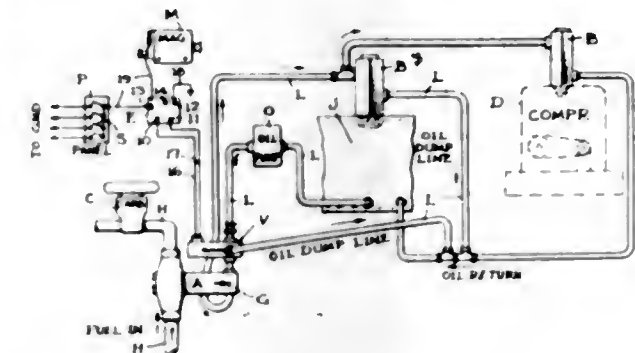
### ELECTRONIC ACTUATOR FOR AN ENGINE PROTECTIVE SYSTEM

Ralph B. Johnson, Jr., and Joe E. Goodwin, Houston, Tex., assignors to Sentinel Distributors, Inc., Denver, Colo., a corporation of Delaware

Filed Oct. 11, 1966, Ser. No. 585,798  
15 Claims. (Cl. 123-198)

The flow of fuel to an internal combustion engine is controlled to provide a safety shut down of the engine in response to a malfunction of the engine or an accessory

device driven by the engine. A solenoid operated valve is connected in the fuel supply system and has its oper-



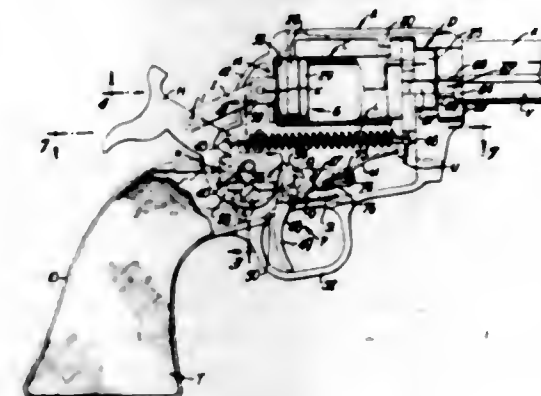
ating coil adapted to be energized by an electronic sensing circuit which monitors operation of the engine or the accessory device.

3,385,279

### PNEUMATIC PISTOL WITH MEANS FOR VARYING THE COMPRESSED AIR PRESSURE

Kenneth R. Pitcher, Encino, Calif., assignor to Healthways, Los Angeles, Calif., a corporation of California

Original application July 28, 1961, Ser. No. 127,672, now Patent No. 3,236,222, dated Feb. 22, 1966. Divided and this application Oct. 20, 1965, Ser. No. 498,230  
3 Claims. (Cl. 124-15)



1. In a small arms weapon: a frame; a barrel; means forming a cylinder in communication with the barrel; a piston reciprocable in the cylinder; a first member; said frame having means guiding said first member for movement in a path; means connecting said first member to said piston so that the piston follows the movement of said first member; a first spring connected to said first member for urging the member toward one end of its path; movement of said first member toward one end of said path corresponding to advancement of said piston; a second member separate from said first member; said frame having means guiding said second member for movement in a path substantially paralleling that of said first member; a second spring connected to said second member for urging it toward its corresponding end of its path; means releasably holding the first member away from its said one path end; and a selectively operable coupling optionally connecting the members for movement together.

3,385,280

### MOUNTING ARRANGEMENT FOR OVEN LINER

Henry Schmahl, Springfield Township, Mansfield County, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 24, 1966, Ser. No. 552,449  
5 Claims. (Cl. 126-19)

1. In an oven: oven cabinet means encompassing a forwardly-open cavity adapted to receive an oven liner therein;



a forwardly-open oven liner sized to be received within said cavity with the forward portion of said liner located generally in the throat of said cabinet means cavity, said liner including outwardly-projecting peripheral flange means bordering said liner front opening; and

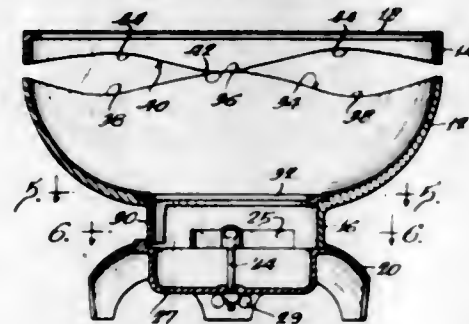


helical spring means disposed between said oven liner peripheral flange and said oven cabinet cavity throat physically support said liner at said throat, and to provide a thermal break between said liner and said oven cabinet means.

3,385,281

**CHARCOAL COOKER**

Lorence O'Ruana, 5309 Prospect, Peoria, Ill. 61611  
Filed Feb. 25, 1966, Ser. No. 529,999  
5 Claims. (Cl. 126-25)

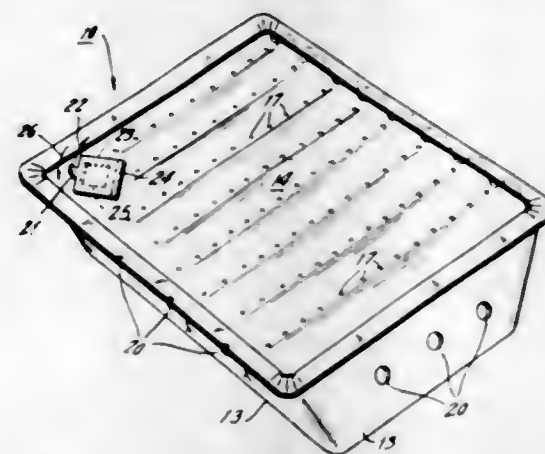


The charcoal cooker comprises a bowl shaped fire pot having a grate at its bottom center and a damper door to control the draft. The upper edge of the fire pot is regularly scalloped, and the lower edge of a grill support is complementally scalloped, so that by rotating the grill relative to the fire pot the spacing between the grill support is varied from closed to maximum venting. Depending fingers carried on the grill support engage the outer surface of the fire pot and guide and center the grill relative thereto.

3,385,282

**UNITARY GRILL PACKAGE**

Eugene A. Lloyd, Amityville, N.Y., assignor to Niphos Corporation, Westbury, N.Y.  
Filed May 3, 1967, Ser. No. 635,784  
9 Claims. (Cl. 126-25)

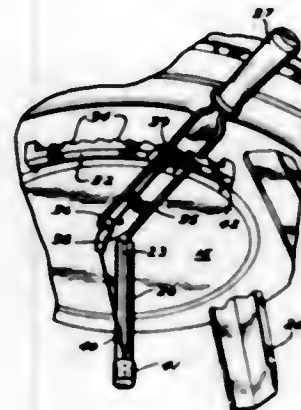


This invention teaches a unitary package for cooking or heating foodstuffs which is comprised of a pan preferably formed of aluminum having integrally formed side walls each provided with openings at spaced intervals to provide a draft for the fire contained within the package.

3,385,283

**BARBECUE GRILL CONSTRUCTION**

Theodore H. Zbikowski, Plymouth, and Douglas S. Jensen, Mound, Minn., assignors to Tonka Corporation, Mound, Minn., a corporation of Minnesota  
Filed June 7, 1967, Ser. No. 644,190  
6 Claims. (Cl. 126-25)

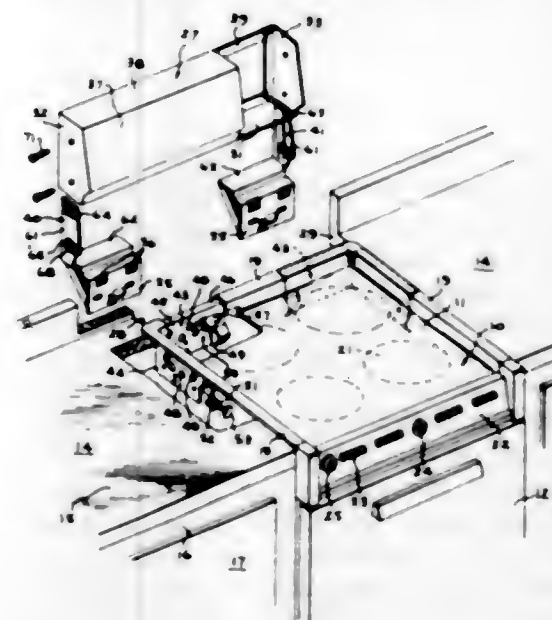


A brazier type barbecue grill wherein the cooking grid is vertically adjusted relative to the fuel bowl by means of a control movably mounted on the underside of the bowl to create tension or slack in a cable connected to the lower end of an upright post which carries the grid on its upper end. The control is mounted on a support wall disposed under the bowl and said wall also tightly engages the grill legs below their connection with the bowl to rigidify the entire structure.

3,385,284

**COOKING APPLIANCE WITH ADJUSTABLE CONTROL HOUSING**

James A. White, Louisville, Ky., assignor to General Electric Company, a corporation of New York  
Filed Nov. 15, 1966, Ser. No. 594,430  
6 Claims. (Cl. 126-37)



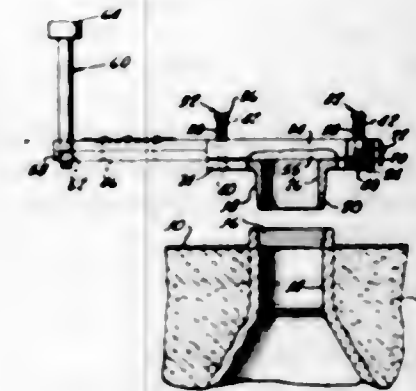
1. A cooking appliance adapted to be supported as a unit from the top surface of a notched counter structure, said appliance comprising at least a rectangular cooking surface having a plurality of surface heating means mounted therein, supporting flanges on the opposite side edges of the cooking surface that are adapted to overlie respectively the adjacent side edges of the notched counter structure, an upstanding control housing extending along the rear edge of the cooking surface; the invention comprising quick-connect means for attaching the control housing to the appliance, and adjustment means for varying the front-to-back position of the control housing relative to the appliance, a pair of bracket members

fastened to the back portion of the appliance, one bracket member adjacent each side thereof, a pair of upstanding brace members, each brace member having a telescopic connecting engagement with one of the bracket members, the bottom portion of the control housing having openings for receiving the top portion of the upstanding brace members therethrough, and a sliding pin and slot connecting means between each side of the control housing and the adjacent upstanding brace member.

3,385,285

**BOILER VIEWING ASSEMBLY**

Billy R. King, Bakersfield, Calif., assignor to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania  
Filed Nov. 21, 1966, Ser. No. 595,787  
12 Claims. (Cl. 126-200)

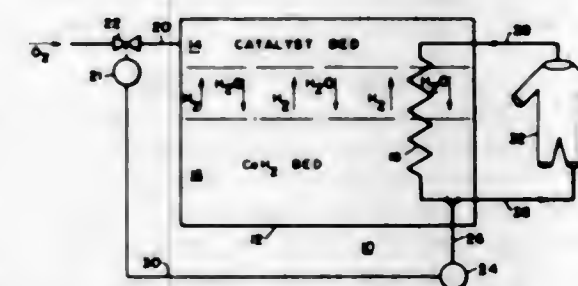


A viewing door for a boiler which includes a support plate rigidly mounted on the distal end of a hollow cylindrical spacer and having a port aperture in registration with the interior of the spacer communicating with the interior of the boiler, a rigid slide plate having a blank portion at one end and a lens mounted in an aperture in the other end resiliently slidably mounted on the port plate for reciprocal motion for permitting the lens to be selectively placed in registration with the port or removed in spaced relation therefrom for cleaning and including stops at each end of the slide plate, one of the stops comprising a removable actuator member is disclosed.

3,385,286

**HYDROGEN-OXYGEN CATALYTIC HEATER**

William J. Jones, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Jan. 25, 1967, Ser. No. 611,767  
11 Claims. (Cl. 126-204)

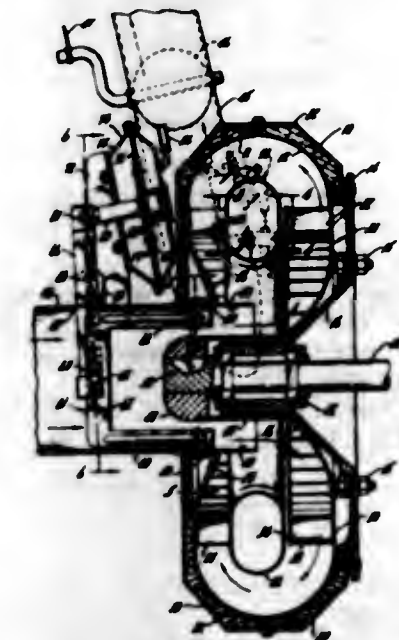


The invention is directed to a thermochemical heat generator comprising a hydrogen-oxygen catalytic heater with means for generating hydrogen from water vapor, for maintaining the body comfort over extended time periods of persons involved in excessively cold conditions such as underwater diving or outer space travelers.

3,385,287

**GAS HEATER**

Maurice O. Lawson, Dayton, Ohio, and George E. Scheitlin and Charles G. Machalicky, Columbus, Ind., said Scheitlin and said Machalicky assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana  
Filed Jan. 3, 1966, Ser. No. 518,483  
(Filed under Rule 47(a) and 35 U.S.C. 116)  
26 Claims. (Cl. 126-247)

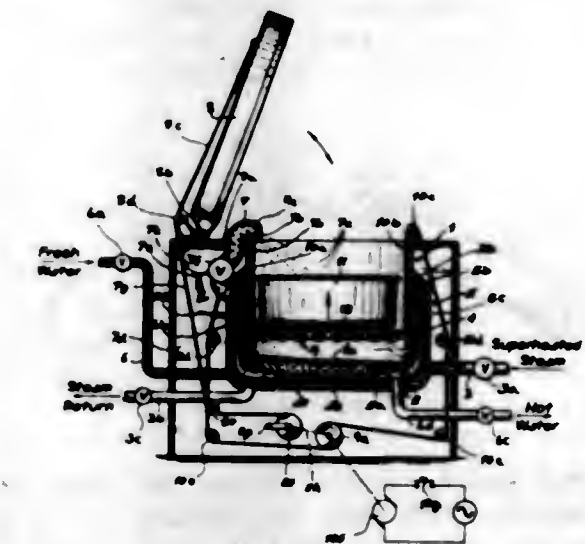


A gas heater comprising a housing having a recirculating flow path therein. An inlet and an outlet are provided for said housing in open communication with said flow path. A rotor is mounted in the flow path and a stator is mounted in said flow path in spaced relation to said rotor whereby said rotor pulls gas into the inlet, recycles it around the flow path through the rotor and stator, and discharges it out the outlet. A shroud is mounted in the housing for controlling the amount of gas recycled, and controls are provided for controlling the flow of gas through the inlet and outlet.

3,385,288

**KETTLE FOR THE COOKING AND/OR STEAMING OF COMESTIBLES**

Alfred Lohr and Helmut Hemmann, Herborn, and Karl Tropp, Werdorf, Germany, assignors to Burger Elektro- und Apparatebau, Wetzlar, Germany, a corporation of Germany  
Filed May 23, 1967, Ser. No. 640,536  
Claims priority, application Germany, May 25, 1966, B 87,279  
10 Claims. (Cl. 126-379)



Kettle for the cooking and steaming of comestibles is which a double-walled vessel is supplied with a heating medium such as superheated steam and a heat exchanger



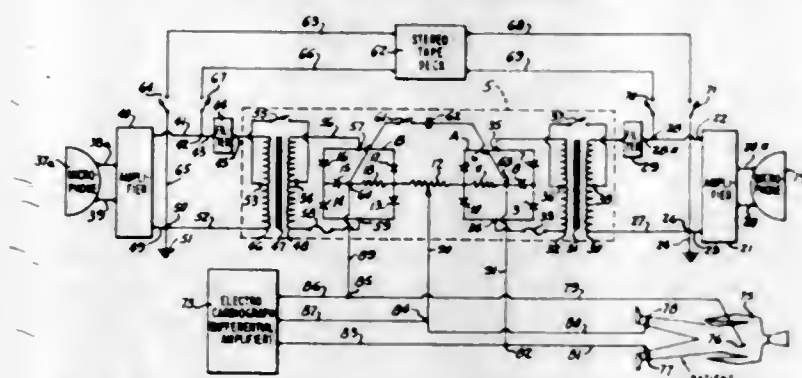
is provided between the walls to which fresh water is supplied; a duct conveys steam from the interior of the heat exchanger into the inner vessel for the steaming of foods therein, the duct having a valve operable automatically with the cover to prevent the escape of steam when the cover is open. The heat exchanger surrounds at least part of the inner vessel and extends upwardly therealong whereby the quantity of steam produced and the heat transfer to the inner vessel are controlled by the quantity of steam admitted to the outer chamber or basket, by the level of water in the heat exchanger, or by the heat-exchange surface area.

3,385,289

# APPARATUS AND METHOD FOR DETECTING, COMPARING AND RECORDING HEART VALVE MUSCULAR ACTIVITIES

John D. Lawson, deceased, late of Nashville, Tenn., by Sara Frances Lawson, administratrix, Henry, Tenn. 38231, and Lonnie Payton Parsons, 239 San Angelo Blvd., San Antonio, Tex. 78212

Filed Nov. 12, 1963, Ser. No. 323,165  
12 Claims. (Cl. 128—2.06)

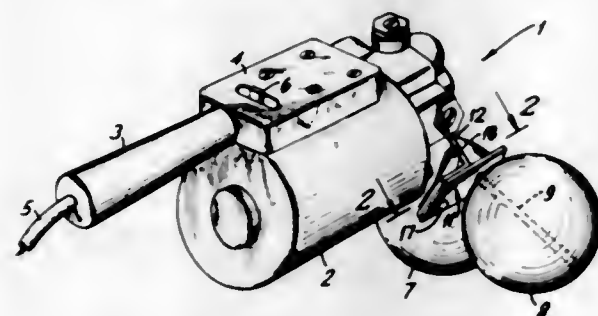


A dual input phonocardiographic circuit including a pair of microphone pick ups, a pair of Wheatstone bridge circuits for receiving the outputs of the microphone pick ups, each of said Wheatstone bridges including a R-C filter and divider circuit, interconnecting filter means between the Wheatstone bridge circuits, a recorder for preserving the microphone output signals and for applying said microphone output signals to the Wheatstone bridge circuits, and the circuitry for simultaneously applying the output signals from the Wheatstone bridge circuits to a differential amplifier and visual recorder for analysis and inputs and a diagnostic method using said circuitry are disclosed.

3,385,290

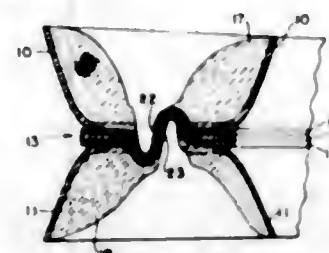
# MASSAGING DEVICE

Frieda W. Schmidt, 155 S. Broadway, Tarrytown, N.Y. 10591  
Filed Oct. 23, 1965, Ser. No. 502,882  
8 Claims. (Cl. 128—57)



Motorized massage device adapted for adjustment to massage selected body areas, the massage device including two spaced apart massage balls, one of which is rotatable by a motor, the other massage ball being freely rotatable and includes means to be fixedly spaced at selected positions in relation to the first roller.

3,385,291  
DENTAL DEVICE  
Leonard G. Martin, 1 Roseld Ave., Deal, N.J. 07723  
Filed Dec. 20, 1965, Ser. No. 515,033  
8 Claims. (Cl. 128—62)



1. A dental device for teeth and gums comprising, an upper channel shaped to partly surround the teeth in an upper jaw, a lower channel shaped to partly surround the teeth in a corresponding lower jaw, said channels made of substantially rigid material and joined to each other at their ends, said channels having cut-out slots in their horizontal portions, a laminar sheet positioned adjoining said slots for receiving the impressions of a set of teeth, and a moldable resilient material partially filling the upper and lower channels, said resilient material in the channels adapted to receive and retain the impressions of a set of teeth and adjoining gums.

3,385,292

# TRACTION DEVICE

James H. Hardy, 85 Duncastr Road, Hartford, Conn. 06002  
Filed July 23, 1965, Ser. No. 474,382  
6 Claims. (Cl. 128—84)



A foot engaging leg-traction-clamp and foot support adapted to simultaneously clamp the foot over a large area of the ankle and to exert a traction force over the area so clamped, and to support the foot under the ankle and heel so that the forces applied to the foot are substantially uniform.

3,385,293

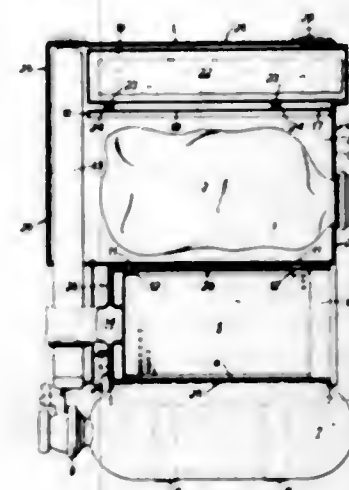
# CLOSED CIRCUIT BREATHING APPARATUS

Lewis Raymond Phillips, Frimley, Aldershot, England, assignor to Slebe Gorman & Company Limited, Surrey, England, a British company

Filed June 21, 1965, Ser. No. 465,551  
Claims priority, application Great Britain, June 27, 1964 26,678/64  
4 Claims. (Cl. 128—140)

A closed circuit breathing apparatus of the type adapted to be harnessed to the user and having an outer shell in which are located compartments, one of which contains a breathing bag and another contains a receptacle for a chemical charge through which the gas exhaled by the user is passed, via a passage in the shell, for removing the carbon dioxide from the exhaled gas, the gas thus purified being circulated via a third compartment containing a breathing bag to a passage through which the purified gas is inhaled. Means are provided inside the shell, in the form of a heat exchange device, to cool the gas just prior to its being inhaled. This means comprises, at the upper part of the outer shell, a compartment extending horizontally across the shell and charged with ice or other

suitable cooling agent capable of being evaporated by the flow of the gas over the exterior of such latter-mentioned compartment. This compartment has in its base openings for the slow escape of the liquid derived from the cooling agent into passages communicating at their ends with a



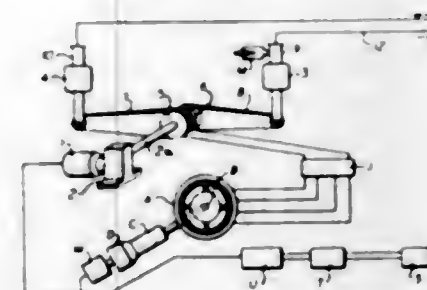
coating of absorbent material forming a jacket for the shell, whereby over the period during which the cooling agent is being evaporated, the shell is substantially completely moistened, thus enabling the moistening to be maintained for all normal conditions of use of the portable breathing apparatus.

3,385,294

# APPARATUS FOR CONTROLLING AND FOR INTERMITTENTLY DRIVING OF RESPIRATORS AND OTHER MEDICAL APPARATUS

Michel Sabathie and Guy Foures, Bordeaux, France, assignors to Societe Anonyme des Laboratoires Robert & Carriere, Paris, France

Filed June 22, 1964, Ser. No. 376,983  
Claims priority, application France, Sept. 11, 1963 7,535  
4 Claims. (Cl. 128—145.6)



1. An apparatus for controlling and intermittently driving respirators comprising  
an electric motor,  
a reduction gear operatively connected with said motor,  
two pumps driven by said reduction gear, one of said pumps being adapted for inhalation and the other of said pumps being adapted for exhalation,  
a rotating axle having a cam secured thereto for joint rotation therewith,  
a second motor for driving said rotating axle,  
a disc mounted on said axle and bearing graduations, toothed gears supported for rotation coaxially with said rotating axle,  
a plurality of circuit breakers disposed respectively one on each of said toothed gears and peripherally and axially spaced apart from each other, operatively connected with said pumps for intermittent drive, and successively engaged by said cam, the separation of said circuit breakers determining the division of the cycles of operation,

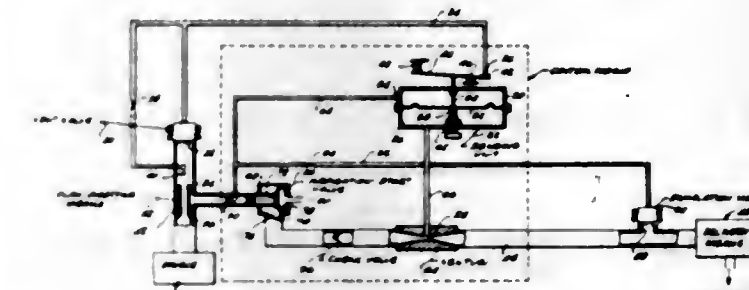
a carbon coordinated to operatively connect with the corresponding of said circuit breakers,  
a collector ring provided for and engaged by the corresponding of said carbons,  
a pinion meshing with each of said corresponding toothed gears,  
time relays,  
said collector rings being connected with said time relays and generating pulses, during rotation of said cam, and  
hand-controlled pinion means for turning said pinions and thereby varying the relative position of said toothed gears and said circuit breakers thereon, in order to change the time period for a cycle.

3,385,295

# APPARATUS FOR USE IN ADMINISTERING INTERMITTENT POSITIVE PRESSURE BREATHING THERAPY

Noel F. Beasley, Santa Monica, Calif., assignor to Puritan Compressed Gas Corporation, Kansas City, Mo., a corporation of Missouri

Filed Feb. 7, 1966, Ser. No. 525,495  
10 Claims. (Cl. 128—145.8)



1. In respiration apparatus including a source of pressurized gas and delivery means, a patient-controlled system for supplying intermittently gas from said source to said delivery means, comprising:

main conduit means coupled to said source and having a vent opening to the atmosphere;  
delivery conduit means coupled at its opposite ends to said main conduit means and to said delivery means;  
vent valve means adapted to be cycled between an inoperative condition, wherein flow of gas takes place from said source through said main conduit means to the atmosphere through said vent opening, and an operative condition, wherein the flow of gas is from said source through said main and delivery conduit means to said delivery means;  
a venturi in said delivery conduit means; and  
control means including pressure-sensing means coupled to said venturi at the throat thereof and to said delivery conduit means at a location spaced from said venturi; means connecting said control means and said vent valve means to cycle said vent valve means between said inoperative and said operative condition, and means for preventing a negative pressure signal in said delivery conduit means adjacent said delivery means from acting on said control means through the coupling to said delivery conduit means spaced from the venturi, but permitting such signal to act on said control means through the coupling at the throat of said venturi, said control means being responsive to a predetermined negative pressure signal in said delivery conduit means adjacent said delivery means for cycling said vent valve means to its operative condition and to a predetermined terminal flow through said delivery conduit means independent of absolute pressures therein for cycling said vent valve means to its inoperative condition.



### 3,385,296 COLLAPSIBLE BAG LINERS FOR HYPODERMIC SYRINGES

Samuel James Everett, London England, assignor to Lapis Engineering Company Limited, a British company

Filed June 14, 1963, Ser. No. 285,485  
Claims priority, application Great Britain, June 5, 1962, 21,644/62; Sept. 11, 1962, 34,659/62; Nov. 14, 1962, 43,053/62; Mar. 6, 1963, 8,913/63; May 7, 1963, 17,946/63

9 Claims. (Cl. 128—218)



1. A renewable liner for a hypodermic syringe constituted by a bag, formed of thin synthetic resin plastic sheet material, having a needle mounting hub sealed into its mouth, the bag being collapsed into contracted form and the plastic sheet material set in this condition.

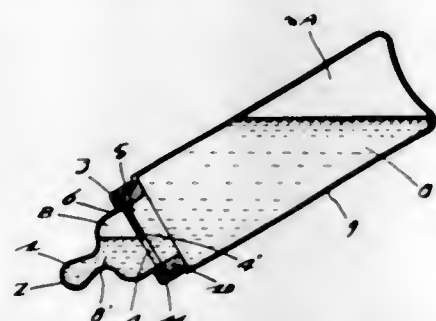
### 3,385,297 UNITARY NURSING NIPPLE HAVING A FLOW CONTROL DIAPHRAGM

Selichi Yazaki, Nippon-Jitakukudan A 24-2, 1-4,

2-chome, Korigaoka, Herakata, Japan

Filed Dec. 17, 1965, Ser. No. 514,474

2 Claims. (Cl. 128—252)



A unitary elastic nursing bottle mouthpiece provided with an elastic partition or diaphragm integral therewith and extending across the transverse cross-section of the breast portion and having a flow space therethrough covering about one quadrant of said cross-section. The breast portion has an air vent in its outer wall opposite the flow space. An air space is thus provided in the breast portion in fixed location relative to the flow space, in addition to the air space in the bottle itself, and hydrostatic pressure maintains an equilibrium between them during feed from the bottle. Excessive feed of milk when the bottle is nearly full, and deficient feed when it is nearly empty, are thus avoided.

### 3,385,298 FECAL POUCH

Leonard Fenton, Beachwood, Ohio  
(5156 Richmond Road, Bedford, Ohio 44014)  
Filed Oct. 21, 1965, Ser. No. 500,140

5 Claims. (Cl. 128—283)

A fecal pouch formed of flexible plastic material which is permeable to fecal matter. The front and back walls each include two layers of the flexible material with the

inner layer defining a fecal cavity and the inner and outer layers cooperating to form a sealed air-filled chamber completely surrounding the fecal cavity. The fecal material tends to permeate the inner wall after a period of use, but the inner wall prevents flow to the outer wall and

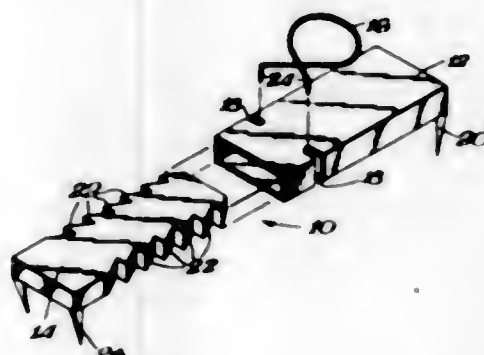


discoloration of the outer wall even when the inner wall is permeated with fecal matter. The two walls cooperate to prevent discoloration of the outer wall and odor from developing for a substantial period of time even after the inner wall is permeated with fecal matter.

### 3,385,299 WOUND CLIP

Pierre L. Le Roy, Wilmington, Del., assignor to New Research and Development Laboratories, Inc., Wilmington, Del., a corporation of Delaware  
Filed Oct. 23, 1965, Ser. No. 503,039

2 Claims. (Cl. 128—337)



A wound clip includes a hollow housing which is open at one end for receiving a slidable ratchet therein. The housing and the ratchet include lines which are adapted to be inserted into the skin on opposite sides of the wound. The housing also includes a pair of slots for receiving a spring which has a pair of free ends to engage in the ratchet and thus hold the ratchet in place. The spring is in the form of a loop which may be compressed to spread the ends and release the ratchet while still being held in the housing slots.

### 3,385,300 CERVICAL CANNULA

John W. Holter, Gulph Mills, Pa., assignor to The Holter Company, Bridgeport, Pa., a corporation of Pennsylvania

Filed Aug. 10, 1965, Ser. No. 478,699

9 Claims. (Cl. 128—348)

A cervical cannula comprising a tapered cone made of flexible material and having a pointed end and a blunt end, thread means molded onto the cone for easy insertion of the cone into a cervical canal and for retention and sealing of the cone therein, said thread means including a helical thread having teeth with front and rear faces extending along the cone, with the front faces of the teeth slanting toward the blunt end of the cone for easy insertion, and the rear faces of the teeth slanting toward the blunt end of the cone to aid in retention of the cone in the cervical canal, a tube extending from the blunt end of the cone to an open end through which may

be passed fluids, and an opening in the pointed end of the cone for passing the fluids into the cervical canal. A stylus of bendable metal is provided for inserting the



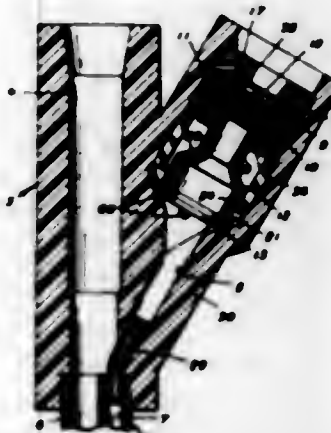
cannula, and a criss-cross fabric is molded onto the outside of the tube to aid in transmitting torque from the open end of the tube to the cone.

### 3,385,301 BALLOON CATHETER HAVING A DEFORMABLE ONE-WAY INFLATION VALVE

Andrew Haraetunelam, Gardena, Calif., assignor, by mesne assignments, to American Hospital Supply Corporation, a corporation of Illinois

Filed Oct. 11, 1965, Ser. No. 494,646

7 Claims. (Cl. 128—349)



In a balloon-catheter including a dual passage in which one passage is used to direct fluid into a patient and the other passage is used to direct an inflating fluid to the inflatable retention balloon of the catheter, and an improved valve assembly for controlling the passage of fluid to the retention balloon in which the valve is manually operable and normally closed, the valve assembly including a relatively rigid housing received in the other passage and permitting fluid to pass therethrough and having lateral slots permitting fluid to enter the housing, the housing having an upper opening surrounded by a depending valve seat, and a resilient, flexible, and deformable valve member including an upper sealing head engageable sealingly on said valve seat and integral with a reduced diameter, axial neck integral with a tubular body by means of an axially deformable angular shoulder which is normally compressed axially in the other passage for urging the sealing head toward said valve seat. This invention relates to an improved valve for a balloon catheter.

### 3,385,302 UNROLLED CIGARETTE CHARGE PACK

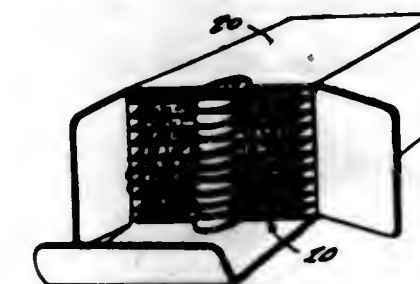
Herman Wattenford, P.O. Box 788,  
Bridgeport, Wash. 98813

Filed Apr. 27, 1966, Ser. No. 545,644

2 Claims. (Cl. 131—4)

A novel unrolled cigarette charge pack containing a plurality of cigarette charges in unrolled condition, each

cigarette charge including a filter paper with tobacco bonded upon one side, the tobacco having beveled side



edges so to form a uniformly smooth cylinder after the cigarette charge is rolled.

### 3,385,303 RECONSTITUTED TOBACCO PRODUCT

John D. Hind and George H. Burnett, Richmond, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia  
No Drawing. Filed June 16, 1966, Ser. No. 557,922

4 Claims. (Cl. 131—17)

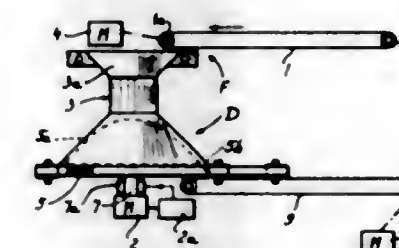
1. A smoking tobacco product comprising from 5.0 to 90.0% by weight of a fibrous tobacco material containing tobacco pectins having substantially no calcium and magnesium cross-links; a calcium compound selected from the group consisting of calcium hydroxide, calcium chloride and calcium acid phosphate in an amount sufficient to provide from 2.0 to 3.0% by weight of elemental calcium; a potassium compound selected from the group consisting of potassium hydroxide, potassium sulfate, potassium acid phosphate and potassium chloride in an amount sufficient to provide from 0.19 to 5.0% by weight of elemental potassium; from 5.0 to 20.0% of malic acid or a salt thereof; from 0.75 to 10.0% of citric acid or a salt thereof; from 1.0 to 6.0% of a humectant and from 5.0 to 20.0% of a sugar.

### 3,385,304 METHOD AND APPARATUS FOR PRODUCING A TOBACCO ROD

Willy Rudzinski, Düsseldorf, near Hamburg, and Guenter Wahl, Hamburg-Bramfeld, Germany, assignors to Hauni-Werke, Koerber & Co. KG., Hamburg, Germany  
Filed Mar. 31, 1966, Ser. No. 539,145

Claims priority, application Germany, July 13, 1965, H 56,570

9 Claims. (Cl. 131—84)



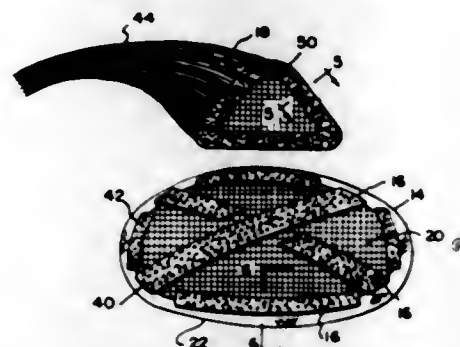
1. A method of operating a tobacco rod making apparatus wherein tobacco particles are fed along a first path against a rotor which rotates at a speed within a predetermined range and propels the particles substantially radially outwardly of said first path and wherein the thus propelled particles are thereupon deflected into and rotated in an annular path to form an annulus which is discharged at one point of the annular path as a continuous tobacco filler rod, comprising the steps of accelerating the rotor to a speed within said predetermined range and thereupon starting the feed of tobacco particles along said first path.



3,385,305

**DETACHABLE COIFFURE**

Frank D. Buzzelli, 28803 W. Nine Mile Road,  
Farmington, Mich. 48024  
Filed Jan. 11, 1966, Ser. No. 519,873  
8 Claims. (Cl. 132-105)

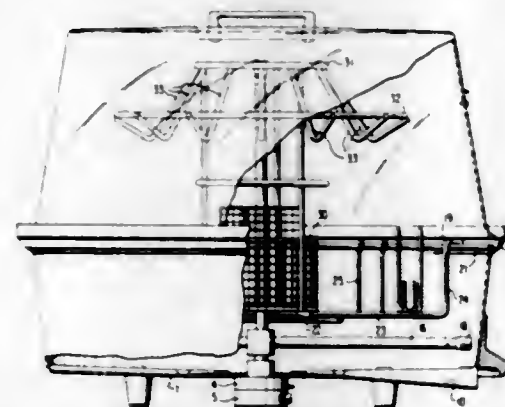


A detachable coiffure to be worn on a woman's hair includes a pad adapted to be attached to the hair as by a comb and plurality of wiglets which can be easily attached to and detached from the pad.

3,385,306

**PORTABLE DISHWASHING MACHINES**

Irwin Brater, 230 5th Ave. 10001, and Desmond J. Meehan, 527 Madison Ave. 10022, both of New York, N.Y.  
Filed June 17, 1966, Ser. No. 558,395  
5 Claims. (Cl. 134-93)

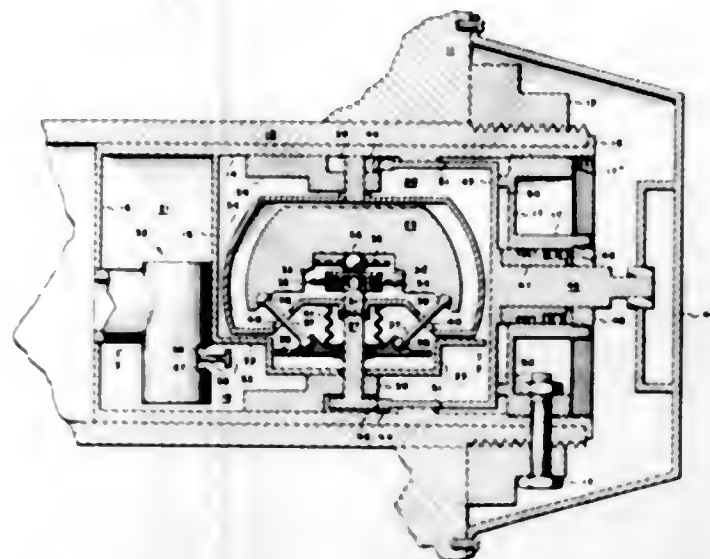


1. A lightweight portable dishwashing machine including a deep base pan tapering and opening upwardly, a ledge formed near the upper edge of the pan, a transparent heat-resistant synthetic plastic cover, deeper than the pan, tapering and opening downward, mounted on said ledge of the pan, the pan and cover when assembled defining a space and the pan being heavier than the cover, a hollow bearing member extending through the center of the bottom of the pan, a detergent well integral with and attached to the lower portion and outside of the pan, a vertical tubular shaft extending from the top of the bearing into said space, a hollow disc attached to said bearing member outside and in close contact with the pan, said disc provided with an opening communicating with said vertical shaft and with two other radial openings, a water supply hose connected with said vertical hollow shaft, a smaller tube connecting said hollow shaft with said detergent well, a rotatable spray unit mounted on the tubular shaft and fed by said water supply hose and comprising a vertical tube and two radially extending horizontal tubes, all the tubes closed at their outer ends and each provided with a series of fine orifices, a basket suspended from the ledge of the pan, said basket embodying vertical and horizontal elements to receive and hold articles to be washed, said pan formed of heat-resistant thermosetting resin and said basket structure formed of light impact-resisting and detergent-proof elastomeric material thereby rendering the washing machine stable against tipping when empty and when filled with dishes.

3,385,307

**LINEAR AND ANGULAR RESPONSIVE ACCELEROMETER ANTI-SKID DEVICE**

Frank D. Lewis, Sr., Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.  
Filed Nov. 17, 1965, Ser. No. 508,234  
12 Claims. (Cl. 137-38)



1. An anti-skid device for vehicles mounted on wheels and having a pressure operated brake system including a pressure regulator therefor associated with said wheels comprising:

a mechanism sensitive to deviations in the linear and angular decelerations of at least one of said wheels from a preestablished norm,

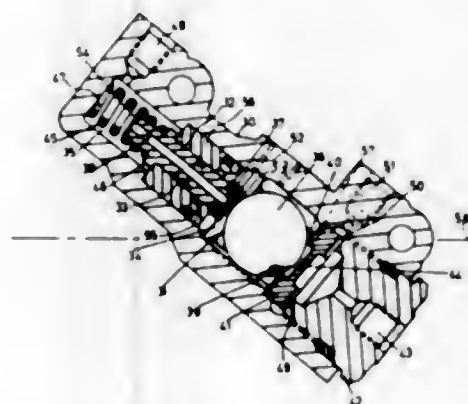
said mechanism including a composite linear and angular accelerometer connected to at least one of said wheels for rotation in unison therewith and for limited lateral movement relative thereto; and a control responsive to said lateral movement operatively connected to said pressure regulator.

3,385,308

**HYDRAULIC BRAKE PRESSURE PROPORTIONING DEVICE**

Glyn Phillip Reginald Farr, Kenilworth, England, assignor to Girling Limited, Tyseley, Birmingham, England

Filed Dec. 27, 1965, Ser. No. 516,267  
Claims priority, application Great Britain, May 20, 1965, 21,324/65; May 22, 1965, 21,767/65  
31 Claims. (Cl. 137-38)



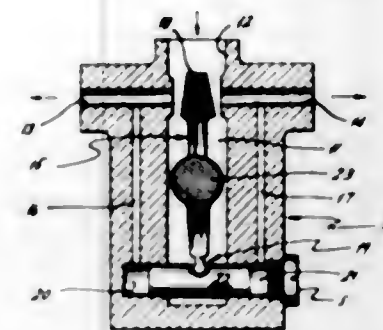
1. A hydraulic brake pressure proportioning device comprising a body, first and second chambers in said body for connection respectively to a master cylinder and to at least one slave cylinder, a bore between said chambers, a plunger slidable in said bore and having opposite faces of substantially equal effective area exposed to said chambers so that displacement of the plunger from a normal resting position in one direction to increase the

volume of the first chamber decreases the volume of the second chamber by an equal amount, a spring biasing said plunger in a direction opposite to said one direction, and a deceleration responsive valve normally interconnecting said first and second chambers, the deceleration responsive valve having a valve seat and an inertia member arranged to move to close said valve seat when the device is subjected to a predetermined deceleration.

3,385,309

**FLUID FLOW CONTROL MEANS**

William R. Bains, Tustin, Calif., assignor to Philco-Ford Corporation, a corporation of Delaware  
Filed Nov. 3, 1965, Ser. No. 506,165  
11 Claims. (Cl. 137-85)



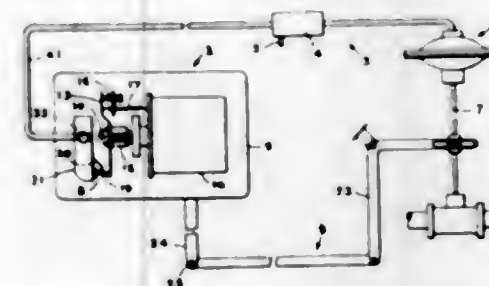
4. A fluid flow control valve comprising: a valve housing defining a cavity, said cavity having a supply port and a pair of oppositely disposed outlet ports in lateral wall portions of said cavity; pivotally mounted flapper means within said cavity for controlling the relative rates of fluid flow from said supply port through said outlet ports; means for cycling said flapper means in accordance with an electrical control signal whereby said flapper means dwells on respective ones of said outlet ports to control the rates of fluid flow therethrough; and means operable by the pressure of fluid leaving one of said outlet ports to urge said flapper toward a position closing the port that is open and opening the port that is closed.

3,385,310

**DIGITAL POSITIONER**

Ross D. Randall, Sherborn, Mass., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Mar. 16, 1966, Ser. No. 534,860  
2 Claims. (Cl. 137-85)

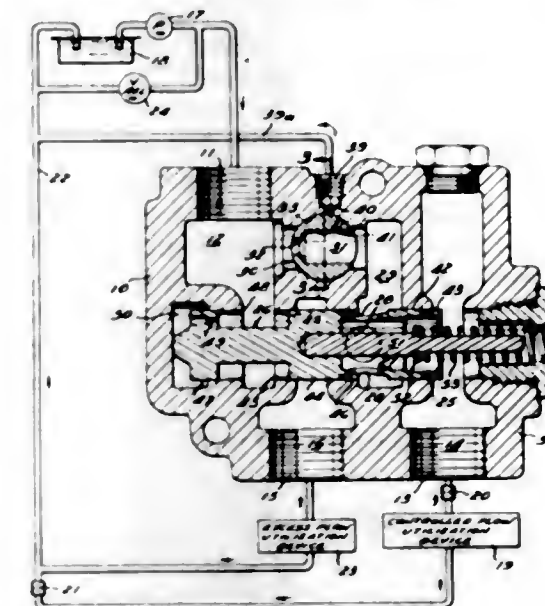


A digital positioning apparatus providing an electro-pneumatic transducer in a closed-loop control system in which the transducer is responsive to electric pulse inputs. The apparatus operates by receiving inputs through a pulse input motor and translating these inputs into incremental mechanical motion, which motion is used to move a flapper which coacts with a pneumatic nozzle, whereby back pressure is produced in a pneumatic system and is used to effect a controlled change in the pneumatically controlled device. The controlled change is fed back to the pneumatic nozzle by a mechanical linkage to effect either a linear or a variable ratio change in the nozzle position.

3,385,311

**HYDRAULIC FLOW DIVIDER**

John D. Allen, South Euclid, Ohio, assignor to Fawick Corporation, a corporation of Michigan  
Filed Dec. 22, 1965, Ser. No. 515,672  
4 Claims. (Cl. 137-101)

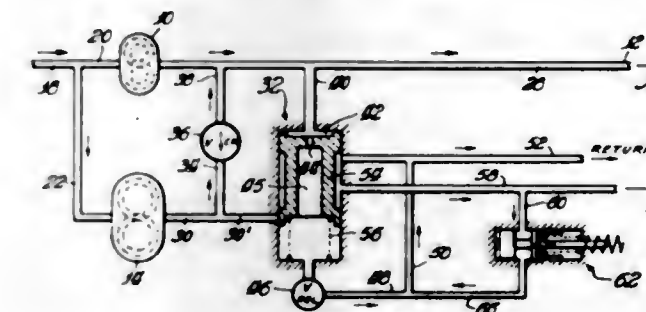


1. In a flow divider comprising a valve body having an inlet passage and separate controlled flow and excess flow outlet passages, an orifice device having a flow restriction therein and adjustably mounted in said body between said inlet passage and said controlled flow outlet passage, said orifice device being movable to a closed position to shut off fluid flow to said controlled flow outlet passage, and movable valve means in said body responsive to the pressure differential across said flow restriction to control fluid flow to said excess flow outlet passage, the improvement which comprises means defining a drain port in said valve body, and means for connecting said controlled flow outlet passage to said drain port when said orifice device is positioned closed.

3,385,312

**FLUID REGULATOR CIRCUIT**

George C. Kinnamon, Lyndhurst, and Francis E. Norlin, Chesterland, Ohio, assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois  
Filed Nov. 1, 1965, Ser. No. 505,897  
4 Claims. (Cl. 137-118)



1. A fluid regulator circuit for supplying fluid from a fluid source to first and second hydraulic systems wherein said first system requires priority over said second system, which circuit is comprised of:

first and second pumping elements in fluid communication with said fluid supply source, said first pumping element connected by first conduit means to said first system, said second pumping element connected to said second system by second conduit means; third conduit means interconnecting said first and second conduit means;



valve means situated in said third conduit means, said means adapted to check flow in said first conduit from entering said second conduit means, said means further adapted to permit flow from said second conduit means to said first conduit means when the pressure within said first conduit means is lower than in said second conduit means;

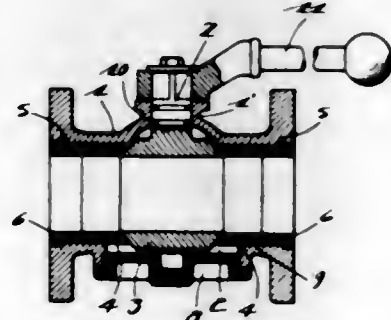
first valve means connected to said first and second conduit means, said valve means adapted to direct flow from said second pumping element to said first system and adapted to direct flow to said second system after flow requirements of said first system are satisfied, and by-pass excess flow from said first and second pumping elements to said fluid source; and solenoid valve means in communication with said second systems, and said first valve means, said solenoid valve means being effective to supply fluid to said second system when required by said second system providing flow requirements of said first system have been met.

3,385,313

## BALL VALVE

Masao Okada, 16 7-chome, Senbondori, Nishinari-ku, Osaka, Japan

Filed Jan. 3, 1966, Ser. No. 518,379  
5 Claims. (Cl. 137—315)



A ball valve is provided in which the valve casing comprises a spindle sleeve and flow passages which are integral and thus permanently related in which the ball is supported solely by the single spindle sleeve and spring pressed valve seat bushes; in which the valve seat bushes and parts associated with the latter are removable outwardly through the flow passages of the valve; and in which the valve ball is removable through a window which is provided with a closure. Preferred forms provide a passage of uniform cross-section through the valve when open; sealing grooves in the spherical surfaces that communicate with the flow passage while the valve is being opened and closed and cutting provisions for coping with foreign matter in the flowing stream.

3,385,314

## VALVE APPARATUS

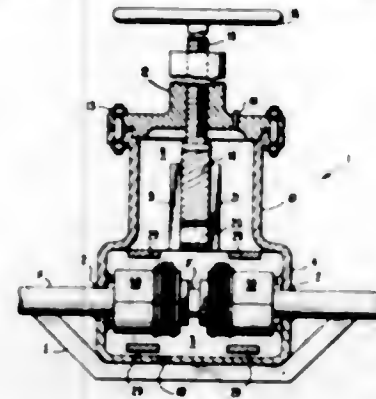
Charles L. Thompson, Pampa, Tex.

(3341 Vivian Court, Wheatridge, Colo. 80033)  
Continuation-in-part of application Ser. No. 367,524,  
May 14, 1964. This application Feb. 25, 1966, Ser.  
No. 534,959

22 Claims. (Cl. 137—318)

Apparatus for installing valves in pipelines while the pipelines are in operation and under pressure without any significant loss of the product flowing therethrough. A valve body is assembled about the pipeline having a compartment through which the pipeline extends, a portion defining a valve housing having a valve therein, a housing for a pipeline cutter, and housing for a valve seat, all of which are impervious to fluid. The pipeline is cut and the cutter and cut pipeline section retracted into its respective housing. The valve seats are then moved

into alignment with the severed pipeline and the valve is lowered into seating position. The housing for the cutter



and for the valve seats can then be replaced with permanent fluid-tight walls.

3,385,315

## IRRIGATION SYSTEM

Henry Decoto and Lawrence O. Johnson, Yakima, Wash.,  
assignors to Decoto Brothers Irrigation Division, Inc.,  
Yakima, Wash., a corporation of Washington

Filed Feb. 16, 1965, Ser. No. 433,122  
5 Claims. (Cl. 137—344)



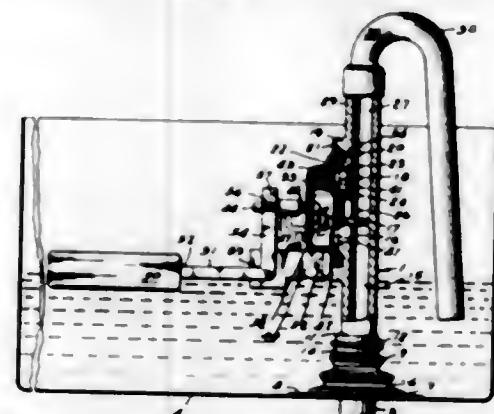
Apparatus for irrigating a field by means of an elongated wheeled pipeline, including a wheeled self-powered vehicle, a drive unit mounted on the vehicle having a drive shaft, and means on the vehicle for applying to the drive shaft a torque which is independent of the torque applied to one of the wheels of said vehicle. Coupling means are also provided for releasably connecting one end of the pipeline to the drive shaft.

3,385,316

## SNAP ACTING WATER VALVE

Robert W. Couffer, Jr., Deerfield, Ill., assignor to The  
Dole Valve Company, Morton Grove, Ill., a corporation  
of Illinois

Filed June 22, 1965, Ser. No. 465,963  
1 Claim. (Cl. 137—414)



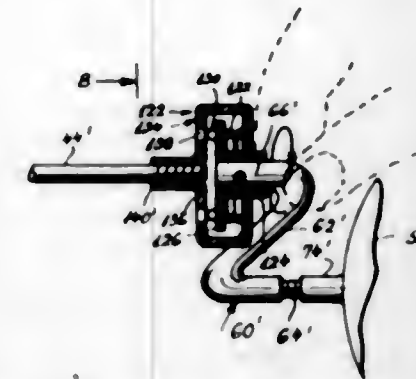
A flow regulator for controlling the level of fluid within a reservoir which includes a snap acting valve which is opened and closed by changing pressure differentials across a resilient snap acting diaphragm. The snap acting diaphragm is actuated by a movable pin which is positioned within a relief port of the valve. The pin is moved to and fro within a guide by means of a float member, a linkage, and a lost motion connection. Means are provided within the guide member to retard the motion of the pin to enable the pin to resist the fluid pressure exerted at the interior of the valve during operation of the lost motion connection.

3,385,317

## Z-ADAPTER FOR WATER CLOSETS

Francis J. Yankers, Newton, N.J., assignor of twenty-five  
percent to Howard G. Angle, Newton, N.J.

Filed Oct. 22, 1965, Ser. No. 501,602  
2 Claims. (Cl. 137—426)



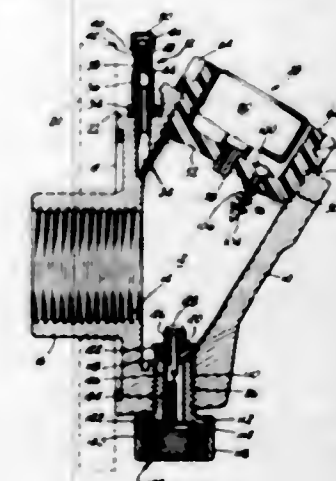
A float operated valve for water tanks provided with means for readily adjusting the position of the float in the water tank so as to predetermine the desired depth of water in the tank for flushing the bowl. The tank has a casing with an inlet and an outlet. A vertical tube is connected to the inlet. A valve casing is mounted in the tank having a bore communicating with the tube. A valve system is in the bore and a movable ball shaped valve member on one end of the stem is adapted to close communication between the bore and the tube. A slidable piston is in the bore connected to the other end of the stem and a pivoted lever is operatively connected to the piston. A rod is connected at one end to the lever, and a float adjustably connected to the other end of the rod. The means of adjustable connection includes a Z-shaped adapter and a clutch unit having a clutch member with a sleeve fixed on one end of the Z-shaped adapter, a flange on one end of the sleeve, a second clutch member having a front wall and annular side wall, the front wall having spaced holes therein, ball detents between the front wall and the flange normally seated in the holes in the front wall, a compression spring on the sleeve urging the flange against the balls, and means for moving the flanged clutch member against the action of the spring.

3,385,318

INLET FITTING FOR PRESSURIZED  
FLUID SYSTEMS

Eugene L. Kilbourn, Marshall, Mich., assignor to Pro-  
gressive Dynamics, Inc., Marshall, Mich., a corpora-  
tion of Michigan

Filed Dec. 16, 1965, Ser. No. 514,217  
6 Claims. (Cl. 137—557)



An inlet fitting for pressurized fluid systems utilizing a removable cap having a pressure gauge incorporated therein whereby the gauge is readily viewed and is protected by the cap. Additionally, a simplified check valve

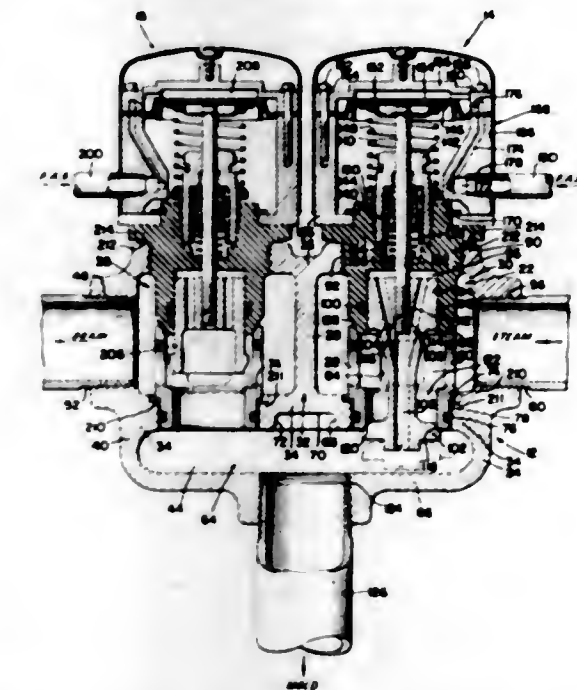
is employed with the fitting and a pressure relief valve is mounted in the cap.

3,385,319

## UNITARY MULTIPORT VALVE

Edward B. Myers, Oreland, Pa., assignor to Honeywell  
Inc., Minneapolis, Minn., a corporation of Delaware

Filed June 22, 1965, Ser. No. 465,866  
10 Claims. (Cl. 137—596.18)



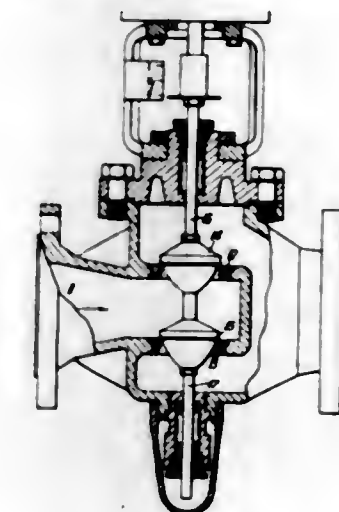
A unitary, compact, leak-proof, multiport valve having a common apertured plate forming a passageway between each one of a plurality of separate chambers and a common chamber, valves unaffected by changes in the coefficient of the valve parts are employed to selectively control the direct flow of fluids e.g. steam, cold water, hot water or other fluids through the passageways to the common chamber and to a utilitarian means such as a rubber curing press and to control the reverse flow of these fluids from the utilization means by way of the common chamber into another separate chamber to a drain.

3,385,320

## FLUID FLOW CONTROL VALVES

William Cusack Fahle, Ipswich, England, assignor to  
Reavell-Fahle Limited, Ipswich, England

Filed Aug. 10, 1965, Ser. No. 478,703  
Claims priority, application Great Britain, Aug. 10, 1964,  
32,489/64  
3 Claims. (Cl. 137—625.34)



The invention is an improvement in double beat valves and its aim is to produce a valve which can be moved between its open and closed positions by a power actuator



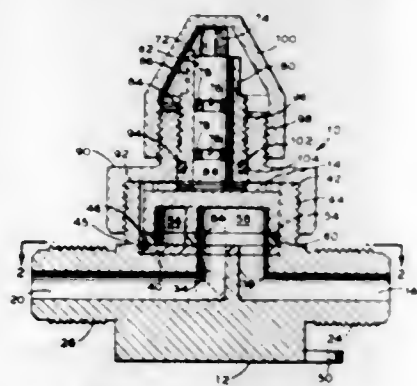
with very small effort, and furthermore which can be held by the actuator at partly open positions. For this, the valve needs to be in both hydrostatic and hydrodynamic balance. Hydrostatic balance alone in valves has been quite common in the prior art but so far no one has ever achieved both hydrostatic and hydrodynamic balance. Applicant's invention teaches the worker the way to achieve hydrodynamic balance but having been so taught the worker can only obtain the result after some simple experiment because it involves primarily choosing the valve plug height, the actual height needed for each plug varying with each different set of valve parameters.

3,385,321

**MULTI-PORT VALVE**

Henry Ehrens, Riverdale, N.Y., and Sidney Wiener, Cresskill, N.J., assignors to Sealed United Parts Co., Inc., New York, N.Y., a corporation of New York

Filed Aug. 26, 1965, Ser. No. 482,763  
1 Claim. (Cl. 137—625.46)



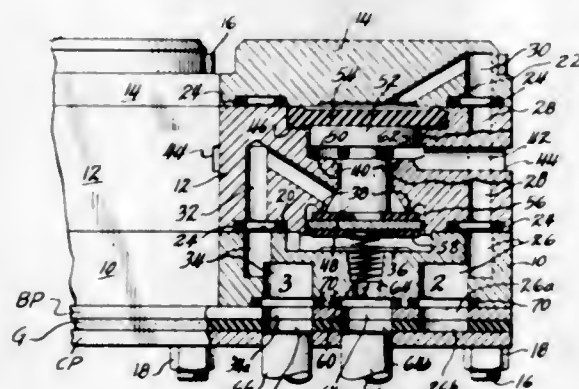
A multiport valve having a stationary member provided with a plurality of ports and a rotatable member having passages adapted to connect together different ports in response to the movement of the rotatable member. Gaskets having apertures in registry with the respective ports and passages are provided for the stationary and rotatable members and are positioned to abut each other. An intermediate member is provided to selectively apply an axial force to the valve to compress the gaskets and prevent cross-flow between the ports or to reduce the axial force to permit movement of the rotatable member without causing undue wear of the gaskets.

3,385,322

**AND VALVE FOR FLUID LOGIC CIRCUITS**

Karl A. Brandenburg, Hayward, Calif., assignor to The Aro Corporation, Bryan, Ohio, a corporation of Delaware

Filed Jan. 25, 1966, Ser. No. 523,507  
7 Claims. (Cl. 137—625.66)



1. An AND valve for fluid logic circuits comprising a valve body having a pair of inlets, an outlet and an exhaust passageway, an outlet valve seat for said outlet, an

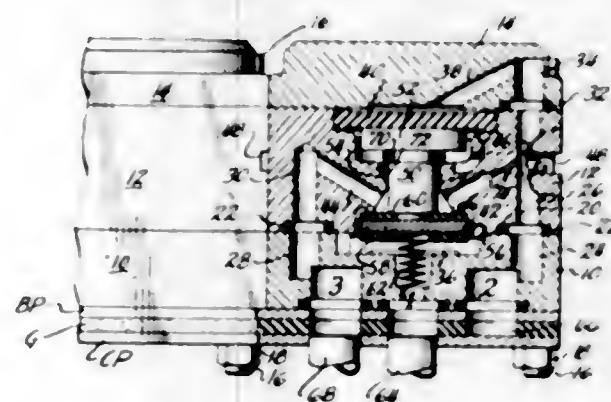
exhaust valve seat for said exhaust passageway, said valve seats being opposed to each other, an outlet valve for coaction with said outlet valve seat, an exhaust valve for coaction with said exhaust valve seat, one of said valves being closed against its seat when the other is spaced from its seat and vice versa, a diaphragm for actuating said valves, said diaphragm being subject to pressure from one of said inlets, the other of said inlets communicating with said outlet when said outlet valve is spaced from said outlet valve seat and cutting off flow between said other of said inlets and said outlet when said outlet valve is seated on said outlet valve seat whereby fluid pressure supplied to both of said inlets will open said outlet valve relative to said outlet valve seat and close said exhaust valve relative to said exhaust valve seat to pressurize said outlet, and fluid pressure supplied to only one of said inlets will leave said outlet connected to said exhaust passageway.

3,385,323

**MEMORY VALVE FOR FLUID LOGIC CIRCUITS**

Karl A. Brandenburg, Hayward, Calif., assignor to The Aro Corporation, Bryan, Ohio, a corporation of Delaware

Filed July 8, 1966, Ser. No. 563,746  
7 Claims. (Cl. 137—625.66)



1. A memory valve for fluid logic circuits comprising a valve body having a pair of inlets, an outlet and an exhaust passageway, a supply valve seat for said outlet, an exhaust valve seat for said exhaust passageway, said valve seats being opposed to each other, a supply valve for coaction with said supply valve seat, an exhaust valve for coaction with said exhaust valve seat, one of said valves being closed against its seat when the other is spaced from its seat and vice versa, a diaphragm for actuating said valves, said diaphragm being subject to a signal pressure from one of said inlets to open said supply valve and close said exhaust valve, the other of said inlets communicating through said supply valve seat with said outlet when said supply valve is open for pressurizing said outlet, the release of signal pressure from said one of said inlets effecting communication of said outlet with said exhaust valve seat and thereby permitting release of pressure from said outlet through said exhaust valve.

3,385,324

**SWING SPOUT FAUCET**

Richard H. Wolf and Kathe H. Wolf, both of 101 Sheffield Ave., Longmeadow, Mass. 01106

Filed Apr. 15, 1966, Ser. No. 542,824  
7 Claims. (Cl. 137—636.4)

1. In a valve structure, a generally cylindrical housing having at one end a liquid-supply chamber of reduced diameter communicating substantially concentrically therewith, liquid-supply conduits connected to said supply chamber, a valve seat at the juncture of said chamber with said housing, a hollow sleeve secured substantially concentrically in said housing, the lower end of said sleeve being spaced from said valve seat to provide a mixing

chamber between said seat and the sleeve end, a hollow stem mounted for reciprocatory movement concentrically in the sleeve and having its top end projecting beyond the housing, mating threads on the stem and the sleeve, an annular head on the lower end of the stem disposed within said mixing chamber and having its periphery spaced from the inner sidewall of the chamber, said head being adapted to seat against the adjacent sleeve end when the stem is moved to its limit in one direction and against the valve seat when moved to its limit in the opposite direction, a depending sleeve valve element coaxially-secured to the lower end of the stem and being sealingly and rotatably-received in said liquid-supply chamber, said



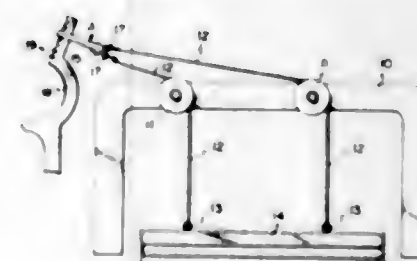
valve element being apertured to at times establish communication between the supply conduits and the mixing chamber, a swing spout lockingly-engaged over the top end of the stem, said spout being formed with a recess extending around the top end of the stem, nut means substantially sealingly-received in said recess and threadedly-engaged on the top end of the stem, said nut means being recessed to define a space communicating with the swing spout and being provided with an aperture connecting said last-named space with the interior of the nut means, whereby to connect said last-named space with the internal bore of the stem, and rotary valve means in the nut means adjacent said aperture and being adjustable to regulate flow through said aperture.

3,385,325

**JACKEYE AND CONNECTOR ASSEMBLY**

John B. Sherrill, Drawer 578, Gastonia, N.C. 28052

Filed July 22, 1966, Ser. No. 567,280  
7 Claims. (Cl. 139—84)



A harness connector for use with a loom jackeye having a neck portion and shoulders for preventing relative movement between the jackeye and the connector and a pair of legs for connecting a harness frame.

3,385,326

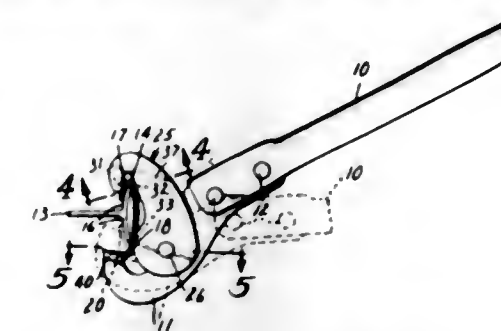
**FENCE CLIP FASTENING TOOL**

Harlan J. Easton, Box 607, Blooming Prairie, Minn. 55917

Filed Mar. 22, 1965, Ser. No. 441,655  
1 Claim. (Cl. 140—123)

A fence clip fastened tool having a single handle with a jaw formed at one end thereof and a second jaw pivotally attached thereto for normally encompassing a clip,

and, upon engagement with a fence post and pivoting action therearound, forming the clip to fit the post. Each



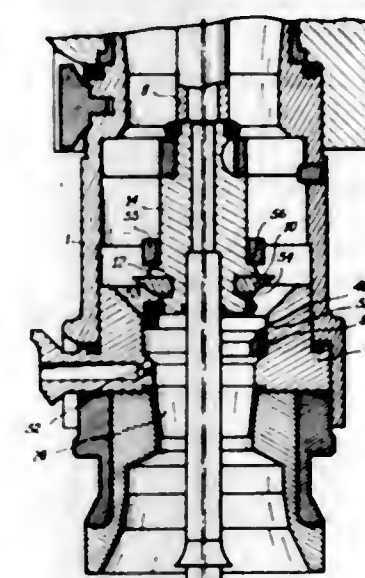
of the jaws has a clip receiving groove therein, and the jaws are biased into a clip retaining position by a spring.

3,385,327

**SCREW-DOWN VALVES FOR FILLING BOTTLES WITH LIQUID**

Hector Granier, Vergeze, France, assignor to Société Anonyme Source Perrier, Vergeze, Gard, Republic of France

Filed May 11, 1965, Ser. No. 454,844  
Claims priority, application France, May 13, 1964, 974,259; Sept. 23, 1964, 988,984  
2 Claims. (Cl. 141—39)



A control valve for filling bottles with liquid under gaseous pressure from a reservoir, having an inlet cooperating with the liquid in the reservoir and an outlet opening into the bottle to be filled. Dual control means located in the flow path of the liquid through the valve, one of which control means is pressed upon its seat by the action of the gaseous pressure contained in the reservoir above said liquid on a piston and being moved to the open position by biasing means when gas above the liquid is allowed to flow through the hollow stem of the control means so as to balance the pressure in the bottle to be filled and the reservoir. The second control means, which is normally biased to the closed position is then opened by the weight of the liquid in the reservoir to allow the bottle to be filled to a predetermined height.

3,385,328

**CONSTANT LEVEL FILLING MACHINE**

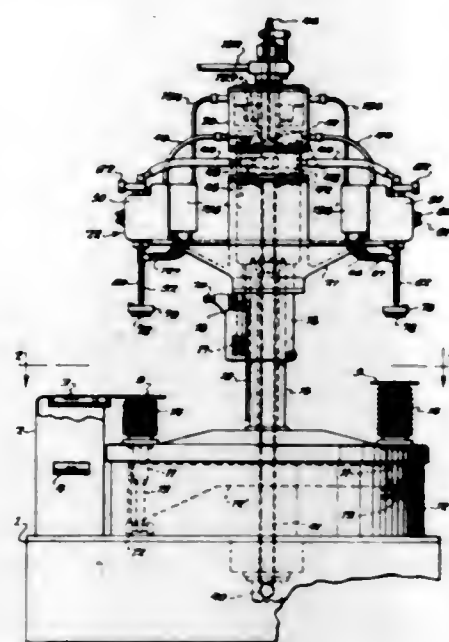
James H. Riesenberg, Amherst, N.Y., assignor to Consolidated Packaging Machinery Corporation, Buffalo, N.Y.

Filed Nov. 12, 1965, Ser. No. 507,288  
12 Claims. (Cl. 141—96)

A container to be filled is supported in filling position relative to a filling head having a product dispensing passage. Product level sensing means associated with the



head include sonic means responsive to the rising level of product in the container. Flow control means responsive to the sensing means interrupt the dispensing of

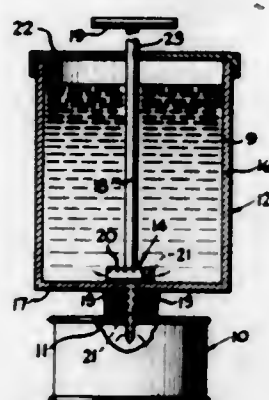


product. Further features are a submersible filling head and an arrangement preventing the dispensing of product in the absence of a container to be filled.

3,385,329

#### APPARATUS FOR REHYDRATING DEHYDRATED PRODUCTS

Robert L. Kellmeier, Jr., Mount Prospect, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware  
Filed Aug. 23, 1965, Ser. No. 481,867  
7 Claims. (Cl. 141—329)



Apparatus is described for restoring liquid content to dehydrated products within a container by providing an annular liquid-tight seal about a puncturable wall portion of a container which permits communication between the container and a liquid-containing region when a sharpened element is moved relative to the seal to pierce the puncturable wall portion of the container.

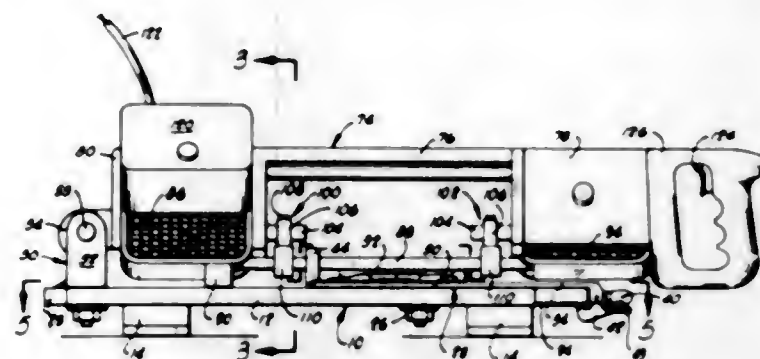
3,385,330

#### MITERING TYPE BAND SAW

Freddie J. Haynes, 917 W. Silver Meadow, Midwest City, Okla. 73110  
Filed Oct. 24, 1965, Ser. No. 504,639  
8 Claims. (Cl. 143—6)

A mitering type band saw which includes a main framework having a horizontal bed plate and a workpiece carriage pivotally mounted on the bed plate for pivotation about a vertical axis. A saw frame is pivotally mounted on the main framework for pivotation about vertical and horizontal axes and carries a saw blade which extends

across the workpiece carriage. An angle indexing device is provided at one side of the main framework adjacent the location of the vertical and horizontal axes of the saw frame to permit the saw frame to be pivoted to a variety of precisely known, preselected angles relative to a reference line across the main framework and bed plate. A second angle indexing device is provided on the



bed plate and workpiece carriage on the opposite side of the main framework from the first angle indexing device to permit the angular movement of the workpiece carriage about its vertical axis to be measured and fixed as desired. A plurality of fence sections are detachably and adjustably secured to the workpiece carriage for guiding and aligning a workpiece to be sawed.

3,385,331

#### BRANCH REMOVING MACHINE

Erik Allan Bronemo, Vindeln, and Gustav Roland Bronemo, Bredbyn, Sweden, assignors to Sunda Verkstader Aktiebolag, Sundsbruk, Sweden  
Filed Jan. 10, 1966, Ser. No. 519,505  
Claims priority, application Sweden, Jan. 11, 1965, 299/65  
14 Claims. (Cl. 144—2)

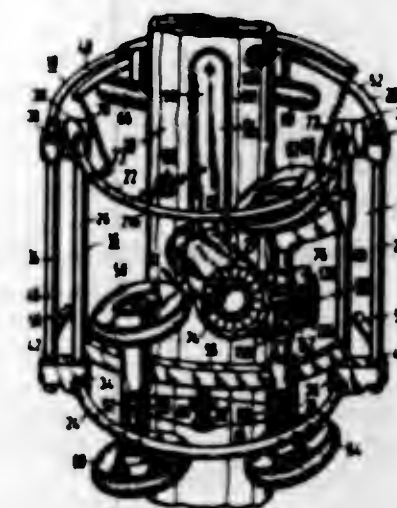


1. A branch removing machine, comprising a frame and a branch removing member rotatably mounted on said frame and provided with branch removing portions, such as sharp edges, toothed edges or the like, in which said branch removing portions are arranged so as to remove the branches from a tree trunk by a cutting action directed obliquely with respect to the longitudinal direction of the tree trunk, said branch removing portions, when viewed in a sectional plane containing the axis of rotation of the branch removing member, being distributed along the branch removing member and having interspaces therebetween into which the branches can extend to a considerable depth before being cut off by said branch removing portions.

3,385,332

#### DEVICE FOR REMOVING BRANCHES FROM THE TRUNK OF A TREE

Gerd Otterbach and Reinhard Kessler, Schweinfurt, Germany, assignors to Fichtel & Sachs A.G., Schweinfurt, Germany  
Filed Feb. 21, 1966, Ser. No. 528,754  
Claims priority, application Germany, Feb. 26, 1965, F 45,360  
8 Claims. (Cl. 144—2)



1. A device for removing branches from the trunk of a tree comprising, in combination:

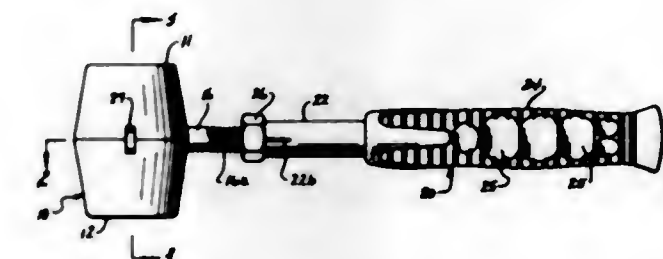
- a support;
- guide means for guiding said support in a substantially helical path about the trunk of a tree;
- drive means for moving said support in said path;
- cutting means mounted on said support for engagement with a branch projecting from said trunk toward said path and for cutting movement of said cutting means through said branch when said support moves in said path;
- sensing means operatively connected to said cutting means for sensing the resistance to said cutting movement encountered by said cutting means; and
- control means operatively connected to said drive means and to said sensing means for reducing the speed of movement of said support in response to the sensed resistance.

ing means adapted for vertical traverse between a first position adjacent the bottom of the tree for butt shearing and a second position spaced from the first position by said predetermined length for subsequent bolt shearing means for transferring the bolts to a conveyor and means for delimbing the tree operative upon relative movement between the delimbing means and said tree, the shearing means, and the delimbing means both including means engageable to grip the tree.

3,385,334

#### SOFT HEAD HAMMER

Howard W. Clay, Rockford, Ill., assignor to Ralph F. Koebbsman, Rockford, Ill.  
Filed Mar. 17, 1967, Ser. No. 623,956  
7 Claims. (Cl. 145—36)

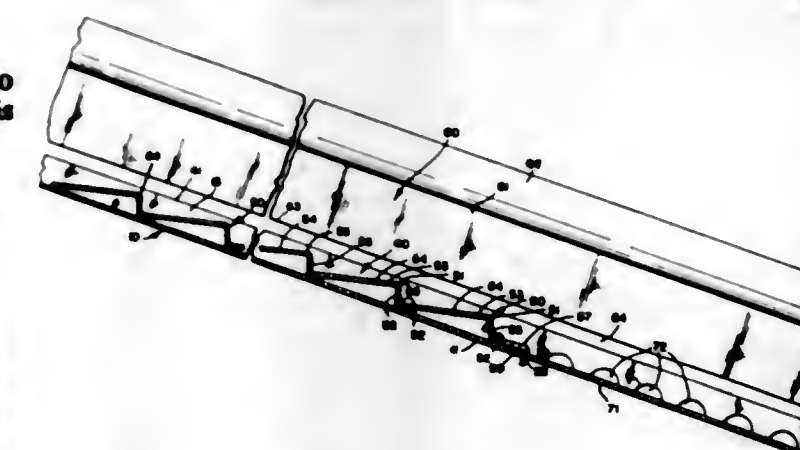


The method includes molding a soft metal head onto a steel eyebolt having a threaded shank extending laterally of the head, screwing an internally threaded handle onto the threaded shank, and locking the handle in one angular position with respect to the shank. The hammer includes an eyebolt with its ring completely embedded in a soft metal head, a slotted tubular member tapered at the end and threaded onto the eyebolt shank, a lock nut countersunk to engage the tapered end, and a hand grip on the tubular member.

3,385,335

#### EGG SEPARATOR

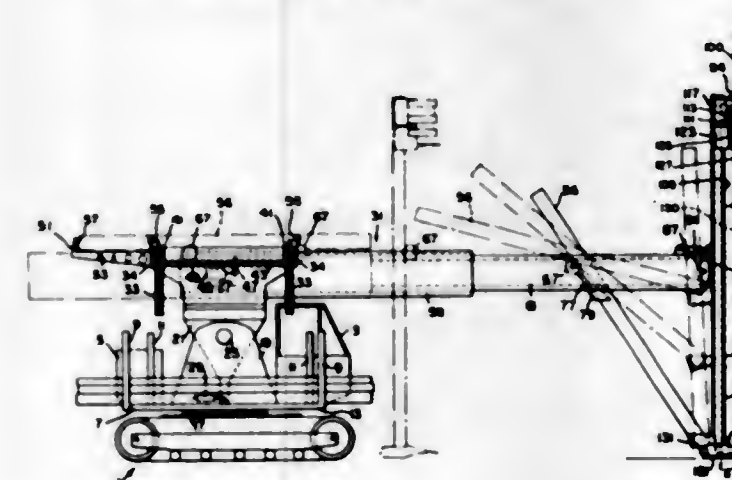
James E. Halverson, Box 55, Dallas, Wis. 54733  
Filed Mar. 28, 1966, Ser. No. 537,864  
10 Claims. (Cl. 146—2)



3,385,333

#### VERTICAL LOGGING MACHINE

John E. Eynon, Port Arthur, Ontario, Canada, assignor to Abitibi Power & Paper Company Limited, Iroquois Falls, Ontario, Canada, a corporation of Canada  
Filed Oct. 18, 1965, Ser. No. 496,986  
Claims priority, application Canada, Oct. 28, 1964, 915,079  
13 Claims. (Cl. 144—309)

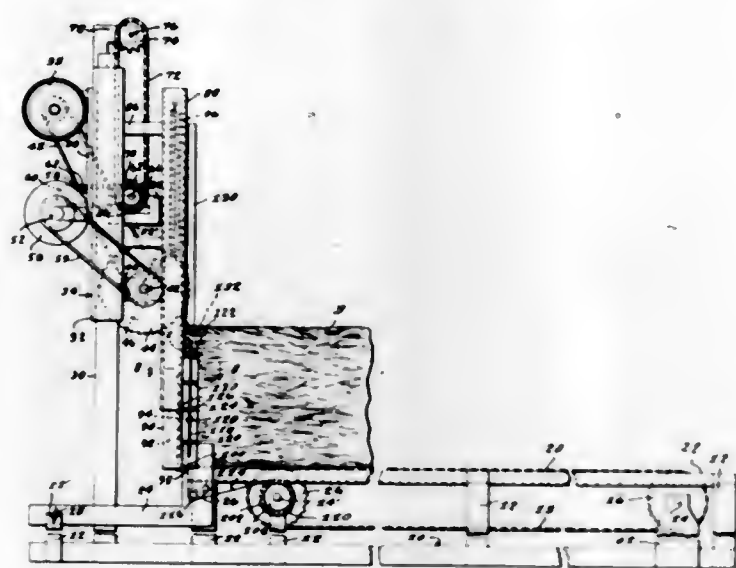


A logging machine for processing a tree, in a vertical position, into bolts of predetermined length without previous felling of said tree which machine comprises shear-

An egg separating device for the separation of the yoke of an egg from the albumen and for the separation of the thick albumen from the thin albumen, having an inclined trough along which the yolk and albumen of a parted egg may pass, feed means for feeding the parted egg to the trough, decanting means extending along the trough, a jogging device extending along the bottom of the trough for dislodging the thick albumen from the yolk sack, means for preventing decanting of the yolk, draining means at the lower end of the trough for removing the thin albumen from the trough and discharge means for discharging the yolks from the trough.

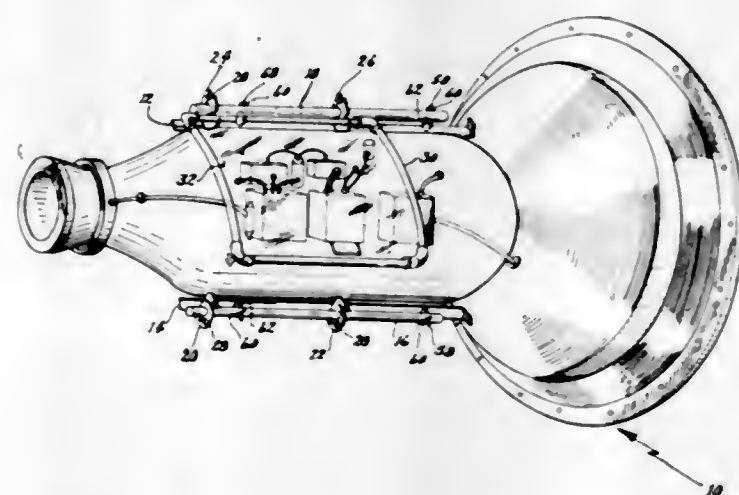


3,385,336  
**METHOD AND APPARATUS FOR CUTTING BALES**  
 Hugh A. Barnard, Rte. 1, Hamptonville, N.C. 27020  
 Filed Jan. 24, 1966, Ser. No. 522,476  
 16 Claims. (Cl. 146—241)



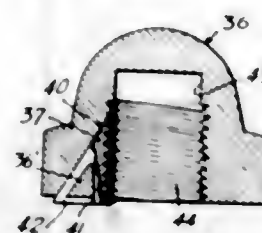
Apparatus for cutting hay bales or the like by passing a plurality of spaced circular saws through the end face of a temporarily stationary bale in a direction parallel thereto to cut the end portion of the bale into small pieces and then repositioning the saws and advancing the bale intermittently to position it for subsequent passes of the saws therethrough. Additionally, opening fingers are provided in depthwise advance of the saws to open the bale and clear foreign objects therefrom; a single power source is utilized to operate all of the moving elements of the apparatus, including the movable saws and the bale advancing arrangement; and the extending parts of the apparatus are arranged to be selectively pivoted to a compact position which facilitates storage and transportation thereof.

3,385,337  
**PROTECTIVE COVERING FOR ROCKET ENGINES**  
 Pierre L. Rossini, Cupertino, Thomas J. Barile, Belmont, and Robert L. Carpenter, San Carlos, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force  
 Filed May 11, 1966, Ser. No. 550,096  
 1 Claim. (Cl. 150—52)



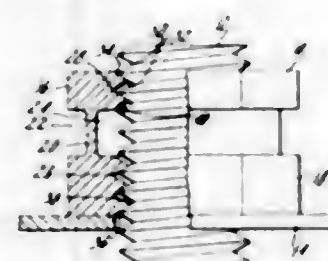
A protective covering including a demountable tubular support frame with brackets for attaching the frame to the article to be protected and lightweight clear, thermal plastic material overcovering the frame and protecting the article from heat and light.

3,385,338  
**LOCK NUT STRUCTURE AND METHOD OF MAKING THE SAME**  
 Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware  
 Filed July 12, 1966, Ser. No. 564,652  
 1 Claim. (Cl. 151—19)



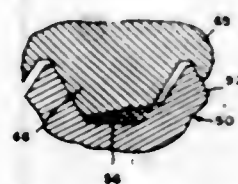
Lock nut with locking wedge moving parallel to the axis of said nut in a recess adjacent the threads.

3,385,339  
**PLASTIC ACTION FATIGUE RESISTANT NUT**  
 Norman Christian Dahl, 40 Fern St., Lexington, Mass. 02173  
 Continuation-in-part of application Ser. No. 501,902, Oct. 22, 1965. This application July 7, 1967, Ser. No. 659,831  
 10 Claims. (Cl. 151—21)



A nut having two adjacent, axially spaced, internally threaded sections which are connected by an integrally formed web. One threaded section is displaced apart and out of phase with the other section. When the nut is engaged with a bolt, the leading faces of the first section of the nut engage the lagging faces of the bolt threads, while the lagging faces of the second section engage the leading faces of the bolt threads. When the nut is loaded, the web plastically deforms and the thread engagement of the first section with the bolt is the same as the second section thereby redistributing the load transfer intensity.

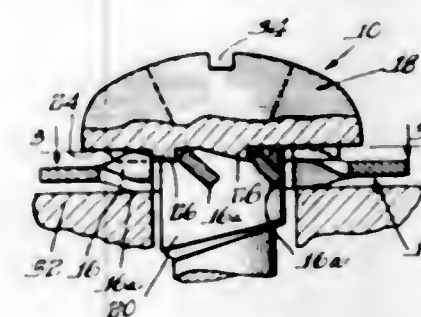
3,385,340  
**LOCK FASTENER**  
 Edwin R. Evans, deceased, late of Orchard Lake, Mich., by The Detroit Bank and Trust Co., executor, Detroit, Mich., assignor to Lock Thread Corporation, Detroit, Mich., a corporation of Delaware  
 Continuation-in-part of applications Ser. No. 823,739, June 29, 1959; Ser. No. 139,748, Sept. 21, 1961; Ser. No. 227,301, Oct. 1, 1962; and Ser. No. 465,213, June 18, 1965. This application Apr. 22, 1966, Ser. No. 544,616  
 5 Claims. (Cl. 151—22)



1. A self-locking male member having a continuous external male thread, a female member formed with an aperture and having a preformed continuous internal female thread mating with said male thread, the root of

said male thread extending generally helically but in each of at least several convolutions having a plurality of circumferentially uniformly spaced lands located farther from the axial center of said male member than the intervening portions thereof, said lands and intervening portions being continuous and uninterrupted in axial section and merging and blending smoothly with one another to provide a substantially smooth, gently relieved form throughout the circumferential extent of said lands and intervening portions free of sharp edges and projections, said root of said male thread diverging from the axis of said male member in a direction away from the direction of load, the angle of divergence of said root of said male thread not exceeding approximately 15°, the crest of said female thread extending generally helically and, in those convolutions mating with the aforesaid convolutions of said male thread having an interference with said root of the male thread at said lands but being spaced from said intervening portions whereby to provide relieved areas between said crest and said intervening portions, the root of said male thread in the aforesaid mating convolutions being of substantial width measured axially to provide broad axial-load bearing surfaces engaging the crest of said female thread, said male and female members having limits of size prior to assembly so prescribed as to provide a flank clearance so that in assembly there is space for the receipt of displaced material between one of the flanks of said male thread and the confronting flank of said female thread.

3,385,341  
**FASTENER DEVICE**  
 Clarence J. Garstklewicz, Palatine, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware  
 Filed Feb. 21, 1966, Ser. No. 529,022  
 6 Claims. (Cl. 151—39)



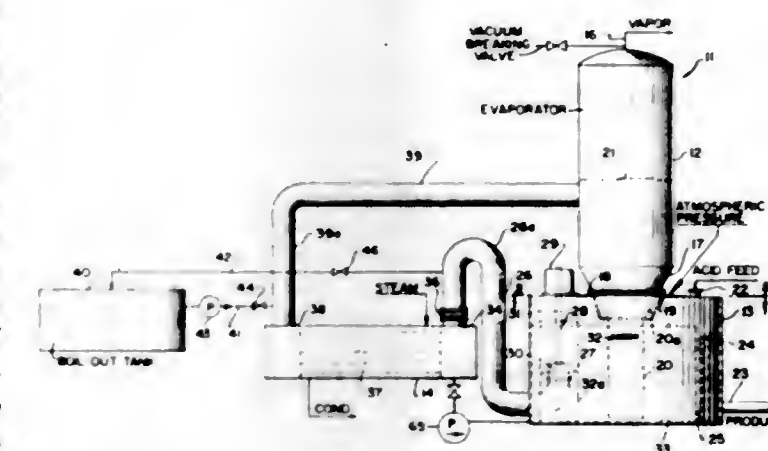
The embodiment of the invention described herein comprises a rotary threaded fastener having an annular clamping surface adapted for engagement with a lock-washer. This surface includes a plurality of circumferentially spaced cam surfaces terminating in abutments extending axially from the underside of the fastener clamping surface, and a plurality of circumferentially spaced surface sections substantially coincident with a plane perpendicular to the fastener axis, each of said sections extending circumferentially from the lowest point of one cam surface to the next adjacent abutment or protuberance.

3,385,342  
**PNEUMATIC TIRE MADE FROM HIGHLY EXTENDED, TOUGH EPDM RUBBER**  
 Charles F. Eckert, Wayne, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey  
 No Drawing. Filed July 6, 1965, Ser. No. 469,921  
 3 Claims. (Cl. 152—330)

The invention is a pneumatic tire, the three principal parts of which, namely the carcass, tread and sidewalls,

are made from EPDM rubber stocks based on very tough EPDM rubber extended with 100 or more parts of hydrocarbon extending oil per 100 parts of EPDM rubber.

3,385,343  
**EVAPORATOR SYSTEM**  
 William E. Rushton, South Holland, Ill., assignor to Whiting Corporation, a corporation of Illinois  
 Filed Feb. 14, 1966, Ser. No. 527,182  
 11 Claims. (Cl. 159—26)



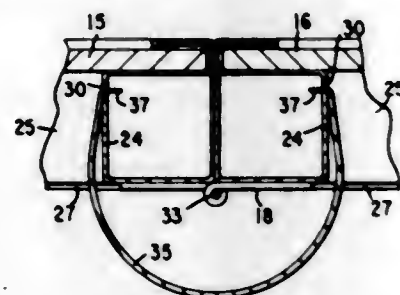
1. An improved forced circulation evaporator system comprising an evaporating chamber, a circulating tank, and a heat exchanger, said evaporating chamber being elevated above said circulating tank and communicating with said circulating tank through an upright liquor discharge leg arranged for discharge of the entire recycle liquor flow from said evaporating chamber into said circulating tank, vacuum means communicating with said evaporating chamber, said circulating tank communicating with the atmosphere for normally operating said circulating tank at atmospheric pressure simultaneously while said evaporating chamber is operating under vacuum, means for selectively venting said evaporating chamber to break the vacuum maintained therein and thereby immediately discharge the liquor contents of said evaporating chamber into said atmospheric circulating tank, said circulating tank being sized to contain the total volume of all liquor present in said evaporator system during normal operation below a predetermined maximum liquor level in said tank, a first process pipe communicating said circulating tank with the process inlet side of said heat exchanger, a second process pipe interconnecting the process outlet side of said heat exchanger with said evaporating chamber, the inlet of said first process pipe being located within said circulating tank, a pump operatively disposed with respect to said first process pipe inlet for effecting forced circulation of the liquor in said evaporator system, and means for preventing the transmission of solid particles of undesirable size into the inlet of said first process pipe, the impeller of said pump being located below the normal operating liquor level in said circulating tank and being operatively connected to a drive means, said drive means being mounted above said predetermined maximum liquor level in said circulating tank whereby said pump and drive means can be operated without the provision of a stuffing box therebetween.

3,385,344  
**BI-FOLD DOOR STRUCTURE**  
 George M. Andrews, Syracuse, N.Y., assignor, by mesne assignments, to Leigh Products, Inc., Cooperville, Mich., a corporation of Delaware  
 Filed Mar. 10, 1966, Ser. No. 533,290  
 2 Claims. (Cl. 160—206)

A bi-fold door structure incorporating a bowed spring



engaging door panels of a pair intermediate the thickness for a pattern containing sand-filled flask, means operative to accelerate said support to a substantial speed, and



being under tension to exert pressure on the panels in a direction toward the joint therebetween.

3,385,345

### METHOD OF MAKING RAPID CURING FOUNDRY CORES

Nick L. Miraldi, Bay Village, Ohio, assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Mar. 4, 1966, Ser. No. 531,752

7 Claims. (Cl. 164—43)

1. In a foundry process wherein cores are prepared from a foundry mix containing sand and a binding amount of a binder composition containing polyisocyanate and a hydroxyl-containing reactant, the improvement which comprises including a metal silicate in said foundry mix under hydrous conditions and thereafter preparing said cores.

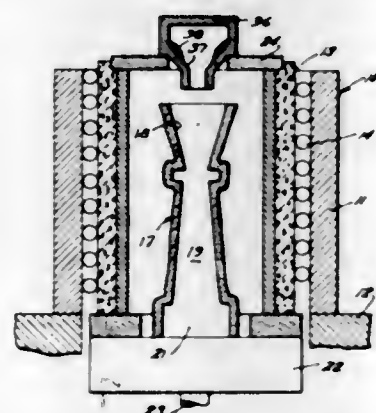
3,385,346

### METHOD AND APPARATUS FOR REMOVAL OF CONDENSED DEPOSITS FROM MOLD COVERS

Donald G. Fleck, Alliance, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Aug. 26, 1965, Ser. No. 482,800

2 Claims. (Cl. 164—121)



Method and apparatus for casting high temperature alloys wherein a ceramic mold is positioned within a high temperature furnace beneath an apertured cover plate through which molten metal is introduced into the mold, and a cover is removably positioned within the aperture, the cover having an angularly inclined inner surface which is at a relatively cooler temperature than the remainder of the furnace so that the volatilized impurities condense thereon and are removed when the cover is removed for the pouring of metal into the mold.

3,385,347

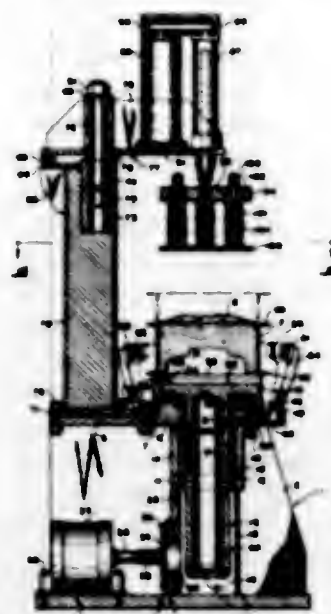
### JOLT MOLDING MACHINE

Leon F. Miller, Rocky River, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 24, 1966, Ser. No. 522,643

15 Claims. (Cl. 164—206)

1. A foundry molding machine comprising a support



confined air means to stop the same to ram the sand within such flask without metal-to-metal contact.

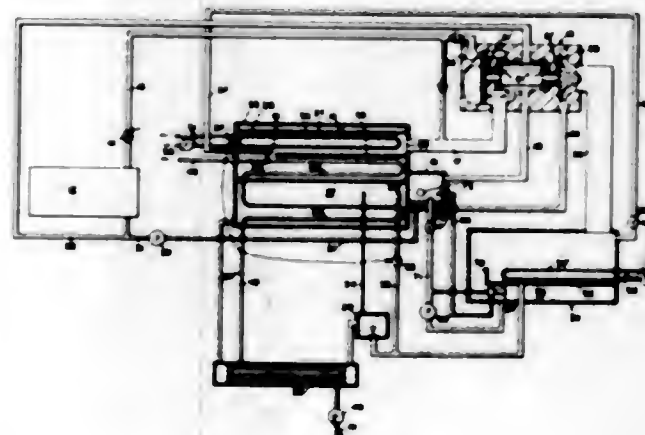
3,385,348

### HEAT EXCHANGER UNIT

Joseph E. Embury, Memphis, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed June 23, 1964, Ser. No. 377,261

8 Claims. (Cl. 165—1)



A refrigeration system condensing unit having a steam condenser normally operable below ambient air pressure surrounded by a refrigerant condenser for confining refrigerant fluid normally at a pressure above ambient air pressure so that ambient air is prevented from entering the condensers through leaks therein. Leaks in the steam condenser draw refrigerant from the refrigerant condenser; leaks in the refrigerant condenser eject refrigerant to ambient atmosphere.

3,385,349

### CONTROL ARRANGEMENT FOR AN AIR CONDITIONING SYSTEM

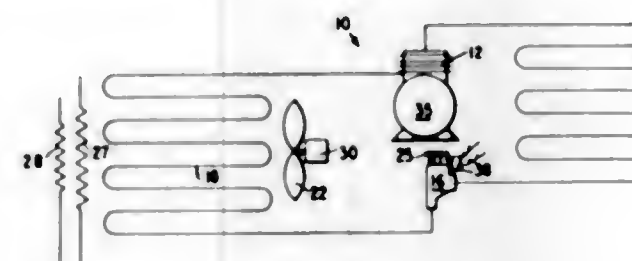
David E. MacLeod, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Mar. 1, 1966, Ser. No. 530,864

8 Claims. (Cl. 165—21)

Air conditioning apparatus having a control arrangement which actuates the apparatus for cooling and, when

dehumidification is required, nullifies the cooling control to permit the apparatus to operate for dehumidification purposes and provides reheat for the dehumidified air in accordance with temperature conditions of the area being treated.



tion purposes and provides reheat for the dehumidified air in accordance with temperature conditions of the area being treated.

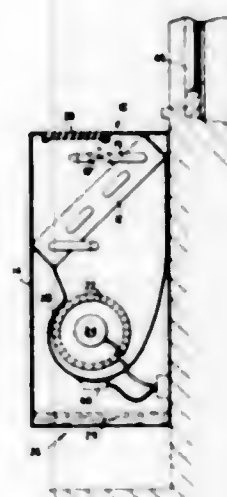
3,385,350

### AIR CONDITIONING APPARATUS INCLUDING CONDENSATE PREVENTING MEANS

William L. McGrath, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Feb. 25, 1966, Ser. No. 530,208

4 Claims. (Cl. 165—39)



Air conditioning apparatus such as a fan coil unit provided with condensate preventing means when the fan is shut-down. The fan energization circuit includes a switch which permits operation of the fan at low speed and a temperature responsive switch actuator which reflects temperature within the unit to operate the fan to prevent condensate formation within the housing when cold, moist air contacts the housing or fan scroll.

3,385,351

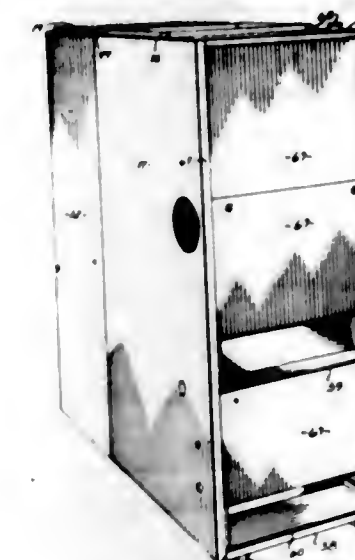
### INTEGRATED ENVIRONMENTAL AIR CONTROL CENTER

Marvin E. Ralston, Cincinnati, Ohio, assignor to The Williamson Company, Cincinnati, Ohio, a corporation of Ohio

Filed May 31, 1966, Ser. No. 553,901

5 Claims. (Cl. 165—48)

An integrated environmental air control center for conditioning the air in a home during any season of the year that includes, for example, two cabinet halves connectable into a single cabinet unit, a U-shaped air flow chamber defined by the connected cabinet halves, one side of the chamber having an air path opening provided for return air from various rooms of the home and the other side of the chamber having an opening provided for the output of fresh, conditioned air to various rooms of the home, means



necting the two cabinet halves on installation of the air control center.

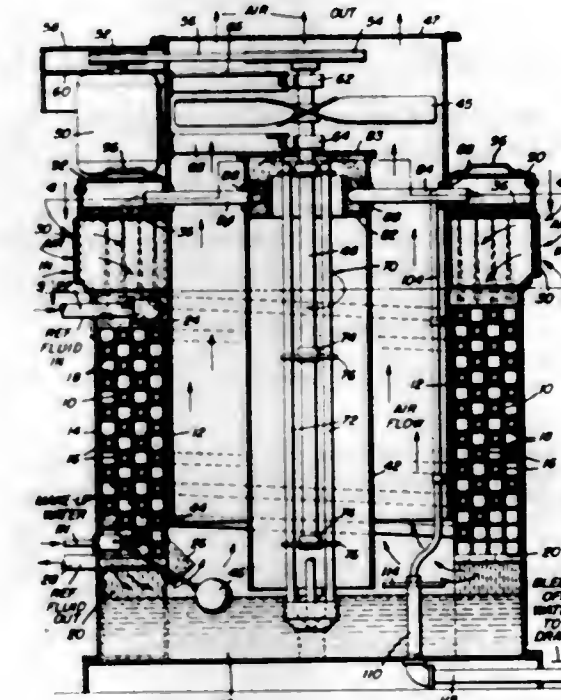
3,385,352

### EVAPORATIVE HEAT EXCHANGER

John Engalitcheff, Jr., Gibson Island, Thomas F. Facina, Baltimore, and Wilson E. Bradley, Ellicott City, Md., assignors to Baltimore Aircoil Company, Inc., Baltimore, Md., a corporation of Maryland

Filed Sept. 7, 1966, Ser. No. 577,742

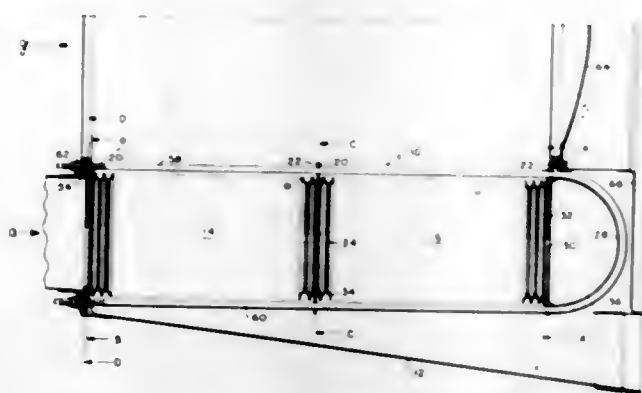
1 Claim. (Cl. 165—60)



An evaporative heat exchanger of the draw through (induced draft) type having an inner casing and an outer casing with a coil between these casings containing fluid to be cooled. A motor turns a central shaft which powers both a propeller type fan for air circulation and a centrifugal pump for water circulation. Air enters through the outer casing, moves downwardly between the casings, over the coil, upwardly and out through the fan. Water is pumped from a sump region upwardly through a plurality of tubes which rotate with the central shaft to a trough and flows from it through a plurality of pipes to a pan above the coil. The water then moves downwardly over the coil along with the circulating air.



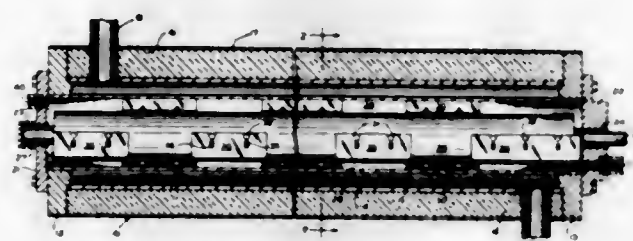
**3,385,353**  
**MOUNTING AND SUPPORT FOR THE STACKED SHEETS OF A HEAT EXCHANGER**  
 Salvatore Straniti, Orange, and Frederick Massey-Shaw, Stratford, Conn., assignors to Avco Corporation, Stratford, Conn., a corporation of Delaware  
 Filed Jan. 31, 1967, Ser. No. 612,863  
 8 Claims. (Cl. 165—67)



A support for an annular bellows-type heat exchanger used as a regenerator for a gas turbine engine, the heat exchanger being made of a plurality of flexible thin sheets which are subject to thermal expansion in three dimensions: radial, circumferential, and axial. The center and each end of the bellows assembly is provided with a segmented support plate, each segment having opposed radially inwardly and outwardly extending projections. The end plate segments each have radially open slots while the center segments have holes for receiving the opposed legs of a U-bolt. One U-bolt is provided for each segment and provides the means for affixing the bellows assembly to the rear of turbine engine.

**3,385,354**  
**SCRAPED SURFACE HEAT EXCHANGE APPARATUS**

Henry W. Bevarly, Louisville, Ky., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware  
 Continuation of application Ser. No. 154,690, Nov. 24, 1961, which is a continuation of application Ser. No. 828,414, July 20, 1959, which in turn is a continuation-in-part of application Ser. No. 755,188, Aug. 15, 1958. This application Feb. 4, 1965, Ser. No. 432,447  
 2 Claims. (Cl. 165—94)

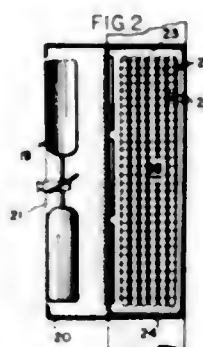


Apparatus having a heat exchange tube and a revolving mutator shaft, eccentrically located with respect to the axis of the tube and carrying blades for continuously processing fluid material.

**3,385,355**  
**MOTOR-VEHICLE-RADIATOR TUBE-AND-FIN ABRASION-GUARD**  
 Donald L. Spaulding, Racine, Wis., assignor to Young Radiator Company, Racine, Wis., a corporation of Wisconsin  
 Filed Sept. 1, 1967, Ser. No. 674,032  
 2 Claims. (Cl. 165—134)

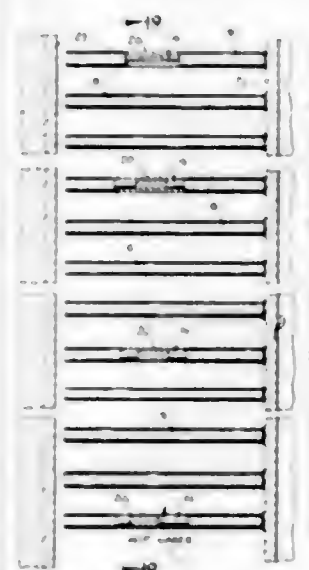
The essential concept of this invention involves a shallow-depth lattice-type structure defining a plurality of comparatively small parallel openings and having

means for attachment of the structure to the air-flow entrance-face of a conventional motor-vehicle radiator to



so deflect the particulated matter carried by the incoming air-flow as to prevent its direct impingement against the tubes and fins of the radiator.

**3,385,356**  
**HEAT EXCHANGER WITH IMPROVED EXTENDED SURFACE**  
 David Dalin, Vensberg, Sweden  
 Continuation-in-part of application Ser. No. 473,336, July 20, 1965. This application May 18, 1967, Ser. No. 639,544  
 15 Claims. (Cl. 165—146)

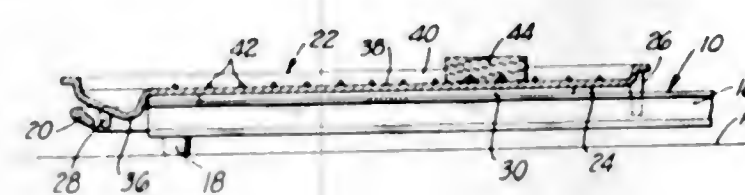


A heat exchanger for effecting indirect transfer of heat between two media separated by a metal wall, one of which media flows along a path partially defined by said wall, the wall having extended surface elements fixed thereon and projecting into the path of the flowing medium, so that the temperature difference between the media diminishes along said path of flow. All of the extended surface elements have the same external surface area and for a substantial part of the length of said path the extended surface elements are bimetallic in cross section and consist of both high and low conductivity metal. The thermal conductivity of the elements is progressively less along said path in the direction of the downward gradient of the temperature difference, the reduction in thermal conductivity of the bimetallic elements being determined by the amount of high conductivity metal they contain.

**3,385,357**  
**COMBINED HEATED TRAY AND CARVING BOARD**  
 Frederick J. Burg, Bellrose, N.Y., assignor to Salton, Inc., New York, N.Y., a corporation of New York  
 Filed Apr. 15, 1966, Ser. No. 542,958  
 2 Claims. (Cl. 165—185)

A combined heated tray and carving board structure is disclosed. The tray has a plurality of ribs which are

adapted to fit correspondingly spaced grooves in the carving board. This board is adapted to be located at various locations along the length of the tray by certain of the



ribs engaging the grooves in the cutting block or board, thus inhibiting motion of the cutting block along the length of the tray.

**3,385,358**  
**CORROSION PROTECTION FOR WELLS**  
 Allan D. Shell, Midland, Tex., assignor to Mobil Oil Corporation, a corporation of New York  
 Filed May 14, 1965, Ser. No. 455,760  
 15 Claims. (Cl. 166—1)



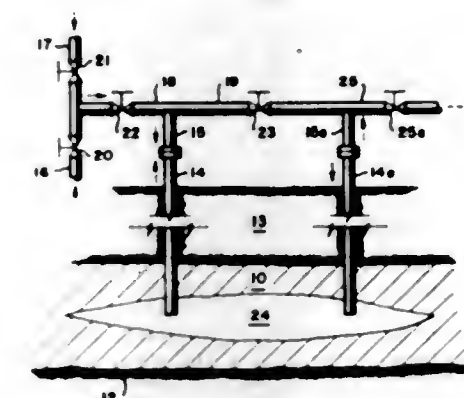
This specification describes a procedure for providing corrosion protection for wells. A corrosion inhibitor liquid is injected into the annulus defined by the well casing and tubing at a rate sufficient to form a unitary slug within the annulus. As the slug travels through the annulus it leaves a protective film on the exterior surface of the tubing and the interior surface of the casing. In one embodiment the inhibitor liquid includes a tracer material. After injection of the inhibitor, a detector is passed through the tubing to determine the extent of coverage.

**3,385,359**  
**METHOD OF PRODUCING HYDROCARBONS FROM A SUBSURFACE FORMATION BY THERMAL TREATMENT**  
 Jan Offerling, Edmonton, Alberta, Canada, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware  
 Filed Sept. 29, 1966, Ser. No. 582,868  
 Claims priority, application Canada, Mar. 18, 1966, 955,177  
 8 Claims. (Cl. 166—2)

1. Method of producing hydrocarbons from a subsurface tar sand formation containing immobile hydrocarbons in which at least one well penetrates, comprising:

- (a) injecting only hot water into the formation through a well penetrating the formation;
- (b) interrupting the injection of the hot water;
- (c) thereafter injecting steam into the formation through the same well;

(d) interrupting the injection of the hot condensable vapor; and

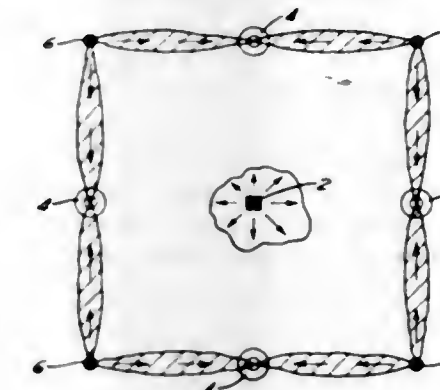


(e) thereafter opening the well for production of hydrocarbons.

**3,385,360**  
**STEAM FLOOD PROCESS FOR PRODUCING OIL**  
 Robert V. Smith, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware  
 No Drawing. Filed Feb. 1, 1966, Ser. No. 523,882  
 3 Claims. (Cl. 166—11)

Oil is produced from an oil stratum by a direct steam drive using normal steam injection rates in the range of 5,000 to 50,000 pounds per hour for an extended period of at least several weeks and preferably several months followed by a period of injecting steam at a substantially reduced rate amounting to no more than three fifths of the previous injection rate, and alternating these steps of full injection rate and reduced injection rate while recovering oil from an offset production well.

**3,385,361**  
**COMBUSTION DRIVE WELL STIMULATION**  
 Paul L. Terwilliger, Fox Chapel Borough, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
 Filed Dec. 19, 1966, Ser. No. 602,854  
 9 Claims. (Cl. 166—11)



3. A method of increasing production from a subterranean reservoir stimulated by in situ techniques wherein combustion supporting gas is injected into the reservoir through a centrally located gas injection well surrounded by a plurality of wells comprising: injecting into a well adjacent the gas injection well, a liquid which is soluble in oil and has a lower viscosity than the reservoir fluids; continuing injection of the low viscosity liquid to displace the liquid through the formation to an adjacent producing well and form a flowing sink flowing from the liquid injection well into the producing well; and producing the injected liquids and the reservoir fluids which enter the producing well.



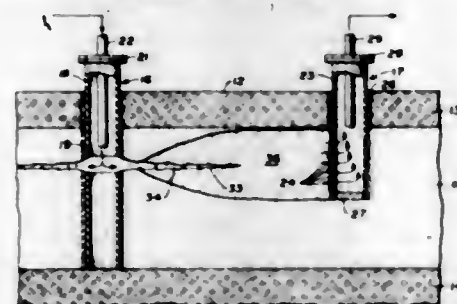
3,385,362

**THERMAL RECOVERY OF VISCOUS OIL WITH SELECTIVELY SPACED FRACTURES**

Lloyd K. Strange, Grand Prairie, and Doyle G. Marrs, Corpus Christi, Tex., assignors to Mobil Oil Corporation, a corporation of New York

Filed Oct. 26, 1966, Ser. No. 589,615

4 Claims. (Cl. 166—11)



1. A method for recovering viscous hydrocarbons from a thick subterranean formation without significant horizontally disposed barriers which limit vertical fluid flows, the steps comprising:

- providing spaced-apart injection and production well means penetrating into the hydrocarbon-bearing formation for conveying fluids between the earth's surface and said formation;
- providing in the upper half of said formation a horizontal fracture as a fluid-entry extending from said injection well means substantially across said formation to a position spaced from said production well means a distance in which a reverse combustion front can expand vertically across the upper half of the formation;
- establishing a combustion front vertically across the upper half of said formation adjacent said production well means, and then moving said front toward said injection well means by passing a combustion-supporting gas from said injection to said production well means until said front extends at least the vertical extent of said upper half of said formation and horizontally to adjacent the terminus of said fracture;
- removing fluids from said production well means solely at the upper half of said formation;
- providing a horizontal fracture extending from said production well means toward said injection well means in the lower half of said formation and adjacent its lower bedding plane, said fracture extending horizontally in said formation from said production well means to reside not closer at any location to the first-mentioned fracture extending from said injection well means a distance  $d'$  less than about three-fourths the thickness of said formation and said horizontal fracture extending from said production well means residing not closer at any location to any fluid-entry location into said formation from said injection well means a distance  $d'$  defined by equations (1) and (2):

$$d' = d \quad (1)$$

wherein  $K_v = K_h$

$$d' = d \times \frac{K_h}{K_v} \quad (2)$$

wherein  $K_h > K_v$

where in the equations  $K_v$  is the permeability to fluids in the vertical and  $K_h$  is the permeability to fluids in the horizontal in said formation;

- establishing a combustion front extending vertically in said formation along said injection well means and moving said front toward said production well means with a concurrent flow of combustion-supporting gas, and
- recovering fluids containing hydrocarbons from said production well means solely at the lower half of said formation.

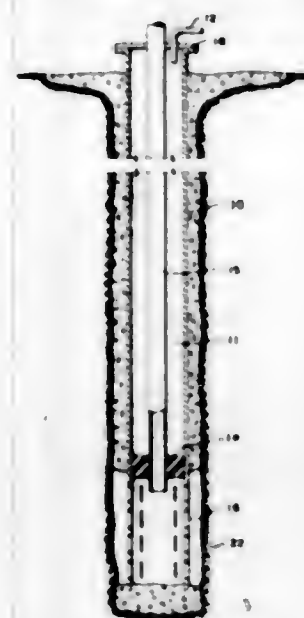
3,385,363

**METHOD FOR METAL COATING A TUBING STRING IN SITU IN A WELL**

Tyler W. Hamby, Jr., Edwin A. Richardson, and Robert N. Tuttle, Houston, Tex., assignors to Shell Oil Company, N.Y., a corporation of Delaware

Filed Sept. 14, 1966, Ser. No. 579,432

10 Claims. (Cl. 166—38)



1. A method of bright coating a ferrous tubing string within a well comprising:

- positioning said tubing string within said well;
- mixing an aqueous solution of a metal-plating compound and a reducing agent;
- introducing into said well said aqueous solution containing said metal-plating compound and said reducing agent; and
- contacting said tubing string with said solution at well temperature for a time sufficient to metal-plate said tubing string.

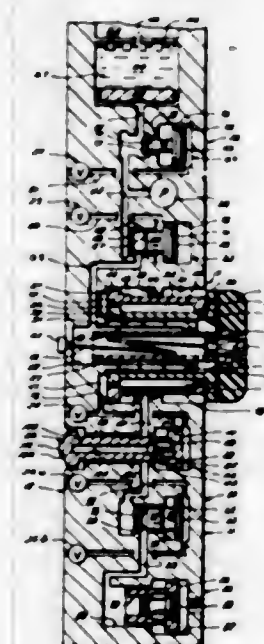
3,385,364

**FORMATION FLUID-SAMPLING APPARATUS**

Frank R. Whitten, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed June 13, 1966, Ser. No. 557,108

21 Claims. (Cl. 166—100)



17. A well tool adapted for reception in a well bore having fluids therein and comprising: a body; means for establishing a fluid seal against a wall in a well bore;

inner and outer tubular members telescopically arranged together and adapted for movement between an extended and a retracted position, one of said telescoping members being coupled to said sealing means and at least one other of said telescoping members being received in said body, means fluidly sealing said body and telescoping members to one another and defining first and second sealed chambers at a reduced pressure therebetween and an enclosed chamber therebehind; and means selectively operable for admitting well fluids into said enclosed chamber for extending said telescoping members.

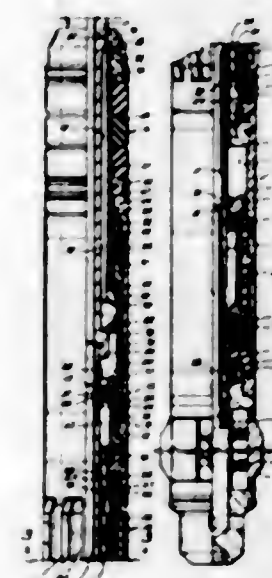
3,385,365

**WELL PACKING APPARATUS**

David E. Young, Bellaire, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed May 17, 1966, Ser. No. 550,706

12 Claims. (Cl. 166—120)



4. A well tool sized and adapted for reception in a well bore comprising: first and second telescoping members movable relative to one another between spaced positions; pressure-responsive anchor means on said first member and adapted for extension into anchoring engagement with a wall in a well bore in response to an actuating pressure; pressure-chamber means fluidly coupled to said anchor means and including a piston therein between said members; bypass means normally open to the exterior of said well tool for compensating for changes in the volume of said anchor and pressure-chamber means whenever said second member is in one of its said positions; first means responsive to movement of said second member toward the other of its said positions for closing said bypass means to seal said pressure-chamber means; and second means responsive to movement of said second member toward its said other position for moving said piston to develop an actuating pressure in said pressure-chamber means after said bypass means is closed.

3,385,366

**RETRIEVABLE WELL PACKER**

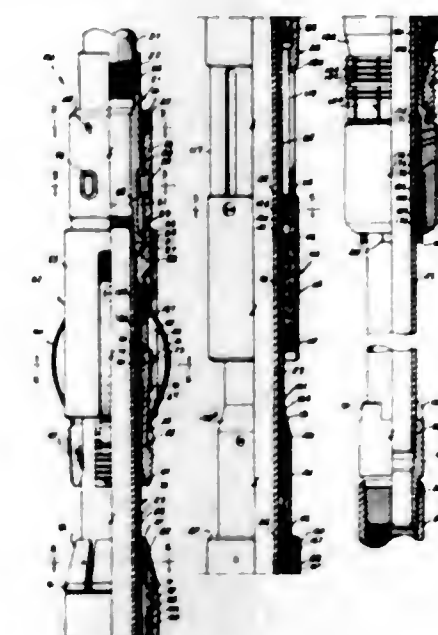
Thomas L. Elliston, Dallas, Tex., assignor to Otk Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed Jan. 6, 1966, Ser. No. 519,091

14 Claims. (Cl. 166—134)

A well packer having an outer sleeve or mandrel provided with anchoring and sealing means movable to anchoring and sealing engagement with a well casing and an inner tubular mandrel slidable in said outer sleeve in sealing relationship therewith after the outer

sleeve has been anchored in sealing position, said inner mandrel having means for adjusting the seal means be-



tween the outer sleeve and the inner mandrel without removing the packer from the well.

3,385,367

**SEALING DEVICE FOR PERFORATED WELL CASING**

Paul Kollman, 100 E. 50th St., New York, N.Y. 10022

Continuation of abandoned application Ser. No. 361,327, Apr. 21, 1964. This application Dec. 7, 1966, Ser. No. 609,974

3 Claims. (Cl. 166—191)



The present improvements provide a sealing element for wells in which a casing is installed. The sealing element comprises a central tubular core and an outer covering of elastomer material of a relaxed diameter larger than the internal diameter of the casing. The covering comprises spaced annular ribs and is inserted, together with its central sleeve, into the casing in compressed condition and after presoaking in a hydrocarbon liquid. The liquid forms a lubricating film during insertion and during subsequent movement of the element relatively to perforations of the casing in order to open and seal such perforations.

3,385,368

**CEMENT BASKET AND METHOD FOR CONSTRUCTING SAME**

James R. Solum, Los Angeles, and William C. Hempel, Lomita, Calif., assignors to B &amp; W Incorporated, Torrance, Calif., a corporation of California

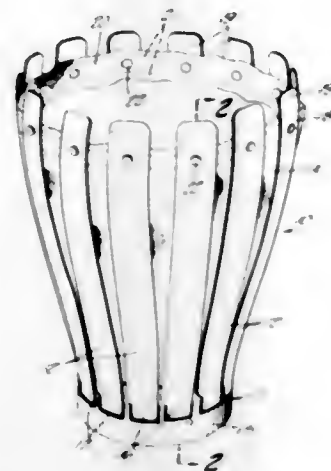
Filed Aug. 10, 1966, Ser. No. 571,462

13 Claims. (Cl. 166—202)

A cement basket for use on a well pipe where a flexible frusto-conical member forms the barrier and is supported by longitudinal staves extending from a collar assembly



and surrounding the member with the collar assembly comprised of a pair of concentric collars having the base



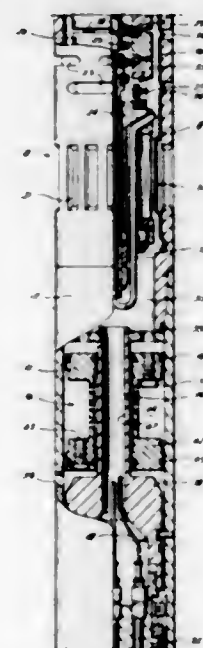
of the flexible member clamped therebetween by means of expanding the inner collar beyond its elastic limit to thereby tend to expand the outer collar.

3,385,369

### PRESSURE-EQUALIZING APPARATUS FOR WELL TOOLS

Dean F. Saurenman, Galveston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed July 1, 1966, Ser. No. 562,380  
5 Claims. (Cl. 166-224)

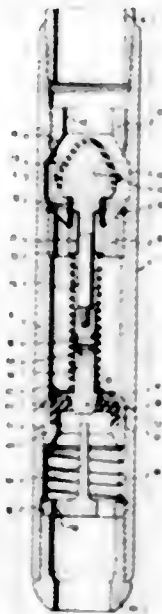


1. In a well tool including a body having an enclosed compartment therein, means on said tool for maintaining the pressure in said compartment at a predetermined relation to the pressure of well fluids exterior of said well tool comprising: a piston chamber; a piston member dividing said chamber into first and second portions and arranged for travel therein between first and second spaced positions; first passage means between said first chamber portion and said compartment; a hydraulic fluid filling said compartment, said first passage means, and said first chamber portion; second passage means admitting well fluids into said second chamber portion for urging said piston member toward its said first position to develop a corresponding pressure in said compartment; and relief means responsive to thermal expansion of said hydraulic fluid for discharging a sufficient volume of said hydraulic fluid to limit the increase of pressure in said compartment to a predetermined differential above the exterior pressure.

### 3,385,370 SELF-FILL AND FLOW CONTROL SAFETY VALVE

Lloyd Carter Knox and John W. Woods, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed June 29, 1966, Ser. No. 561,588  
12 Claims. (Cl. 166-225)



Valve apparatus for controlling the flow of fluid into a casing string as the string is being lowered in a well, and including a valve for controlling fluid flow during cementing operations. The valve apparatus is positioned adjacent the lower end of a pipe string and includes a tubular body having a downwardly facing valve seat. A valve element is mounted in the body and biased upwardly for movement into engagement with the valve seat. The tubular body has a plurality of radial ports that are closed by the valve element when it is in engagement with the valve seat. The valve element has a central port that is closed by a second valve element. Above the first valve element there is an upper valve seat and a third valve that is movable upwardly into engagement with the upper valve seat. The second and third valve elements are biased upwardly and downwardly, respectively, but are connected together by a frangible link. While the casing string is being lowered in the bore hole the valve remains closed until a predetermined pressure differential builds up on the outside of the valve. The valve then opens and fluid flows into the casing. If the rate of fluid flow into the casing exceeds a predetermined rate, the third valve element closes against the upper valve seat. The valve assembly is converted to a float valve by pumping fluid down the casing string at a high rate to break the frangible link.

3,385,371

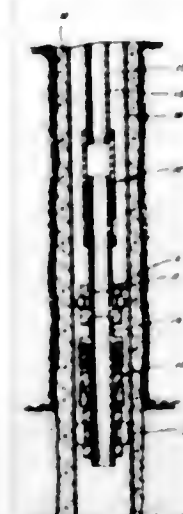
### SLEEVE VALVE FOR WELL TOOLS

William O. Berryman, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Mar. 9, 1966, Ser. No. 532,937  
12 Claims. (Cl. 166-226)

The particular embodiment described herein as illustrative of the invention is directed to a well tool having telescoped tubular members with lateral ports therein adapted to be moved into and out of registration as the tubular members are moved relative to one another between spaced positions. A sleeve is loosely disposed between the telescoped members and confined between spaced shoulders on one of the members in such a manner that the sleeve can shift eccentrically in relation to the one tubular member as required for the sleeve to be

coaxially aligned with the other tubular member and thereby accommodate minor axial misalignments of the telescoped members. Sealing members spaced above and



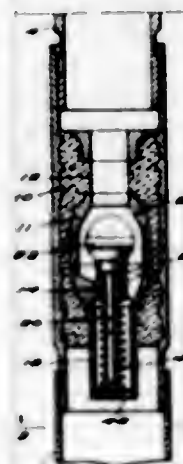
below the port on the other tubular member are adapted for sealing engagement with the sleeve for closing-off the port when the members are in one of their positions.

3,385,372

### FLOW CONTROL FLOAT COLLAR

Lloyd C. Knox, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Jan. 11, 1967, Ser. No. 608,632  
10 Claims. (Cl. 166-225)



A valve for limiting the rate of fill-up as a casing string is lowered in a bore hole. The valve is converted to a back pressure valve by pumping fluid down the casing to break a frangible link within the valve.

### 3,385,373 WELL SCREEN WITH REINFORCED PLASTIC ROPE WRAP

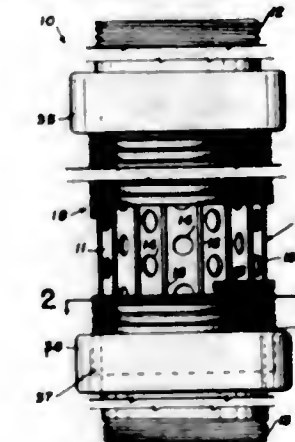
James D. Brown, 12429 Kathryn, Houston, Tex. 77015

Filed Oct. 27, 1966, Ser. No. 589,863  
5 Claims. (Cl. 166-232)

1. In a well screen having a foraminated tubular core with means at each end thereof for connecting to a string of well pipe, the invention including:

- (a) means extending about the outer periphery of the foraminated tubular core for aiding in filtering fluid flow thereinto, said means including:
- (1) spacer means mounted on the outer periphery of the foraminated tubular core; and
  - (2) a plastic rope, having a metallic core serving as reinforcing, wrapped over said spacer means to form a plurality of rows on the foraminated tubular member, said plastic rope having pro-

jections formed in one edge thereof abutting the adjacent row and thereby spacing each row



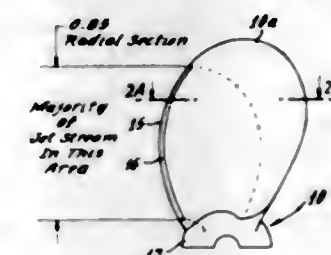
longitudinally of said foraminated tubular member.

3,385,374

### MARINE PROPELLER

Paul Kaplan, Jericho, and August F. Lehman, Centerport, N.Y., assignors to Oceanics, Inc., Plainview, N.Y., a corporation of Delaware

Filed Jan. 23, 1967, Ser. No. 616,999  
4 Claims. (Cl. 170-135.4)



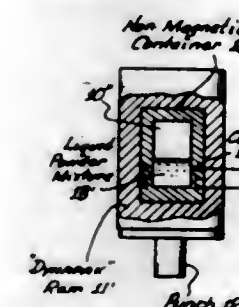
A marine screw propeller having internal ducting connected to a fluid-pressure source by means of which fluid is discharged as a jet sheet at a predetermined velocity and angle from critical locations on the blade surface in the area of the trailing edge. The parameters of the blade and jet are so arranged that a condition of super-circulation is induced resulting in a lift force which exceeds the theoretical maximum obtainable due to camber and angle of attack.

3,385,375

### METHOD AND MEANS FOR PRODUCING A LONG IMPULSE FOR HIGH ENERGY RATE FORMING APPARATUS

Wilson N. Pratt, Anaheim, Calif., assignor to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware

Filed Aug. 1, 1966, Ser. No. 569,183  
5 Claims. (Cl. 173-1)



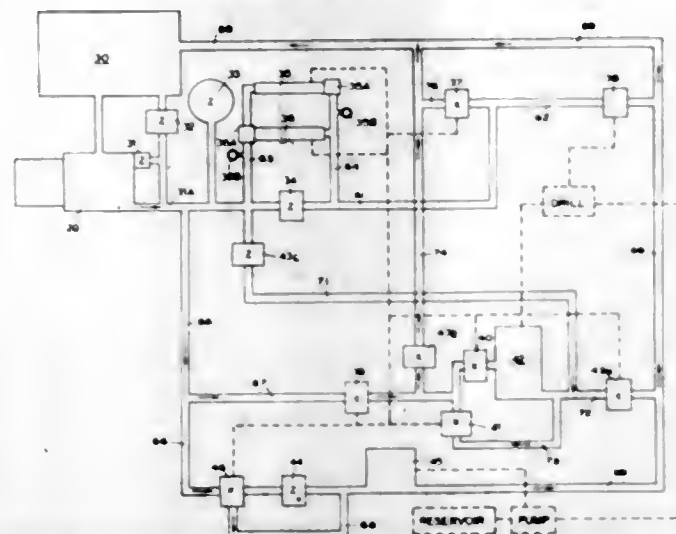
A ram construction for high energy rate forming apparatus having means therein preventing substantial rebound or bounce of the ram and utilizing substantially all of the energy in the ram by lengthening the pressure pulse thereof. The means to accomplish these actions is in the form of a loosely confined mass within a chamber of the ram which may include magnetic material activated by a coil arrangement.



**3,385,376**  
**DRILLING APPARATUS WITH MEANS FOR CONTROLLING THE FEED AND SUPPLY OF DRILL FLUID TO THE DRILL**

Henry Hobhouse, Bottom Barn, Castle Cary, Somerset, England

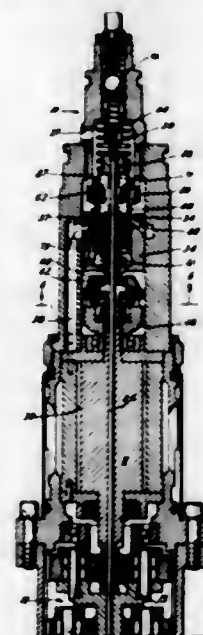
Filed July 28, 1966, Ser. No. 568,602  
 5 Claims. (Cl. 173-8)



Control apparatus for a drilling device in which the feed of the drill is varied in accordance with increases or decreases in the drilling torque. If the torque increases above a predetermined value, the flow of drill fluid is increased. If the torque continues to increase, the drill feed is reduced or reversed. If none of the above steps prevents the torque from increasing, the drill rotation is stopped. When torque decreases below a predetermined value, the flow of drill fluid is increased and the drill feed is also increased. If neither of these steps prevent the torque from decreasing, the drill rotation is stopped.

**3,385,377**  
**GOVERNOR CONTROLLED NUT-RUNNER**  
 Lester A. Amsberg, Utica, and William K. Wallace, Barneveld, N.Y., assignors to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey

Filed July 7, 1966, Ser. No. 563,497  
 10 Claims. (Cl. 173-12)



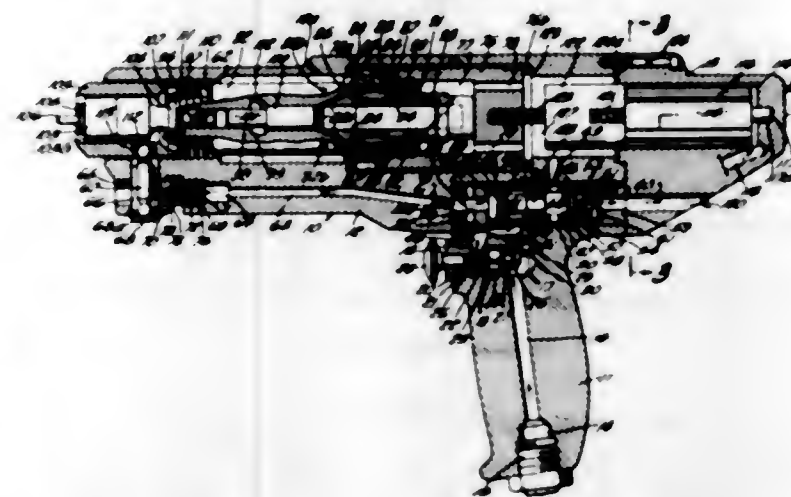
1. In a nut running tool including a pneumatic motor; output spindle means; a torque limiting cam clutch transmitting the torque of the motor to the spindle means, the cam clutch including a driving member connected to the motor and a driven member connected with the spindle means, the driving member being adapted, following transmission of an initial torque to the driven member, to override and deliver a series of torque impulses to the latter;

the improvement comprising means operable automatically in response to the overriding action of the driving member to limit the rotational speed of the motor and as a consequence reduce the frequency of subsequent delivery of impulses to the driven member.

**3,385,378**  
**AUTOMATIC AIR OPERATED INSTALLATION GUN**

Robert D. Weber, 1955 Irvine Ave., Costa Mesa, Calif. 92627; Milan Novakovich, 215 Apolena Ave., Balboa Island, Calif. 92662; and Marvin P. Reece, 33262 Bremerton St., Dana Point, Calif. 92629

Filed June 22, 1966, Ser. No. 559,629  
 20 Claims. (Cl. 173-15)



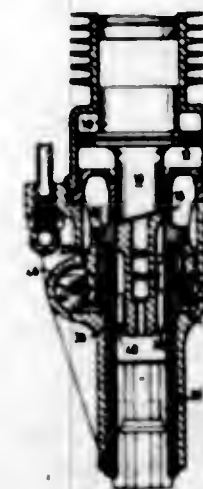
1. An air operated installation gun, comprising: a body, said body being provided with a plurality of elongated internal cavities; hammer means positioned within one of said elongated cavities for providing a reciprocating force; air cylinder means secured to said hammer means for providing air pressure to said hammer means; tool means attached to said hammer means for accommodation of a fastener or the like; sleeve means secured to said hammer means for enclosing said air cylinder means; means for conducting air from said sleeve means enclosure to the atmosphere exteriorly thereof; gear means connected to said sleeve means for controlling the rotational speed of said hammer means; air motor means rotatably attached to said body and connected to said gear means for providing rotational movement thereto; a first air valve relay means for controlling air to said air motor means and controlling air to a second air valve relay; means for conducting air from said first air valve relay means to said air motor means; a second air valve relay means for controlling exhaust air from said air motor means and controlling air to said air cylinder means; means for conducting air from said air motor means to said second air valve relay means; means for conducting air from said second air valve relay means to said air cylinder means; means for conducting air from said second air valve relay means to the atmosphere exteriorly of said body; relief valve means for controlling said first air valve relay means; actuator means for activating said relief valve means; throttle valve means for controlling air movement to said first air valve relay means; means for conducting air from said throttle valve means to said first air valve relay means; means for providing an air supply to said throttle valve means; and

bleeder means for interconnecting said first air valve relay means and said air supply means to permit a limited constant air supply to said first air valve means.

**3,385,379**  
**ARRANGEMENT IN MOTOR DRIVEN RECIPROCATING PERCUSSION MACHINES WITH EXCHANGEABLE TOOLS**

Gustav Albert Bergman, Baldersvagen 20, Danderyd, Sweden

Filed Feb. 16, 1967, Ser. No. 616,705  
 6 Claims. (Cl. 173-48)



A mechanism in percussion machines comprising a shaft with catches for cooperation with alternatively a blocking sleeve in a tool-rotating mechanism and a tool holder whereby to adapt the machine alternatively to boring operation and poking operation, respectively. In the boring position the blocking sleeve is prevented from rotation whereby the tool-rotating mechanism becomes effective, and in the poking position the blocking sleeve is disengaged and said mechanism is idle, whereby no rotary movement is imparted to the tool holder and the tool.

**3,385,380**  
**TANG BREAKOFF TOOL HAVING SPRING ACTUATED IMPACT MEANS**  
 Richard E. Waller, Erie, Pa., assignor, by mesne assignments, to Vore Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 20, 1966, Ser. No. 588,089  
 6 Claims. (Cl. 173-119)

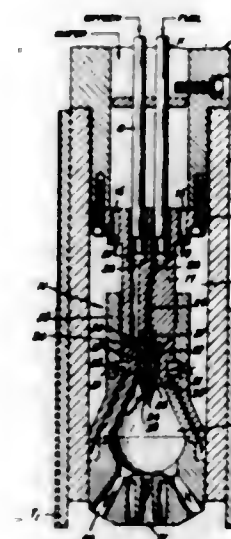


A tool for breaking off a tang at the end of an inserted thread is composed of telescoped tube sections the inner tube having a plunger and a piston which are spaced apart by a spring with the piston urged toward

the plunger by a spring compressed by the movement of the outer sleeve over the inner sleeve when the plunger is in engagement with the tang to produce a hammer blow on the plunger when the piston is released.

**3,385,381**  
**MINERAL WORKING BURNER APPARATUS**  
 Joseph J. Calaman, Aurora, Minn., assignor to Union Carbide Corporation, a corporation of New York

Filed June 13, 1966, Ser. No. 557,251  
 3 Claims. (Cl. 175-14)



1. A fuel injector device for a mineral working burner which comprises: an elongated body having a rear end portion for connection to a source of fuel and a front end portion for insertion into the combustion chamber of the burner, said front end having an inverted frusto-conical shape, said body having an axial longitudinal bore therein extending from said rear end portion to a point just short of the forward face of said front end; a plurality of spaced drillings extending rearwardly from the front end portion of said axial longitudinal bore to a plurality of discharge ports on the periphery of said body, said discharge ports being located in alignment with longitudinal grooves on the external surface of said body within which streams of oxidant may pass to mix with the fuel discharged from said ports whereby the fuel will be preheated prior to its mixing with oxidant and whereby the resulting fuel-oxidant mixture formed will be guided in a smoothly converging conical pattern within the burner combustion chamber by the external front end surface of said body.

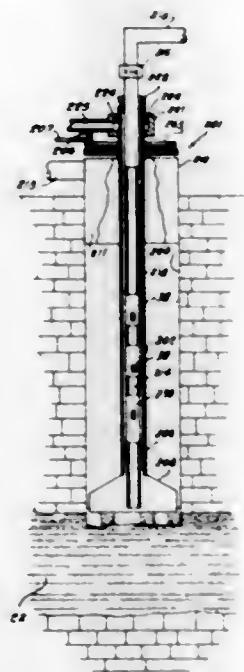
**3,385,382**  
**METHOD AND APPARATUS FOR TRANSPORTING FLUIDS**  
 Carlos R. Canalizo and John V. Fredd, Dallas, Tex., assignors to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed July 8, 1964, Ser. No. 381,159  
 20 Claims. (Cl. 175-205)

1. A transportation apparatus including: a conduit having means providing a longitudinal central passage through which fluids are transportable and means providing a gas passage in said conduit externally of said longitudinal central passage; a plurality of flow control valve and check valve devices connected in said conduit at longitudinally spaced locations therealong, each of said flow control and check valve devices comprising a tubular mandrel constituting a section of the conduit and having a plurality of circumferentially spaced flow passages communicating the gas passage of the conduit to the central passage of said mandrel through said flow passages, said flow passages directing the flow of gas from the gas



passage into the central passage in the direction of longitudinal movement of the fluids being transported through said central passage; and means for closing said longitudinal passage at a location upstream of the said flow control devices, said passage closing means comprising a check valve responsive to gas pressure in said gas passage to prevent reversal of flow through said longitudinal central passage, at least one of said mandrels having means immediately downstream of the locations of the communication of its flow passages with the central passage of said one mandrel restricting the orifice of said longitudinal central passage to increase the velocity of longitudinal flow of fluids.



10. A method of transporting fluids from a well bore including: positioning in the well bore conduit means having an outer annular passage and an inner longitudinal passage open to the well bore at its lower end adjacent the bottom of the well bore and its upper end to the surface; introducing gas at low pressure into the well bore exteriorly of said conduit means at the well surface for downward flow in said well bore from the surface about said conduit means to the lower end of the well bore and then upwardly through the inner longitudinal passage; and introducing gas under high pressure at the surface into the annular passage and thence into said longitudinal passage intermediate the ends of the longitudinal passage at a high velocity and in an upward direction to decrease the pressure in the passage below the pressure at the location of entry of the gas into the passage.

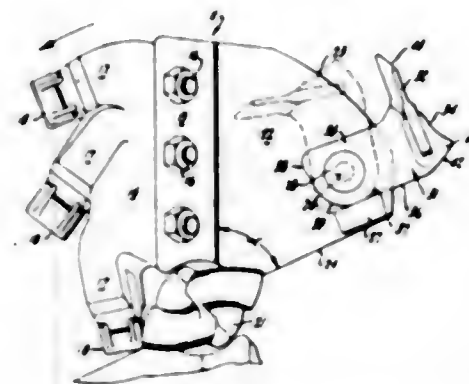
### 3,385,383 EXPANDING BORING HEAD FOR EARTH AUGER

Walter L. Sturgeon, Campbell, Calif., assignor, by direct and mesne assignments, of one-half to Gerald A. Petersen, Sunnyvale, Calif., and one-half to Anita E. Petersen, Saratoga, Calif.

Filed Aug. 15, 1966, Ser. No. 572,577  
6 Claims. (Cl. 175-292)

1. An expanding boring head comprising a hub, at least one arm projecting from said hub, first means on said arm for attaching a plurality of fixed teeth for rotation with said hub, second means on said arm disposed rearward of said first means in the direction of rotation of said hub for digging action, an expansion tooth-holder for attachment of an expansion tooth, third means pivotally mounting said expansion tooth-holder on said second means for movement between a retracted position and an expanded position, said expansion tooth-holder

having an outward projecting toe projecting beyond the periphery of said second means when said expansion tooth-holder is in retracted position, whereby upon rotation of said hub for digging action said toe engages the side of the hole being dug to pivot said expansion tooth-holder to expanded position.



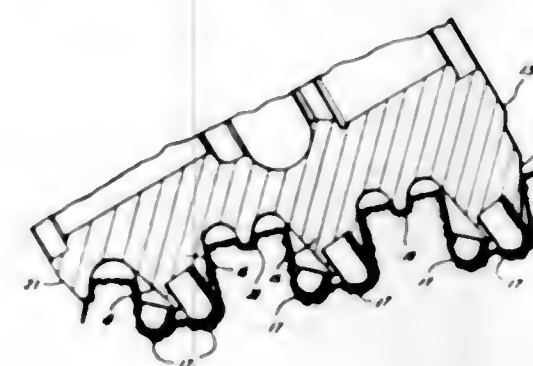
### 3,385,384 HYDRAULIC JAR Rowe A. Plunk, P.O. Box 1167, Midland, Tex. 79701 Filed Mar. 14, 1966, Ser. No. 534,035 6 Claims. (Cl. 175-297)



1. A well tool for jarring pipe and other devices stuck in a well including a body adapted to be connected to a support for lowering into a well and attachment to a device stuck therein, the body having a hydraulic chamber extending longitudinally thereof, an impact element reciprocable in the chamber and having a portion projecting upwardly therefrom for connection with the support, an upwardly facing impact surface on the element, a downwardly facing anvil surface at the upper portion of said chamber for striking by the upwardly facing impact surface upon upward travel of said element, and a control member slidably mounted in the lower portion of said chamber, the control member having a closed lower end and an upwardly opening socket formed therein, said element having at least a lower portion complementary to the socket for slidable confinement therein and detachable connection to the control member whereby said member undergoes limited upward movement with said element so as to resist initial upward travel of the latter.

### 3,385,385 DRILL BIT

Clement M. Kucera and Percy W. Schumacher, Jr.,  
Houston, Tex., assignors to Reed Roller Bit Com-  
pany, a corporation of Texas  
Filed Apr. 1, 1966, Ser. No. 539,388  
17 Claims. (Cl. 175-374)



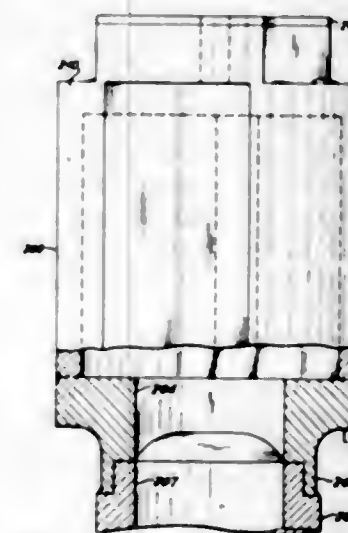
A roller bit including a roller cutter, said cutter having a circumferential web and inserts therein to allow penetration of the web into the formation being drilled with minimum contact between the web and the formation being drilled. This abstract is neither intended to define the invention of the application, which of course, is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

### 3,385,386

#### HYDRAULIC JET DRILL BIT

Robert J. Goodwin, Oakmont, Ernest A. Mori, Hampton Township, Allegheny County, and Joseph L. Pekarek and Paul W. Schaub, Penn Hills Township, Allegheny County, Pa., and Robert E. Zinkham, Richmond, Va., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware  
Original application Sept. 24, 1963, Ser. No. 311,088.  
Divided and this application Apr. 19, 1967, Ser. No. 632,113

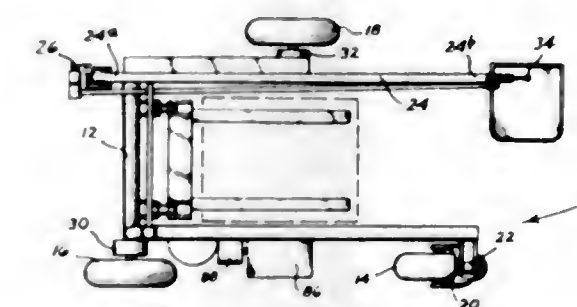
8 Claims. (Cl. 175-422)



A drill bit for drilling a well through hard formations by high-velocity jet streams of an abrasive-laden drilling liquid. The drill bit has a closed lower end through which a plurality of nozzles extend for discharging the drilling liquid downwardly against the bottom of the borehole. Standoff bars on the lower end of the drill bit fix the distance from the outlets of the nozzles to the bottom of the borehole in the range of 1/2 inch to 1 1/4 inches. The nozzles are positioned to cut substantially the entire bottom of the borehole as the drilling tool is rotated.

### 3,385,387 SPEED AND DIRECTIONAL CONTROL FOR VEHICLE

David F. McKeown, Rte. 2, Box 352,  
Hood River, Ore. 97031  
Filed Feb. 15, 1966, Ser. No. 527,575  
3 Claims. (Cl. 180-6.48)



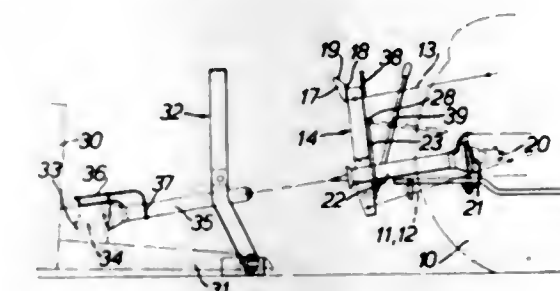
A vehicle with swingable boom including a joy stick mounted at the boom's free end for operating valve mechanism mounted at the boom's journaled end, such valve mechanism controlling flow of pressure fluid to reversible motors, the latter operating when actuated to propel the vehicle over the ground.

### 3,385,388

#### POWER COUPLINGS

George Restall, Sutton Coldfield, England, assignor to Rubery, Owen and Company Limited, Wednesbury, England

Filed Mar. 16, 1966, Ser. No. 534,848  
Claims priority, application Great Britain, Mar. 16, 1965,  
11,094/65, 11,096/65  
10 Claims. (Cl. 180-14)



In a power coupling for transmitting power from a power take-off shaft of a tractor to a power drive shaft of an implement a shaft assembly connected to the power take-off shaft is supported by resilient means, such as an inverted U-shaped spring clip, from a frame mounted on the tractor, and the resilient means is movable out of engagement with the shaft assembly when it is in slidable coupling engagement with a complementary shaft assembly connected to the power drive shaft of the tractor and the frame is moved relative to the coupled shaft assemblies.

### 3,385,389

#### ARTICULATED VEHICLE

Robert C. Symons and John H. Boyd, Woodstock, Ontario, Canada, assignors to Timberjack Machines Limited, Woodstock, Ontario, Canada  
Filed Dec. 19, 1966, Ser. No. 603,011

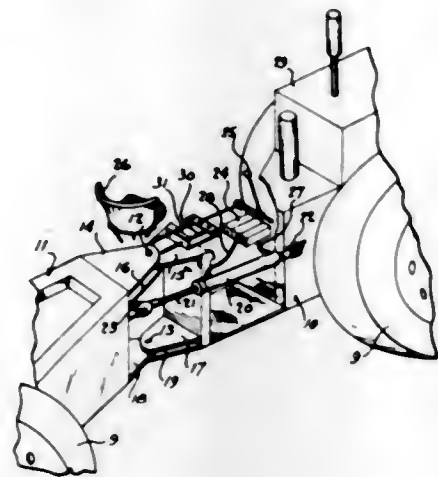
Claims priority, application Canada, Nov. 15, 1966,  
975,593

3 Claims. (Cl. 180-79.2)

A steering cushioning device for an articulated vehicle steered by a hydraulic cylinder that avoids shock as the

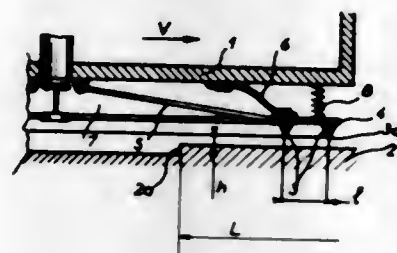


two vehicle frames reach the steering limits. The angle between frame center-lines is sensed by one or other of a pair of slidable rods mounted on one frame and project-



ing into engagement with the other frame. Rod movement is transmitted to a control valve to stop further steering action.

**3,385,390**  
**PRESSURE FLUID CUSHION SEALING SYSTEM FOR TRACKED GROUND EFFECT MACHINES**  
Paul François Guenne, Paris, France, assignor to Societe Bertin & Cie, Paris, France, a company of France  
Filed Jan. 15, 1965, Ser. No. 425,871  
Claims priority, application France, Jan. 21, 1964, 961,061  
15 Claims. (Cl. 180-116)

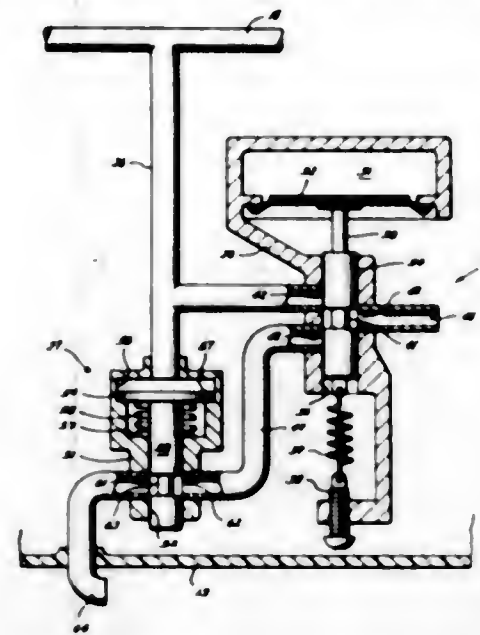


A tracked ground effect machine equipped with a cushion sealing system embodying one or more lips protruding from a base plate extending parallel to the track surface and movable with respect to the main body of the machine toward and away from said surface. The plate-and-lip assembly is fluid tightly and flexibly connected to said body by a membrane which laterally bounds the cushion and this assembly is fitted to said body through a support structure which comprises: linking guide means allowing free movement of said assembly relatively to said body, perpendicularly to said surface while restraining relative movement parallel thereto, and resilient return means urging said assembly toward said surface.

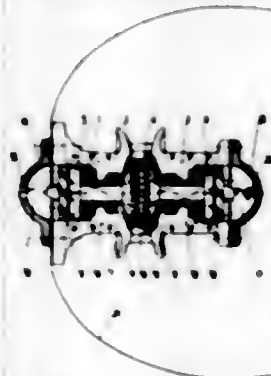
**3,385,391**  
**METHODS AND APPARATUS FOR CONTROLLING DEPTH OF MARINE SEISMIC CABLE**  
Kenneth W. McLeod, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas  
Filed Aug. 24, 1966, Ser. No. 574,595  
4 Claims. (Cl. 181-5)

The particular embodiment disclosed herein as illustrative of one form of the invention is a marine seismic cable system provided with buoyancy control to maintain the cable at predetermined depth. Pressure operated

control valves are positioned in separate sections throughout the length of the cable and function to admit or expel

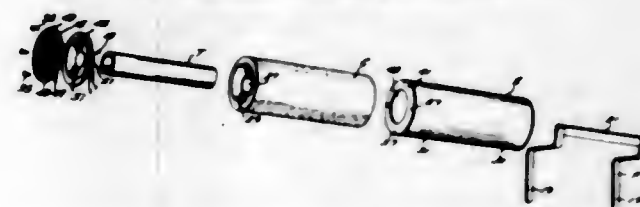


**3,385,392**  
**ULTRASONIC SIREN APPLIED ON SEAGOING SHIPS FOR DEFOGGING THE RANGES OF VISION**  
Michaels Vlos, ul. Traugutta 2a m4, Gdynia, Poland  
Filed Sept. 6, 1966, Ser. No. 577,260  
Claims priority, application Poland, Sept. 8, 1965, 110,777  
6 Claims. (Cl. 181-5)



An ultrasonic siren having concentric cylindrical rotors each having two groups of spaced holes positioned so that only one group on both rotors is alignable at any given time so that each group produces a sound wave of opposite polarity from the sound wave produced by the other group when the rotors are being driven by air turbines which exhaust to the interior of the rotors so that the air passes outwardly in pulses through the alternate groups of holes.

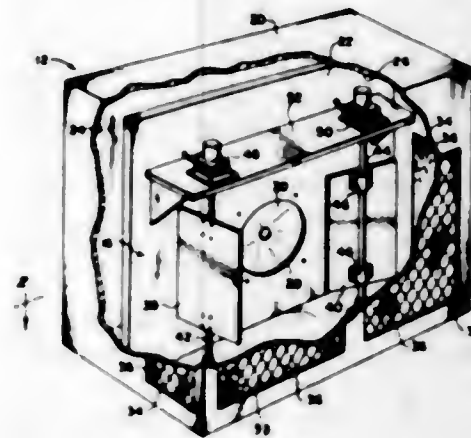
**3,385,393**  
**HEADREST AND SPEAKER APPARATUS**  
Donald A. Gold, North Hollywood, Calif., assignor to Pacific International Plastics, Van Nuys, Calif., a corporation of California  
Filed Sept. 15, 1967, Ser. No. 668,007  
5 Claims. (Cl. 181-31)



An automobile headrest and speaker apparatus comprising a frame and an elongated hollow tube supported thereon. An elongated cushion has a through longitudinal

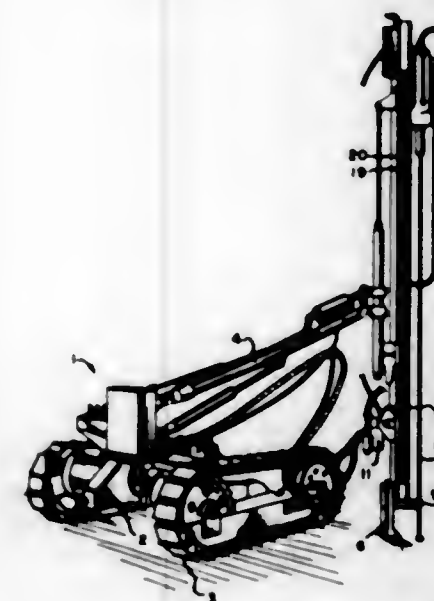
passage which receives the tube and a speaker is disposed at one end of the tube. A sleeve covers the longitudinal periphery of the cushion. A first end cover having a plurality of acoustical perforations covers the speaker and is attached at its periphery to the adjacent end of the sleeve and a second end cover covers the opposite end of the cushion and is attached at its periphery to the adjacent end of the sleeve.

**3,385,394**  
**ACOUSTICAL APPARATUS**  
Christopher M. Gundlach, 977 Ash St., Winnetka, Ill. 60093  
Filed Sept. 21, 1967, Ser. No. 669,518  
10 Claims. (Cl. 181-31)



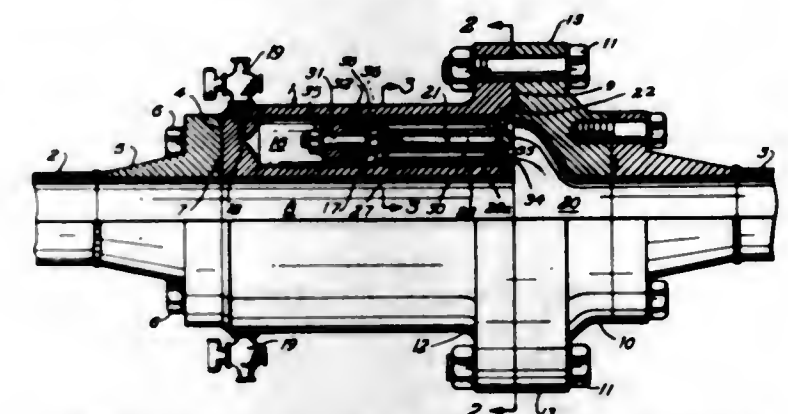
A sound system for an electrical organ includes a cabinet chamber through which sound is projected into a listening area by one or more loudspeakers. A pair of sound-reflecting baffles or vanes are rotated within the chamber at unequal speeds to produce a full, enveloping and non-pulsating sound.

**3,385,395**  
**MUFFLING SYSTEM FOR COMPRESSED AIR-OPERATED DRILLING APPARATUS**  
Ewald H. Kurt and George M. Diehl, Phillipsburg, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey  
Filed May 2, 1966, Ser. No. 546,774  
9 Claims. (Cl. 181-36)



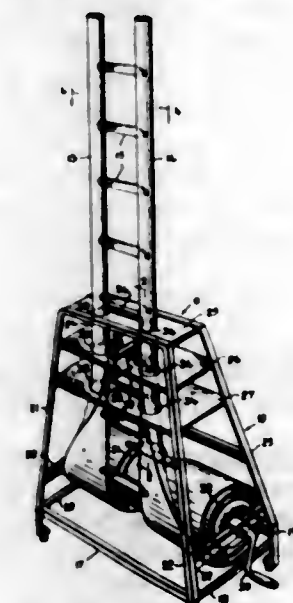
A rock drill mounting having the exhaust port of a drill motor connected to muffling passages running the length of the drill motor guide and exiting into a plenum chamber mounted at the top end of the drill guide.

**3,385,396**  
**FLUID TRANSMITTED NOISE FILTER APPARATUS UTILIZING RESILIENT FILTER ELEMENTS**  
Ross E. Morris, Vallejo, Calif., assignor to the United States of America as represented by the Secretary of the Navy  
Filed Jan. 25, 1966, Ser. No. 522,991  
6 Claims. (Cl. 181-47)



1. Fluid-transmitted noise filter apparatus for interconnecting two coaxial sections of piping comprising:  
a filter housing provided with a main bore sized for alignment with the bores of said two piping sections, a cylindrical cavity in fluid communication with the main bore, and further provided with a valve interposed in a duct that joins said cylindrical cavity and the filter housing exterior, and  
a replaceable noise filter element sealably mounted in said cylindrical cavity, said filter element including:  
a rigid tubular member,  
a resilient tubular member having its outer surface adhered to the inner surface of said rigid tubular member,  
a rigid shaft adhered to the inner surface of the resilient tubular member and having a projecting portion projecting outwardly of the resilient member into a freely-movable position within said cylindrical cavity, and  
a weight removably mounted on said projecting portion, said filter housing further being provided with means for fixedly positioning said rigid tubular member within said cylindrical cavity whereby said shaft is free to vibrate with respect to said rigid member.

**3,385,397**  
**EXTENSIBLE-RETRACTILE STRUCTURE**  
Ed I. Robinsky, 301 Jeddburgh Road, Toronto, Ontario, Canada  
Filed July 18, 1966, Ser. No. 566,076  
12 Claims. (Cl. 182-41)

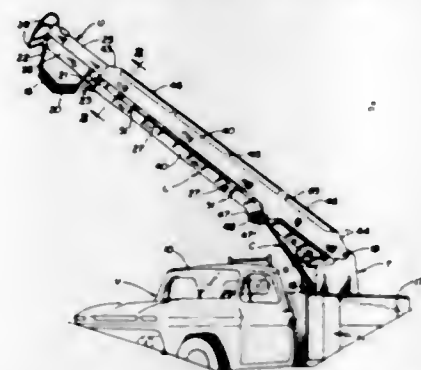


A ladder, tower or the like which has each of its upright members formed from a flat sheet of resilient material which is preformed to coil into a tube when



unwound from a flat roll and when rewound, to automatically uncoil. Each rail of each pair of rails, such as a ladder is wound into a separate roll. Each pair of rails are secured together by uniformly spaced crossbars. When formed into tubes an overlapping edge portion of each tube wedges between the cross bar and the other edge of the same tube to prevent relative movement both longitudinally and circumferentially between overlapping portions of the tubular rail to prevent lateral distortion or deflection of the walls under load. The same members are used to make an upright structure of three or more upright members. In this case, the rails are unwound from their roll so that adjacent tubes will lock together, one inside the other, to form a unitary structure.

**3,385,398**  
**EXTENSION LADDERS**  
Edward V. Garnett, 2300 E. 40th Ave.,  
Denver, Colo. 80205  
Filed May 3, 1966, Ser. No. 547,351  
7 Claims. (Cl. 182—46)



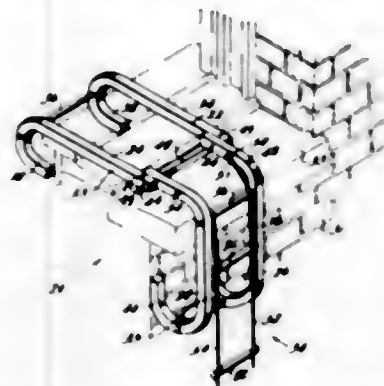
This disclosure relates to a ladder adapted to be mounted on a vehicle and including a turret supported on the vehicle for pivotal movement about a generally vertical axis, with a lower ladder section pivoted on the turret and an upper ladder section extendable and retractable along the lower section. One of the features is that the sides of one of the ladder sections is formed of electrically insulating material, the rungs are formed of non-insulating material and a series of upright members formed of non-insulating material are attached to the sides, while a rod of electrically insulating material extends along the upright members, to provide both a chord and an electrically insulated hand rail. Another feature is that a pair of coil springs mounted in spaced positions adjacent the upper end of the turret are loaded in compression to oppose the bending moment caused by the overhanging weight of the ladder, with an inclined pad for each coil spring mounted on the turret, a hollow cap attached to the lower section of the ladder and guides for the springs. An additional feature comprises a depending portion of each side of the lower ladder section, with a hollow, generally box-shaped section extending between the depending portions to resist torsional and twisting stresses on the section, so that a conventional hydraulic cylinder for moving the ladder sections up and down can be utilized, with the cylinder pivoted to the turret and the piston rod pivoted to the reinforcing section.

**3,385,399**  
**LADDER AND HANGER FRAME ASSEMBLY, AND REVERSIBILITY AND PORTABILITY FEATURES THEREIN**

J. Douglas Burt, 908 Elm St.,  
Terrace Park, Ohio 45174  
Filed July 27, 1966, Ser. No. 568,252  
8 Claims. (Cl. 182—70)

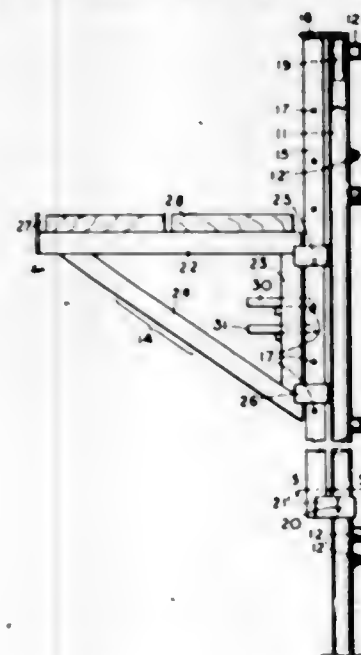
1. For use in a ladder or the like, a first pair of suspension members for supporting a ladder rung assembly and having a hooking region on each of said members,

a second pair of suspension members for supporting a ladder rung assembly and having a hooking region on each of said members, said first and second pairs connected together whereby their respective planes intersect with each other to form an angular relationship therebetween, said hooking regions lying within the confines of the angular relationship of said pairs, each pair of members having an effective length different than the effective length of the other pair of members whereby said



pairs of members are reversible with respect to a sill or support construction on which one or the other is mounted for use depending on the width of said sill or support construction, the hooking regions on each said pair of suspension members providing for a hooking relation with the sill or support construction, the hooking regions on the pair of suspension members not hooked to a sill or support construction providing for clearance of a ladder rung assembly from a barrier associated with said construction.

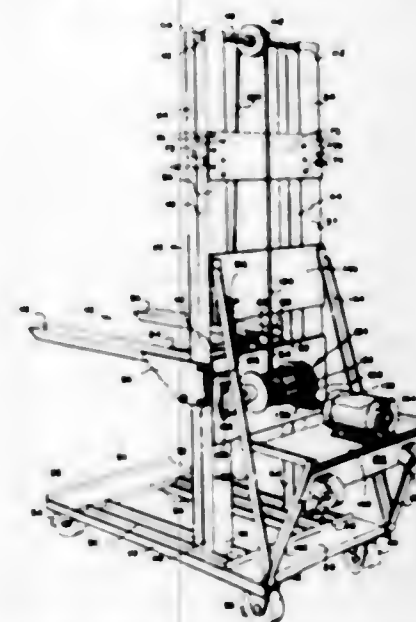
**3,385,400**  
**SCAFFOLD BRACKET**  
Gilbert E. Whitsett, Rte. 1, Box 659,  
Hermiston, Oreg. 97838  
Filed Oct. 5, 1966, Ser. No. 584,570  
9 Claims. (Cl. 182—150)



1. The combination with a sectional scaffold having upright and horizontal bars; of a tubular hanger bar of substantial length having a longitudinally extending opening along one side; a hanger bar suspending device rigid with the upper end portion of said hanger bar adapted to be engaged with a bar of said scaffold and suspend said hanger bar from said scaffold; a hanger bar holding device rigid with the lower end portion of said hanger bar adapted to engage with a bar of said scaffold and maintain said hanger bar in an upright position; a bracket member having a normally vertical side part positioned

close to the open side of said hanger bar and parallel with said hanger bar and having a normally horizontal plank supporting side part rigid with the upper end portion of said normally vertical side part and extending transversely therefrom; two spaced apart guide sleeves rigid with said bracket adjacent the respective upper and lower ends of the normally vertical side part thereof and slidably engaging said hanger bar adjustably mounting the bracket on the hanger bar; and releasable ratchet devices interposed between said bracket member and said hanger bar normally locking said bracket member against downward movement relative to said hanger bar, said bracket member being freely adjustably movable upwardly relative to said hanger bar.

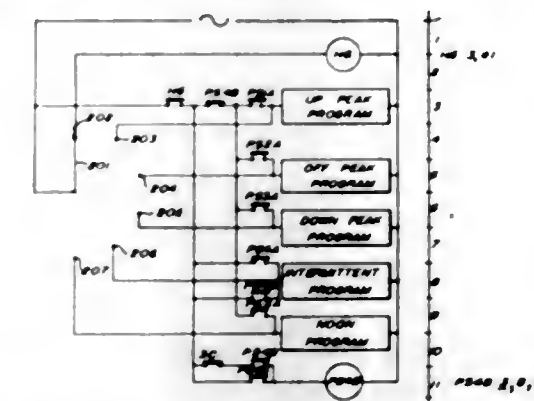
**3,385,401**  
**PORTABLE HOIST**  
Donald D. Campbell and Donald P. Mosteller, Phoenix, Ariz., assignors, by mesne assignments, to L. C. S. Industries, Inc., Phoenix, Ariz., a corporation of Arizona  
Filed Oct. 3, 1966, Ser. No. 583,791  
5 Claims. (Cl. 187—11)



A vertical hoist having a main frame normally vertically disposed and having a plurality of base wheels and additionally a pair of auxiliary wheels disposed above the base wheels and to the rear of the hoist, in such position that the center of gravity of the hoist, when tilted, to bear upon the auxiliary wheels and the pair of the base wheels, is disposed between the axis of the pair of base wheels and the auxiliary wheels when the elevator frame of the hoist is lowered to a lowermost position, such that the normally vertical frame portion of the hoist is tilted backwardly in an inclined position to reduce the overall elevation of the hoist and to allow the movement of the hoist under low overhead obstructions while movably supported on a pair of the base wheels and the auxiliary wheels.

**3,385,402**  
**ELEVATOR FLOOR SPOTTING CONTROL RESPONSIVE TO A TIME CLOCK**  
Raymond A. Burgy, Maumee, and Walter A. Nikazy and Ernest B. Thurston, Toledo, Ohio, assignors to Toledo Scale Corporation, a corporation of Ohio  
Filed Oct. 31, 1966, Ser. No. 619,575  
48 Claims. (Cl. 187—29)

1. In an elevator system serving a plurality of floors, means assigning a car to park at a given floor, hall call registering means, means rendering said car nonresponsive to all hall calls while assigned, car call registering means, means controlling operation of said car while assigned in response to a car call, car travel indicators at a plurality of floors, means for operating the indicator at said given



floor in response to said car, means for rendering said car travel indicators nonresponsive to said assigned car at other of said plurality of floors, means requiring said car to initiate its travel in a given direction from the given floor while assigned, means counting the trips of the car

from the given floor while assigned, means timing the interval said car is assigned, and means releasing said car from the assigned condition upon the completion of a given number of trips or the expiration of a given time interval, whichever occurs first.

**3,385,403**  
**FORCE-LIMITING SHOCK ABSORBER**  
Rene Lucien, Neuilly-sur-Seine, Hauts-de-Seine, and Emile Tetart, Louvie Juzon, Bases-Pyrenees, France, assignors to Societe Anonyme dite: Messier, Paris, France,  
Filed July 11, 1966, Ser. No. 564,271  
Claims priority, application France, July 31, 1965, 26,834  
9 Claims. (Cl. 188—88)



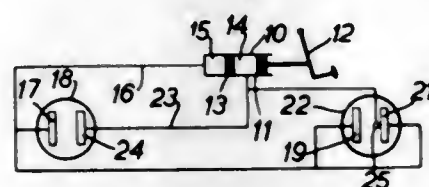
A shock-absorber having a diaphragm dividing a body containing a liquid into separate chambers, and an orifice of conical shape movably accommodating a conical part which is urged against an abutment to form an annular space with the diaphragm in the orifice which establishes communication between the chambers for the passage of liquid in streams to effect a viscous damping function, the movable body being displaced away from the abutment upon increase of pressure of the liquid to maintain a substantially constant damping effect.

**3,385,404**  
**MULTIPLE ACTUATOR INTERNAL SHOE DRUM BRAKE**  
Brian K. Tafft, Kenilworth, England, assignor to Girling Limited, Tyseley Birmingham, England  
Filed May 13, 1966, Ser. No. 549,973  
2 Claims. (Cl. 188—106)

In a shoe drum brake opposed arcuate shoes are applied to a rotatable drum by double-ended hydraulic



slave cylinders located between the shoe ends, both shoes acting as leading shoes in both directions of rotation of

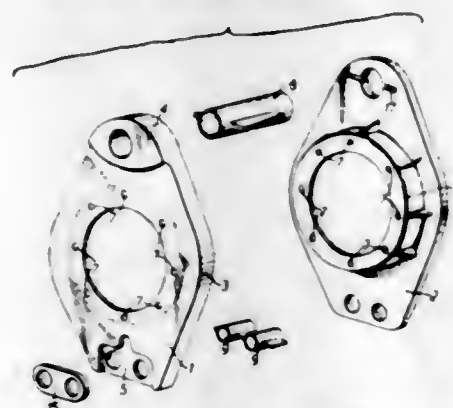


the drum, and one or both shoes is adapted to be applied to the drum by a third hydraulic slave cylinder.

3,385,405

**DRUM BRAKE SUPPORT**

John Leslie Cullen, Tyseley, Birmingham, England, assignor to Girling Limited  
Filed Nov. 8, 1966, Ser. No. 592,856  
5 Claims. (Cl. 188-206)

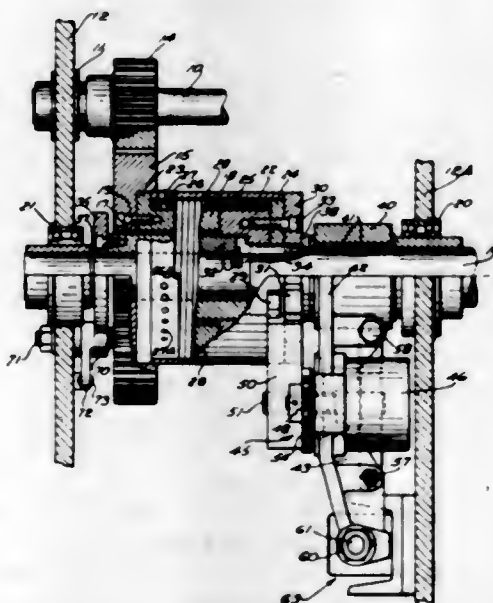


1. In or for a drum brake, a support structure comprising two plates each having an inner zone and an outer zone, means securing said two plates together over said outer zone, means securing said two plates together in face-to-face contact over said inner zone, mounting means for other elements of said brake, and means spacing said plates apart in a zone intermediate said inner and outer zones.

3,385,406

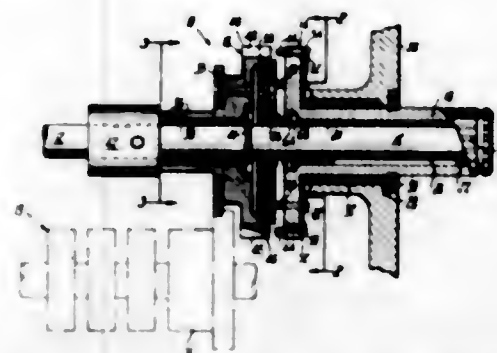
**SPRING CLUTCH MECHANISM**

Lloyd Alan Sheeran, St. Petersburg, Fla., assignor to Rite-Size Corrugated Machinery Co., a corporation of Rhode Island  
Filed May 18, 1965, Ser. No. 456,734  
7 Claims. (Cl. 192-41)



A spring clutch mechanism adapted for use with a continuously rotated drive shaft to produce an intermittent drive of the output mechanism.

3,385,407  
**CLUTCH MECHANISM FOR COUNTER DRIVE**  
Robert J. Kleinhans, Cheshire, Arthur J. Wells, Hartford, and John H. Bickford, Middletown, Conn., assignors to Veeder Industries Inc., a corporation of Connecticut  
Filed Jan. 10, 1966, Ser. No. 519,512  
10 Claims. (Cl. 192-53)

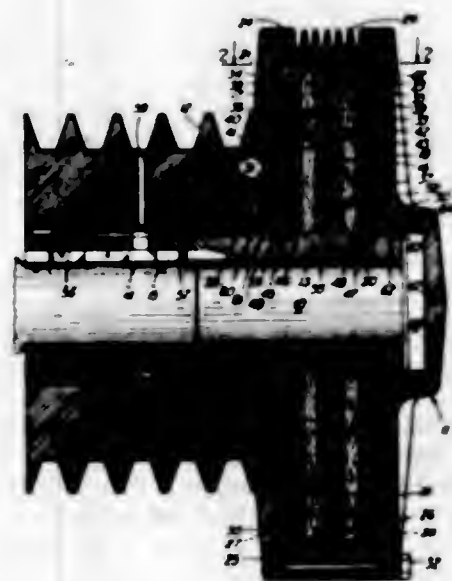


A clutch mechanism having primary utility for engaging and disengaging the drive to a counter and having a driven clutch element with a plurality of equiangularly spaced fixed clutch teeth and a driving clutch element with a plurality of equiangularly spaced teeth that are individually reciprocally mounted for axial withdrawal if they abut the teeth of the driven clutch element as the clutch is engaged. The number of clutch teeth on the driven clutch element is greater than and unevenly divisible by the number of teeth on the driving clutch element such that the clutch is adapted to be engaged by a single tooth on the driving clutch element. In the embodiment of FIG. 1 the clutch teeth on the driving clutch element are axially reciprocable pins biased to an extended position by a spider spring, and a cone friction clutch provides a friction drive prior to the clutch tooth engagement.

In the embodiment of FIG. 4 the clutch teeth on the driving clutch members are integrally formed on the outer radial ends of the spider spring and a pair of radially spaced concentric rims on the driving clutch member are provided with aligned radial slots receiving the driving clutch teeth.

3,385,408  
**AUTOMATICALLY ENGAGED VISCOELASTIC LIQUID SHEAR CLUTCH**

George E. Manning, Columbus, Ohio, assignor to Mobil Oil Corporation, a corporation of New York  
Filed Feb. 3, 1966, Ser. No. 524,711  
5 Claims. (Cl. 192-58)



An improved automatic clutch is provided in which a viscoelastic liquid is employed for transmission of power through a viscous drag effect between driving and driven plates. When the clutch is not engaged, the plates are held apart.

out of driving engagement by a spring. The normal force phenomenon is relied upon to bring the plates into operative engagement.

3,385,409

**CLUTCH DEVICE**

Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois  
Filed Dec. 30, 1965, Ser. No. 517,533  
1 Claim. (Cl. 192-70.11)

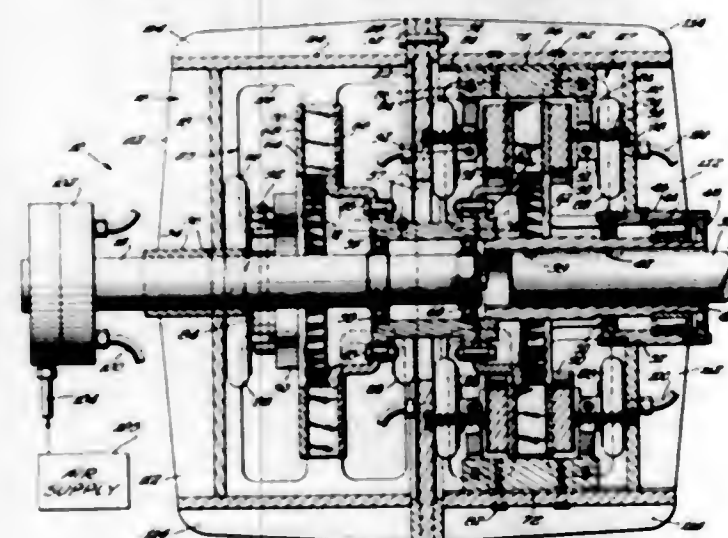


A remote spring type friction disc clutch includes a diaphragm ring having inwardly extending tangs providing a unitary system of levers for applying engaging force to the pressure plate. A thinner annular portion extends around the margin of the disc to provide a resilient retractor spring. The annular portion is flexed when the clutch is applied and recovers, pulling the pressure plate away from the friction disc when the clutch engaging force is released.

3,385,410

**AIR CLUTCH WITH SHOES PIVOTED ON LEVERS**

Lloyd Hornbostel, Jr., Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin  
Filed Apr. 13, 1966, Ser. No. 542,406  
2 Claims. (Cl. 192-87.1)

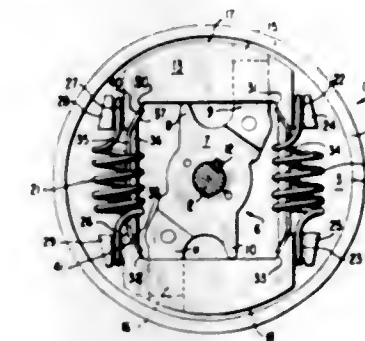


The invention is directed to a clutching mechanism which includes a rotatable disc mounted on a shaft which is to be driven. A plurality of caliper-like brake shoes are secured to the driven portion of the clutch assembly for engaging the rotatable disc. A plurality of pneumatic expandable chambers are provided for actuating the brake shoes into contact with the disc to provide a coupling between the driven member and the output shaft of the clutch assembly.

850 O.G.—41

3,385,411  
**CENTRIFUGAL CLUTCH ACTUATOR AND SPRING RETAINER**

Robert Lawrence Collins, Inglewood, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin  
Filed Aug. 30, 1966, Ser. No. 576,124  
7 Claims. (Cl. 192-89)

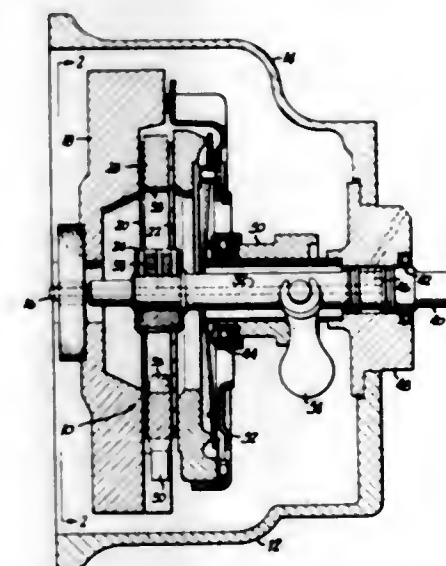


A centrifugal clutch including a free-floating sheet-metal member mounted within the clutch shoe restraining spring and operable to limit spring deflection in response to centrifugal force acting on the spring. Cams are provided on the ends of the member whereby centrifugal forces acting on the spring and member will assist in engaging the clutch.

3,385,412

**OIL-COOLED FRICTION CLUTCH**

Vernon R. Isgren, Jr., Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin  
Filed Jan. 9, 1967, Ser. No. 607,997  
5 Claims. (Cl. 192-113)



A multiple disc friction clutch having means projecting radially inwardly from a friction disc carried by a flywheel which evenly distributes oil on the friction surfaces. Lubricating oil is discharged from a driven hub onto the projecting means.

3,385,413

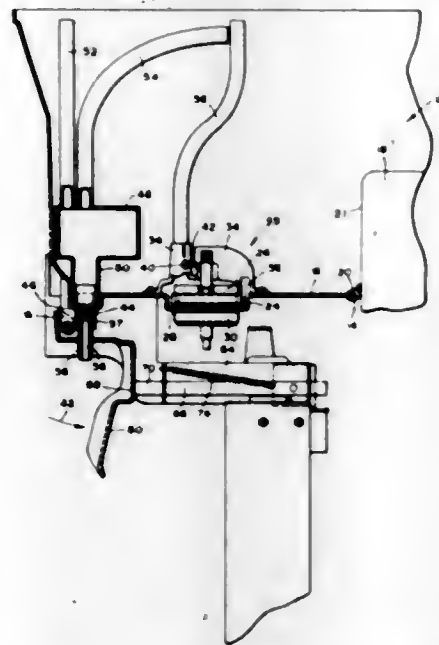
**PORTION CONTROL AND VENDING MECHANISM FOR DISPENSERS**

William H. Jacobs, Brookline, Mass., and Fred W. Kunath, Somerset, Bermuda, assignors to Jet Spray Cooler, Inc., Waltham, Mass., a corporation of Massachusetts  
Filed June 3, 1966, Ser. No. 555,083  
16 Claims. (Cl. 194-13)

A beverage dispenser is provided comprising a tank for holding a beverage and a stand supporting the tank with



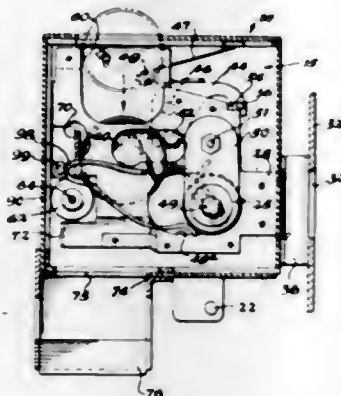
a discharge outlet provided in the tank. A valve and valve actuator act to open and close the outlet and a portion control container is disposed in the tank with the outlet connected to the discharge outlet of the tank.



A beverage circulating system in the tank includes a passage for filling the container with the beverage in the tank and means are provided for stopping the circulating system from filling the container when the container is discharged through the outlet.

### 3,385,414 COIN AND KEY OPERATED LOCK MECHANISM

Wells F. Stackhouse, Lakewood, N.Y., assignor to American Locker Company, Inc., Jamestown, N.Y.  
Filed May 29, 1967, Ser. No. 641,909  
9 Claims. (Cl. 194—92)

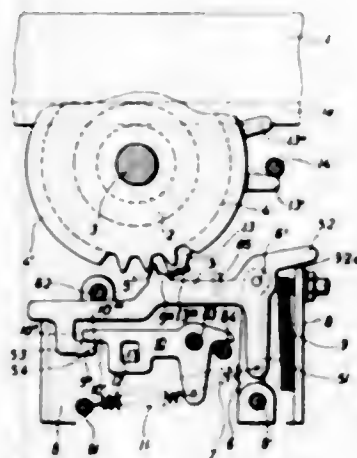


An improved coin and key operated lock mechanism for storage lockers, vending machines, or the like; which is readily adaptable to either coin return or coin collection type services. The invention features a mechanically simplified fraud-proof construction adapted to be installed either as original equipment or to convert existing equipment to coin-return or coin collect type operations. The lock includes a novel magnet arrangement for blocking passage of counterfeit coins and operation of the lock by the key. The lock also features an improved arrangement for releasing a bent or otherwise jammed coin, and an improved construction preventing door-slam damage to the lock bolt. Both the coin entrance and exit slots are shaped to prevent access to the interior by means

of lock "picking" devices, and the bolt latch is spring-biased to prevent fraudulent operation.

### 3,385,415 HALF SPACING ESCAPEMENT MECHANISM FOR TYPEWRITERS

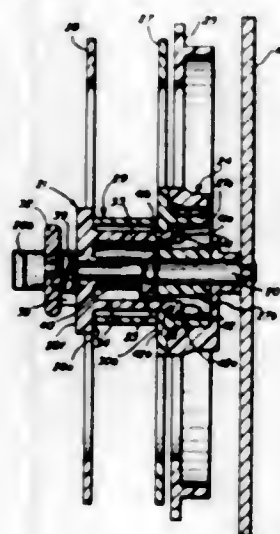
Wilhelm Schrader, Wilhelmshaven, Wolfgang Klingner, Graftschaft, and Hans Peter Heins, Wilhelmshaven, Germany, assignors to Olympia Werke A.G., Wilhelmshaven, Germany  
Filed Apr. 20, 1966, Ser. No. 543,865  
Claims priority, application Germany, Apr. 23, 1965, O 10,816  
8 Claims. (Cl. 197—84)



A control means is operated from the universal bar and from the space bar of a typewriter to effect release of carriage means by an escapement pawl which again engages the carriage means and is moved by the same a full step if the control means is permitted to return to its normal position, and half a step if the control means is held in an actuated position by the depressed space bar.

### 3,385,416 SEVERABLE RIBBON SPOOL

Leo P. Frechette, West Hartford, Conn., assignor to Litton Business Systems, Inc., a corporation of Delaware  
Filed Mar. 9, 1966, Ser. No. 532,917  
6 Claims. (Cl. 197—175)

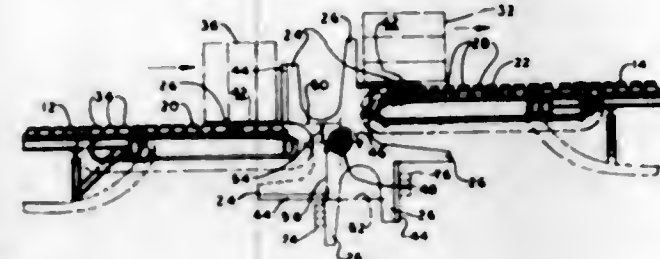


A severable carbon ribbon take-up spool having a disposable hub for accumulating ribbon between a pair of side plates, the disposable hub and side plates being detachably coupled together by releasably locking fingers adapted to

be released by manual means mounted on one of said side plates so that said disposable hub and ribbon wound thereon may be easily disposed of.

### 3,385,417 COIL-HANDLING MECHANISM

John L. Dixon, Fox Chapel Borough, Pa., assignor to Mesta Machine Company, a corporation of Pennsylvania  
Filed Aug. 15, 1966, Ser. No. 572,377  
3 Claims. (Cl. 198—25)



A coil-handling mechanism having a rotatable member with a plurality of coil-receiving stations transferring a coil from a first movable delivery station intersecting the path of the rotatable member to a second delivery station intersecting the path of the rotatable member while upending the coil through 90°.

### 3,385,418 AUTOMATIC ACCUMULATING TRANSFER MECHANISM

Richard Broser, Royal Oak, Mich., assignor to Accum-Matic Systems Inc., Detroit, Mich.  
Continuation-in-part of application Ser. No. 584,445, Oct. 5, 1966. This application Aug. 10, 1967, Ser. No. 659,631  
10 Claims. (Cl. 198—221)



The present invention is directed to an automatic accumulating transfer mechanism which is continuously reciprocal between and below a pair of workpiece support and guiding rails over which workpieces are moved from station to station, said transfer bars having pivotally mounted thereon in pairs, a series of longitudinally spaced workpieces engaging dogs which have a tilted inoperative position and an upright control position for activating an individual workpiece and slidably moving the same upon said rails, and incorporating cam detector controls pivotally mounted intermediate each station by which the presence or absence of a workpiece at a particular station controls said detector for regulating the positioning of the next succeeding pair of workpiece engaging dogs in an automatic manner so that a workpiece upon said rails and the succeeding spaced workpieces therebehind will be simultaneously moved forwardly successively between work stations so that in an automatic manner the pushing dogs are rendered operative when there is a requirement for advancing the parts on a production line and rendered inoperative when such requirement does not exist.

### 3,385,419 AUTOMATIC ACCUMULATING ELEVATOR FOR AUTOMATION

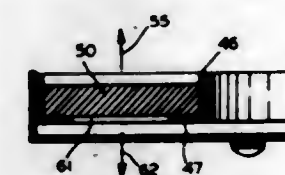
Richard Broser, Royal Oak, Mich., assignor to Accum-Matic Systems, Inc., Warren, Mich.  
Continuation-in-part of application Ser. No. 584,445, Oct. 5, 1961. This application Oct. 26, 1967, Ser. No. 678,342  
11 Claims. (Cl. 198—225)



An automated lift device for a series of parts which includes upon a framework opposed pairs of spaced pivotal part holders in the path of upward lifting movement of the parts and temporarily displaceable thereby, together with a power reciprocated transfer bar bearing a series of opposed pairs of longitudinally spaced pivotal part lifting dogs, which have an operative lift position and an inoperative clearance position, together with a part sensing device adjacent each station to automatically determine whether the lifting dog is operative or inoperative.

### 3,385,420 GETTER DEVICES

Paolo Della Porta, Milan, Italy, assignor to S.A.E.S. Getters S.p.A., Milan, Italy, a company of Italy  
Filed Apr. 28, 1967, Ser. No. 634,590  
Claims priority, application Italy, Apr. 28, 1966, 17,225/66  
10 Claims. (Cl. 206—4)



A getter device capable of evaporating over 80 weight percent of its getter metal when subjected to an alternating inductive field comprising: a retainer and a mass of compressed powder in contact with the retainer. The mass of compressed powder comprises a getter metal such as barium and an exothermic material such as a mixture of aluminum and nickel. The getter devices of the present invention are useful for maintaining high vacuum in closed vessels.

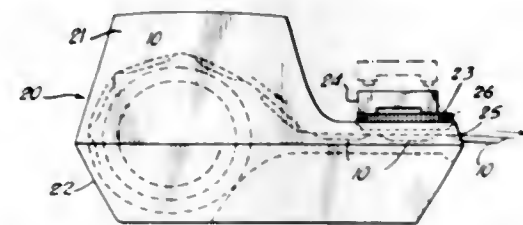
### 3,385,421 STRIP DISPENSING DEVICE

Charles M. Huck, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey  
Filed Jan. 5, 1967, Ser. No. 607,558  
5 Claims. (Cl. 206—42)

A medicament dispensing package in which the medicament is arranged in individual, severable compartments



arranged in a strip. Each compartment bears indicia of multiple units of time, so arranged that if all but one unit

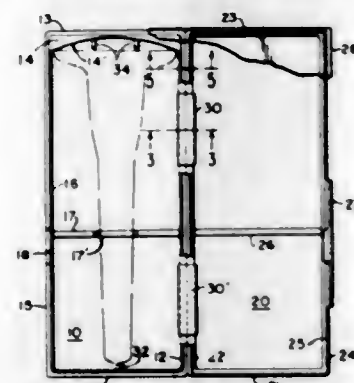


of time on a compartment is covered, as each compartment is used, the next unit of time in the sequence is exposed.

3,385,422

## DISPLAY CASE

Alan B. Lowry, Canton, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware  
Filed Oct. 18, 1965, Ser. No. 496,784  
10 Claims. (Cl. 206-45.11)

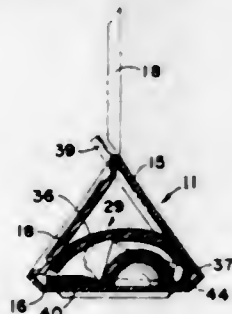


A box for safety razors and the like, having a flexible tape hinge arranged to permit the box to be supported in an open condition with a display frame interengaged with the peripheral walls of the open case.

3,385,423

## PROTECTIVE BOX

Thomas H. Hayes, Roanoke, Va., assignor to Creative Packaging, Incorporated  
Filed July 25, 1966, Ser. No. 567,521  
3 Claims. (Cl. 206-45.14)



A protective box for articles, the box having an insert of sheet material folded upon itself and removably holding an article between the upper and lower portions of the insert.

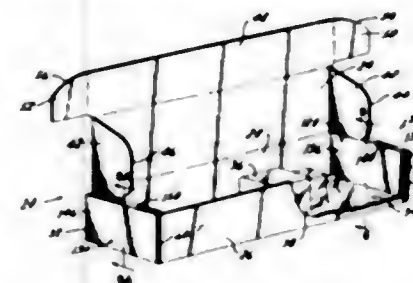
3,385,424

## CARTON AND INSERT

Edwin A. Thompson, Costa Mesa, and James M. Loftis, Long Beach, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware  
Filed Apr. 11, 1966, Ser. No. 541,641  
18 Claims. (Cl. 206-45.19)

This application discloses a container having a horizontal rectangular bottom, a rectangular vertical front side, a rectangular vertical rear side and rectangular end sides which form an open top container. A rectangular cover,

with hinge means secured to the container, covers and uncovers said open top. A rectangular content supporting board is insertable in and removable from said container through said open top. Holding means on said cover extend into the container a sufficient distance to engage and

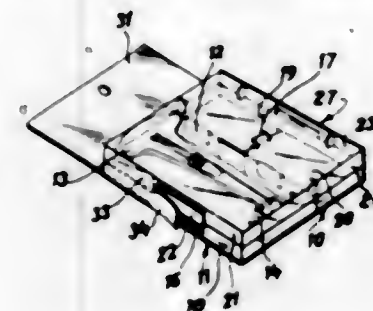


hold the supporting board down on the bottom when the cover is folded down and to disengage and release said supporting board when said cover is unfolded up to open position. Suitable means are provided to fasten said cover in folded down condition and to release said cover when desired.

3,385,425

## CLOSURE DEVICE

John D. Mallif, Dorchester, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware  
Filed July 19, 1966, Ser. No. 566,406  
5 Claims. (Cl. 206-45.31)

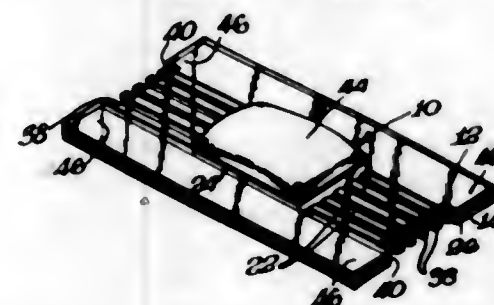


1. A closure device for an open top case having an unattached cover superimposed thereon comprising an integral blank of sheet material including a panel for underlying the case and having a hinged side flange for attachment to one side wall of the cover, and a flap having a scored tear strip thereacross, a portion of the flap outside the tear strip being adapted to be secured to the opposite side wall of the cover.

3,385,426

## LEAD PROTECTING STRUCTURE

Harold V. May, Pittsfield, William G. Seeley, Williamstown, and Noel C. Sears, Dalton, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts  
Filed Mar. 18, 1966, Ser. No. 535,549  
3 Claims. (Cl. 206-46)



A circuit module is retained between laminations of insulating films with at least one face of the module exposed for manufacturing and testing procedures. The plurality of leads extending from both ends of the module are

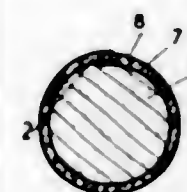
protected by extending legs of the laminations at least the length of the leads. The laminations are cut back between the extended legs to expose the ends of the leads for testing.

3,385,427

## CARTRIDGE FOR ANCHORING ROCKS WITH A MORTAR INCLUDING PLASTIC MATERIAL

Leon Louis Charles Henri Stouls, Paris, France, assignor to Societe des Explosifs Titanite, Pontallier-sur-Saone, Cote d'Or, France  
Filed Nov. 28, 1966, Ser. No. 597,426  
Claims priority, application France, Dec. 2, 1965, 40,691

7 Claims. (Cl. 206-47)

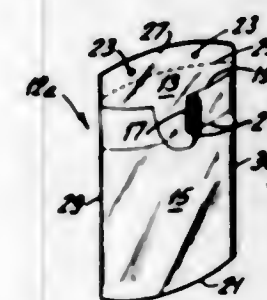


A cartridge and a method for forming a cartridge in which an outer envelope is formed over an inner envelope which is filled with a mixture of plastic material, filler and accelerating agent, with a catalyst being distributed between the envelopes.

3,385,428

## FLEXIBLE BAG

Emanuel Kugler, 124 Richmond Place, Lawrence, N.Y. 11559  
Filed Oct. 3, 1966, Ser. No. 583,550  
7 Claims. (Cl. 206-57)



A stack of open-mouth plastic bags. Each bag has an extending lip connected to the rear wall of the bag and detachable from it, and a locking flap attached to the upper part of the front wall of the bag and disposed between the front and back walls. The lip of each bag is connected to the rear wall by a perforated line to facilitate removal of each bag from the stack after filling. Holes in the lips of the bags permit all of the bags in a single stack to be aligned. Seals on each side of each bag are formed between an entire side edge of the flap and the contiguous side edge of the front wall; and between that portion of the contiguous side edge of the back wall lying below both the upper edge of the flap and the perforated line, and the continuous flap and front wall side edges.

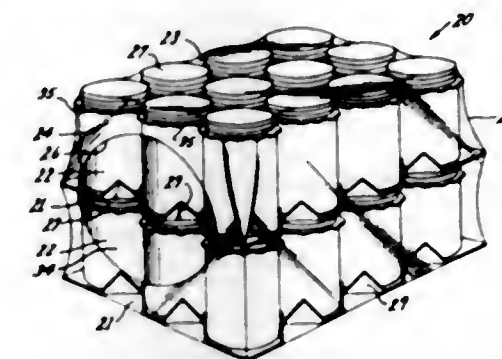
3,385,429

## PACKAGE CONSTRUCTION AND PARTS THEREFOR OR THE LIKE

William C. Becker, Henrico County, and Ronald M. Ayer, Chesterfield County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware  
Filed Jan. 20, 1966, Ser. No. 521,914  
11 Claims. (Cl. 206-65)

This disclosure relates to a package construction having a plurality of product containing containers disposed on a tray-like member with the tray-like member having flaps

carved therefrom and bent upwardly to separate the bottom ends of the containers from each other, the top of the containers having closure caps provided with outwardly directed flanges that abut adjacent flanges of adjacent containers to separate the containers at the top ends thereof.

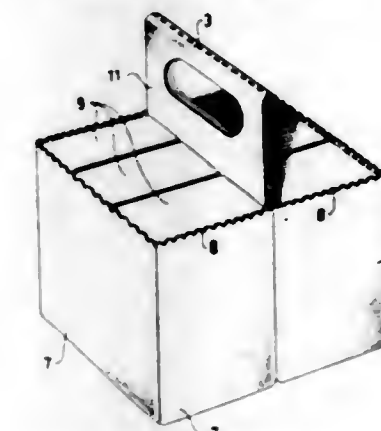


The arranged containers and tray-like members are subsequently disposed in a heat shrinkable tubular film-like member which when heat shrunk tightly compacts the product containers and tray member together to form a rigid package construction.

3,385,430

## COMPOUND PACKAGE

Boye Ditlef Benzon-Petersen, Lund, Sweden, assignor to AB Akerlund & Rausing, Lund, Sweden, a joint-stock company of Sweden  
Filed Jan. 20, 1967, Ser. No. 610,519  
Claims priority, application Sweden, Feb. 10, 1966, 1,666/66  
3 Claims. (Cl. 206-65)



A plurality (four or six) of packed units are arranged in two parallel rows, with each unit being supported at least on one of its free sides by an elongated sheet of stiff material such as cardboard and being contacted on its remaining free sides by a wrapping sheet of easily foldable material, which wrapping sheet is swept around the two rows of units and fixed along its edges to the sheet of stiff material forming a closed generally parallelepipedic block. The central portion of the elongated sheet of stiff material is folded in between the two rows of units and is provided with registering apertures to form a handle. The wrapping sheet is made frangible, by a perforation line, in a plane dividing the two rows of packed units, so that the compound package can be broken along said perforation line and the so-separated rows of units turned 90° allochirally along a line coinciding with the base line of the handle.

3,385,431

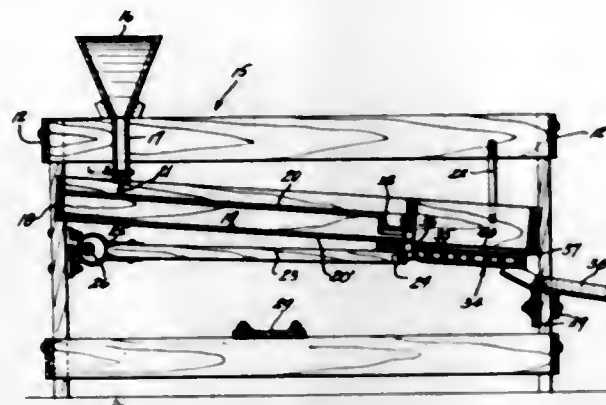
## GRAIN SEPARATOR WITH INSECT DESTROYER

George E. Fletcher, P.O. Box 784, Perryton, Tex. 79070  
Filed Jan. 27, 1965, Ser. No. 428,456  
4 Claims. (Cl. 209-10)

An apparatus for destroying insects in grain, which apparatus includes a hopper from which grain is passed into



the upper end of an inclined chute having a screen supported above its bottom. Insects and dust pass through the screen to the bottom of the chute and are discharged



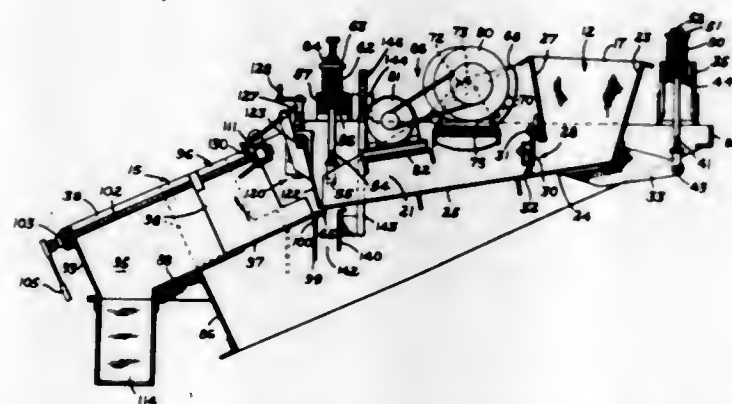
into an electrically heated pan which destroys the insects. The grain remaining on the screen is passed to an outlet chute and out of the device.

3,385,432

### COMBINED STRATIFICATION AND AQUEOUS SUSPENSION SEPARATOR

Wayne L. Overall and John H. Weber, Dayton, Ohio, assignors to Cindaco, Inc., Dayton, Ohio, a corporation of Ohio

Filed Mar. 2, 1965, Ser. No. 436,510  
9 Claims. (Cl. 209-18)



Apparatus and process for separating granular materials to remove lightweight undesirable material from heavy material. The material is vibrated on a distributor to cause stratification with the lighter particles on top of the heavier particles, after which they are allowed to fall into a quiet pool of water having an upward flow on one side and beneath the quiet zone. The heavier particles pass through the upward flow whereas the lighter particles are picked up by the upward flow and carried over a weir to a point remote from the system. The quiet zone and upward flow are separated by a splitter gate mounted parallel to the lower edge of the distributor and the weir. Each of the components of the apparatus are adjustable to accommodate different materials.

3,385,433

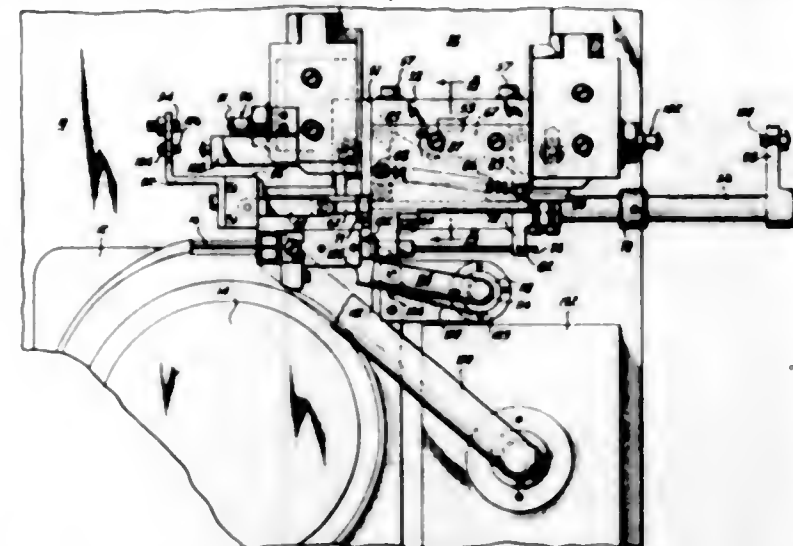
### PIN SORTING DEVICE

Guy M. Grimaldi, North Warren, and Carlton G. Jenkins, Clarendon, Pa., assignors to Sylva Electric Products Inc., a corporation of Delaware

Filed Oct. 31, 1966, Ser. No. 590,998  
10 Claims. (Cl. 209-73)

1. A pin sorting machine comprising a member providing a channel, fluid pressure means for transporting

pins to be sorted along said channel, means sensitive to a variation of pressure of the fluid in said channel caused



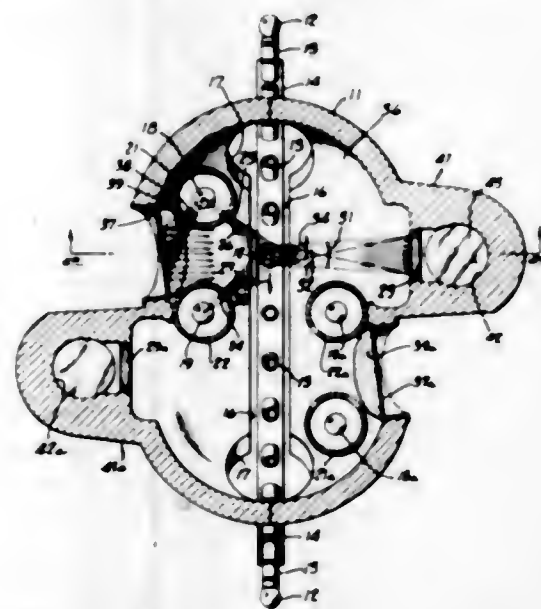
by a bent pin therein for ejecting said bent pin from said channel.

3,385,434

### APPARATUS FOR CLASSIFYING OBJECTS ACCORDING TO THEIR INTERNAL STRUCTURE

John R. Nelson, Houston, Tex., assignor to Mandrel Industries, Inc., Houston, Tex., a corporation of Michigan

Filed Sept. 21, 1965, Ser. No. 488,881  
13 Claims. (Cl. 209-111.6)



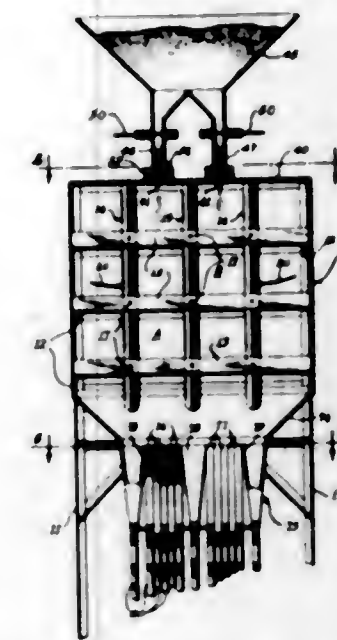
Kernels of corn are passed rapidly through a light beam, which illuminates their interiors so that a viewing device can classify them as "sweet" or "field" corn, according to the different interior colors that characterize these two types of kernels. The viewing device is arranged not to receive colored light reflected from the surface of the kernel, since both types have the same surface color, and sensings thereof would only be confusing. Specularly reflected light, produced by the leading and trailing edges of the kernel as it enters and leaves the beam, is unavoidably received by the viewing device. However, the confusing effect of this light is cancelled by means of a filter (e.g., violet) that passes light outside the range of internal colors of the kernel, but inside the range of specularly reflected colors. Thus, the intensity of the specularly reflected light is independently measured, and a suitable correction is made, so that the ultimate sensing is based only upon the interior color of the kernel.

3,385,435

### ELECTROSTATIC SEPARATION APPARATUS

James E. Lawver, Edina, Minn., John H. Sholine, Lakeland, Fla., and John F. French, Atlanta, Ga., assignors to International Minerals & Chemical Corporation, a corporation of New York

Filed Feb. 12, 1965, Ser. No. 432,369  
20 Claims. (Cl. 209-129)



An electrostatic separation apparatus including at least two electrodes mounted in upstanding parallel relationship to define at least one zone for free fall electrostatic separation with the electrostatic field being provided by a source of unidirectional electricity connected to adjacent electrodes. A plurality of separating zones is provided with a minimum of space by mounting at least three electrodes to define separation zones between adjacent electrodes and the source of unidirectional electricity is connected to the electrodes so as to have alternate electrodes of like polarity and adjacent electrodes of opposite polarity. Each of the electrodes is characterized as having a rectangular surface facing the separation zone between it and the adjacent electrode with the perimeter of the rectangular surface being curled away from the separation zone which it faces. Disposed above each of the separation zones is a feeder having a pair of horizontal rolls providing surfaces which are yieldably biased toward each other, and means for rotating the rolls in a direction to withdraw material from a supply hopper and introduce the same into the respective separation zones at a minimal vertical velocity.

3,385,436

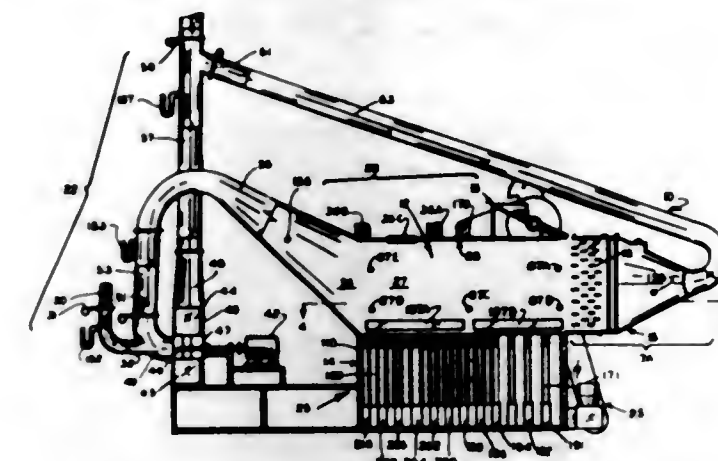
### PNEUMATIC CONCENTRATOR

Charles A. Murphy, Buckeye, Ariz., assignor to V. B. West, Amarillo, Tex.

Filed May 31, 1966, Ser. No. 554,163  
6 Claims. (Cl. 209-135)

1. In a pneumatic ore separator, operatively connected, a settling chamber, a fan, a conduit, a feeder for said chamber, said settling chamber having a top wall, a rear wall, a front wall, an inlet zone and an outlet zone, the inlet of said fan being operatively connected to the outlet zone of said settling chamber, said feeder being attached to and discharging through the roof of the chamber near its inlet zone, and discharge outlets elongated transverse to the direction from the inlet of said settling chamber to the outlet of said settling chamber, said discharge outlets being located consecutively along the floor of said chamber, each of said discharge outlets comprising flexible pocket means, sleeve means, and a frame support, said frame support being a hollow rectangle surrounding an elongated rectangular orifice, said

pocket being attached to said frame, said sleeve being attached to said frame, said frame being attached to and supported on the floor of said chamber, each said pocket comprising a left wall, a right wall, a front wall and a rear wall, said front wall and rear wall each being generally V-shaped, said left and right walls having a top and bottom edge, each bottom and top edge on each wall being generally parallel to each other, said walls all being



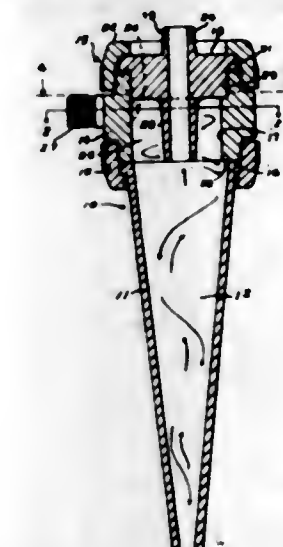
flexible and imperforate, a rigid spring supporting means below said pocket, a front tension spring extending between the bottom of the front end of said pocket and the front end of said support, a rear tension spring extending from the bottom of the rear end of said pocket to the rear end of said bar, the front end of said bar extending frontwards of the front end of the bottom of the pocket, the rear end of said bar extending rearwards of the rear end of the bottom of said pocket.

3,385,437

### ECCENTRIC HEAD HYDROCYCLONE

Maurice D. Woodruff, Springfield, Ohio, assignor to The Bauer Bros. Co., Springfield, Ohio, a corporation of Ohio

Filed Apr. 2, 1965, Ser. No. 444,998  
14 Claims. (Cl. 209-211)

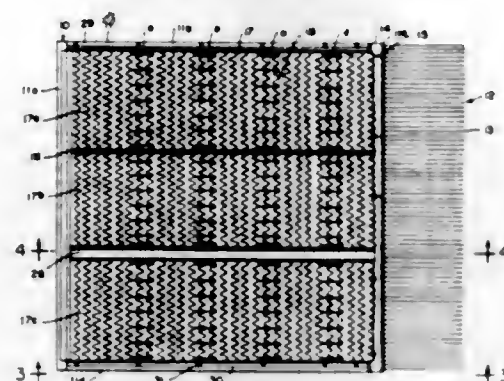


1. A hydrocyclone providing a separating chamber circular in cross section and open at its opposite ends to define overflow and underflow outlets, said chamber having near one end thereof a feed inlet tangentially disposed with respect to the separating chamber; characterized in that a portion of said chamber containing said feed inlet is eccentrically disposed relative to the balance of the chamber, said portion presenting a continuously circular interior wall surface parallel to the longitudinal axis of said chamber, the remainder of said chamber containing the feed inlet being generally concentrically disposed relative to the balance of the chamber, the feed inlet being



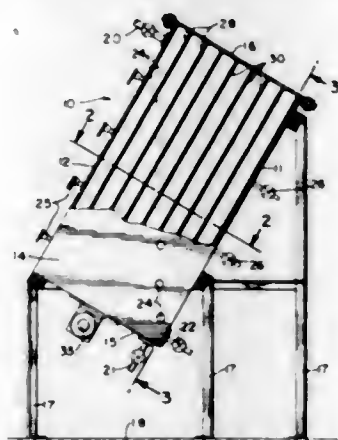
formed in and conforming to the curvature of said surface, said surface at its juncture with the balance of said chamber providing a ledge substantially at right angles to the axis of said chamber.

**3,385,438**  
**GRAIN CHAFFER**  
Jacob M. Fisher, 354 5th St. SW.,  
Huron, S. Dak. 57350  
Filed Feb. 10, 1966, Ser. No. 526,584  
3 Claims. (Cl. 209—394)



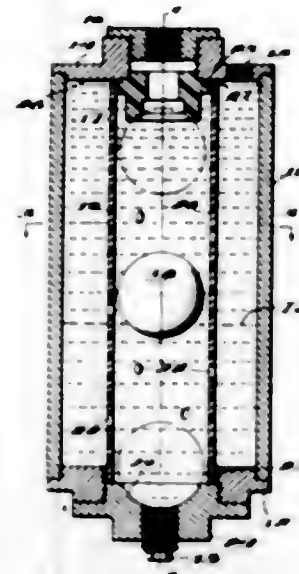
A chaffer sieve assembly for separating grain from chaff. The assembly includes a frame having a plurality of slats pivotally mounted thereon in parallel, spaced-apart alignment. One edge of each slat is serrated to provide points which extend toward the discharge end of the chaffer, and some of the slats include transversely spaced tines attached to the points thereof. Adjacent tine-bearing slats are separated by at least one non-tine-bearing slat, and each tine includes a first portion which extends from its associated point in general alignment therewith and a second portion extending rearwardly and generally parallel with respect to the plane of the chaffer bed.

**3,385,439**  
**SEDIMENTATION METHOD AND APPARATUS**  
Niels B. Bach, Rte. 2, Box 255,  
North Fort Myers, Fla. 33903  
Filed June 7, 1966, Ser. No. 555,879  
6 Claims. (Cl. 210—83)



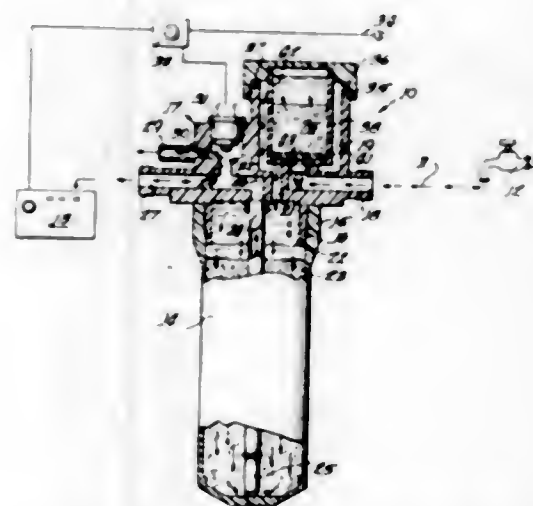
A liquid containing finely divided particles of matter suspended therein is clarified by establishing a quiescent body of the liquid in a settling vessel provided with a plurality of closely spaced, inclined corrugated settling surfaces. Suspended matter settles on the sloping side walls of each V-shaped corrugation and flows laterally and downwardly to the trough-like bottom of the corrugation where the settled matter joins a stream of similar settled matter flowing downwardly in the trough toward the bottom of the vessel. The peaks of the V-shaped corrugations are formed with small holes which permit clarified liquid to flow transversely across the tank without disturbing the settled matter in the troughs of the corrugations or at the bottom of the tank.

**3,385,440**  
**WATER SEPARATOR AND FUEL CUTOFF**  
David D. Ray, Plant City, Fla., assignor to H.D.R. Manufacturing Co., Inc., Lakeland, Fla., a corporation of Florida  
Filed June 1, 1966, Ser. No. 554,485  
3 Claims. (Cl. 210—109)



An apparatus for separating a liquid of a lighter specific gravity from a liquid of a heavier specific gravity in an immiscible mixture of such liquids. The apparatus includes a body having a chamber into which the mixed fluids are conducted through an inlet port to separate into lighter and heavier layers. A spherical float disposed in the chamber has a specific gravity intermediate that of the two liquids to float on the interface between the layers. The float rises in the chamber as the level of heavier liquid rises and is guided into blocking contact with an outlet port by a guide tube within the chamber, to prevent the heavier liquid passing through the outlet port. The inlet and outlet ports are on opposite sides of the guide tube which has an impervious cylindrical wall having a plurality of spaced openings therein.

**3,385,441**  
**COMPACT WATER SOFTENER**  
Charles E. Lyall, Deerfield, Ill., assignor to Culligan, Inc., Northbrook, Ill., a corporation of Delaware  
Filed Feb. 8, 1966, Ser. No. 525,978  
11 Claims. (Cl. 210—134)



A compact water softener for an appliance having a head with a removable salt cup and inlet and outlet passages therein, all flow passing through the cup and regenerating fluid passing from the outlet passage to a solenoid valve controlled drain passage; a second embodiment

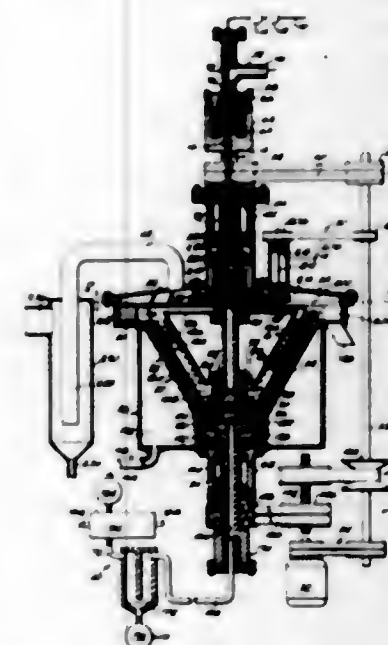
having a brine reservoir communicating with the structure of the first embodiment, the reservoir having an inlet and outlet with a check valve containing bypass therebetween, and a solenoid valve controlling flow to the bypass or to the reservoir with the brine passing to the outlet through a separate part.

**3,385,442**  
**INLET FITTING FOR DRAIN TILES**  
Andrew A. A. Swanson, 926 E. 5th St.,  
Willmar, Minn. 52601  
Filed July 1, 1966, Ser. No. 562,236  
2 Claims. (Cl. 210—163)



An inlet fitting for a drain tile having an upright whirlpool-preventing plate to be secured in the tile by means on the plate, conical screening means around the plate, to protect the entrance to the tile and indicator means extending upwardly therefrom.

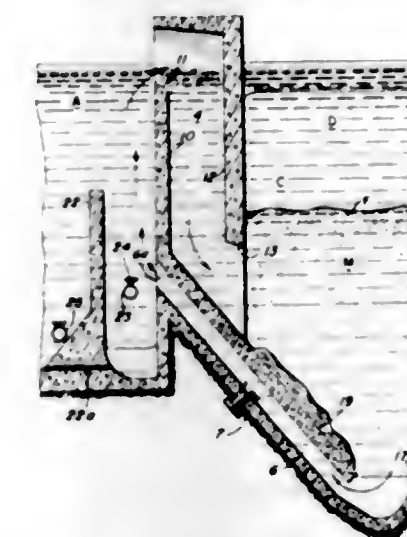
**3,385,443**  
**CONTINUOUSLY OPERATING CENTRIFUGAL DEVICE**  
Cerso Roberto Cuza, 2940-E NW. 22nd St.,  
Miami, Fla. 33142  
Filed Aug. 14, 1967, Ser. No. 660,434  
16 Claims. (Cl. 210—178)



A centrifuge which is adapted to separate granular solid matter from liquids or fluids and particularly a device of this type for separating molasses or syrup from massecuite or concentrated granular sugar solutions in a continuous operation. The massecuite or other material is fed through a vertical centrally disposed drive tube, said tube also being utilized to drive the two inner members of a frusto-conical basket assembly which are spaced apart to provide a chamber for the reception of the massecuite from the drive tube. A third or outer member of

the frusto-conical basket assembly is driven at a somewhat slower speed and is provided with a plurality of air jets to sweep the outer surface of the intermediate or perforated member of the basket assembly with pressurized air for purging the granular solids after filtration and directing said solids upwardly to a discharge mechanism.

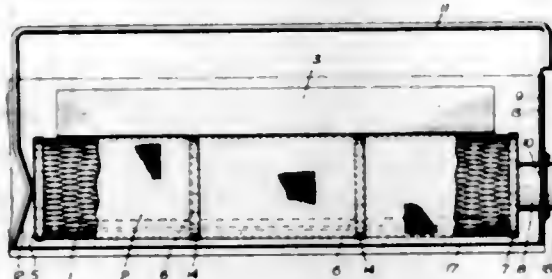
**3,385,444**  
**APPARATUS FOR TREATING SEWAGE**  
Raymond Edmond Dufournet, 43 Rue La Bruyere,  
Paris, France  
Continuation-in-part of application Ser. No. 172,720, Feb. 12, 1962, which is a continuation-in-part of application Ser. No. 105,737, Apr. 26, 1961. This application June 6, 1966, Ser. No. 555,579  
Claims priority, application France, Apr. 28, 1960, 825,534  
17 Claims. (Cl. 210—195)



1. Apparatus for the treatment of an aqueous medium which comprises adjacent gasification and settling chambers, each defined by a bottom and a plurality of side walls, said chambers being separated by a wall member, at least a portion of which forms a substantially vertical divider between said chambers and said settling chamber and having a wall extending upwardly from the lowermost portion of said settling chamber to a juncture with one of said sidewalls of said gasification chamber, upwardly directed flow passage means associated with said upwardly extending wall of said settling chamber having an inlet positioned adjacent the lowermost portion of said settling chamber in spaced relationship thereto and an outlet at the gasification chamber side of and adjacent the bottom end of the substantially vertical portion of said divider between said chambers, said outlet being at a level of intermediate depth in the liquid normally maintained in said gasification chamber, said upwardly extending wall of said settling chamber being positioned so that the longitudinal axis of said upwardly directed passage means which passes through said lowermost portion of said settling chamber will be positioned angularly relative to a vertical plane extending longitudinally of said settling chamber, inlet means for aqueous medium to be treated in said gasification chamber, means for removal of clarified liquid from said settling chamber, flow passage means providing communication between the upper portion of said gasification chamber and the lower portion of said settling chamber, said settling chamber having the lower portions thereof shaped to direct concentrated solid material to said inlet of said upwardly directed passage flow means, fluid flow regulating means associated with at least one of the flow passage means whereby liquid is transferable between the gasification and settling chambers and gas dispersing means positioned below the normal liquid level in said gasification chamber.

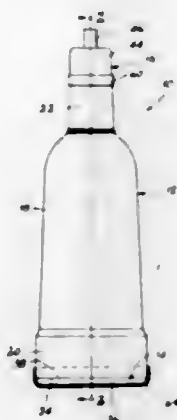


**3,385,445**  
**SUCTION STRAINER AND DETERGENT CONTAINER FOR APPARATUS FOR CLEANING AND DEGREASING METAL PARTS**  
 Plus Buchegger and Plus J. Buchegger,  
 Rehlfeldlung, Hallein, Austria  
 Filed Aug. 8, 1966, Ser. No. 574,877  
 5 Claims. (Cl. 210-206)



A liquid-cleaning device for a circulating liquid metal-cleaning and degreasing system which comprises a horizontal cylindrical shell mounted in a support and communicating at one end with a recirculating pipe and adapted to receive a cylindrical filter having a discharge side axially communicating with this pipe, the cylindrical housing being surmounted by a detergent container running parallel to a generatrix of the filter for delivering the circulating liquid thereto while a slidable plate is received in a guide between the pipe and the filter for blocking the discharge end of the latter.

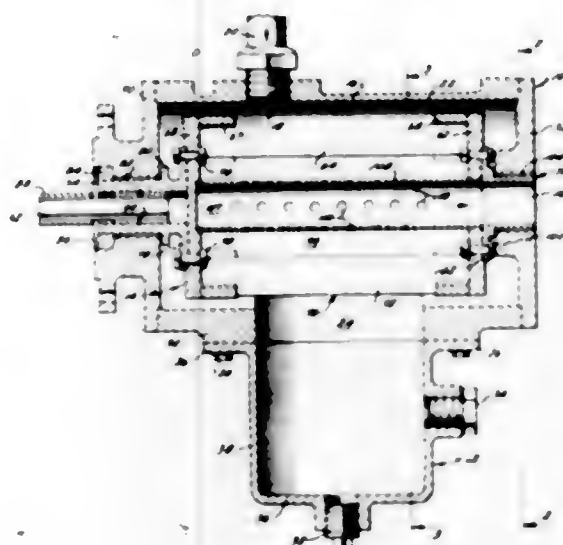
**3,385,446**  
**LIQUID FILTERING DEVICE**  
 Frederick E. Ward, Creve Coeur, and Howard T. Becker,  
 St. Louis, Mo., assignors to Ward-Becker Laboratory,  
 Inc., St. Louis, Mo., a corporation of Missouri  
 Filed Sept. 29, 1967, Ser. No. 671,779  
 8 Claims. (Cl. 210-266)



A novel device wherewith the quality of certain alcoholic beverages as well as drinking water may be improved. Consists of a plastic bottle-simulative container wherein novel filtering media are contained and confined. The liquids to be treated would be introduced into one open end of the container, would flow by gravity through the purifying filter media, and would then be discharged via the opposite open end of the container into an appropriate receptacle. The operation of the device would be manually effected. That is to say, the user while holding the device in one hand would introduce the liquid to be treated thereto with his other hand. A removable closure cap for the container when not in use is provided. Subsequent to approximately twenty repeated usages for its intended ob-

jectives, the device of the invention is deemed to be a disposable item.

**3,385,447**  
**CENTRIFUGAL SEPARATOR**  
 William C. Bergstrom, Miami, Fla.; Robert W. Bergstrom, executor of estate of said William C. Bergstrom, deceased  
 Filed Sept. 26, 1961, Ser. No. 140,718  
 1 Claim. (Cl. 210-360)

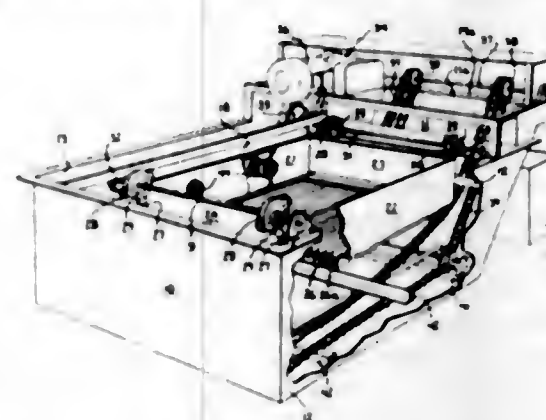


1. In a centrifugal separator for separating a mixture of different densities, said separator including a hollow housing, a hollow rotor rotatably supported in said housing for rotation about an axis and defining a space between said housing and said rotor, said housing having an inlet opening formed therein for the passage of a mixture of materials into said space, said rotor and housing having an outlet opening extending therethrough at said axis, said rotor having a tube extending along the axis of the rotor and spaced substantially inwardly from the periphery of said rotor, said tube communicating with said outlet opening, said tube having a plurality of holes formed therein for the flow of separated less dense material into said tube, said housing including a wall with an outlet aperture formed therein, a sump secured to said housing and communicating with said outlet aperture for collecting separated more dense material; the improvement which comprises said rotor including a plurality of vanes extending inwardly at circumferentially-spaced positions around the rotor, said rotor having slots formed therein between said vanes for the flow of materials, each said vane having its sides converging toward the axis of the rotor so that the vane tapers inwardly and each slot is of substantially-uniform width in a radial direction, the narrow inner edge of each vane being spaced from said tube by a distance sufficient to provide an annular unobstructed space surrounding said tube; whereby, upon rotation of said rotor, said vanes accelerate to rotation a mixture of materials, materials migrate through said slots, and the less dense material collects in said tube and passes out said outlet opening.

**3,385,448**  
**UP-FLOW SELF-CLEANING FILTER APPARATUS**  
 Paul R. Honan, Lebanon, and Avery S. Harlan, Indianapolis, Ind., assignors to Monlan Corporation, Lebanon, Ind., a corporation of Indiana  
 Filed Dec. 19, 1966, Ser. No. 602,692  
 1 Claim. (Cl. 210-407)

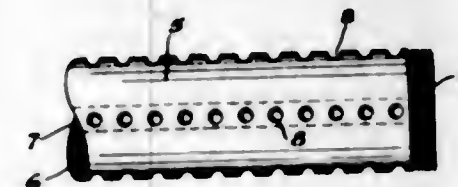
A filtering apparatus having a filtered liquid receptacle nested within a raw liquid tank with the bottom of the

filtered liquid receptacle formed of a filter media, the receptacle being mounted so that it is periodically agitated



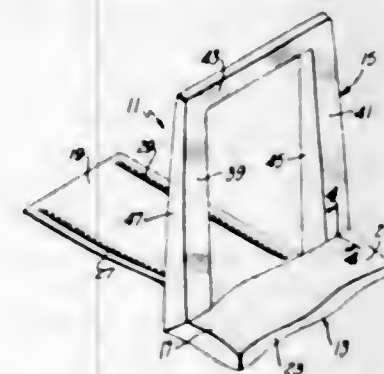
vertically to shake off filtered material collecting on the filter media, the material shaken off settling in the raw liquid tank.

**3,385,449**  
**CLAD POROUS METAL ARTICLES**  
 Henry A. Kuchek, Auburn, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
 Original application Oct. 9, 1961, Ser. No. 143,623, now Patent No. 3,138,857, dated June 30, 1964. Divided and this application Nov. 8, 1963, Ser. No. 322,440  
 1 Claim. (Cl. 210-484)



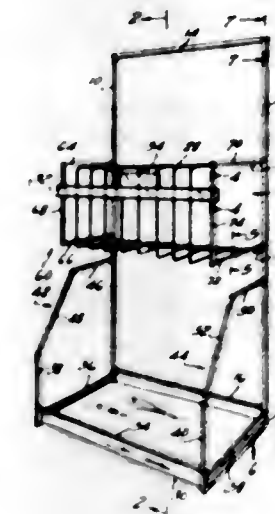
The invention is an article of manufacture, suitable for use as a filter, comprising (1) a porous metal core having an axial bore throughout its length, the pores of the metal core being elongated in the direction of the longitudinal axis of the article and interconnected, and (2) a dense metal jacket intimately surrounding the core and metallurgically bonded thereto, the jacket having a plurality of spaced apertures therethrough to expose the porous metal core. In use the article is provided with bushings at each end to facilitate in-line filtering.

**3,385,450**  
**BOOKEND**  
 Joseph L. Nadler, Goleta, and Paul H. Harrison, Los Angeles, Calif., assignors to The Polyplan Corporation, Goleta, Calif., a corporation of California  
 Filed Mar. 31, 1966, Ser. No. 539,197  
 5 Claims. (Cl. 211-42)



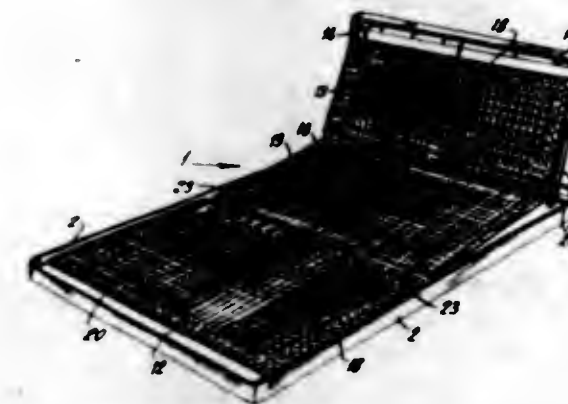
A one-piece integral bookend of molded, self-hinging plastic material, including a base member and a book-retaining member, pivotable between a collapsed position and an operative self-latching upright position.

**3,385,451**  
**DISPLAY FIXTURE**  
 Carl L. Anderson, New London, Conn., assignor to New London Mills, Inc., New London, Conn., a corporation of New York  
 Filed June 23, 1966, Ser. No. 559,914  
 2 Claims. (Cl. 211-60)



1. A display fixture for supporting and displaying items therein including in combination a rear member in the form of a vertically disposed frame, a bottom member of a horizontally disposed plane forming a right angle with said rear member, first and second oppositely disposed side frames projecting from said rear member at the side edges thereof and overlying said bottom member, a plurality of divider rods attached to said rear member between said side frames, each divider rod of said plurality being spaced from adjacent divider rods whereby items to be displayed can be supported therebetween, a tag molding, openings formed at each end of said tag molding, and fastening members projecting from said side frames to be received within said openings and supporting said tag molding, said fastening members having shanks with enlarged heads.

**3,385,452**  
**STORE DISPLAY RACKS-SUPPLEMENTAL BEDS**  
 Angelo Dantino, Cheektowaga, and Daniel D'Antimo, Stony Point, N.Y., assignors, by mesne assignments, to T. A. Buscaglia Equipment Co., Inc., Buffalo, N.Y.  
 Filed Feb. 11, 1966, Ser. No. 526,804  
 20 Claims. (Cl. 211-175)



A supplemental bed having a first platform rotatably mounted and a second platform having optional, slideable, or rotational engagement with the first. The first and second platforms are mounted in substantially uniplanar relation when overlapped and a third platform is rotatably engaged with the second. Support means are provided for maintaining the platforms fixed in relative position while permitting relative movement for varying the position



thereof. The platforms can be mounted on a frame adapted to fit into a display rack, which frame can be broken down, or the supplemental bed can be mounted directly on the display rack.

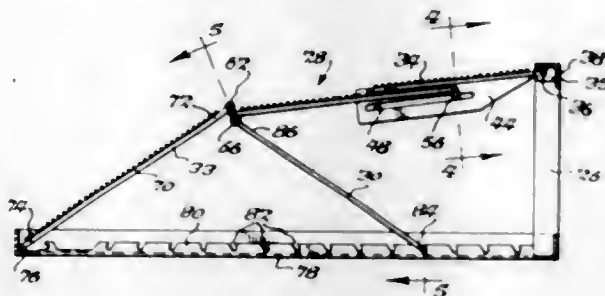
3,385,453

## ADJUSTABLE DISPLAY RACK

Angelo F. Dantino and Karl J. Martiner, Cheektowaga, N.Y., assignors to T. A. Buscaglia Equipment Co., Inc., Buffalo, N.Y.

Filed Mar. 28, 1966, Ser. No. 543,763

12 Claims. (Cl. 211—175)



The adjustable display rack has a first shelf section pivotally connected to the back of a frame. A second shelf section is connected to the first for telescoping and pivoting relative thereto. The first and second shelf sections are mutually supporting to provide a substantially continuous shelf portion when the sections are telescoped. A third shelf section is pivotally connected to the second and is supported at its forward end on the base. A support depends from one of the second and third shelf sections and is adapted to engage spaced slots on the base for maintaining the shelf sections in different positions. The rack is adapted to fit a display case.

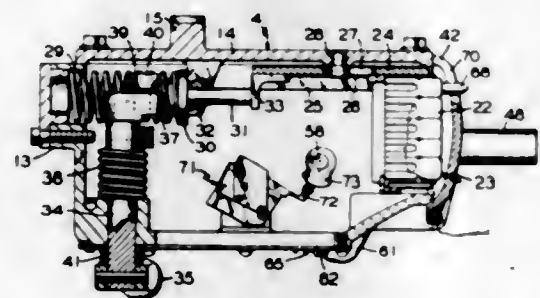
3,385,454

## AUTOMATIC AIR AND ELECTRIC RAILWAY CAR COUPLER

William B. Jeffrey, Irwin, John S. Elder, Monroeville, and Robert B. Morris, Jr., Irwin, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed June 27, 1966, Ser. No. 560,528

13 Claims. (Cl. 213—1.3)



9. In an automatic car, air and electric coupling apparatus having one coupler head carried on one car and adapted for locking with a counterpart mating coupler head carried on another car, the combination of:

- (a) a latching portion carried on the one coupler head and being engageable with a latching portion carried on the counterpart coupler head for locking the coupler heads together,
- (b) a pipe-connecting portion carried on the one coupler head and being adapted for registering with a pipe-connecting portion on the counterpart coupler head, when the coupler heads are locked together, for providing a plurality of air-tight fluid pressure connections between the cars, and

(c) an electrical circuitry-connecting portion having a multiple-contact unit slidably mounted thereon for engagement in a frictionally and separably locked relation with a similarly mounted multiple-contact unit on an electrical circuitry-connecting portion of the counterpart coupler head for providing a plurality of electrical connections between the cars, said multiple-contact unit being disposed in an outer position while the coupler heads are uncoupled and being movable upon engagement with the counterpart multiple-contact unit incidental to coupling of the coupler heads to an inner position,

(d) spring means tensioned by the separating movement of the coupler heads incidental to uncoupling for biasing said multiple-contact unit in one direction parallel to the longitudinal axis of the car to assist in overcoming frictional resistance between the two multiple-contact units when separating from each other during uncoupling of the coupler heads and for causing separation of said multiple-contact unit from the counterpart unit with a snap action for minimizing electrical arcing between the several contacts at the instant of separation.

3,385,455

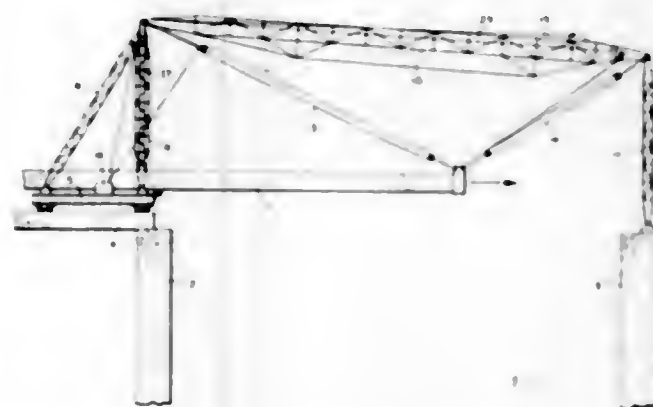
## APPARATUS FOR THE LIFTING AND THE TRANSPORT OF HEAVY STRUCTURES PARTICULARLY SUITED FOR THE ASSEMBLY OF METAL BRIDGES AND SIMILAR STRUCTURES

Eugenio Dal Pont, Milan, Italy, assignor to Soimi S.p.A., Milan, Italy

Filed June 10, 1966, Ser. No. 556,611

Claims priority, application Italy, June 14, 1965, 13,277/65

11 Claims. (Cl. 212—140)



An apparatus for horizontally moving heavy loads between spaced apart vertical support points, such as for positioning structural members horizontally between spaced apart vertical supports at considerable heights above ground level, the apparatus comprising: spaced apart first and second vertical support means against which rests each end of a horizontally extending boom with said boom extending horizontally across the distance between said support points at a distance thereabove, respective tackle means supported from spaced apart points along said boom, for moving a load along the longitudinal extent of said boom, said boom and support means constituting a rigid stationary structural assembly relative to said vertical support points while a load is being moved therebetween, said assembly being transferable as a unit to other locations.

## ERRATUM

For Class 213—1.3 see:  
Patent No. 3,385,454

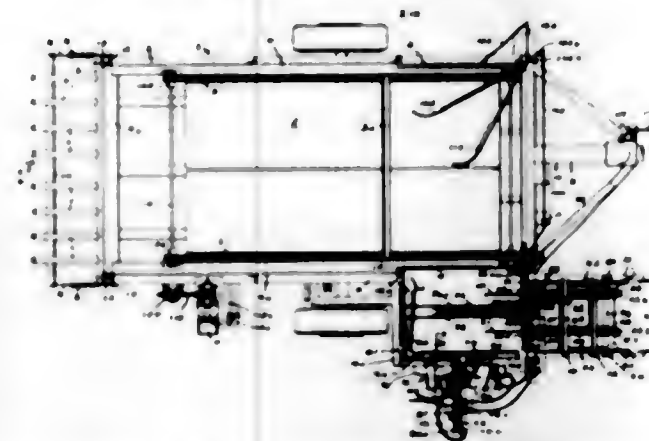
3,385,456

## HAY BALE LOADER AND HAULER

George P. Sulder, Brewster, Wash., assignor, by mesne assignments, to Hydraslip, Inc., Okanogan, Wash., a corporation of Washington

Filed June 1, 1965, Ser. No. 460,272

5 Claims. (Cl. 214—6)



The device is a machine for loading and stacking hay bales from the positions where they are left in the field by the hay baler, upon the floor of a vehicle for transport from the field and for moving the stacked bales on the floor rearwardly on the vehicle floor. The machine embodies a trailer vehicle 1 provided with a floor 2. A cross bar 3a extends across the floor. Chains 3 at the sides of the floor 2 are power driven to move bales on the floor rearwardly. A bale pick up mechanism is mounted alongside the floor near the front thereof. This mechanism comprises a platform 14 movable upward from the level of the floor 2 to a second level one bale depth above the floor and a third level two bale depths above the level of the floor. The platform has an endless elevator conveyor 33 pivoted on the front end thereof and extending forwardly therefrom. The front end of the conveyor 13 is movably carried on a pair of guide pipes 51 and 52 which receive the bales endwise between them and guide the bales onto the conveyor 33 as the vehicle advances. The platform has means 36 thereon to move a bale received thereon from the conveyor 33 rearwardly. A trip lever 80 on the platform 18 is actuated by a rearwardly moving bale. This lever when actuated stops the conveyors and causes a pusher 70 to move over the platform 14 and push the bale thereon transversely off the platform to leave it over the floor 2.

Control mechanism including a lever 102 is provided on the vehicle whereby to elevate the platform 14 when it has moved enough bales onto the floor 2 to make a row across it. When the lever 102 is actuated, it actuates a hydraulic circuit to raise the platform to its second level. The bale loading operation is repeated until a second row of bales covers the first row on the floor. These bales actuate a second control lever 115 and it causes the hydraulic circuit to raise the platform 14 to its third level. The bale loading operation is repeated to place a third row of bales on the first two rows. Then the chains 3 and bar 3a move the bales rearwardly and the platform 14 is lowered to the floor level. The loading is repeated until the floor is covered with bales three layers deep. To clear the floor the chains 3 are actuated to push the bales rearwardly off the floor 2.

3,385,457

## STACKING ALIGNER MECHANISM

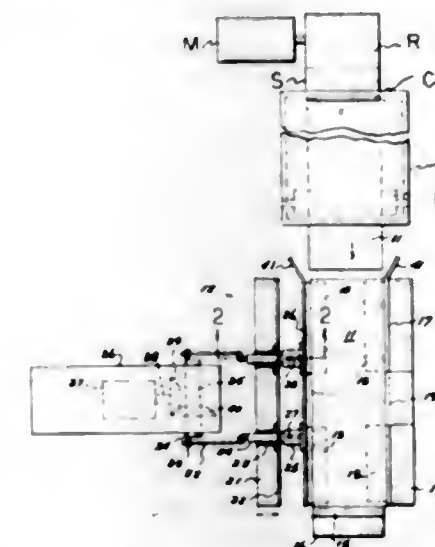
Daniel L. Zinn, 8881 Central Ave., Warren, Mich. 48204

Filed May 3, 1966, Ser. No. 547,301

2 Claims. (Cl. 214—6)

An aligner for sheets ejected onto a support having a transverse first stop plate at one end of the support; a second stop plate at right angles to the first stop plate

and along one side of the support, and an upright reciprocally mounted third stop plate parallel to and spaced from the second stop plate, and reciprocal power means connected to the third stop plate which includes an up-



right support mounting a pair of spaced bushings, tubular supports slidable in said bushings and at one end connected to the power means and at the other ends having a resilient sliding lost motion connection to said third stop plate.

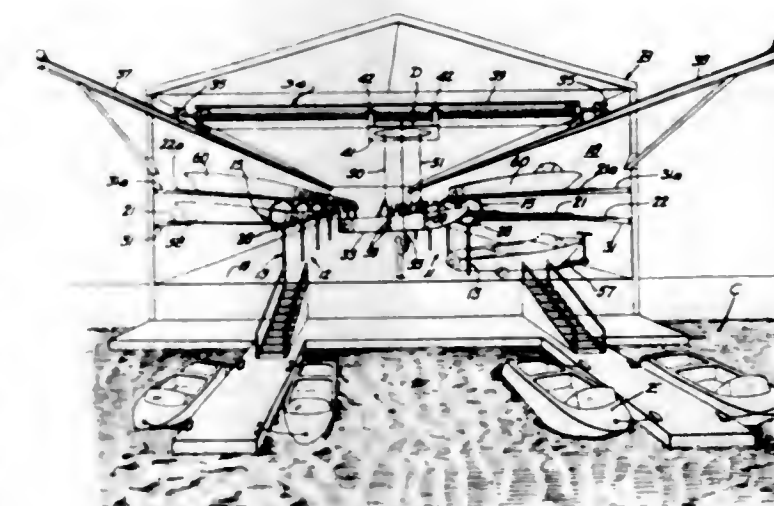
3,385,458

## BOAT STORAGE RACK

Joseph N. Gresham, 2700 Scott Blvd., Santa Clara, Calif. 95050

Filed Nov. 28, 1966, Ser. No. 597,422

7 Claims. (Cl. 214—16.4)



1. A boat storage rack comprising:
  - a plurality of lower leg portions mounted upright and in substantial alignment on a storage floor to define an upright plane and spaced apart to receive a boat of selected size mounted on a trailer of selected width between adjacent ones thereof,
  - a generally oblong frame portion of a size to receive a boat of a selected maximum size therethrough mounted upright on each lower leg portion in the plane defined by the lower leg portions, the bottom of each oblong frame portion being centered on its respective lower leg portion, adjacent oblong frame portions being laterally closely adjacent each other and firmly interconnected, the upper end of each oblong frame portion having a gap therein for free passage of a depending boat hoisting member there-through,



a pair of elongated, parallel, horizontal lower boat support members mounted at one end thereof on the bottom of each oblong frame portion and extending therefrom in a common direction at right angles to said plane, each pair of lower boat support members being spaced apart on opposite sides of the center of their respective frame bottom by a distance sufficient to support a boat having its hull resting in longitudinally centered relation on said support members,

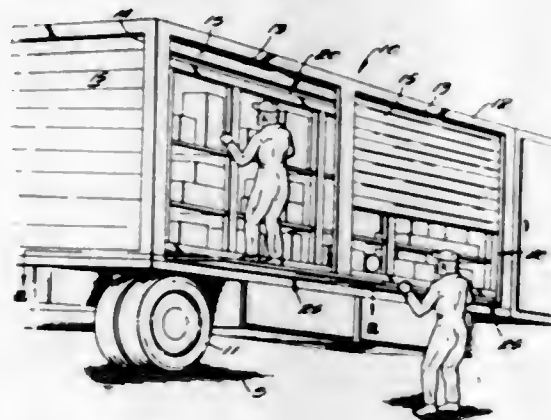
a generally similar pair of upper boat support members mounted similarly to the lower boat support members but on the upper side of each oblong frame portion, one thereof being located on each side of the gap in their associated oblong frame portion, the upper support members between the gaps in adjacent frame portions being spaced apart sufficiently on opposite sides of a vertical line centered between adjacent oblong frame portions to support a boat having its hull resting in longitudinally centered relation on said upper support members, and means supporting the opposite ends of the upper and lower boat support members.

3,385,459

**CARGO TRANSPORTING APPARATUS**

Roy L. Wellman, Jr., Columbus, Ohio, assignor to Federated Department Stores, Inc., The F. & R. Lazarus and Co. Division, Columbus, Ohio, a corporation of Delaware

Filed Mar. 2, 1966, Ser. No. 531,096  
6 Claims. (Cl. 214—515)



A vehicle having a van type body designed and constructed for receiving a portable cargo transporting or article supporting rack of the type disclosed in my co-pending application Ser. No. 478,224, filed Aug. 9, 1965, now Patent No. 3,338,423 dated Aug. 29, 1967. The van is provided with access openings to provide for ready removal of articles carried by the rack and is further provided with ramps associated with said openings and adjustable from an inoperative retracted position to an extended supporting position where they will provide supports for the delivery man to stand and facilitate access to the articles through said openings.

3,385,460

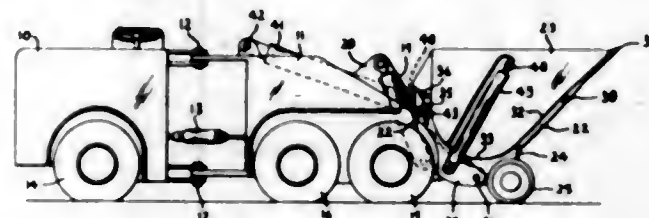
**LOADER BUCKET**

Eddie B. Wagner, Portland, Oreg., assignor to Wagner Mining Scoop, Inc., Portland, Oreg., a corporation of Oregon

Filed June 27, 1966, Ser. No. 560,742  
1 Claim. (Cl. 214—778)

In the present construction the bucket structure is provided with wheels which roll on the ground during forward movement of the vehicle in digging and scooping and support the bucket at an effective digging angle. When the bucket has scooped itself full of material, it is broken

out of the pile by tilting it back to erect position before raising the boom. The wheels support the front end of the boom and provide a ground fulcrum for the bucket during



this operation so that a powerful uplift can be exerted on the lip of the bucket without tending to lift the other end of the vehicle. After the bucket has broken out of the pile, the boom is capable of lifting the load.

3,385,461

**REUSABLE CONTAINER**

Sidney Mallin, 236 Kingston, Row, Winnipeg, Manitoba, Canada

Filed May 10, 1967, Ser. No. 637,532  
4 Claims. (Cl. 215—1)



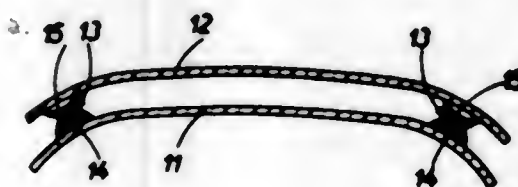
This invention relates to reusable containers in which the central portion is reduced in dimensions from the upper and lower portions thereof. When desired to reuse the container, the upper portion is severed from the central portion and engaged thereover or, alternatively, the lower portion of one of said containers is severed therefrom and then engaged over the central portion of another container which has had the upper portion removed.

3,385,462

**SHEET PACKING ARRANGEMENT**

Léon Deldime, Brussels, André Algrain, Uccle, and Gérard Fabry, Jumet, Belgium, assignors to Glaverbel S.A., Brussels, Belgium

Filed Dec. 7, 1966, Ser. No. 599,838  
Claims priority, application Luxembourg, Dec. 17, 1965, 50,094  
6 Claims. (Cl. 214—10.5)



Fragile sheets, such as glass, which are flat or curved are held safely together in a stack. Adjacent sheets are separated by a number of resilient spacers.

**ERRATUM**

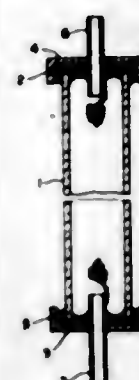
For Class 215—1 see:  
Patent No. 3,385,461

3,385,463

**ALKALI METAL VAPOR LAMP**

Horst Lange, Berlin, Germany, assignor to Patent-Treuhand-Gesellschaft für Elektrische Glühlampen m.b.H., Munich, Germany

Filed Feb. 24, 1966, Ser. No. 529,792  
Claims priority, application Germany, Mar. 11, 1965, P 36,261  
7 Claims. (Cl. 220—2.3)



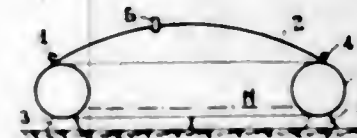
An alkali metal vapor lamp having an envelope of light-transmissive, sintered, aluminum oxide, closed at its ends by electrode and lead-in conductor carrying metallic end caps, preferably of niobium. The end caps are sealed to the aluminum oxide envelope by interposing therebetween a sealing composition composed of at least 90% by weight of aluminum oxide and not more than 10% by weight of one or more other metallic oxides selected from the group comprising magnesium oxide, beryllium oxide, calcium oxide, strontium oxide, barium oxide and gallium oxide. The associated envelope, sealing composition and end caps are subjected to a temperature of 1900° C. for from 1 to 2 minutes to produce a homogeneous, mechanically and thermally stable seal between the end caps and the envelope.

3,385,464

**IMMERSIBLE TANK WITH BALLAST MEANS FOR ITS TRANSPORT AND IMMERSION**

Jean Courbon, Paris, France, assignor to Societe d'Etudes et d'Equipements d'Entreprises, société anonyme, Paris, France

Filed Mar. 21, 1966, Ser. No. 535,776  
Claims priority, application France, Apr. 20, 1965, 13,833, Patent 1,440,762  
5 Claims. (Cl. 220—13)



An immersible tank for the storage of lighter-than-water liquid comprises a tubular peripheral fluid-tight caisson divided into several compartments and a rigid cupola overlying the caisson and firmly connected to it at its perimeter. The caisson may be circular, oval or polygonal in cross section and in plan. The cupola is generally dome shaped. The tank is floated to its location and then immersed. The caisson is preferably supported by legs so as to be spaced from the bottom.

3,385,465

**CANISTER SET**

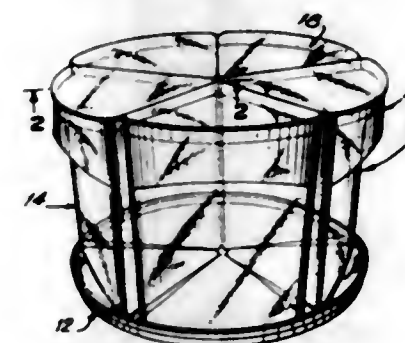
Beatrice Bliss, P.O. Box 47607

Los Angeles, Calif. 90047

Filed Dec. 16, 1966, Ser. No. 602,341  
8 Claims. (Cl. 220—23.4)

A set of canisters, each canister having a container portion of substantially triangular horizontal cross-section and a handle portion of substantially arcuate horizontal cross-section, whereby an assembly of the set of canisters has a

horizontal cross-section through the container portions of a regular polygon and a horizontal cross-section through the handle portions of a circle having substantially the



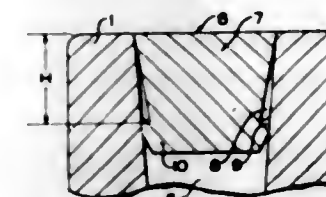
same diameter as the polygon. Each handle portion includes an upwardly directed digit receiving recess. The set may be disposed on a rotatable tray having substantially the same diameter as the polygon.

3,385,466

**MEANS FOR CLOSING CORE PIN HOLES**

Thomas A. Hook, Silver Spring, Md., and Dale A. Chovan, Trafford, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Original application Sept. 29, 1964, Ser. No. 400,050, now Patent No. 3,325,891, dated June 20, 1967. Divided and this application Dec. 19, 1966, Ser. No. 602,747  
7 Claims. (Cl. 220—24)



A metallic plug, for closing a core pin hole in a die casting, having two truncated cone portions of unequal length which are integrally joined in tandem relationship with the larger diameter end of the shorter truncated cone portion adjacent the smaller diameter end of the longer truncated cone portion, the larger diameter of the two cone portions being substantially the same.

3,385,467

**PLUG FOR GALVANIC ELEMENTS, AND PARTICULARLY FOR STORAGE BATTERIES**

Hans-Georg Lindenberg, Hannover-Stoecken, Germany, assignor to Varta Aktiengesellschaft, Hagen, Westphalia, Germany, a corporation of Germany

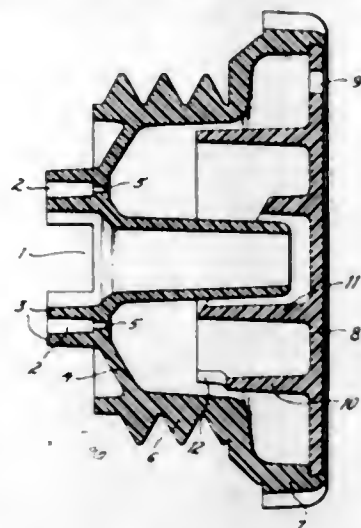
Filed Sept. 14, 1965, Ser. No. 487,112  
Claims priority, application Germany, Sept. 19, 1964, V 16,731

14 Claims. (Cl. 220—44)

The invention provides a plug or cap for a container, for example, a galvanic cell or storage battery, which contains a liquid, for example, an electrolyte, from which a gas or a vapor is evolved. The plug is internally constructed so that gas which bears entrained liquid escapes first into a broad frusto-conical gas inlet opening and then is channeled through a plurality of narrow conical annular passages of varying heights and, in some embodiments, passages of additionally varying widths, before escaping from the battery through a vent opening in a top surface plate of the plug, while being scrubbed through films of the liquid in the narrow passages. The liquid so separated drains under capillary action back into the container through a pair of superposed narrow drain passages adjacent to the bottom of the frusto-conical gas



inlet. The passages provide regions of variable impedance to the gas flow and the liquid films in the passages provide



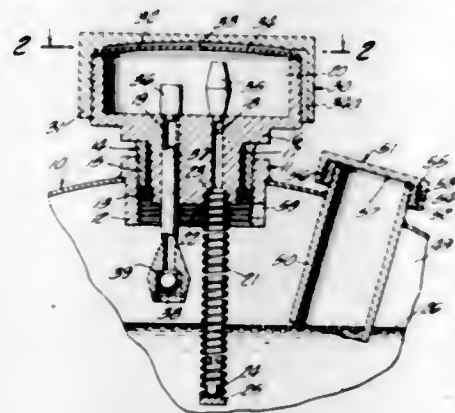
highly efficient gas scrubbing action. Evaporation of liquid from the container is simultaneously greatly reduced.

3,385,468

**SAFETY VENT FOR VEHICLE GASOLINE TANK**  
Robert I. Fleming, Newport Beach, and Howard M. Froby, Lynwood, Calif., assignors to Fleming Metal Fabricators, Los Angeles, Calif., a corporation of California

Continuation-in-part of application Ser. No. 472,268, July 15, 1965. This application Dec. 2, 1966, Ser. No. 598,652

7 Claims. (Cl. 220—44)



1. In a vehicle gasoline tank assembly, the combination of: a tank, a member secured to the upper portion of the tank and communicating with the interior thereof, means on said member providing a vent passage from the tank, said means including a downward facing seat and a ball adapted to contact the seat to close the vent passage in the event of overturn of the tank, a flexible coil spring secured at its upper end relative to said seat and extending into the interior of the tank, the ball being positioned and guided for movement within the coils of the spring, and means at the lower end of the spring for retaining the ball within the spring, whereby motion of the vehicle and tank causes swinging movement of the lower end of the spring to prevent lifting of the ball into contact with the seat by motion of the vehicle and tank.

3,385,469

**NUT AND PRE-TENSIONED BOLT APPARATUS AND METHOD OF ASSEMBLY THEREOF FOR SECURING MEMBERS TOGETHER**

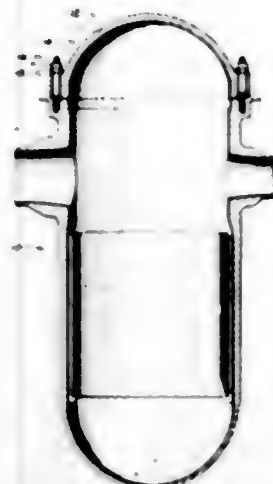
Albert L. Gaines, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed July 22, 1966, Ser. No. 567,124

4 Claims. (Cl. 220—55)

1. In combination, a pressure vessel having an opening therein, closure means for covering the opening, bolt

means and associated nut means for securing the closure means to the pressure vessel, there being at least two nut means associated with each bolt means, means exerting a pretensioning force for pretensioning the bolt means during assembly of the bolt means and nut means, the pretensioning force being great enough such that there would be interference between the threads of the bolt means



and nut means if only one nut means were associated with each bolt means during application of the pretensioning force, the number of nut means associated with each bolt means being such that they are capable of withstanding the force exerted by the pressure within the pressure vessel, and also such that there is no interference of the threads of the bolt means and nut means during assembly thereof.

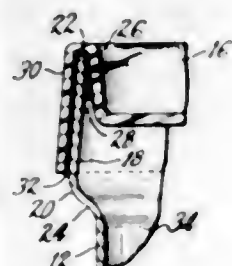
3,385,470

**CONTAINERS**

Adolph S. Dorosz and John E. Walsh, Beverly, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed Jan. 21, 1966, Ser. No. 522,245

14 Claims. (Cl. 220—67)



1. In a container the combination of a tubular body and an end closure of synthetic polymeric material, the tubular body having a tapered end portion located between a knee portion provided in the container body and an end opening, the closure including a projecting skirt having an angle of projection essentially complementary to the angle of taper of the tapered end portion and said skirt adhesively attached in overlying relationship to said tapered end portion.

3,385,471

**PULL-TAB CONNECTION**

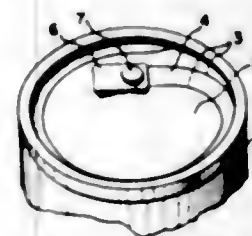
Lloyd G. Dunn, Lower Burrell, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Nov. 25, 1964, Ser. No. 413,875, now Patent No. 3,357,388, dated Dec. 12, 1967. Divided and this application May 26, 1967, Ser. No. 641,680

2 Claims. (Cl. 220—54)

A method of securing a container opening tab to a container member by forming a convergent boss in the metal container member, placing an imperforate portion

of a metal opening tab over the boss, supporting the interior of the boss, and pressing the tab and boss together to reduce the boss axially and induce outward flow of



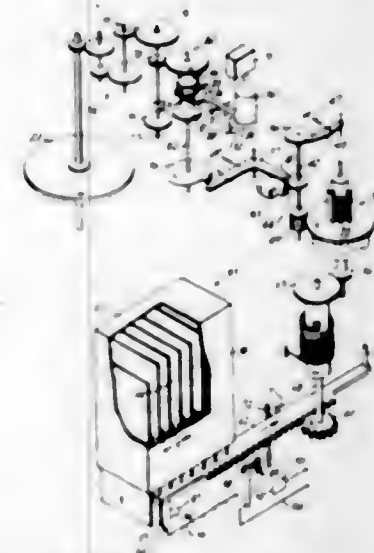
the metal of both thereby reversely folding the peripheral portions of both metal sheets to form a double hollow headed rivet.

3,385,472

**ENERGY CONSUMPTION METERING AND INVOICING MEANS**

Carlo Meyer, Zug, Switzerland, assignor to Electrometre SA, Zug, Switzerland, a body corporate of Switzerland  
Continuation of application Ser. No. 497,710, Oct. 19, 1965. This application May 24, 1966, Ser. No. 552,638  
Claims priority, application Switzerland, Apr. 27, 1961, 4,928/61

13 Claims. (Cl. 221—91)



1. Apparatus for charging for the consumption of a flowing medium by a consumer installation connected to a supply network for the medium, comprising consumption measuring means connected between said network and said consumer installation and means coupled to said measuring means for automatically issuing bills identifying said consumer installation upon the expenditure of a predetermined monetary amount representing the consumption of said medium in accordance with at least two tariffs, said bill issuing means comprising a plurality of translating means, one of said translating means being responsive to and translating the output of said measuring means in accordance with one of said tariffs, control means responsive to said one translating means, and bill release means responsive to said control means and adapted to release said bills in succession, each bill being issued upon expenditure of said predetermined monetary amount.

3,385,473

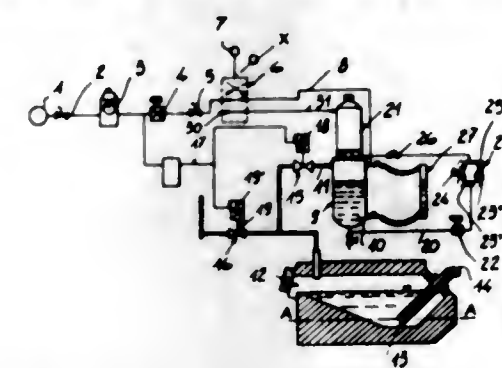
**DEVICE FOR DELIVERING METERED AMOUNTS OF MOLTEN METAL, BY MEANS OF A VARIABLE CAPACITY AIR- OR OTHER GAS-CONTAINER**  
Guido Oppl Forcisi, Corso Matteotti 11, Milan, Italy

Filed Sept. 22, 1965, Ser. No. 489,348

10 Claims. (Cl. 222—23)

A device for delivering a liquid product out of a delivery container means. The delivery container means

delivers the liquid product in response to the action of a gas under pressure on the surface of the liquid product. An indicating container means contains an indicating liquid the level of which will indicate the level of the liquid product, and within the indicating container means over the indicating liquid therein there is a body of gas under pressure which urges the indicating liquid out of the indicating container means. A connecting conduit means communicates with both of the container means to place the body of gas under pressure in communication with the liquid product so that the one body of gas under



pressure acts on both liquids. A discharge control means communicates with the indicating liquid to provide for the latter a controlled rate of discharge from the indicating container means which will situate the level of the indicating liquid at an elevation which accurately indicates the level of the liquid product. In this way it becomes possible to know the level of the liquid product without requiring any structure to engage the liquid product directly for indicating the level thereof, and thus it becomes possible to handle in a highly convenient manner liquid products such as molten metals, for example.

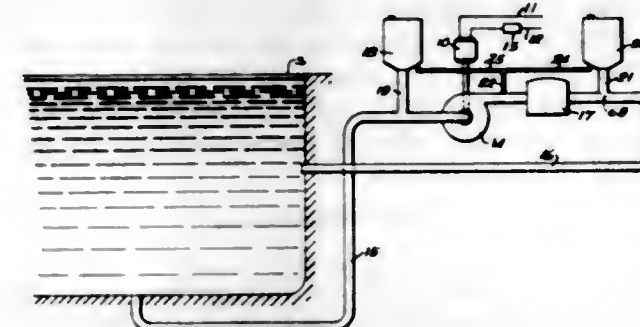
3,385,474

**APPARATUS FOR AUTOMATICALLY INTRODUCING CHEMICAL CONCENTRATES INTO SWIMMING POOLS**

Forrest A. Roby, Jr., 4920 Fillmore St., Hollywood, Fla. 33021

Continuation-in-part of application Ser. No. 426,005, Jan. 18, 1965. This application Feb. 9, 1967, Ser. No. 614,870

9 Claims. (Cl. 222—57)

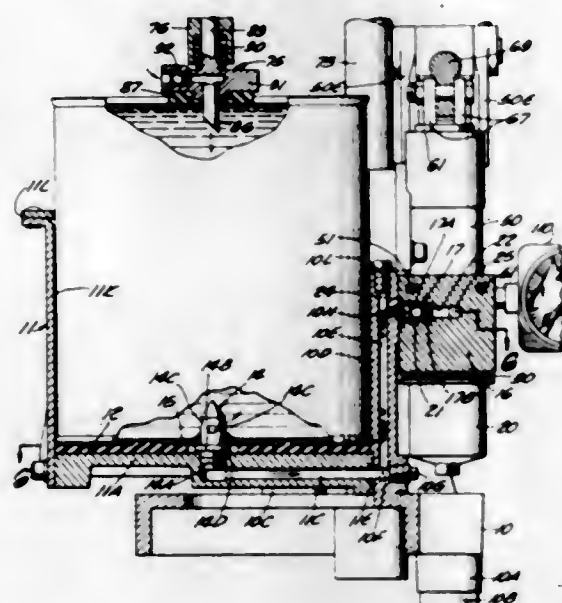


9. In apparatus for automatically dispensing discrete amounts of chemical concentrates into a swimming pool filter circulatory system including a series-connected water pump and filter in that order along the path of water flow, the combination comprising, first and second chemical concentrate adding units, a first vertical conduit member communicating with the input conduit leading to the water pump, a second vertical conduit member communicating with the output conduit leading from the filter, said first chemical concentrate adding unit being fitted over said first vertical conduit member for discharging chemical therethrough and into said filter circulatory system, said second chemical concentrate adding unit being fitted over said second conduit member for discharging chemical therethrough and into said filter circulatory system, said chemical concentrate adding units each comprising pressure-actuated mechanism for



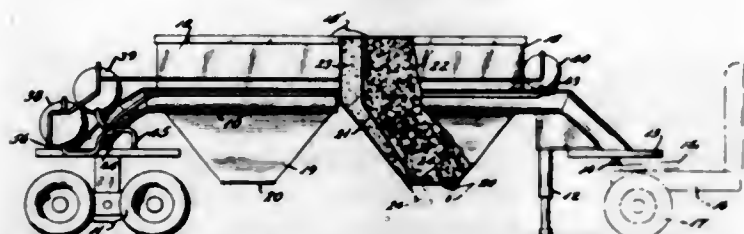
dispensing discrete amounts of chemical into their respective vertical conduit members, and pressure supply conduit means communicating between the output side of the water pump and said dispensing mechanism for supplying water under pressure, upon operation of the pump, for actuating said dispensing mechanism.

**3,385,475**  
**CONTAINER PUNCTURING ASSEMBLY ASSOCIATED WITH A PUMP AND CHECK-VALVE MEANS**  
Wallace D. Loe, Escondido, Calif., assignor to Loe Industries, a corporation of California  
Filed Oct. 22, 1965, Ser. No. 502,099  
6 Claims. (Cl. 222-83.5)



Manually operated apparatus in which a closed can may be placed for piercing such that its fluid contents, then vented to the atmosphere through filter means, may be pumped by a manually operated pump, through a fluid channel which includes a filter element, into the hydraulic system of aircraft to replenish the same. Such filter element is on the suction side of the pump and includes means whereby removal of the filter element results in automatic sealing of such fluid channel from the atmosphere. A check valve is interposed in such fluid channel between the outlet of the pierced can and the inlet to the filter element and a removable plug is placed in the fluid channel between the check valve and the filter inlet such that the plug may be removed and connections made to recirculate fluids through the filter element by such pump without contaminating the fluid remaining in the pierced can.

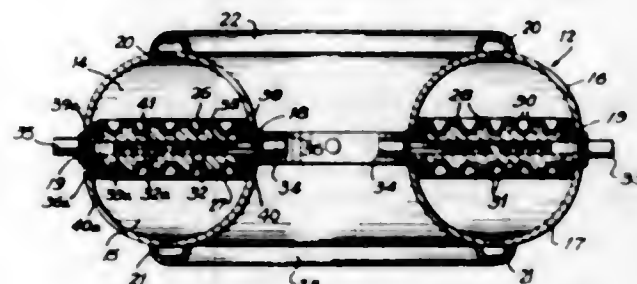
**3,385,476**  
**APPARATUS FOR DELIVERING READY FOR MIXING PROPORTIONED INGREDIENTS OF CONCRETE**  
William L. Young, P.O. Box 96, Macon, Ga. 31202  
Filed July 13, 1966, Ser. No. 564,995  
3 Claims. (Cl. 222-134)



Apparatus for delivering pre-proportioned amounts of ingredients for making cement and including a vehicle for transporting the ingredients to a mixing site and a transfer

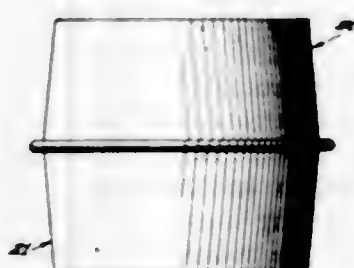
vehicle with a conveyor for removing the materials from the transporting vehicle to a mixer. The transporting vehicle has a hopper with an auxiliary compartment and a flexible member which is collapsed by the material in the hopper for keeping the materials separated until discharged at which time such materials will be discharged simultaneously.

**3,385,477**  
**DIAPHRAGM FOR EXPELLING LIQUIDS FROM ANNULAR TANK**  
Roger A. Chevalaz, Rockaway, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa.  
Filed Nov. 25, 1966, Ser. No. 596,853  
9 Claims. (Cl. 222-136)



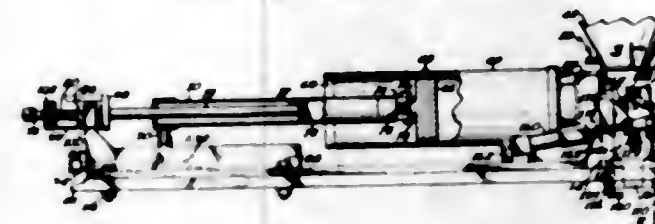
This disclosure is directed to an apparatus for expelling liquid from an annular tank having a convex casing with a diaphragm at its base and formed with concentric corrugations having a surface area equal to the surface area of the convex tank when expanded by a motive fluid and with circular wires connected to the corrugations to control its movement during expansion. In the illustrated construction the tank is in the form of a torus with a pair of medially located corrugated diaphragms arranged back to back for expelling bi-propellant liquids from opposite tanks to the combustion chamber of a rocket engine.

**3,385,478**  
**FERTILIZER PLANT**  
Donald L. Miller, 701 12th St. N., Benson, Minn. 56215, and James H. Paul, Atlanta, Ga. (2438 Tanglewood Road, Decatur, Ga. 30033), and Sherman W. Kavanaugh, Benson, Minn.; said Kavanaugh assignor to said Miller and said Paul  
Filed Oct. 23, 1965, Ser. No. 503,145  
3 Claims. (Cl. 222-143)



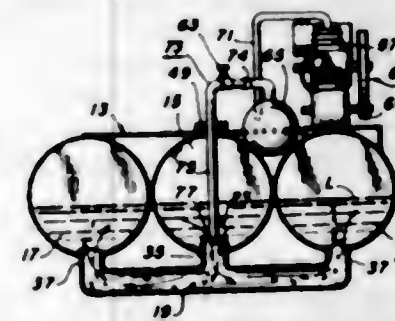
A fertilizer plant which may be readily and efficiently moved from location to location without the loss of materials and with minimum handling cost. Standardized transport containers are used for the transportation and distribution of large fertilizer quantities. The transport containers are rigid and weatherproof and have tapered side walls which permit internal or telescope stacking of empty containers and which is provided with a dispensing port and associated gate means which is recessed within the container wall to eliminate interference during stacking of empty containers. A spreader device is provided to utilize the standardized containers for spreading fertilizer materials on a use location. Also, a blender or mixer is provided which is adapted to receive a number of standardized transport containers and which blends or mixes the contents of these containers in the desired ratio.

**3,385,479**  
**ANTI-DRIP ATTACHMENT FOR VISCOUS MATERIAL DISPENSER**  
Clarence G. Austin, Jr., and Howard R. Garrett, Woodstock, Ill., assignors to The Pre-O-Form Corporation, Warsaw, Ind., a corporation of Indiana  
Filed Aug. 25, 1966, Ser. No. 575,039  
6 Claims. (Cl. 222-309)



A filling and dispensing mechanism for viscous materials which includes a constant-volume measuring device associated through a diverting valve with a storage hopper and an antidrip valve in the outlet of the diverting valve to control dispensing and prevent drip of the material after the dispensing operation is completed. The diverting valve in one position controls a flow passage from the hopper to the constant-volume measuring mechanism and in a second position provides an outlet from the constant volume measuring position through an outlet spout which includes the antidrip valve. The latter is opened whenever the diverting valve connects the constant volume measuring chamber to the outlet spout and closes the passage to the hopper. The structure includes a single means for operating the same and the antidrip valve is formed to be a deformable spout and the pivoted roller mechanism which rolls on the deformable spout to seal the same.

**3,385,480**  
**LIQUID MIXING AND DISPENSING APPARATUS**  
John H. Tidwell, Memphis, Tenn., assignor of fifty percent to Walter H. Helling, Memphis, Tenn.  
Filed June 15, 1967, Ser. No. 646,291  
3 Claims. (Cl. 222-318)

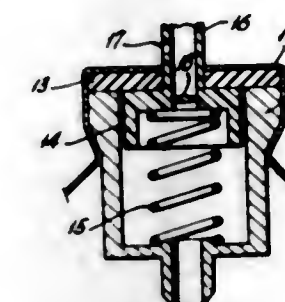


Apparatus for mixing and dispensing liquids such as insecticide liquid, including at least two closed compartments, at least two separate passageways communicating the lower levels of the compartments and compressed air jet means directed into one of the passageways for causing liquid in one compartment to flow in the other compartment and the liquid to return under the force of gravity to the first-mentioned compartment—such action for causing the liquid to move in a continuous circular flow into and out of the compartments. Such actions being useful for mixing a liquid or powder insecticide concentrate with water or a base liquid—the mixing action also being adapted to be carried out while spraying or dispensing the insecticide material.

**3,385,481**  
**SAFETY VALVE FOR AEROSOL CONTAINERS**  
John Frangos, Brooklyn, N.Y., assignor to Revlon, Inc., New York, N.Y., a corporation of Delaware  
Filed Aug. 12, 1966, Ser. No. 572,086  
4 Claims. (Cl. 222-396)

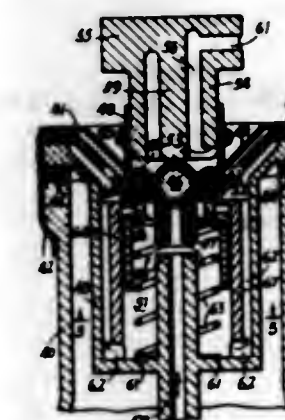
A valve for dispensing pressurized fluids from a container through a valve stem which extends from said

container and is supported by a valve core within the container, said valve core having a frangible pressure-rupturable segment integral therewith formed by atten-



uating the valve core thickness in portions beneath said valve stem and adapted to rupture at a predetermined pressure value to relieve excess pressure.

**3,385,482**  
**METERED VALVE**  
John Frangos, Brooklyn, N.Y., assignor to Revlon, Inc., New York, N.Y., a corporation of Delaware  
Filed July 11, 1966, Ser. No. 564,363  
3 Claims. (Cl. 222-402.2)



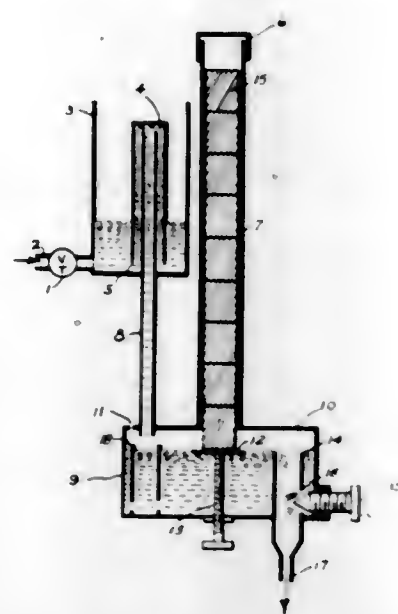
A metered valve for an aerosol container, said valve comprising a valve body having a chamber therein in direct communication with the container interior and discharging to the atmosphere through a channel from lower portions thereof, whereby propellant gases in said chamber are discharged only after heavier fluids, said valve further having flexible gasket means first sealing off said chamber from communication with the container interior before establishing communication between said chamber and the atmosphere when an actuator is depressed to open said valve.

**3,385,483**  
**CHEMICAL FEEDERS**  
Martin E. Gilwood, 33 Braeburn Drive, Princeton, N.J. 08540  
Continuation of application Ser. No. 355,309, Mar. 27, 1964. This application July 21, 1966, Ser. No. 573,436  
10 Claims. (Cl. 222-416)

This invention relates to chemical feeders and the method of feeding chemicals which provide controlled dissolution of briquetted chemicals in a liquid solvent. The briquetted chemicals are mounted vertically on a support platform in a dissolving chamber. The support platform is located at an elevation below an overflow outlet in the dissolving chamber. A regulated flow of solvent is supplied continuously to a measuring chamber which is provided with a siphon conduit leading to the dissolving chamber. The solvent contents of the measuring chamber are periodically discharged through the siphon conduit periodically raising the solvent level in the dissolving chamber sufficiently to contact the supported briquetted chemicals and dissolving a portion of the briquet-

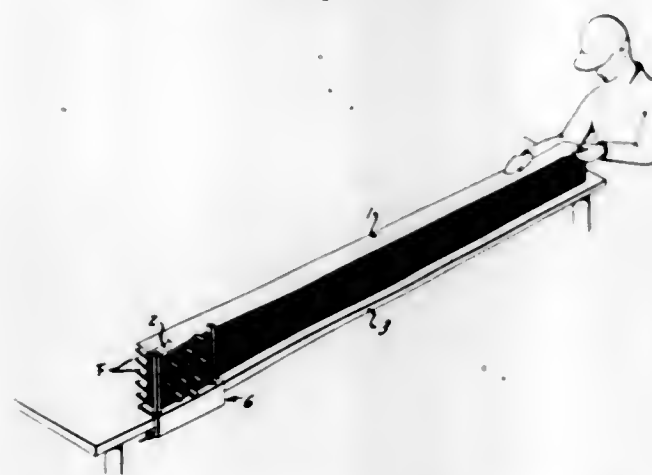


ted chemicals. The period of contact of solvent with portion of the bag, so that the bag is automatically self-chemicals is controlled by adjusting the rate of draining adjusting to the shape of the garment without stretching



solvent through a secondary outlet from the dissolving chamber, located below the briquette support platform.

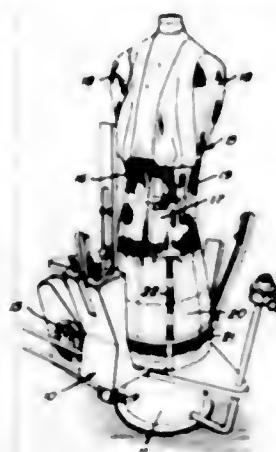
**3,385,484**  
**METHOD OF FOLDING DRAPERY**  
Ivalyn C. Therkildsen, 565 Worley Ave.,  
Sunnyvale, Calif. 94086  
Filed Oct. 16, 1963, Ser. No. 316,661  
2 Claims. (Cl. 223—37)



A pleated drapery panel is folded by providing upright pleat grasping members on a substantially horizontal work surface, and successively grasping pleated portions in upright relationship and forming overlying accordion folds between the pleated portions along the length of the panel.

**3,385,485**  
**GARMENT FINISHING MACHINE WITH FLUID CONTROL CASING AND MESH TYPE BAG**  
Alfred Aloï, 116 Old Bergen Road,  
Jersey City, N.J. 07605  
Filed Feb. 16, 1967, Ser. No. 616,515  
2 Claims. (Cl. 223—70)

A garment finishing machine having a frame supporting a bag on which a garment to be finished is positioned, and also having an outlet for pressurized fluid such as air or steam in the lower portion of the frame. A casing is provided around the fluid outlet for directing the fluid upwardly into the upper portion of the bag, and the lower portion of the bag has areas of open mesh material through which the pressurized fluid may escape outwardly after being diverted downwardly from the upper



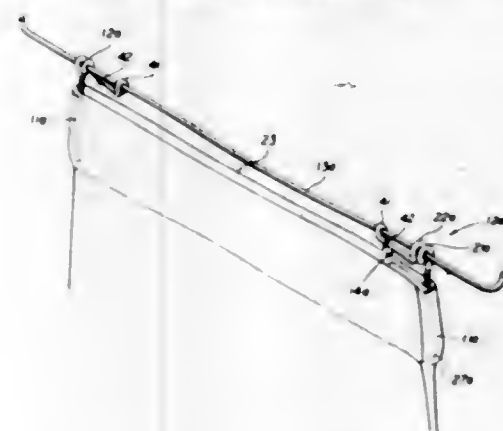
the latter and without the use of mechanical bag constrictors.

**3,385,486**  
**HANGER FOR PRE-TIED NECKTIES**  
Meryle J. Finan, 309 N. 14th St.,  
Kansas City, Kans. 66102  
Filed May 25, 1964, Ser. No. 369,895  
2 Claims. (Cl. 223—87)



A hanger for a pre-tied necktie having a hook at the knot thereof, said hanger comprising a vertical shank having at its lower end a horizontal cross bar over which the necktie hook may be engaged, and a backstop adjacent the cross bar whereby the necktie hook can be engaged over said cross bar, or removed therefrom, only by manually tilting said hook out of the position in which it is normally held by the weight of the necktie itself.

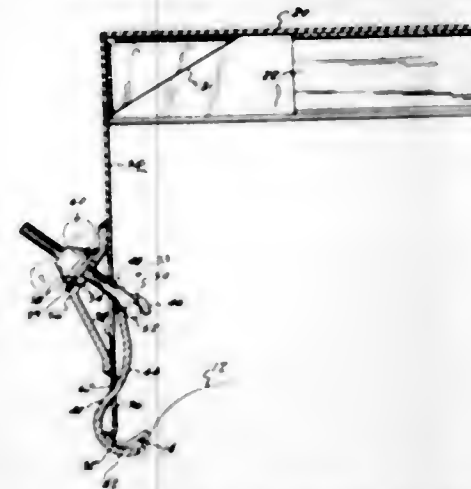
**3,385,487**  
**GARMENT HANGER**  
Charles H. King, Oakland, Calif., assignor of  
one-half to Marguerite V. West  
Filed May 31, 1966, Ser. No. 553,760  
1 Claim. (Cl. 223—95)



A garment hanger of the conventional wire form is provided with a pair of depending wire members slidably mounted on the normally horizontally disposed garment supporting wire in an arrangement wherein the depending wire members may be manually slid away from each other internally of the waistband or cuff of a garment and will

automatically lock in such position to support the garment.

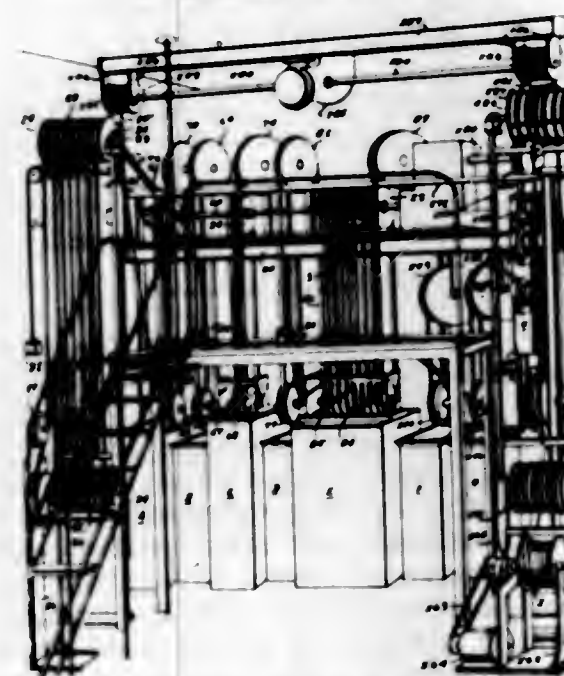
**3,385,488**  
**CLAMPING DEVICE**  
Joseph Bronson, 15397 Cruise, Detroit, Mich. 48227  
Filed Mar. 31, 1967, Ser. No. 631,569  
11 Claims. (Cl. 224—42.1)



A clamping device for mounting a carrier structure above the roof of an automotive vehicle. The clamping device includes a pair of interconnected clamping members arranged for attachment to the rain gutter formed along a lateral side of the roof of the vehicle.

A plate-like, upright support member has a lower edge seated in the trough of the rain gutter and an upper portion adapted for attachment to the carrier structure. A strap-like clamping member has a hook portion engageable with the lower surface of the rain gutter. The shank of the hook extends around the lateral edge of the rain gutter and upwardly through an aperture in the upright member. The back of the shank has an arcuate surface bearing against the upper edge of the aperture so that the hook clamping portion is cammed from a release position, laterally spaced with respect to the rain gutter, toward a clamping position when an upward clamping force is applied to the upper end of the shank.

**3,385,489**  
**METHOD AND MEANS FOR HANDLING FLEXIBLE STRIP MATERIAL**  
John Thomas Schreck, Jr., Greensboro, and Clifton Eugene Lemons, McLeansville, N.C., assignors to AMP Incorporated, Harrisburg, Pa.  
Filed Apr. 1, 1966, Ser. No. 539,446  
17 Claims. (Cl. 226—4)



A method and means for plating flexible strip material by which the strip material is handled through the se-

quential plating treatment stations in serially arranged looping configurations oriented transversely with respect to the direction of progress so that the strip material is made to follow a spiral-like path with resulting exceptional compactness in the plating line arrangement and improved high-speed operating capability.

**3,385,490**  
**CONVEYING WEB OR SHEET MATERIAL**  
Bo Malmgren and Henry Pehrson, Vaxjo, Sweden,  
assignors to Aktiebolaget Svenska Flaktfabriken,  
Stockholm, Sweden  
Filed July 7, 1966, Ser. No. 563,422  
Claims priority, application Sweden, July 8, 1965,  
9,001/65  
7 Claims. (Cl. 226—7)



Apparatus for supporting, transporting and guiding material in web or sheet form comprising a pair of elongated laterally-spaced pressure chambers underlying the path of travel of the material, their upper surfaces forming a guide plane. The guide plane has at least three lines of openings parallel to the direction of travel of the material. The outer two lines are supply openings from the pressure chambers and the intermediate line is discharge openings so as to direct gaseous medium in currents parallel to and between the guide plane and the material at an angle between 0° and 60° to the lines of openings. The currents produce frictional forces upon the material to be conveyed having components in the direction of conveyance. Preferably, the components perpendicular to the direction of conveyance balance each other.

**3,385,491**  
**APPARATUS FOR FEEDING FIBERS**  
Jerry N. Helms, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Filed July 13, 1966, Ser. No. 564,853  
2 Claims. (Cl. 226—25)



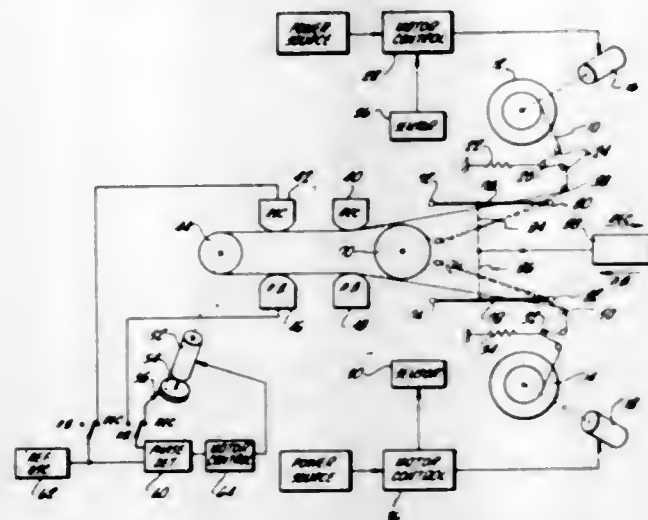
1. In an apparatus for feeding tow to a staple cutter under controlled tension comprising a tension compensator for maintaining a constant tension on the tow, a tow-turning roll for guiding the tensioned tow to the staple cutter and adjustable tension bars between the tension compensator and the tow-turning roll for increasing the



tension on the tow; tachometer generator means for providing an output voltage proportional to the speed of the tow-turning roll, and control means for adjusting the tension bars to alter the tension on the tow in linear relationship with the output of the tachometer generator.

3,385,492

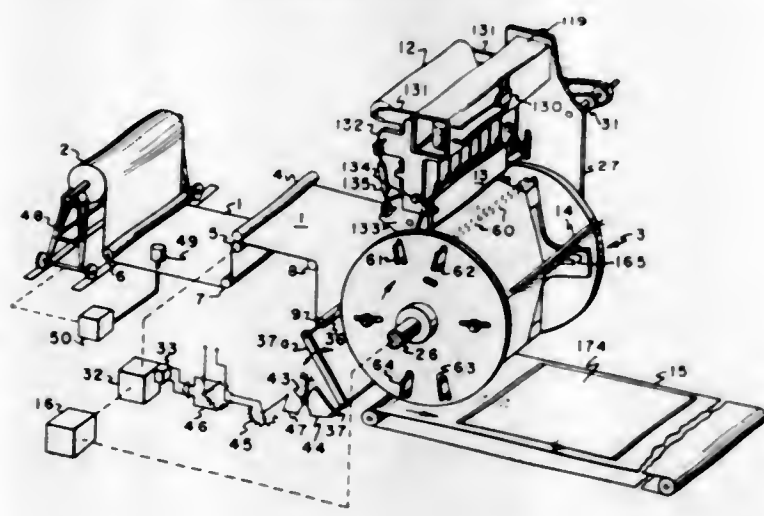
**BIDIRECTIONAL TAPE TRANSPORT**  
Abraham Brand, Van Nuys, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California  
Filed Feb. 21, 1966, Ser. No. 528,729  
4 Claims. (Cl. 226-39)



There is described a magnetic tape transport in which the tape is directed in an elongated loop extending at its closed end around a capstan. A fly wheel is positioned inside the loop and spaced from the capstan, and means is provided for urging the tape on both sides of the loop into contact with the fly wheel. The heavy fly wheel provides a low pass filter between the capstan and the tape reels. The capstan is driven by a low inertia servosystem which removes low frequency fluctuations in the tape drive while the fly wheel removes high frequency flutter from the tape drive.

3,385,493

**APPARATUS TO CONTROL THE SPEED OF A FABRIC HANDLING MACHINE**  
Norman E. Klein, Inman, and Charles A. Wethington, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware  
Original application Mar. 2, 1964, Ser. No. 348,469.  
Divided and this application Feb. 9, 1967, Ser. No. 614,997  
4 Claims. (Cl. 226-42)



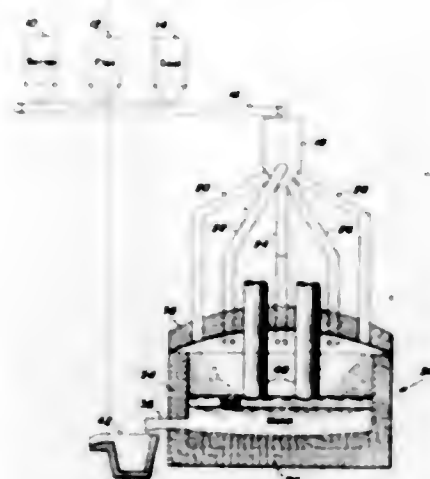
Fabric handling machine which measures the depth of a loop in the fabric being supplied to the machine to speed

up or slow down the machine depending on the depth of the loop.

3,385,494

**SCRAP MELTING**

Nickolas J. Themelis, Beaconsfield, Quebec, Canada, and Leonard E. Olds, Grand Island, N.Y., and Murray C. Udy, deceased, late of Niagara Falls, N.Y., by Mary S. Udy, executrix, Niagara Falls, N.Y., assignors to Strategic Material Corp., Niagara Falls, N.Y., a corporation of New York  
Filed Sept. 15, 1966, Ser. No. 579,790  
10 Claims. (Cl. 75-10)

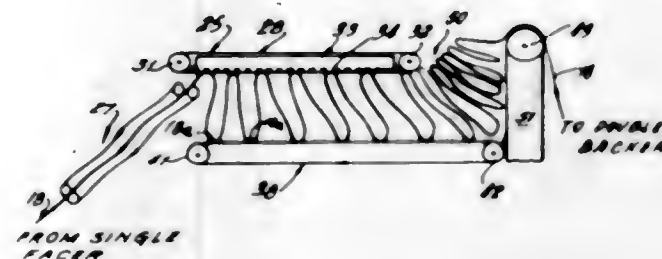


Finely divided scrap and sponge materials are difficult to melt, because of the tendency to oxidize. In this process, an electric furnace is used with a thin slag layer, and the electrodes are adjusted for slag resistance heating with little or no arcing. The metal scrap is evenly banked around the side of the furnace, floating on the slag, and heat from the slag melts the metal quickly and efficiently. The metal passes through the slag and forms a molten pool thereunder.

3,385,495

**WEB STORAGE MEANS**

Albert F. Shields, 43 Exeter St., Forest Hills, N.Y. 11375  
Filed July 25, 1966, Ser. No. 567,533  
10 Claims. (Cl. 226-95)



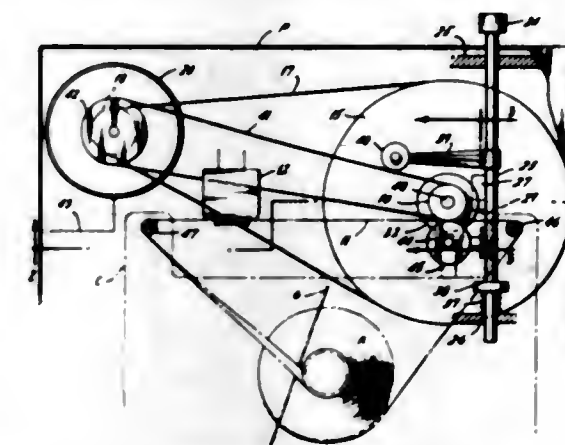
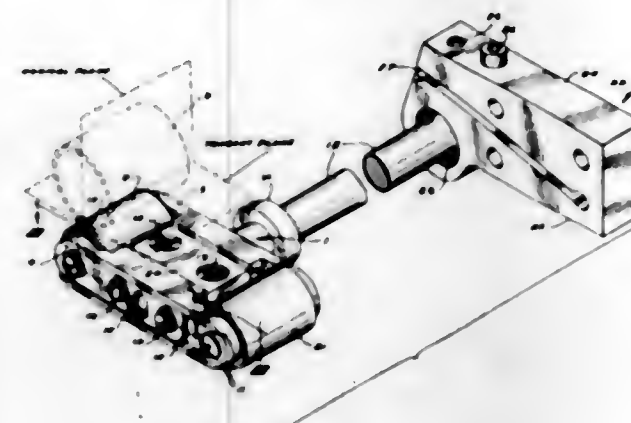
1. Storage apparatus for material in the form of a moving web including a first conveyor, a second conveyor positioned below said first conveyor, said first and second conveyors including respective first and second web engaging sections, said sections being generally horizontal and disposed in spaced confronting relationship, an input conveyor at the rear of said apparatus, said input conveyor delivering a web entering said apparatus to said first section, suction means acting through said first section to support a web after delivery thereof by said input conveyor to said first section, driving means moving said first section forward at a speed sufficiently slower than the speed of said input conveyor whereby a

web leaving said input conveyor forms loops moving toward the front of said apparatus with lower tips of said loops supported by said second section and upper tips of said loops supported by suction applied through said first section.

3,385,496

**DYNAMIC TAPE SKEW CORRECTION**

Walter Gysling, Minneapolis, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota  
Filed June 22, 1966, Ser. No. 559,453  
2 Claims. (Cl. 226-177)

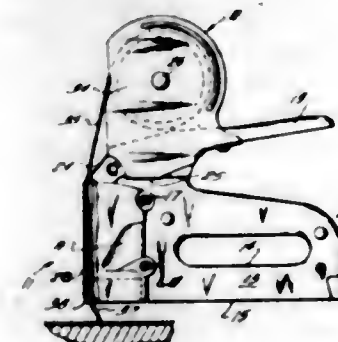


means renders either the flywheel or the second transmission belt effective to drive the capstan.

3,385,498

**TAB DISPENSER FOR STAPLE GUN**

William Downie, 6 Stern Place, Valley Cottage, N.Y. 10989  
Filed June 13, 1967, Ser. No. 645,742  
10 Claims. (Cl. 227-18)



1. A tape transport apparatus for directing moving tape in a positive path past a capstan, comprising:

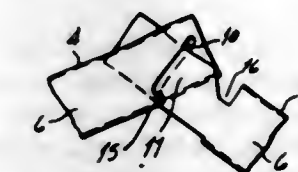
- a rotatable roller having a periphery adapted to form a nip with the periphery of the capstan such that tape passes between the capstan and the roller at the nip, the roller having first and second ends located at opposite ends of the axis of rotation of the roller,
- a support means having first and second arms, the first arm rotatably connected to the first end of the roller at a first support point located at the first end of the roller,
- a sliding member slidably engaged by the second arm, said sliding member rotatably connected to the second end of the roller at a second support located at the opposite end of the axis of rotation of the roller, the sliding member disposed to control the relative location of the second support point with respect to the first support point in a plane tangent to the peripheries of both the capstan and the roller at the nip,
- a first adjusting means operatively connected to the sliding member to adjust the relative location of the second support point with respect to the first support point in the tangent plane,
- a second adjusting means operatively connected to the support means to independently adjust the location of the support points in a plane normal to a tangent to the peripheries of both the capstan and the roller at the nip.

The present invention is directed to a tab dispenser for conventional hand staple guns and is comprised of a combination of a staple gun, a tab tape dispensing magazine, a tab tape guide and re-enforcing tabs. The magazine is mounted on the staple gun and the guide is mounted on the front of the gun. The tab tape passes from the tab tape dispensing magazine through the tab tape guide and is fed into the work as the user operates the actuating handle.

3,385,499

**REINFORCING BAND FOR CONTAINERS**

John E. Hunkins, 7110 Waterman, University City, Mo. 63130  
Filed Jan. 3, 1967, Ser. No. 607,065  
7 Claims. (Cl. 229-5.7)



A reinforcing band of split character having a wall portion for disposition against the wall of a container and an end flange for disposition against the adjacent end surface of the container, with the ends of said band being of cooperating male and female character; the said ends being so designed as to cause the male member to be swung through an arc of approximately 45° for effecting snug interlock, with detent means preventing disengagement through circumferentially applied forces.

3,385,497

**DRIVE MEANS, PARTICULARLY FOR TAPE PLAYERS**

Orlando Taraborrelli, Bryn Mawr, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware  
Filed Mar. 16, 1966, Ser. No. 534,722  
5 Claims. (Cl. 226-178)

Dual-speed drive for a flywheel-stabilized single-reel cartridge tape player. In the new apparatus, a single motor provides the dual-speed drive, including the required relatively low playing speed, stabilized by flywheel action, and a fast rewind speed. Two belt transmissions are provided, actuated by separate pulleys on the single motor output shaft. One transmission belt engages the



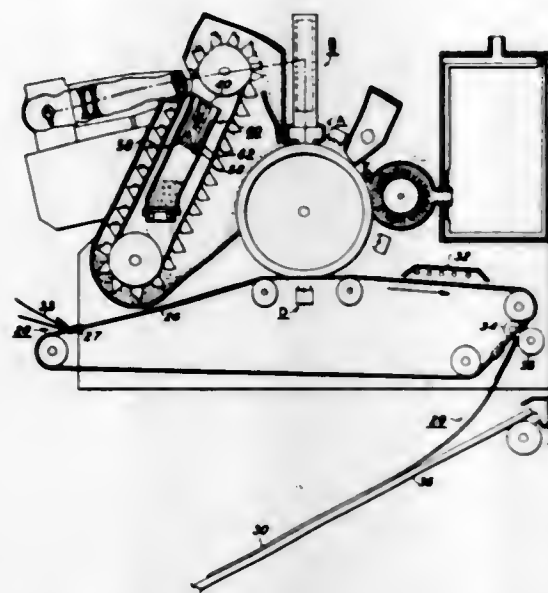
3,385,500

**TONER PACKAGE**

Edward J. Lavander, Irondequoit, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Apr. 29, 1966, Ser. No. 546,344

3 Claims. (Cl. 229—7)



A toner package having a rectangular body and a separable bottom wall formed of a strip being integral with the body and including a tab portion partially integral with one of the ends for attachment to a stripping mechanism for releasing the toner held in the package and for separating the bottom wall from the body.

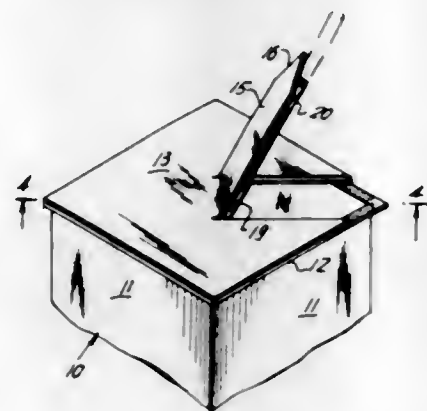
3,385,501

**BEVERAGE CONTAINERS**

Henry M. Chang, 2451 Webb Ave., Bronx, N.Y. 10468

Continuation-in-part of application Ser. No. 475,212, July 27, 1965. This application June 6, 1967, Ser. No. 655,971

8 Claims. (Cl. 229—7)



A beverage container including a container body of whatever cross-sectional configuration and a complementary cover therefor, the cover having a tongue cut out by slits spaced equidistantly from a straight line which extends through opposite edges of the cover and passes through the midpoint of the cover; the slits extend in one direction through one of said opposite edges and in the opposite direction toward or up to the midportion of the cover and thereby provide a tongue separated from the cover except for its base. The underside of the cover has a sealing strip of tearable material extending under the tongue and the slits, and a loop under the rear end of the tongue serves to carry a drinking straw. The cover is sealed to the rim of the container body, preferably to a circumferential flange on the rim.

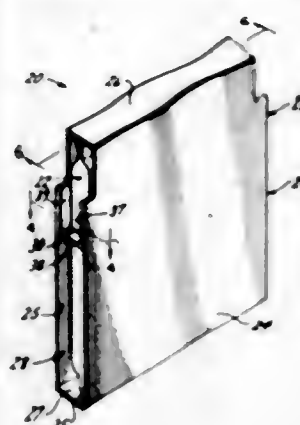
3,385,502

**CONTAINER CONSTRUCTION AND BLANKS FOR MAKING THE SAME OR THE LIKE**

Nicholas J. Pilger, Thousand Oaks, Calif., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Jan. 27, 1967, Ser. No. 612,206

4 Claims. (Cl. 229—14)



This disclosure relates to a container means formed from a single sheet of rigid board means, such as cardboard or the like, suitably cut, scored and folded to define a pair of opposed side walls of a container means and a pair of opposed top and bottom walls thereof so that the container means has opposed open end walls, the container means receiving flexible product-containing pouch construction means therein with certain of the wall means of the rigid board being carved to define portions adapted to be extended across the open end walls to retain the pouch construction within the container means whereby the flexible pouch construction is fully protected by the rigid board means while being held therein.

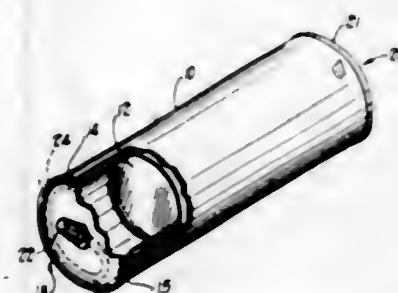
3,385,503

**COMPOSITE CONTAINER**

Paul W. Stump, North Olmsted, Ohio, assignor to Cleveland Container Corp., Cleveland, Ohio, a corporation of Delaware

Filed June 2, 1966, Ser. No. 554,748

2 Claims. (Cl. 229—15)



A composite container formed of an outer cylindrical housing, end covers, and an inner receptacle at an end of the outer container to provide separate compartments for the container contents.

3,385,504

**BULK PACK FOR COLD FLOW MATERIAL**

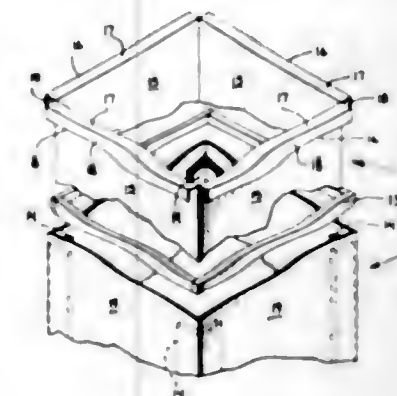
Marion F. Adams, Indianapolis, Ind., assignor to Inland Container Corporation, Indianapolis, Ind., a corporation of Indiana

Filed Apr. 26, 1967, Ser. No. 633,998

5 Claims. (Cl. 229—23)

A corrugated board container having an inner tube nested within an outer tube, corner fillers interposed between the two tubes at the corners of the container, a horizontal frame interposed between the two tubes at the

upper margin of the container and supported by the bags are joined by heat sealing and wherein the side corner fillers, and flaps attached to the two tubes for closing edges of the display label attached thereto are inset from



ing the lower ends of the two tubes and for fastening the inner tube to the outer tube near the upper margin of the container.

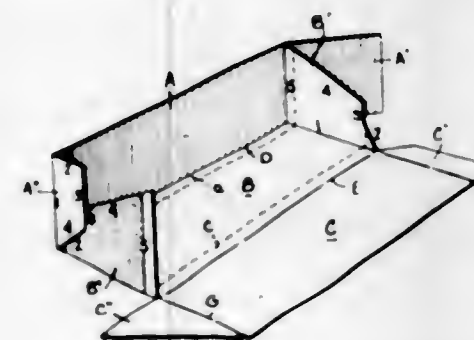
3,385,505

**BOX OR CARTON, AND BLANK THEREFOR**

Nelson G. Beals, Waldwick, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey

Filed July 18, 1966, Ser. No. 565,929

11 Claims. (Cl. 229—32)



Boxes or cartons made of tri-paneled sheet material blanks cut from a multi-blank length source strip. The three box end wall-forming extensions at either end of each blank are arranged asymmetrically across the blank and in reverse to the arrangement of an identical set of end wall-forming extensions at the other end of the blank, while at each end of the blank the extensions of the bottom-forming middle panel and one side wall-forming panel are mated to each other to define, when adjoined in edge to edge relation, a somewhat less than full size inner layer of the respective end wall, the extension of the other side wall-forming panel is of full size to constitute the outer layer of the respective end wall, and only the region of the middle panel and its extensions is substantially devoid of covering material on its outer surface, so that both the amount of such covering material used and the incurred scrap losses of the covering material and of the blank-forming sheet material are minimized.

3,385,506

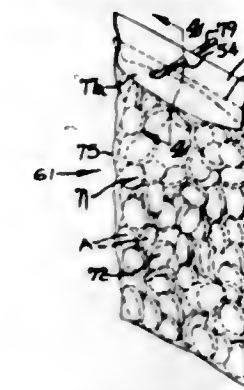
**MERCHANDISE CONTAINER**

Sam S. Ryburn, Charlotte, N.C., assignor to Package Products Company, Inc., Charlotte, N.C., a corporation of North Carolina

Filed Apr. 24, 1967, Ser. No. 633,221

3 Claims. (Cl. 229—53)

A container for merchandise comprising a bag-like main body of heat-sealable thermoplastic material having a display label secured to a closed end thereof and having an open end opposite thereto for the insertion of merchandise articles therein; and wherein side edges of



the side edges of the bag to permit unrestricted contact of the side edges by a heated surface to heat seal the same.

3,385,507

**VALVED CONTAINER OR BAG AND THE LIKE**

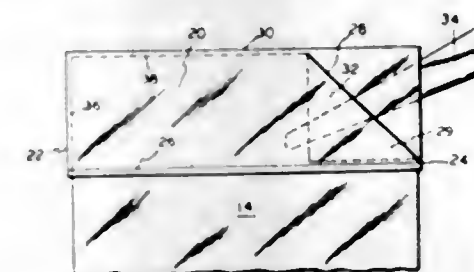
Marcel Mauffre and Claude Carrier, Houilles, France, assignors to La Cellophane S.A., Paris, France, a corporation of France

Filed Jan. 24, 1966, Ser. No. 522,477

Claims priority, application France, Feb. 14, 1965,

5,763

4 Claims. (Cl. 229—62.5)



A plastic bag or container which is easy to use, solid and in which the industrial operation used making the same is very simple and economical, said bag or container comprising continuous side walls connected by means of a closed off bottom, a separate piece of material forming flaps folded downwardly adjacent the top of said container and adjacent the outer surfaces of said continuous side walls, said flaps being heat sealed to said outer surfaces, and an opening means in said container for filling it with material. The flaps folded downwardly and adjacent the top of the container each may have a diagonal heat sealed seam therein securing each flap to the outer surface of each of said side walls.

3,385,508

**COMPRESSOR CAPACITY CONTROL**

David N. Shaw, Liverpool, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

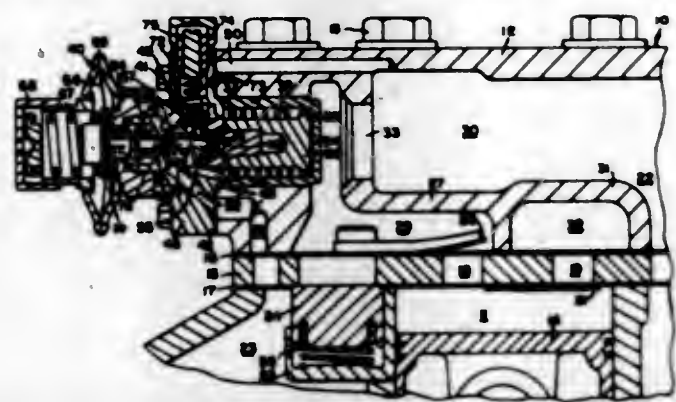
Filed Mar. 25, 1964, Ser. No. 354,714

3 Claims. (Cl. 230—22)

1. In a control arrangement for a fluid compressor having suction and discharge sides with partitioning means therebetween having an opening therethrough for communicating the compressor discharge side with the suction side, and pressure actuated piston means for interrupting the partition means opening, the combination of a bleed passage serving to impose compressor discharge pressure against said piston means to move said piston means relative to said partitioning means opening, and means for controlling the passage of discharge gas through said bleed passage to control said piston means, said controlling means including first and second passages for communicating said bleed passage with said compressor suction side, valve means for regulating flow of gas through said first passage in response to pressure conditions between said bleed passage and said piston means,



and valve means for regulating flow of gas through said first passage valve means including a first valve operable at a predetermined pressure to bleed gas through said first



passage into said suction side; and a second valve operable at said predetermined pressure to reduce communication between said bleed passage and said piston means.

3,385,509

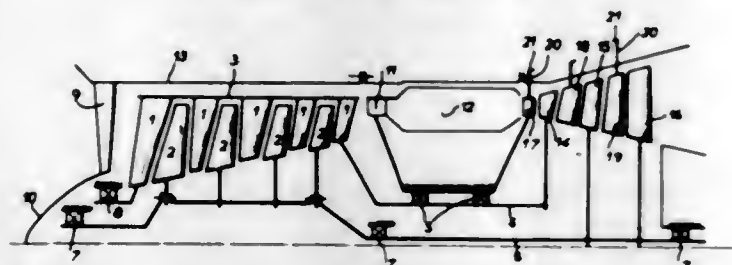
### GAS TURBINE ENGINES HAVING CONTRA-ROTATING COMPRESSORS

Michel Robert Garnier, Sceaux, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France

Filed Dec. 1, 1966, Ser. No. 598,422

Claims priority, application France, Dec. 2, 1965, 40,657

5 Claims. (Cl. 230-116)



A gas turbine engine having contra-rotating, compressor-turbine sets wherein the speed of each compressor-turbine set is controlled by adjustable gas deflecting vanes positioned upstream of each turbine.

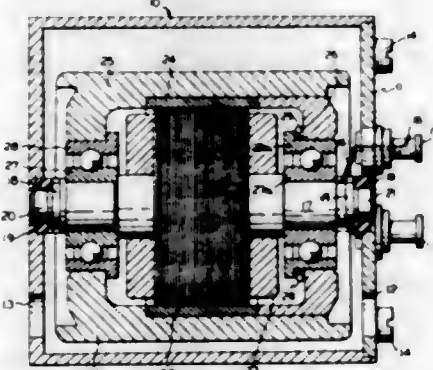
3,385,510

### MINIATURE MOTOR DRIVEN AIR BLOWER

Edward F. Hollander, Jr., Broomall, Pa., assignor to Litton Precision Products, Inc., Clifton Heights, Pa., a corporation of Delaware

Filed July 29, 1966, Ser. No. 568,790

5 Claims. (Cl. 230-117)



A high speed vibration free motor in which the rotor is restrained from any movement with respect to the stator except relative rotation by the combined interacting features of spring stressing the bearings and providing a resilient support of the stator, whereby spurious forces acting on the rotor are transmitted through the stator to be absorbed in the resilient support.

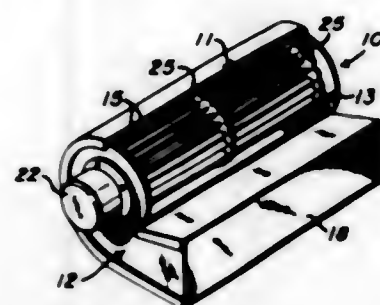
3,385,511

### BLOWER

William H. Wentling, Dayton, Ohio, assignor to The Lau Blower Company, Dayton, Ohio, a corporation of Ohio

Filed Aug. 19, 1966, Ser. No. 573,564

5 Claims. (Cl. 230-134)



Apparatus and method of securing sheet metal blades of a blower wheel to sheet metal end disks. Closed openings or slots are cut in the end disks and blades inserted therein followed by a deformation of the outer periphery of the disk to lock the blade rigidly in the slots.

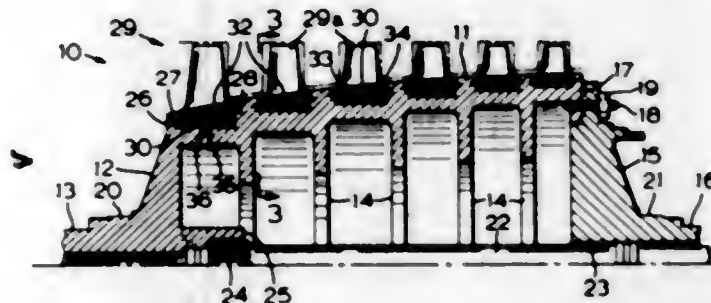
3,385,512

### BLADED ROTOR

Phiroze Bandukwalla, Toronto, Ontario, Canada, assignor, by mesne assignments, to Orenda Limited, Toronto, Ontario, Canada, a company of Canada

Filed Sept. 13, 1966, Ser. No. 579,031

7 Claims. (Cl. 230-134)



A bladed rotor having a central hub is provided with a plurality of blade structures each consisting of a series of blade elements on a common root segment. The root segments are inserted radially into a slot in the hub into end to end abutting relation with one another, and are retained therein, means being provided to prevent radial or circumferential displacement of the root segments.

3,385,513

### REFRIGERANT VAPOR COMPRESSOR

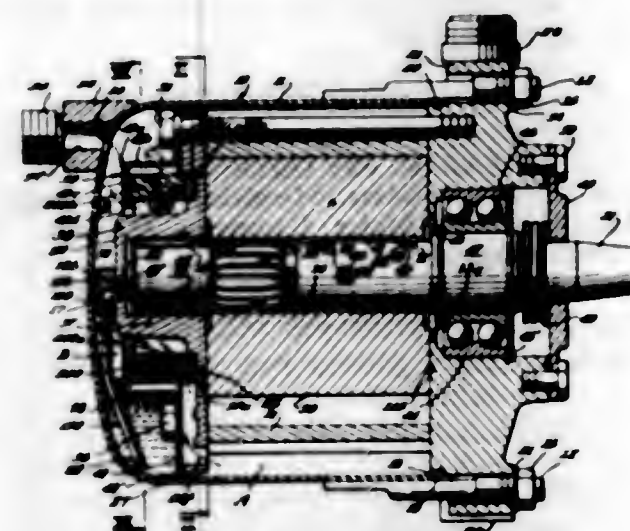
Charles R. Kilgore, Willowick, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Apr. 11, 1966, Ser. No. 541,836

5 Claims. (Cl. 230-152)

1. A compressor comprising: a casing cylinder having a bore formed therein, front and rear bearing plates on opposite sides of said casing cylinder, a rotor shaft journaled in said bearing plates and extending through said bore on an axis eccentrically offset relative to the bore axis, a rotor on said shaft having a tangent seal contact with the bore wall and forming therewith a crescent-shaped working chamber, splined coupling means between said shaft and said rotor affording self-centering movement of said rotor between said bearing plates, said rotor having a plurality of circumferentially spaced peripheral vane slots formed therein,

a vane in each said slot, pins extending through said shaft between oppositely disposed vanes and having coil springs around said pins and engaging said vanes to pressure-bias said vanes outwardly against the adjoining bore wall, said front bearing plate having an inlet valve and a discharge valve and being formed with an inlet kidney-shaped recess adjacent one side of said working chamber, at least one of said bearing plates having formed therein a scavenging groove formed axially opposite said rotor and extending circumferentially on the inlet side of the compressor and spaced radially inwardly of said inlet recess, said scavenging groove having a discharge end extending radially outwardly into the working chamber to minimize gas and lubricant leakage into the suction side of the compressor, outlet means for conducting pressurized fluid from the working chamber to a point of utilization, said outlet means comprising a boss formed on said casing cylinder adjacent said tangent seal contact and forming a flat valve seating surface, and said casing cylinder having a double row of parallel circumferentially spaced openings forming ports extending outwardly from the outlet side of said working chamber through said valve seating surface,



a valve means on said boss comprising plural resilient reeds corresponding in number to said openings and engaging said valve seating surface to regulate said ports, said valve reeds opening in unison and closing said ports in pairs, said boss having a recess spaced adjacent each row of openings to vent the underside of said reeds, a casing surrounding said casing cylinder and forming a pressure reservoir for receiving the fluid pressurized in said pump, means for demisting comprising a demisting element for causing said lubricant to form in larger sized droplets than normal, said element being positioned in said casing in said reservoir and defining therewith a lubricant reservoir, and said means for demisting including a generally planar circular casing dividing member for affixing to said rear bearing plate and defining with said plate an annulus-receiving cavity, said member dividing said casing into front and rear chambers being in communication with said reed valves and said rear chamber being in communication with said compressor output means and forming said lubricant reservoir, said demisting element being annular in shape and positioned between said member and said rear bearing plate in said annulus-receiving cavity so that said fluid in flowing from said reed valves to said outlet passes through said demisting element,

a tube carried by said rear bearing plate for swivel movement and depending gravitationally towards the bottom of the lubricant reservoir for conducting liquid lubricant to said rotor shaft; said tube being swivelly adjustable in response to the orientation of the compressor, said front bearing plate having plural mounting pads for effecting left, right and vertical mounting of said compressor, said swivel tube having a flange overlying said rear bearing plate to form a pressure loaded seal with the adjoining surface during operation of the compressor, a second boss formed on said casing cylinder providing a second series of valve controlled discharge ports extending towards the inlet side of the compressor for low pressure discharge operating conditions, and further characterized by the size of each said opening being smaller than the circumferential width of a vane to prevent by-passing across the ports, and a shoe pivotally carried on the end of each said vane and each shoe having a leading end longer than the trailing end thereof to develop a planing action relative to the lubricant and the adjoining bore wall.

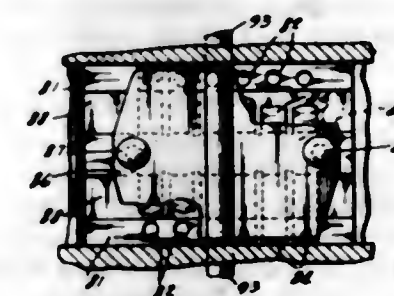
3,385,514

### REFRIGERANT VAPOR COMPRESSOR

Charles R. Kilgore, Willowick, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Apr. 11, 1966, Ser. No. 541,837

17 Claims. (Cl. 230-152)



1. A compressor comprising means forming a pumping bore, a rotary fluid displacement means eccentrically offset in said bore to form therewith a crescent-shaped working chamber and having circumferentially spaced pumping members mounted for rotation on a shaft and movable in following the bore contour to develop a pumping action in said chamber, inlet means communicating with one side of said chamber, and outlet means comprising a row of circumferentially spaced openings forming ports extending outwardly from said working chamber, and plural valve means corresponding in number to said openings, said plural means being axially disposed with respect to said shaft and being exposed sequentially to working chamber outlet pressure for opening said ports in unison and closing said ports separately during rotary operation of the compressor.

3,385,515

### REFRIGERANT RECIPROCATING COMPRESSOR

Sidney A. Parker, Fort Worth, Tex., assignor to Lennox Industries, Inc., a corporation of Iowa

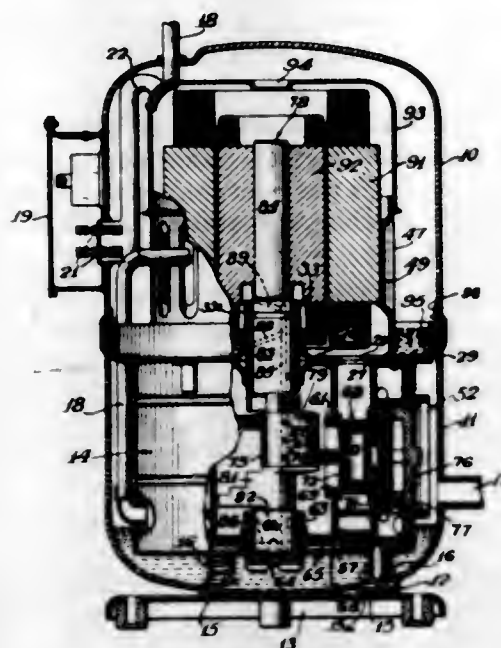
Filed Oct. 17, 1966, Ser. No. 587,005

12 Claims. (Cl. 230-232)

1. In a refrigerant reciprocating compressor, a crank-case comprising outer, intermediate and inner coaxial sheet metal sleeves of different diameters to define annular spaces between adjacent sleeves, annular top and bottom



plate means joined to the opposite ends of the sleeves and securing them rigidly together, the sleeves being formed with radially aligned openings therethrough, a tubular valve housing secured in the openings in the outer and intermediate sleeves, the valve housing and the opening in the inner sleeve adapted to receive and support a cylin-

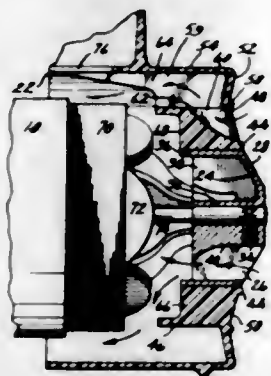


der sleeve, the annular space between the inner and intermediate sleeves defining a suction gas inlet chamber and the valve housing having an opening therein communicating with the space between the intermediate and outer sleeves whereby said space serves as a discharge gas chamber.

3,385,516

## FAN CONSTRUCTION

William A. Omohundro, Westport, Conn., assignor to General Electric Company, a corporation of New York  
Filed Mar. 31, 1966, Ser. No. 539,055  
6 Claims. (Cl. 230-259)



A reversible electric fan having a fan blade and hub construction molded from a plastic composition which softens and hence may deform at temperatures only slightly higher than normal operating range. Cooling passages are formed in the hub to direct cooling air over the plastic hub parts even with air flow blocked and upon either direction of rotation.

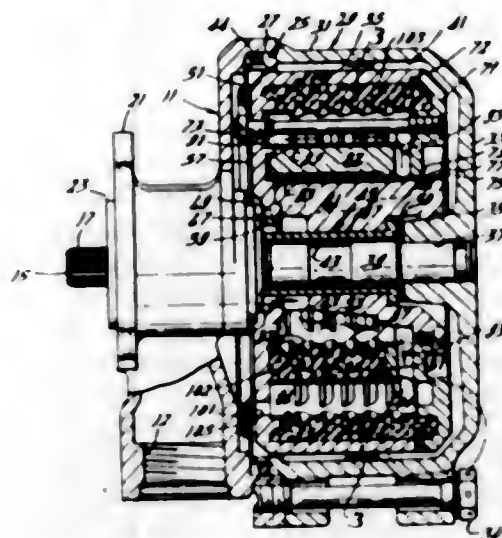
3,385,517

## CENTRIFUGAL PURIFIER

Richard L. Carmon, Birmingham, Mich., assignor to Michigan Dynamics, Inc., a corporation of Michigan  
Filed Oct. 23, 1965, Ser. No. 503,924  
4 Claims. (Cl. 233-2)

A centrifugal purifier for centrifugally removing foreign particles from a fluid. The purifier includes an impeller for generating a centrifugal force to a fluid within

a cavity and a contaminant repository positioned at the periphery of this cavity. The contaminant repository is defined in part by a perforate wall so that the removed

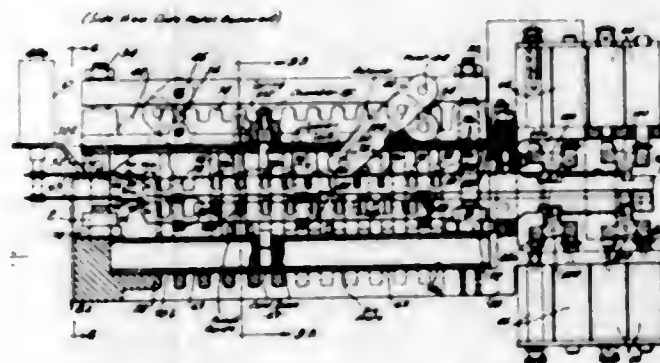


particles may enter the repository. In addition, a foraminous entrapment media fills the cavity for precluding re-entry of the particles into the cavity upon cessation of rotation of the impeller.

3,385,518

## PORTABLE RECORDING DEVICE

Robert Raymond Siders, Medfield, Mass., assignor to Hersey-Spartling Meter Company, Dedham, Mass., a corporation of Massachusetts  
Filed May 24, 1966, Ser. No. 552,603  
10 Claims. (Cl. 234-102)



Portable recording device having recording elements each positionally controlled by two or more control members, permitting selected recording elements to move to a recording position in accordance with the data to be recorded, and an actuator to move the recording elements.

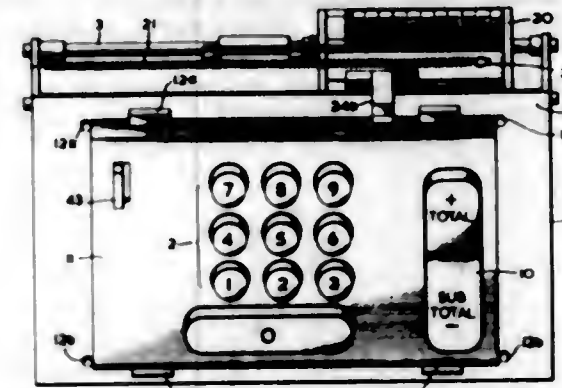
3,385,519

## CALCULATING MACHINES

Tibor Arval, Paris, France, assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware  
Filed Jan. 23, 1967, Ser. No. 611,037  
Claims priority, application France, Jan. 29, 1966, 47,727  
7 Claims. (Cl. 235-60)

In response to the actuation of selected keys in a keyboard, flexible interconnecting rods actuate value representing pins in successive columns of pins in a pin box carried by a carriage which moves successively to the next higher value representing pin columns with the actuation

of each key, thus to effect successive entry of decimal values into a printer and accumulator. Interlocks prevent

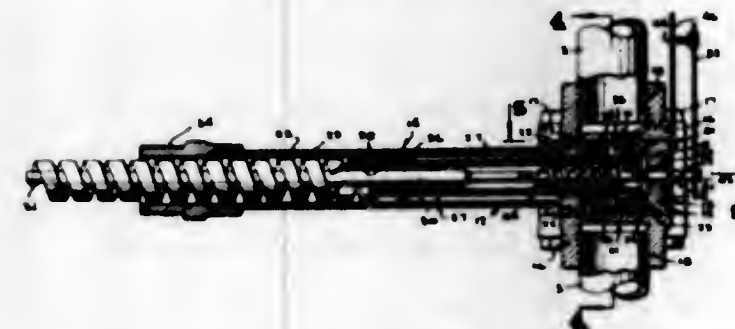


cycling of the mechanism during entry of a value in the keyboard and vice versa.

3,385,520

## AUTOMATIC TEMPERATURE RESPONSIVE CONTROL VALVE

Richard C. Larson, 4420 Great Oak Road, Rockville, Md. 20853  
Filed Feb. 4, 1966, Ser. No. 525,057  
9 Claims. (Cl. 236-1)

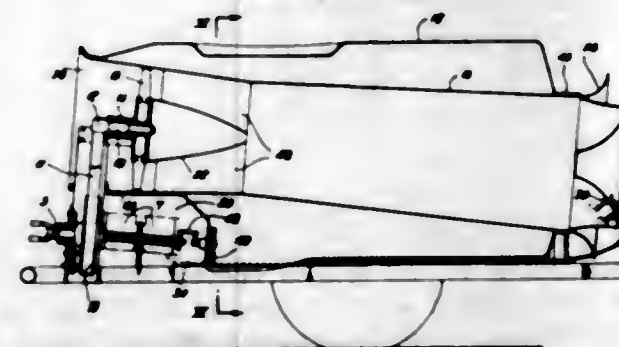


Automatic temperature responsive control valve for use with both heating and cooling fluids, wherein the valve has a rotatable ported ball turned by a helical thermostat in accordance with radiator and room demands for a set temperature. There is a sleeve valve carried by the ball for limited independent rotation relative to the ball in response to changes in the temperature of fluid passing through the valve to open for use selected ports in the ball for heating or cooling.

3,385,521

## AIR-BLAST SPRAYERS

Vincent P. M. Ballu, Epernay, Marne, France, assignor to Tecnomat (formerly Societe pour la Diffusion de Techniques Nouvelles et de Machinisme Agricole), Epernay, Marne, France  
Filed May 2, 1966, Ser. No. 546,687  
Claims priority, application France, June 24, 1965, 22,101  
1 Claim. (Cl. 239-77)



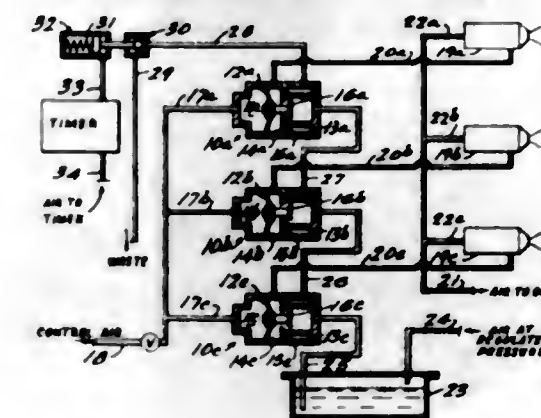
An air-blast sprayer having a rectilinear air duct, blower means near the inlet end and liquid injection means adjacent the outlet end of said duct, which duct is surrounded by a liquid tank of generally annular cross-section, the wall of the air duct constituting the inner wall

of the liquid tank. The outer wall of the tank is constituted by upper and lower half-shells sealed to said duct at the ends and to each other along outwardly directed longitudinal flanges, the whole being mounted on a frame by means of the said longitudinal flanges. A liquid pump and a power source for the pump and the air blower are mounted on the frame and located in a recess of the lower half-shell.

3,385,522

## CLEANING DEVICE FOR LIQUID PRESSURE REGULATING APPARATUS

Erhard Kock, Toledo, Ohio, assignor to The De Vilbiss Company, Toledo, Ohio, a corporation of Ohio  
Filed May 20, 1966, Ser. No. 551,597  
9 Claims. (Cl. 239-104)

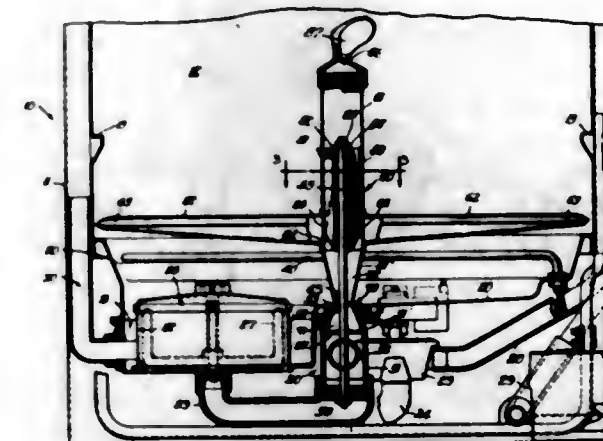


1. An apparatus for controlling the liquid pressure applied to a spray gun comprising, in combination, a source of liquid under pressure in excess of that desired for normal spraying, a pressure regulator interposed between said source and the spray gun, said pressure regulator having a first liquid exit connected to said spray gun for discharge of liquid under regulated pressure and a second normally closed liquid exit separated by a pressure reducing valve from said first liquid exit, and means to open said normally closed second liquid exit to cause a relatively rapid flow of liquid from said source through said pressure regulator and directly out of said second liquid exit valve at said higher than said normal spraying pressure to purge said regulator of solids deposited during normal spraying.

3,385,523

## DISHWASHER SPRAYING ASSEMBLY

William H. Stouder, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware  
Filed Sept. 27, 1965, Ser. No. 490,213  
9 Claims. (Cl. 239-261)



A dishwasher spraying assembly comprising a rotatable section communicating with a non-rotatable section through a Venturi tube having a converging portion at

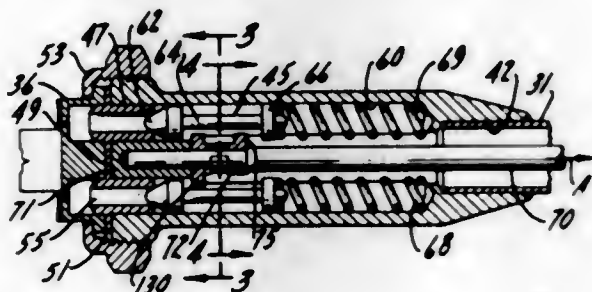


tached to said non-rotatable section and a diverging portion connected to and rotatable with said rotatable section. The converging and diverging portions are separated by a transverse gap at the throat of the Venturi tube for providing a joint between the rotatable and non-rotatable sections permitting free rotation of the rotatable section while effectively eliminating leakage of fluid from said spraying assembly at the gap between the converging and diverging portions because of the reduction in the static fluid pressure in the throat of the Venturi tube.

3,385,524

**MULTIORIFICE SPRAY GUN**

Fred W. Wahlm, St. Charles, Ill., assignor to Spraying Systems Co., a corporation of Illinois  
Filed Sept. 30, 1966, Ser. No. 583,200  
9 Claims. (Cl. 239—394)

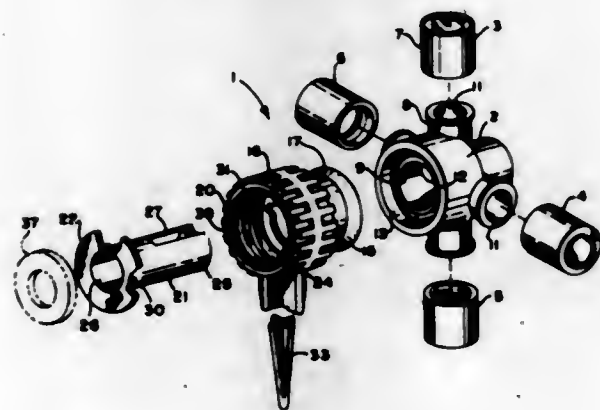


1. A spray gun providing a plurality of selectable spray patterns comprising a handle, a barrel supported in said handle and connected with a source of fluid under pressure, a spray tip mounted on said barrel and having a plurality of distinct orifices therein, a control head in said barrel between said spray tip and the fluid source, said control head having a plurality of valves therein, each said valve being in fluid communication with one of said orifices in said spray tip, means biasing said valves to normally restrict fluid flow thereby, and means for selectively operating one of said valves against the bias thereon to thereby cause fluid to be ejected from one of said orifices.

3,385,525

**LAWN SPRINKLER**

Arthur W. Jacobs, 5994 Columbia Road,  
North Olmsted, Ohio 44070  
Filed Mar. 16, 1967, Ser. No. 623,729  
5 Claims. (Cl. 239—394)

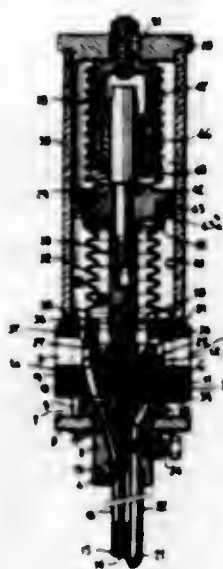


A lawn sprinkler having a sprinkler head which is rotatably mounted for selectively bringing one of a plurality of spray nozzles carried thereby into fluid communication with a water inlet to provide a variety of different spray configurations.

3,385,526

**SPRAY GUNS**

Rudolf Furrer, Vaud, Switzerland, assignor to Automation Industrielle S.A., Vevey, Switzerland, a corporation  
Filed Aug. 31, 1966, Ser. No. 576,262  
Claims priority, application Switzerland, Sept. 3, 1965, 12,363/65  
5 Claims. (Cl. 239—410)

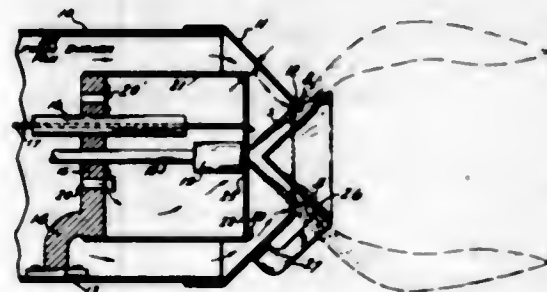


A spray gun which comprises a pneumatically actuated valve for controlling the flow of spray material there-through. The valve defines a valve chamber forming an interior wall therein. The valve chamber has an outlet surrounded by a valve seat. A valve is movable in the valve chamber between a first position engaging the valve seat and a second position clearing the valve seat. A piston reciprocates in the valve chamber. The piston has opposed first and second sides. The first side carries the valve member. Spring means tend to push the valve member against the valve seat. A deformable tube is disposed coaxial with the valve member and it partitions the valve chamber into inner and outer concentric annular chambers on the first side of the piston. The valve seat is disposed in the inner chamber. A spray material inlet means communicates with the inner chamber and pneumatic pressure inlet means communicates with the outer chamber. A nozzle communicates with the inner and outer chambers.

3,385,527

**OIL BURNER HEAD**

Montrose K. Drewry, 3019 S. Shore Drive,  
Milwaukee, Wis. 53207  
Filed Dec. 15, 1965, Ser. No. 514,074  
5 Claims. (Cl. 239—424)



An oil burner having a firing tube with a front nose cone, there being on oil nozzle spaced inwardly from said nose cone which is of a type to discharge an oil spray in a diverging hollow conical pattern through said nose cone, and a guiding cone supported to be within said diverging conical spray pattern and in said nose cone, with the margin of the nose cone opening surrounding the guiding cone intermediate the depth of the latter and spaced from the surface of the guiding cone to provide a restricted annular flow area therearound.

3,385,528

**PROCESS AND APPARATUS FOR WET MILLING MALT**

Orland O. Schaus, Don Mills, Ontario, Canada, assignor to Canadian Breweries Limited, Toronto, Ontario, Canada  
Filed Sept. 23, 1965, Ser. No. 489,685  
6 Claims. (Cl. 241—15)

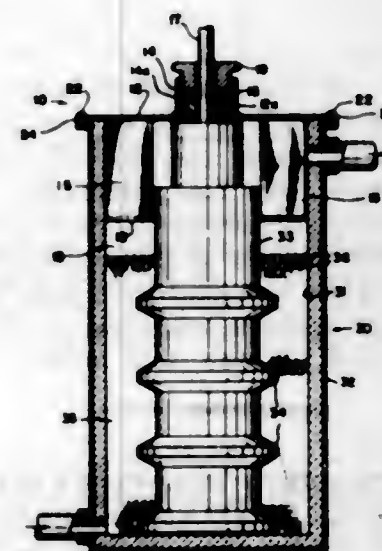


The invention relates to a method and apparatus for wetting malt prior to milling and involves the continuous mixing of a quantity of malt as it is propelled along a path so that moisture can be added to it as it is propelled along the path. To achieve a uniform wetting, the amount of moisture added is predetermined and the continuous mixing achieves a uniformity of water throughout the whole quantity of malt. Provision is made for holding the malt after it has been uniformly wetted to permit uniform diffusion of the moisture into the holes.

3,385,529

**HOLDDOWN PLATE FOR COMMUNUTING APPARATUS**

John S. Eckert, Silver Lake, Ohio, assignor, by mesne assignments, to U.S. Stoneware Inc., a corporation of Massachusetts  
Filed Nov. 4, 1965, Ser. No. 506,341  
1 Claim. (Cl. 241—46.15)

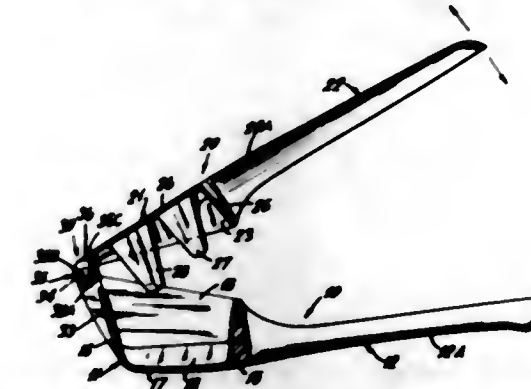


In comminuting apparatus having a rotatable agitator mounted in and spaced from the inner wall of a vessel, the space containing grinding balls and a slurry of material to be comminuted, a holddown plate operative to limit the expansion and displacement of the slurry and otherwise to counteract the adverse effects on efficient grinding of centrifugal force.

3,385,530

**ICE CRUSHING DEVICE**

Max Irvin, 138—33 Coolidge Ave.,  
Jamaica, N.Y. 11435  
Filed Jan. 21, 1966, Ser. No. 522,115  
2 Claims. (Cl. 241—169)

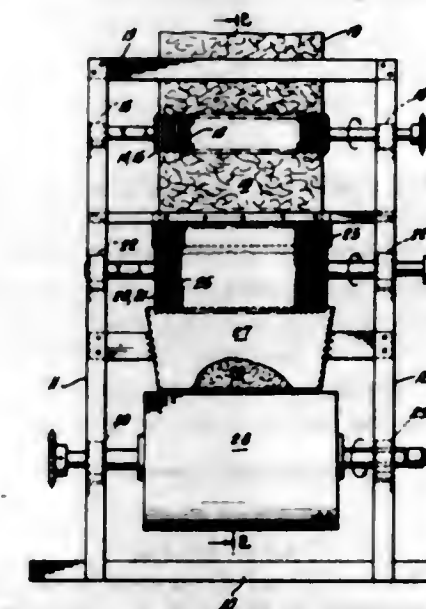


An ice crushing device whose working members are coupled by a releasable hinge formed from the pivotal registry of a series of arcuate knuckle extensions of one member with a like number of recesses in the opposite member via pairs of opposed coaxial pintle studs depending into the recesses and upstanding walls on the concave surfaces of the knuckles which are adapted to lie between and perpendicularly intersect the axes of the pairs of studs.

3,385,531

**METHOD AND APPARATUS FOR GRINDING AND DISTRIBUTING PULPBOARD**

Frank Kalwates, Somerville, N.J., assignor to Johnson & Johnson, a corporation of New Jersey  
Filed June 2, 1965, Ser. No. 460,739  
6 Claims. (Cl. 241—236)



Apparatus for grinding wood pulp comprising a pair of toothed rolls rotating in opposite directions and with their teeth intermeshing. The teeth of the rolls have a positive rake of at least 5 degrees. The maximum surface linear speed of either of the rolls being 10,000 feet per minute. Wood pulpboard fed to the nip of the toothed rolls is ground into individualized wood pulp fiber.

3,385,532

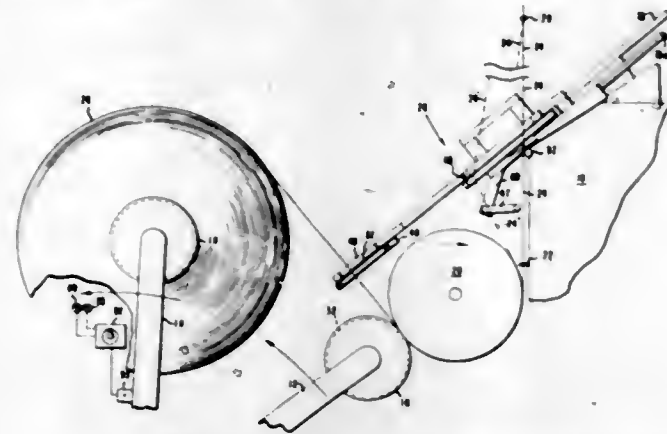
**YARN WINDING APPARATUS**

Wayne Clifford Sparling, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Filed Dec. 21, 1966, Ser. No. 603,520  
6 Claims. (Cl. 242—18)

An apparatus having a movable bar with various guides for engaging the yarn type winding apparatus and moving the yarn to a yarn severing means at the end of a rotat-



able windup chuck and for guiding the yarn so as to wind a transfer tail over the severed end of the yarn. The bar



and guides are operated by air cylinder means which are actuated by a switch means which is in turn actuated by the support of the completed yarn package.

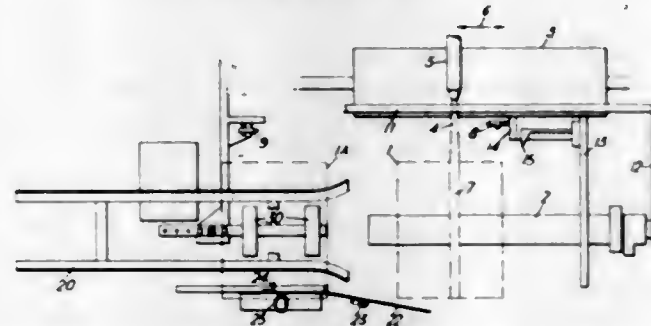
3,385,533

**WINDING MECHANISMS**

John K. P. Mackie, Belfast, Ireland, assignor to James Mackie & Sons Limited, Belfast, Northern, Ireland, a British company

Filed May 23, 1966, Ser. No. 552,007  
Claims priority, application Great Britain, May 24, 1965, 21,909/65

13 Claims. (Cl. 242—54.4)



Apparatus for automatically tucking the loose end of a wound textile sliver ball into the ball. A guide positions the loose end adjacent a blade, which blade is movable towards and into the wound ball along a path generally transverse to the axis about which the ball was wound and generally tangential to the outer circumference of the ball; the blade first engaging the loose end of the sliver and then penetrating the ball to tuck the loose end therein.

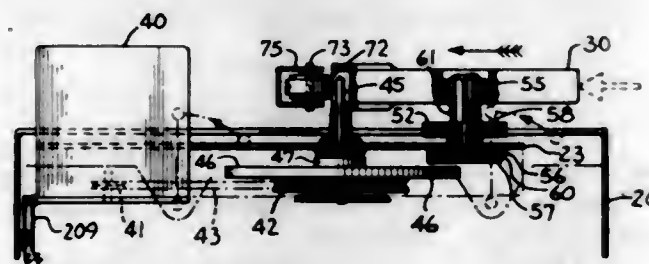
3,385,534

**TAPE DECK**

Theophil Clement Jozef Lodewijk Staar, Kraainem, Belgium, assignor to Staar, S.A., Brussels, Belgium, a corporation of Belgium

Filed July 22, 1966, Ser. No. 567,115  
Claims priority, application Belgium, Nov. 3, 1965, 19,793, Patent 671,749; July 6, 1966, 30,491, Patent 683,709

28 Claims. (Cl. 242—55.13)



1. For use with self-contained tape cartridges having a face with openings for receiving the actuating elements of a playing mechanism, a tape deck comprising, in com-

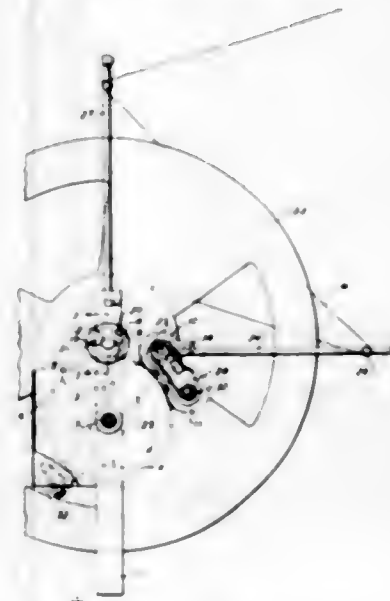
bination, a fixed frame having guide means for receiving a tape cartridge and constraining the movement of said cartridge on insertion and removal to a single plane, and a movable frame disposed adjacent to the plane of cartridge movement and carrying drive means for driving the tape past a sound head and transport means for controlling and transporting the tape within said cartridge, said drive means and transport means having projections for penetrating the openings of said cartridge and engaging operative elements therein, and translation means operable by insertion of said cartridge into the tape deck and supporting said movable frame for relative motion of said drive means and transport means projections substantially perpendicular to the plane of cartridge movement and toward said cartridge so as to follow the movement of said cartridge and to draw said projections into engagement with the operative elements within said cartridge, said engagement being imparted with a linear motion substantially perpendicular relative to the face of said cartridge.

3,385,535

**WEB TAKE-UP REEL CONTROLLER**

James W. Dodsworth, Mount Tabor, N.J., assignor to Litton Business Systems, Inc., a corporation of New York

Filed Aug. 26, 1966, Ser. No. 575,414  
9 Claims. (Cl. 242—67.1)



A device for controlling a web take-up reel which is responsive to the tension of the web so that when this tension becomes too great the reel will be deactivated to prevent the web from being damaged. Operation is such that the reel continuously winds the web until the tension of the web deflects an arm to thereby disengage the drive and stop the rotation of the reel. When the tension in the web is lessened again, the reel will automatically begin to wind the web once more.

3,385,536

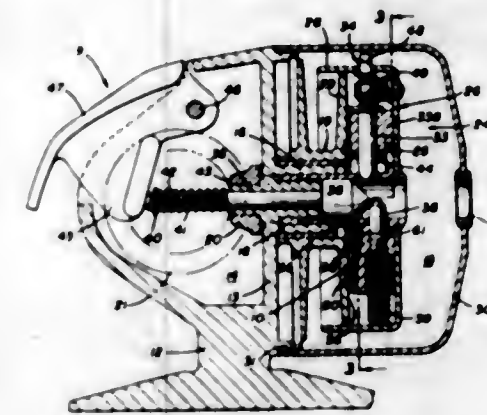
**LATCH MECHANISM FOR THE LINE PICKUP DEVICES IN SPINNING REELS**

Thomas F. Sarah, Akron, Ohio, assignor to Pfueger Corporation, Akron, Ohio, a corporation of Ohio

Filed Aug. 24, 1965, Ser. No. 482,090  
3 Claims. (Cl. 242—84.2)

A latch for the actuating mechanism of a line pickup device in a spinning type fishing reel. The latch mechanism is operable between two relatively rotatable members and has a lock pawl with one end secured to the first of the relatively rotatable members. The other end of the pawl forms a sear which is biasingly urged against the second of the relatively rotatable members for selective

engagement within a lock groove therein. A recess extends radially of the lock groove, the groove and recess forming a rim which is engageable, upon rotation of the



relatively rotatable members, by a radially oriented, axially extending lip carried on the pawl in proximity to the sear to disengage the pawl from the groove and recess.

3,385,537

**ROTOR-WING LOAD TRANSFER DEVICE**

Robert L. Lichten, Dallas, and Charles M. Seibel, Fort Worth, Tex., assignors to Bell Aerospace Corporation, a corporation of New York

Filed Oct. 4, 1965, Ser. No. 492,520  
1 Claim. (Cl. 244—6)



Acceleration sensing device on a winged helicopter provides automatic control inputs to collective pitch control system in response to maneuvering of the helicopter so as to cause wing to carry substantial portion of increased lift load produced by maneuver.

3,385,538

**AIRCRAFT**

Algernon F. Hodges, San Marino, Calif.  
(1181 S. Oak Knoll Ave., Pasadena, Calif. 91106)  
Filed May 23, 1966, Ser. No. 551,981  
6 Claims. (Cl. 244—13)



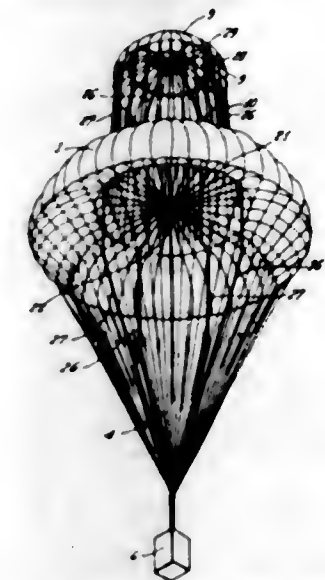
An aircraft suitable for supersonic flight in which a plurality of wings project substantially horizontally from each side of the fuselage and are substantially longer along the longitudinal axis of the fuselage than in the direction transverse thereto so as to provide a minimum profile in all directions yet a relatively large wing surface for efficient lift and control.

3,385,539

**PARACHUTE ASSEMBLY FOR AERIAL RECOVERY**

Edgar G. Ewing, Thousand Oaks, Jack R. Vickers, Granada Hills, and Wesley R. Stoeltzing, Northridge, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Aug. 5, 1966, Ser. No. 570,554  
9 Claims. (Cl. 244—142)



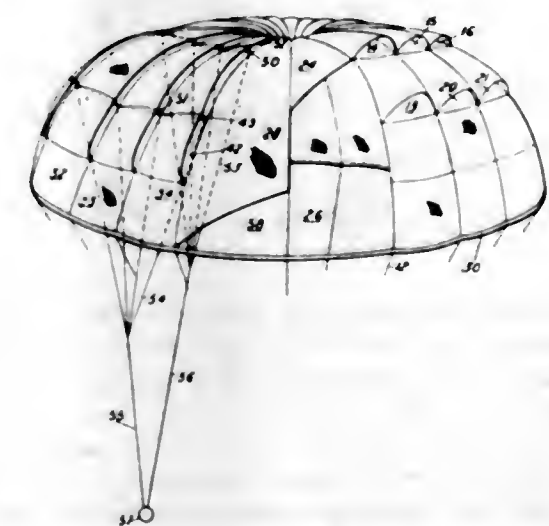
A combination of annular ring type parachute and a smaller target parachute close-coupled to the annular parachute above the large central opening. The target parachute is stabilized in the airstream flowing through the annular parachute by suspension line arrangements which always assure positive inflation of the target parachute. For the larger sized openings of annular parachutes (roughly 50% to 80% of total parachute diameter), cross-vent lines should be furnished. Special load-bearing suspension lines and other apparatus are incorporated to withstand aerial pick-up forces.

3,385,540

**PARACHUTES**

James Thomas Bassett, Woking, England, assignor to G.Q. Parachute Company Limited, Surrey, England, a British company

Filed Jan. 26, 1967, Ser. No. 611,932  
Claims priority, application Great Britain, Mar. 25, 1966, 13,227/66  
5 Claims. (Cl. 244—152)



A parachute has a canopy with controlled openings, vanes attached to the canopy adjacent the openings and control lines attached to the vanes so that operation of the control lines moves the surface of the canopy adjacent the openings rather than the edge only of the opening, and creates a controlled surface, over which the escaping air passes, reducing eddy currents and increasing the lift.



3,385,541

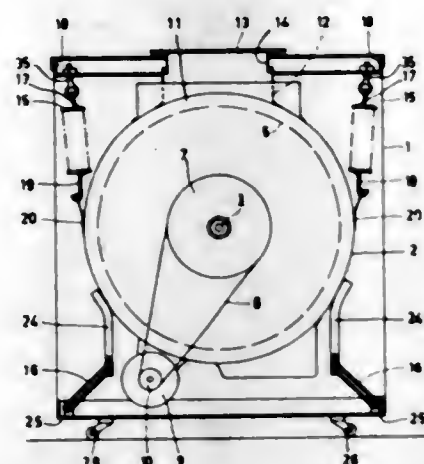
**RESILIENT SUPPORTS FOR ROTATING MACHINE PARTS**

Jan Stelwagen, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 12, 1966, Ser. No. 564,586

Claims priority, application Netherlands, July 17, 1965, 65-9,287

4 Claims. (Cl. 248-18)



A suspension system for rotatable drums of the type utilized in domestic washing/drying apparatus. A rotatable drum is suspended in a rigid framework by a plurality of spring and damping elements which co-act to define an elastic system having an elastic center positioned along the central axis of the drum and particularly at the center of mass of the total rotating system. The tension of springs which support the drum can be regulated thus permitting adjustment of the position of the elastic center of the elastic system.

3,385,542

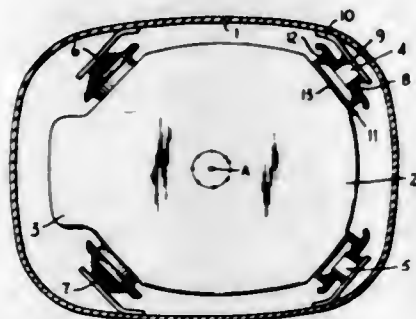
**MOTOR COMPRESSOR UNIT WITH SPRING SUSPENSION**

Arne F. Enemark, Orstedsgade 111, Sonderborg, Denmark; Knud V. Valbjorn, Augustenhof, Nordborg, Denmark; and Bendt W. Larsen, Vestergade 5, Augustenborg, Denmark

Filed Oct. 14, 1966, Ser. No. 586,765

Claims priority, application Germany, Oct. 16, 1965, D 48,447

10 Claims. (Cl. 248-20)



A suspension system for machines, for example motor-compressors and particularly encapsulated refrigerant motor-compressors, having mounts spaced on a machine keeping it in suspension. Each mount has a conical buffer spring in cupped member the rim of which provides a fixed boundary wall circumferentially of a part of the spring therein defining a stop surface for deflection of the spring in a lateral direction or radial direction relative to the axis of the spring. The base of the cup acts as a stop for a pin coaxial in each spring thus limiting movement in an axial direction of the springs. As the coils apply themselves progressively to the two stop surfaces the resiliency of the individual springs increases progressively until the pin within each spring stops radial or axial movement thereof within a given mount.

3,385,543

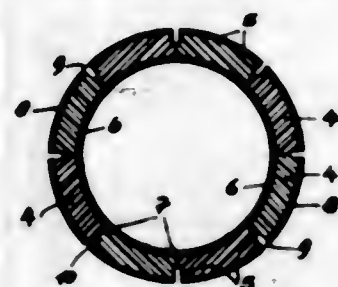
**DAMPING ARRANGEMENT**

Werner Jäkel, 30 Adolf Kolping-Strasse, Salzgitter-Bad, Germany, and Kurt Buge, 32 Ritter-Gebhard-Strasse, Salzgitter-Gebhardshagen, Germany

Filed June 24, 1966, Ser. No. 560,231

Claims priority, application Germany, June 28, 1965, S 97,861

11 Claims. (Cl. 248-26)



A damping device includes two coaxial ring members of rigid material and one of which consists of a plurality of arcuate sections, and an annular damping member of elastomeric material sandwiched between and bonded to the ring members.

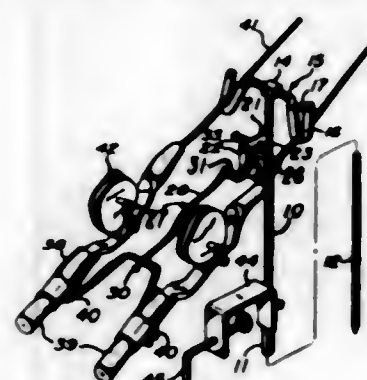
3,385,544

**DUAL ROD AND REEL HOLDER**

Joel F. Barnett, 213 Fitchland Drive, Fairborn, Ohio 45324

Filed Aug. 19, 1966, Ser. No. 573,677

7 Claims. (Cl. 248-39)



A holding device for fishing or like rods incorporating a support member adapted for convenient upright installation in the ground or on a boat, and further incorporating angularly adjustable arm means for mounting a rod and defining a selected attitude of use.

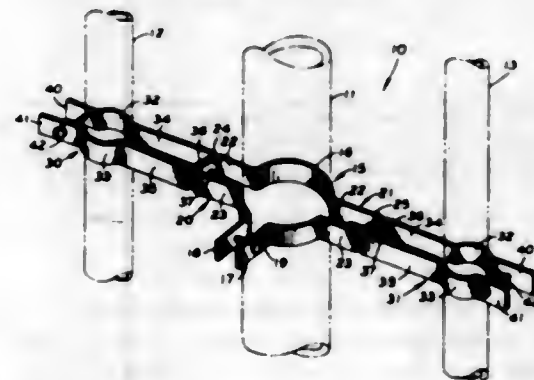
3,385,545

**CONDUIT HANGING APPARATUS**

Robert P. Patton, 2649 Woodward Road, Cuyahoga Falls, Ohio 44221

Filed Feb. 9, 1966, Ser. No. 526,308

1 Claim. (Cl. 248-68)



A hanging apparatus for supporting a pair of suspended conduits in predetermined relation to a self-supported conduit consisting of a ring clamp with flanges spaced and

joined by a fastener for selective securement along the self-supported conduit, a pair of ears on the ring clamp each having a pair of projections extending outwardly and joined at the extremities by a facing plate, and yokes selectively rotatably aligned with and attached to each of the ears and having arcuate offsets for engaging the suspended conduits, shanks extending from one extremity of the arcuate offsets and joined by a base, offset flanges at the other extremity of each of the arcuate offsets and spaced and joined by a fastener, and the facing plates of the ears and the bases of the yokes being joined by fasteners.

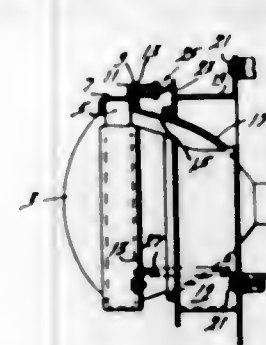
3,385,546

**HEADLAMP ADJUSTING DEVICE**

Kenneth J. Scowen, Royal Oak, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed May 31, 1966, Ser. No. 554,168

8 Claims. (Cl. 248-205)



Headlamp adjusting device including an adjustable eccentric mechanism located between a headlamp and a support, a first wire connector joining a shaft of the eccentric to the headlamp, and a second wire connector joining the eccentric sheave to the support. Rotation of the shaft shortens or lengthens the effective length of the mechanism to adjust the distance between the headlamp and the support.

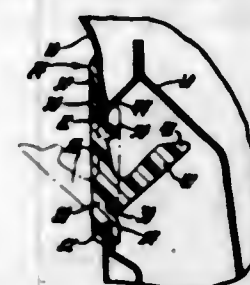
3,385,547

**VEHICLE BODY COAT HOOK**

Wilson H. West, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 14, 1966, Ser. No. 601,600

5 Claims. (Cl. 248-205)



A unitary plastic coat hook has a hook portion movable between a stored position within a vehicle body support and an extended operative position the hook portion being biased to stored position in one embodiment and biased to operative position in another embodiment.

3,385,548

**HEEL REST FOR DISPLAYING WOMEN'S SHOES**

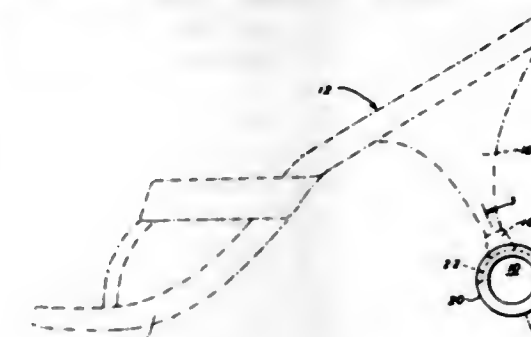
Ben Walters, 4600 E. 11th Ave., Miami Beach, Fla. 33139

Filed May 31, 1966, Ser. No. 554,014

9 Claims. (Cl. 248-346)

A heel rest circular in cross-section, for a woman's

shoe and having a diameter sufficient to position the sole of the shoe on a common surface. A wedge-shaped cir-



cumferential groove for holding the heel and disposed on the outer peripheral surface of the heel rest.

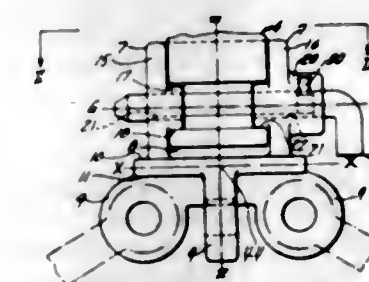
3,385,549

**KING PIN TIE-DOWN ADAPTER**

Donald R. Whiteman, Mentor, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 1, 1966, Ser. No. 569,346

9 Claims. (Cl. 248-361)



A tie-down adapter removably coupled to a king pin of a trailer for use in securing the front end of the trailer to a support.

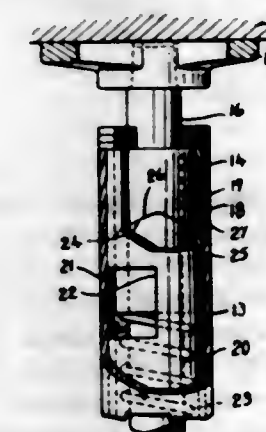
3,385,550

**MEMORY SWIVEL FOR SWIVEL CHAIR**

Frank Doerner, Waterloo, Ontario, Canada, assignor to Doerner Products Co., Limited, Waterloo, Ontario, Canada, a corporation of Canada

Filed Sept. 28, 1966, Ser. No. 582,746

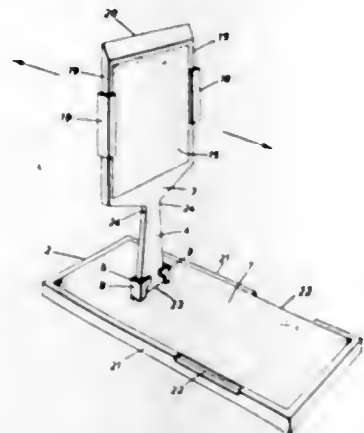
1 Claim. (Cl. 248-417)



A memory swivel for a chair having an upper and lower sleeve like cams mounted on the chair spindle, the upper sleeve being fixed against rotation and the lower sleeve secured to the spindle by a pin which extends into an enlarged slot formed in a tubular control member fixed to a support post. The lower sleeve rotates with the spindle with the rotation limited by the pin to about 90° in either direction from the centered position. When the spindle is under load the cams are out of contact.

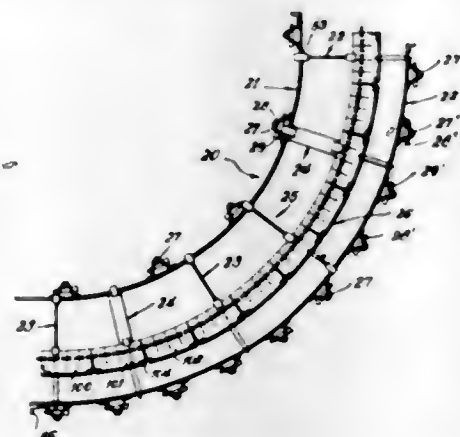


**3,385,551**  
**PORTABLE EMERGENCY REFLECTOR DEVICE**  
 John W. McKay, 9823 149th St.,  
 Edmonton, Alberta, Canada  
 Filed Aug. 18, 1965, Ser. No. 480,667  
 5 Claims. (Cl. 248-467)



A portable flare has a flat rectangularly shaped element which has at least one light reflecting surface and a support portion extending longitudinally from said element. The support portion is adapted to permit hand gripping of the flare, or may be engaged with means for selectively retaining said element in an upright attitude. Thus, the flare may either be manipulated by hand or be independently supported in an upright attitude.

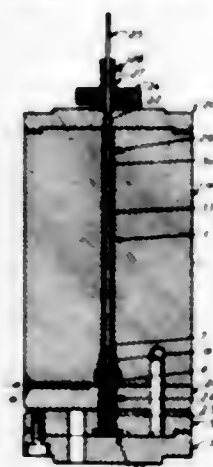
**3,385,552**  
**FORM MEANS FOR CONCRETE CURBS AND GUTTERS**  
 Joseph O. Von Drasek, Chicago, Edward A. Todd, McHenry, and Walter T. Skonieczny, Chicago, Ill., assignors to Dee Concrete Accessories Co., Chicago, Ill., a corporation of Illinois  
 Filed Feb. 18, 1966, Ser. No. 528,628  
 10 Claims. (Cl. 249-4)



1. Means for forming curvilinear concrete curb structures comprising: plural radius form members having elongated flexible body portions carrying spaced means for anchoring the same generally upright to define parallel spaced curvilinear boundary barriers for the concrete structure therebetween, plural spaced division spreader means mounted between and connected to opposing said form members to maintain the same in spaced parallelism, and articulately flexible elongated battered radius form means supported on said division spreader means in spaced parallelism to and between the barriers provided by said form members; said battered radius form means comprising a plurality of tandem related flexible metal sections, each having a flexible planar body portion definitive of a battered curb face barrier and an integral apron portion extending angularly outwardly of the lower margin thereof, said apron portion comprising a plurality of relatively movable separated segments; articulate connector means joining adjacent said sections and providing

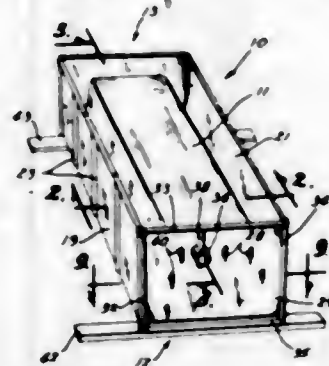
limited articulation thereof about a pair of spaced pivotal axes generally transverse to the plane of said body portions thereof, and stabilizing means extending between the plural sections of said form means and having mobile connection with each of the said segments of the apron portions thereof to maintain said segments in coplanar alignment while permitting the same to move relatively as said body portions articulate and flex into selected curvilinear alignments.

**3,385,553**  
**MOLD FOR PRODUCING PLASTIC CANNULAE FOR CONTINUOUS INTRAVENOUS INFUSION**  
 Bernhard Braun, 1 An der Trunkelucke, Melsungen, Germany  
 Original application July 26, 1962, Ser. No. 212,696. Divided and this application Dec. 2, 1966, Ser. No. 620,194  
 Claims priority, application Germany, July 29, 1961, B 63,451  
 2 Claims. (Cl. 249-142)



An injection mold for producing plastic cannulae is disclosed. The injection mold has a central channel having inner dimensions conforming to the outer dimensions of a plastic cannula. A wire of smaller diameter than the central channel is mounted coaxially in the channel and means are provided for applying tension to the wire.

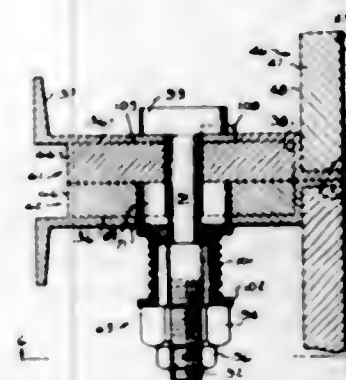
**3,385,554**  
**APPARATUS FOR MOLDING CONCRETE FEED BUNKS**  
 Vayden R. Anderson, Stromsburg, Nebr. 68666  
 Filed Jan. 4, 1965, Ser. No. 423,195  
 3 Claims. (Cl. 249-165)



1. Apparatus for molding concrete feed bunks or similar articles comprising in combination: a unitary elongated inner form section adapted to form all bottom and side surfaces of the cast article; at least one flange section secured to each end of said inner form section and including a plurality of pins extended outwardly and beyond the ends of said inner form section; end form means adapted to form all end surfaces of the cast article, and including a pair of plates having a plurality of apertures formed therein, each plate

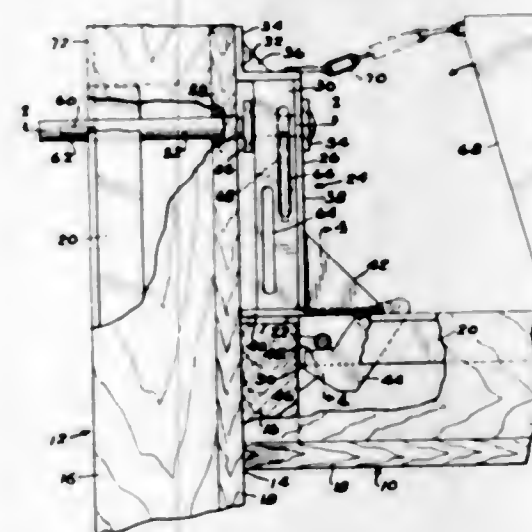
placeable against one end of said inner form section with the pins protruding through the apertures; means connected to said pins for releasably securing said plates to said inner form section; and support means including at least one interior support element secured to said inner form section transversely across the inner base thereof and an elongated shaft extended completely through said inner form section for supporting same intermediate the ends thereof, said element and said shaft extended also through and supporting said end form means.

**3,385,555**  
**REUSABLE PANEL AND FORM SYSTEM FOR CONCRETE CONSTRUCTION**  
 John R. Williams, 2345 Darwin St., Hayward, Calif. 94545  
 Filed Aug. 23, 1965, Ser. No. 481,830  
 17 Claims. (Cl. 249-192)



A form system utilizing a plurality of panels. Each panel includes a metal frame having a flange against which the panel facing is secured. A web extends normally from the flange inwardly of the peripheral outer edge of the flange. Cooperating latch members are secured to the outer surfaces of the web, and when two panels are brought into adjacent coplanar relationship, the latch members will be placed in contiguous relationship. A resilient lock element is then passed through the members and their associated webs for securing the panels together.

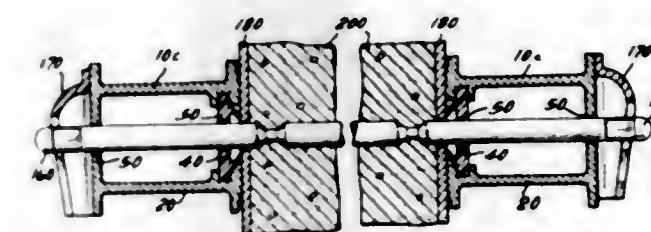
**3,385,556**  
**CORNER CLAMP CONSTRUCTION FOR WALL FORMS**  
 Frank G. Paull, Jr., Northville, Mich., assignor to Kwik Lock Form Co., Northville, Mich., a corporation of Michigan  
 Filed May 27, 1966, Ser. No. 553,524  
 7 Claims. (Cl. 249-194)



7. A clamp for connecting together in fixed relation a pair of wall forming panels which are arranged in abutting relation to form an outside corner for the wall and

wherein one of said panels extends substantially beyond the abutting portions thereof, said clamp being adapted to be located in the outside corner of said abutting panels and comprising means forming a base adapted to be positioned against the outer face of one of the panels, means on said base forming an arm extending in a direction perpendicular to said base, said arm having a slotted portion extending lengthwise thereof, a rod in said slot and extending transversely of the slot, said rod being slidable in a direction lengthwise of the slot and being connected with said arm to limit axial movement of the rod in at least one direction, said rod being adapted to extend through the extending portion of said one panel and having means thereon for anchoring said rod to said last-mentioned portion of the one panel, means on said base for fixedly connecting said clamp with said other panel, said means on said base for securing the clamp to said other panel comprising a hook member shaped to engage a pin on said other panel and means interconnecting said rod and said arm to prevent movement of said base in a direction toward said rod.

**3,385,557**  
**MULTI-PURPOSE BUILDING MEMBER**  
 Robert D. Rambelle, 102-26 86th Ave., Richmond Hill, N.Y. 11418  
 Filed Sept. 15, 1965, Ser. No. 487,555  
 5 Claims. (Cl. 249-210)



1. A building member, for use as stringers and joists in providing temporary support in the formation of concrete floors, comprising,

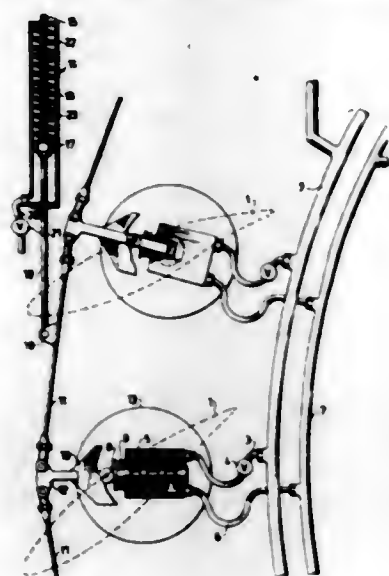
- (a) a longitudinally-extending metal section of generally U-shaped cross-section having a base portion and a pair of vertically-extending sidewall elements,
- (b) a thin, longitudinally-extending insert strip of nailable, semi-rigid material positioned horizontally between said sidewalls, and recessed slightly beneath the upper edges thereof, to form with said channel section a composite box-like beam member, and
- (c) a longitudinally-extending rib element, formed from a flexible material having good frictional properties, said rib element normally projecting above the horizontal plane formed by the upper sidewall edges of said U-shaped channel section but deforming under an applied vertical load so as to become flush with said plane, whereby said beam member is provided with a slide-resistant frictional bearing surface.

**3,385,558**  
**CONTROL DEVICE FOR A FLOW GATE**  
 Nils Eric Munkstrand, Trollhattan, Sweden, assignor to Nydqvist & Holm Aktiebolag, Trollhattan, Sweden, a corporation of Sweden  
 Filed Oct. 20, 1965, Ser. No. 498,753  
 Claims priority, application Sweden, Oct. 23, 1964, 12,817/64  
 9 Claims. (Cl. 251-29)

1. A control device for controlling the position of a flow gate exposed in operation to a fluid flow, said device comprising, in combination, a gate movable between an open position and a closed position and having a configuration such that the hydrostatic and hydrodynamic



forces acting upon the gate when exposed to the operational fluid flow bias the gate into its closed position, hydraulic servomotor means coupled to said gate, said servomotor means, when activated, retaining the gate in its open position against said forces, a first conduit means for supplying a flow of pressure fluid to said servomotor means to activate the same, said servomotor means comprising a control valve means included in said conduit means for controlling the fluid flow therethrough, a hydraulic actuator means controlling the position of said valve means, said actuator means including a directional



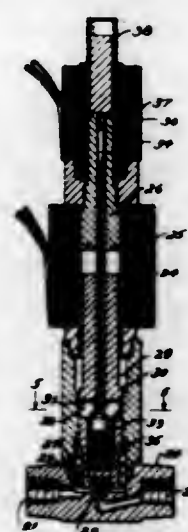
force means coacting with said control valve means to bias the same into a flow-closing position, and a second conduit means for supplying a flow of pressurized fluid to said actuator means to hold the same in a position in which said control valve means is in a flow-opening position against the action of said directional force means, a failure of the flow of pressure fluid to the actuator means releasing the directional force means thereof to move said control valve means into its flow-closing position, thereby freeing the gate for moving into its closing position by the action of the forces acting thereupon.

3,385,559

# RELEASABLE LATCH MECHANISM FOR CONTROL DEVICES, VALVES, AND THE LIKE

Alan W. Churchill, Caldwell, N.J., assignor to Automatic Switch Company, Florham Park, N.J., a corporation of New York

Filed May 12, 1965, Ser. No. 455,165  
3 Claims. (Cl. 251-70)



Relatively slidable inner and outer cylindrical elements, outer element having recess in inner wall, inner element having opening accommodating a ball. Means, such as a wedging element, within inner member for urging ball

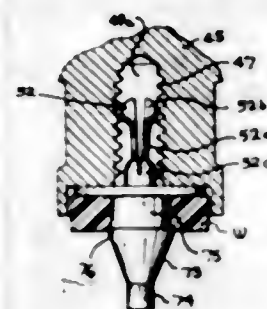
into recess when recess and opening are in alignment, to latch elements.

Outer element may be fixed to a valve body, and inner element may be a valve disk carrier. Wedging means may be solenoid operated. Inner member may support fulcrum of a "free handle" control device.

3,385,560

# PLASTIC WASHER HOLDER FOR FAUCET VALVE

Terence G. Hare, Union Lake, Mich., assignor to Water-Miser Inc., Phoenix, Ariz., a corporation of Michigan  
Continuation of application Ser. No. 473,720, July 21, 1965. This application Sept. 14, 1966, Ser. No. 579,437  
6 Claims. (Cl. 251-88)



The faucet valve disclosed herein comprises a faucet body having an inlet and outlet passage and a valve seat at the area of juncture of the passages. The faucet valve further includes a valve body that is mounted for movement toward and away from the seat and a washer holder made of relatively incompressible plastic material is rotatably mounted in an axial threaded opening in the valve body. The washer holder has an integral central flange and integral axial projections extending from the flange. One of the projections is bifurcated and has upper enlarged ends, intermediate ends of lesser cross section and lower ends of greater cross section joined in an enlarged portion. The other of the axial projections has a shoulder thereon and a resilient washer is telescoped over said last-mentioned axial projection and is retained thereon by the shoulder.

3,385,561

# VALVE CONSTRUCTION

John W. Whalen, Inglewood, Calif., assignor to Calmec Manufacturing Corp., Los Angeles, Calif., a corporation of Nevada

Filed June 8, 1965, Ser. No. 462,340  
5 Claims. (Cl. 251-282)



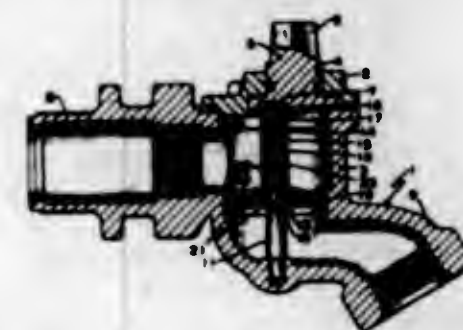
A valve having an axially movable stem carrying a valve head closing against a stationary seat is balanced

against pressures on either side of the seat, tending to open or close the valve. This balance is achieved by means of a cylindrical portion on the valve stem sliding within the valve body and having a diameter equal to the effective sealing diameter of the valve head and seat, thereby balancing out pressure forces on one side of the seat. Pressure forces on the other side of the seat are balanced by means of a piston fixed to the valve stem and slidable in a bore in a stationary member fixed to the valve body, the annular area of the chamber defined between the valve stem and the bore being equal to the effective area of the valve head closed against the seat.

3,385,562

# ANGLE COCK

George K. Newell, Penn Township, Westmoreland County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania  
Filed Dec. 27, 1965, Ser. No. 516,587  
4 Claims. (Cl. 251-298)



A valve device of the type commonly referred to as disc valves comprising a valve body having a throughbore that is adapted to be closed off by a disc that is universally rockable on a pivot pin fitted adjacent the disc and within the throughbore. The disc and its stem are controlled by a conventional external handle connected to the stem. The handle is mounted in a bore located intermediate the ends at said throughbore.

3,385,563

# BLOCK FOR SUPPORTING AND GUIDING A LINE OR THE LIKE

Thomas W. Stinson, Jr., 5408 Dunstan Court, Charlotte, N.C. 28205

Filed Oct. 17, 1966, Ser. No. 587,206  
7 Claims. (Cl. 254-195)



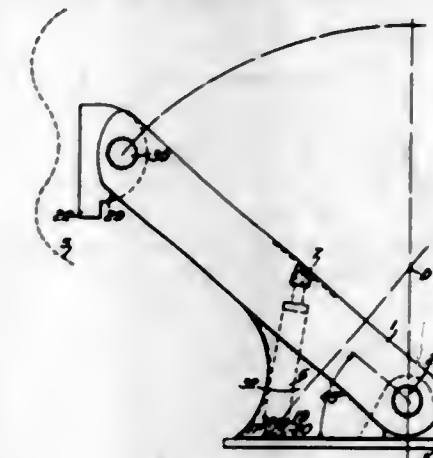
The present invention relates to a block for supporting and guiding a line or the like that is tensioned around the block in a non-vertical plane and wherein the block includes means mounted thereon for disposing the block inherently in alignment substantially with the plane of the tensioned line therein for proper handling of the line in its non-vertical plane, with the means for positioning the block being advantageously incorporated in the block in a simple and inexpensive construction.

3,385,564

# HIGHWAY GUARD RAIL SUPPORTS

Gunter Perucke, London, England, assignor to Christiani & Nielsen Limited, London, England, a company of Great Britain

Filed June 18, 1965, Ser. No. 465,096  
Claims priority, application Great Britain, Nov. 11, 1964, 46,011/64; Apr. 23, 1965, 17,319/65  
7 Claims. (Cl. 256-13.1)



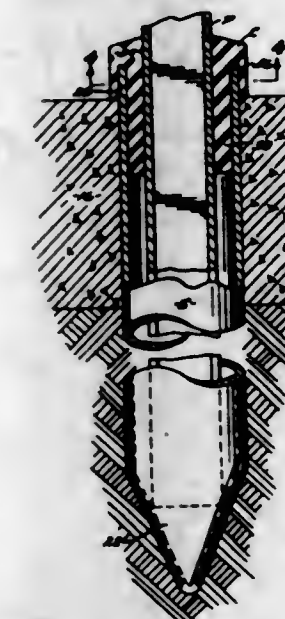
1. A highway guard rail support comprising a base member for fixing to the ground, an arm pivotally mounted at one end to said base to swing in an upward direction with respect to said base, a pivotal guard rail mount on an upper portion of said arm and a shock absorber associated with said arm to damp said movement of said arm on said guard rail being subjected to an impact, said shock absorber connected at one end to said base and at its other end to said arm intermediate the ends thereof, said arm being in an inclined position at rest supporting said guard rail at a predetermined height above the ground, and being movable between said inclined position and a substantially vertical position in response to impact whereby the guard rail is swung upwardly in an arc during and throughout impact, said shock absorber limiting movement of said arm to said substantially vertical position whereby downward arcuate swinging of the guard rail is substantially eliminated.

3,385,565

# ROADWAY DIVIDER FENCE CONSTRUCTION

Fred Cuthbert, 908 S. Catalina Ave., Redondo Beach, Calif. 90277

Filed Sept. 16, 1966, Ser. No. 579,966  
3 Claims. (Cl. 256-13.1)



Roadway divider fence construction including fencing material supported from the upper portion of a vertical post. The lower portion of such post is received in a verti-



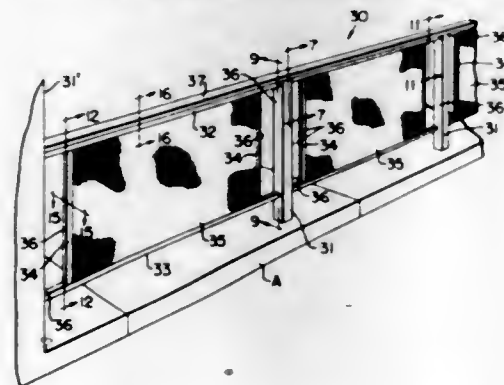
cal tubular post support which includes a downwardly tapered lower extremity that receives the lower end of the post and centers it within such post support. A resilient cap is telescopically removably received in the open upper end of the post support and is formed with an aperture corresponding with the transverse cross-section of the post. Thus, the post is extended through the aperture and its lower end abuts the tapered lower portion of the post support thereby holding such post in vertical alignment with such support.

**3,385,566**  
**FENCE ASSEMBLY**  
Clarence B. Dwyer, 1931 S. Madison,  
Wichita, Kans. 67211  
Filed Dec. 22, 1965, Ser. No. 515,789  
2 Claims. (Cl. 256—19)



This invention relates to a fence construction and, more particularly, to a concrete fence post adapted to be anchored in a ground surface for supporting laterally extended fence rails therebetween. Still more specifically, the invention relates to a fence post of extremely rigid and substantially on piece construction designed to be self-supporting. In a more specific aspect, the present invention relates to a concrete fence post having laterally extended connector members embedded and supported within the concrete of the post. Additionally, this invention relates to a concrete fence post having a plurality of connector members thereon embedded within the concrete material and secured by upright reinforcing bars for lateral stability and increased strength.

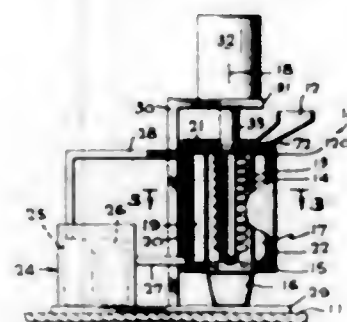
**3,385,567**  
**RAILING CONSTRUCTIONS AND PARTS THEREFOR OR THE LIKE**  
John S. Case, Towson, Md., and James E. Belcher, Jr., Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware  
Filed Nov. 5, 1965, Ser. No. 506,534  
14 Claims. (Cl. 256—24)



This disclosure relates to a railing construction wherein a panel arrangement is secured to and between a pair of adjacent support posts, the panel arrangement having an

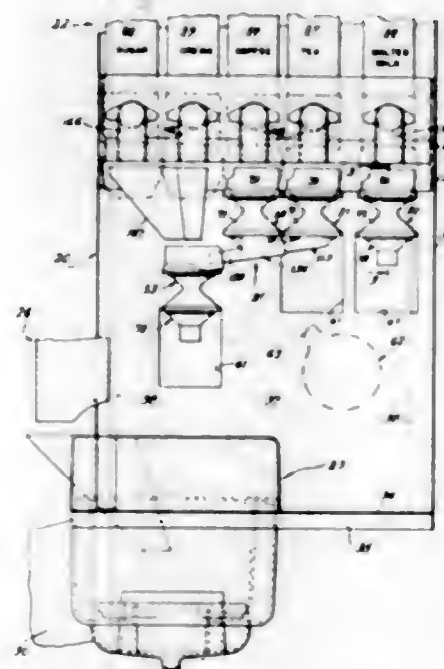
upper frame member that is received in facing channels of the support posts and is provided with a transverse web that directly rests on the tops of the support posts to suspend the panel arrangement between the support posts.

**3,385,568**  
**BEATER STRUCTURE**  
Donald J. Gray, 814 Market St.,  
Inglewood, Calif. 90302  
Filed Nov. 16, 1966, Ser. No. 594,939  
13 Claims. (Cl. 259—24)



Apparatus including a rotor having an axially elongated body which is driven rotatably about an axis and which carries a beater unit having a mounting portion retained against the body by two axially elongated removable rods preferably received slidably within apertures in end flanges on the body, with the rods being received within spaced axial grooves in the mounting portion of the beater unit, and having a ridge on the mounting portion received between the rods, and with a series of beating fingers projecting outwardly from the mounting portion.

**3,385,569**  
**MIXING APPARATUS FOR BEVERAGE**  
Floyd V. Bookout, Arlington Heights, Ill., assignor to Rock-Ola Manufacturing Corporation, Chicago, Ill., a corporation of Delaware  
Filed Jan. 11, 1967, Ser. No. 608,611  
13 Claims. (Cl. 259—60)



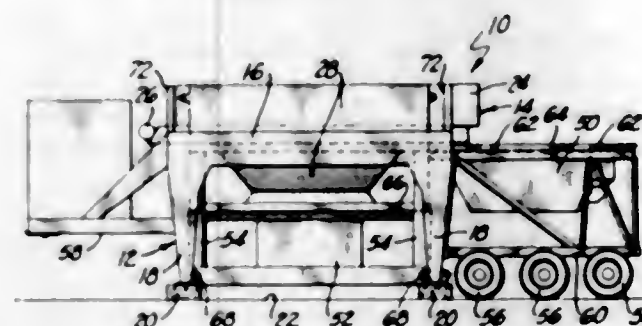
Apparatus for intermixing dry and liquid beverage forming ingredients, utilizing one or more self-cleaning mixing devices having internal chambers productive of successive converging and diverging vortex flow of ingredients therethrough to produce homogeneous solution of such ingredients and including means for trapping and removing vaporous and dry particles released by such ingredients.

**3,385,570**  
**ULTRASONIC RADIATION DEVICE**  
Hermanus Stephanus Josephus Pijls, and Elias Put, Emmasingel, Eindhoven, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware  
Filed Sept. 10, 1964, Ser. No. 395,481  
Claims priority, application Netherlands, Sept. 12, 1963, 297,855  
11 Claims. (Cl. 259—72)



1. Ultrasonic apparatus for treating a liquid in a container comprising, transducer means coupled to one wall of said container so as to vibrate said container to impart ultrasonic wave energy to said liquid along a given path, and acoustic damping means positioned within said container close to another wall thereof, said damping means being positioned wholly outside of said given path whereby ultrasonic wave energy along said given path is substantially unattenuated by said damping means.

**3,385,571**  
**MOBILE MIXING PLANT**  
Marvin B. Preeman, Los Angeles, Calif., assignor to Standard Steel Corporation, Los Angeles, Calif., a corporation of California  
Filed Jan. 3, 1967, Ser. No. 606,853  
6 Claims. (Cl. 259—154)



A mobile asphalt mixing plant comprising a base structure and a tower structure carried by the base structure, the tower structure comprising superimposed grading, storage, weighing and mixing sections. To reduce the height of the plant during transport, the weighing section is horizontally movable into a transport position spaced from the tower structure, and the remaining sections of the tower structure are telescoped together and retracted downwardly into the base structure.

**3,385,572**  
**GAS DESUPERHEATING APPARATUS**  
Aarne A. Luoma and Albert F. Hanschke, Wellsville, N.Y., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware  
Filed June 11, 1965, Ser. No. 463,243  
4 Claims. (Cl. 261—23)

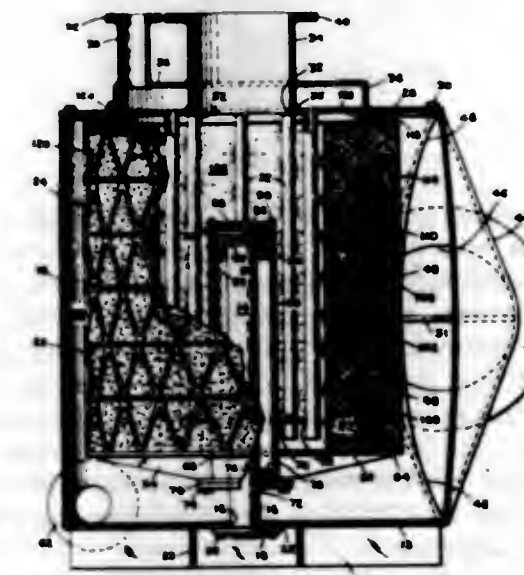
An apparatus for preventing superheating of throttled gases by means of a desuperheating spray system which includes dual cam means interconnected for serial operation, with said first cam means operating throttle valve

means disposed within a gas flow passageway, which passageway communicates with a cooling fluid conduit means downstream of the throttle valve means and said second cam means, in cycle with the first cam means,



actuates a valve means within said cooling fluid conduit means only when said first cam means causes said throttle valve means to throttle the flow of gas flowing in said passageway.

**3,385,573**  
**ROTARY MATRIX, GAS CONDITIONING DEVICE**  
Frederick C. Gilman, Pompton Lakes, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware  
Filed May 14, 1965, Ser. No. 455,750  
6 Claims. (Cl. 261—24)

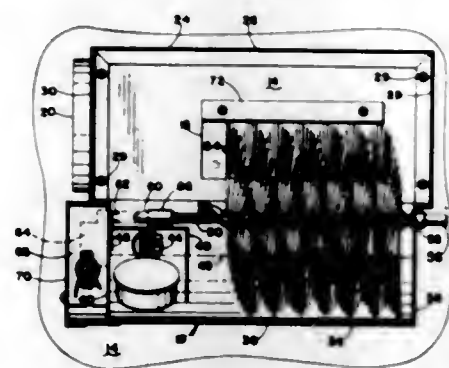


A gas conditioning device for exchanging heat between a liquid and a gas or vapor, or for cleaning a gas, wherein gas entering a generally cylindrical chamber rotates an annular matrix element which includes a porous filter material through which the gas passes as it travels towards the outlet of the cylindrical chamber. A heat transfer or gas scrubbing liquid is distributed against the inner walls of the matrix element and is forced through the walls of the matrix element by the centrifugal force produced by the rotation of the matrix. The passage of the liquid through the matrix causes the liquid to be broken down into small droplets and thin films which insure maximum contact between the liquid and the gas being conditioned.



### 3,385,574 HUMIDIFIER

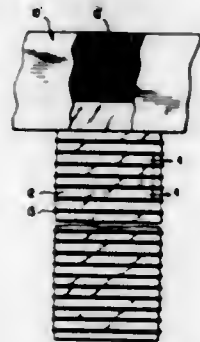
Harry C. Lohman, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin  
Filed Apr. 27, 1965, Ser. No. 451,170  
5 Claims. (Cl. 261-92)



An air humidifier including an element comprised of a core provided with spaced radially extending bristles which function as an evaporative surface upon being rotated between a water sump and a stream of air.

### 3,385,575 GAS LIQUID CONTACTING APPARATUS

Raymond C. Hall, 2121 Browning Ave.,  
Manhattan, Kans. 66502  
Filed July 29, 1964, Ser. No. 385,917  
6 Claims. (Cl. 261-112)



1. Apparatus for extracting a liquid from a gas containing the vapor phase of the liquid which comprises a back support member extended in a direction at an angle to the horizontal and a wettable blanket member in close proximity therewith, said blanket member being provided with projecting ridges extending in a direction having a major horizontal component, means for directing a liquid to the upper end of the back support member and into contact with the blanket member, and means for directing a stream of gas into contact with the extended surfaces of the blanket member.

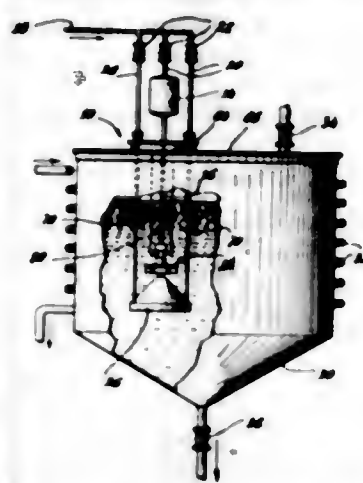
### 3,385,576 APPARATUS FOR DISPERSING A GAS IN A LIQUID

John P. Wilkswo, Amherst, Va., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed May 2, 1967, Ser. No. 635,610  
8 Claims. (Cl. 261-93)

The apparatus comprises a rotary impeller submerged in a liquid in which a gas is to be dispersed. The impeller has a horizontal top plate and a plurality of arcuate vanes extending along the underside of the top plate from adjacent its center to its periphery. Plural straight conduits, extending into the liquid, introduce the gas from downwardly facing exit ends to the interior of an

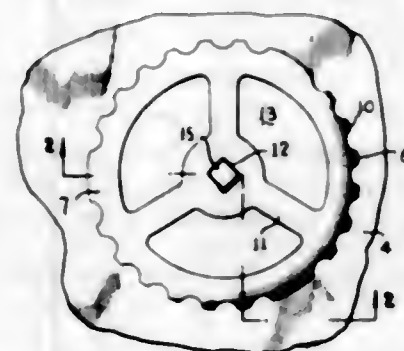
inverted funnel having an upper, central opening spaced directly below the center of the impeller. The gas, directed



by the funnel, rises into the center of the rotating impeller and is dispersed in the liquid in the form of finely divided bubbles.

### 3,385,577 BUBBLE CAP WITH CONTROLLED COVER DISC

Joshua Epstein, Philadelphia, Pa., assignor to Acme Process Equipment Co., Oreland, Pa., a corporation of Pennsylvania  
Filed Dec. 29, 1964, Ser. No. 421,977  
5 Claims. (Cl. 261-114)



Disclosed herein is an improved bubble cap and vertically movable cover disc for application to bubble trays in a separation tower. The bubble cap is formed in the shape of an inverted cup having downwardly depending leg portions suitable for attachment to the bubble tray and downwardly depending rib portions defining spaces therebetween for the passage of gases there-through. An uppermost central portion is provided with a non-circular opening and a bubble disc is received within the inverted cup and has an upwardly extending stem portion of non-circular cross-section similar to the configuration of the opening. The aforesaid stem extends through the opening and prevents rotation of the disc while guiding the vertical movement of the disc.

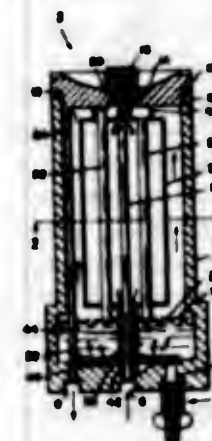
### 3,385,578 ANESTHESIA APPARATUS

Gary K. Porter, Hatboro, Pa., assignor to Fraser Sweatman Incorporated, Buffalo, N.Y., a corporation of New York

Filed Sept. 28, 1966, Ser. No. 582,683  
4 Claims. (Cl. 261-122)

1. A vaporizer for mixing the vapor of a volatile liquid anesthetic agent with a gas vehicle comprising: a tank to contain the liquid anesthetic agent having an opening in its upper end, means for passing bubbles of a gas through the liquid anesthetic agent, conduit means having an inlet end in said tank and discharging to the exterior of the vaporizer to provide for the discharge of the gas vapor mixture from the vaporizer, and

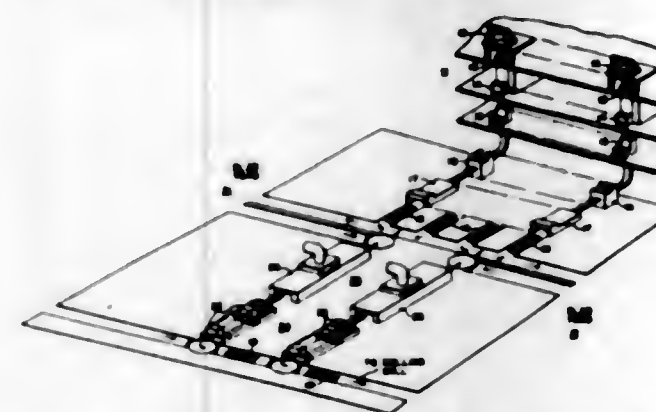
means for preventing overfilling of the tank comprising means forming a chamber in the tank communicating with said tank opening,



an air conduit extending downwardly from a point within the chamber and above the bottom of the chamber to the desired liquid level in the tank; and a liquid fill pipe extending from the bottom of the chamber downwardly at least as far as the air conduit.

### 3,385,579 SLAB HEATING APPARATUS

Clarence E. Peck, Williamsville, N.Y., and George F. Bobart, Ellicott City, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Dec. 8, 1965, Ser. No. 512,426  
2 Claims. (Cl. 263-6)



A horizontal straight line rolling temperature heating apparatus aligned with the cutoff station of a continuous caster to receive hot slabs directly therefrom as well as cooled slabs from slab yard storage. Roller means convey all slabs longitudinally and consecutively through aligned multi-zoned radiant and induction coil furnaces under separate zone regulation by a stored-information computer grossly according to time of presence of the slabs in the furnaces and finely in accord with slab surface temperatures. Control of the furnaces is such that all slabs enter the induction heating coil furnace at substantially the same average temperature as direct-from-caster slabs and leave at a desired uniform temperature for presentation to a rolling mill.

### 3,385,580 HEAT TRANSFER FROM WASTE GAS OF A CEMENT KILN TO PULVERULENT RAW MATERIAL

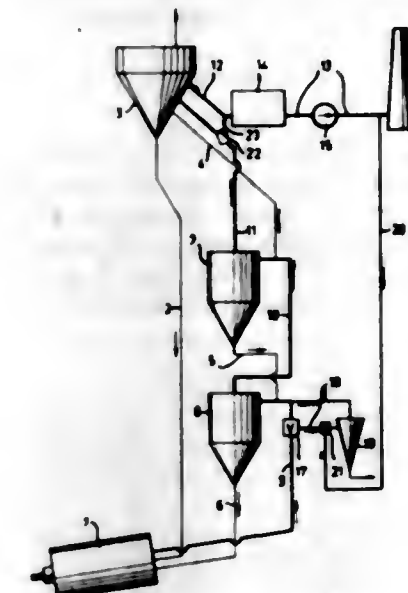
Rudolf Ruegg, Zurich, Switzerland, assignor to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland

Continuation of application Ser. No. 389,668, Aug. 14, 1964. This application Mar. 14, 1967, Ser. No. 623,138  
Claims priority, application Switzerland, Nov. 4, 1963, 13,503

11 Claims. (Cl. 263-32)

1. A process for the transfer of heat from the hot waste gases issuing from a cement kiln to the pulverulent raw material being supplied to said kiln comprising

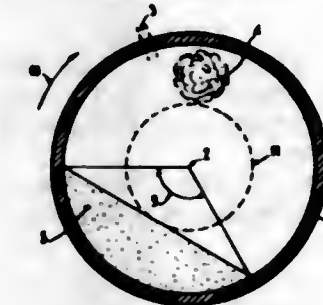
- passing the raw material through a classifier and separating the raw material into a coarse fraction and a fine fraction;
- forming a flowing stream from said waste gases;
- entraining the separated coarse fraction in said stream so that the coarse fraction is heated thereby;



- separating the entrained heated coarse fraction from said stream;
- preventing heat exchange between said separated fine fraction and said stream; and
- supplying the heated coarse fraction and the fine fraction to said kiln.

### 3,385,581 ROTATABLE TUBULAR STRUCTURE EMBODYING A LARGE RESERVE SECTION AND HEAT EXCHANGER AND FURNACE EMBODYING SAME

Georges Cerles, Gardanne, France, assignor to Pechiney-Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France  
Filed Mar. 21, 1966, Ser. No. 535,910  
Claims priority, application France, Mar. 19, 1965, 9,878  
12 Claims. (Cl. 263-33)



The invention is addressed to the establishment in a rotary tubular structure of a reserve of large section corresponding to a center angle A of up to 200 grads without causing any excessive restriction to the free flow passage for vapors and gases by providing at least one barrier formed of an assembly of n threads interposed in the flow of the material, at least a part of each thread being composed of a helicoid coaxial with the rotating tube with the threaded portions having a pitch fraction equal to

$$\frac{400}{n} + A \text{ grads}$$

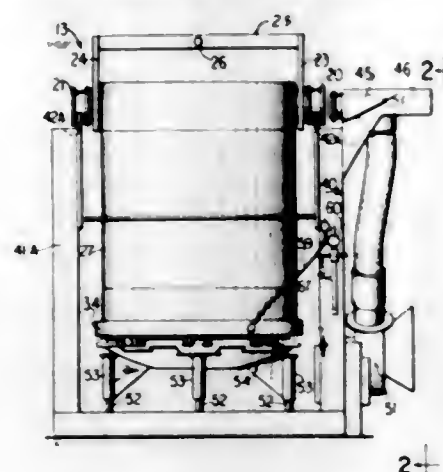
and offset one from the other by a rotation of the same angle of  $400/n$  grads about the common axis with the direction of winding of the helicoids being opposite to the direction of the rotation of the tube in at least the downstream portion and in which each of the threads is formed of a helicoid segment having a pitch fraction equal to



the  $n$ th part of the center angle  $A$  of the desired reserve and which may include two edges prolonging the grads having a pitch fraction equal to  $A/2$  and formed by the section of the elongation of the helicoid through two planes tangential to the internal cylinder at a tangent to the plane limiting the desired bank, one of the planes passing through one end of the guiding helix traced on the tube while the other plane passes through the other end of the helix.

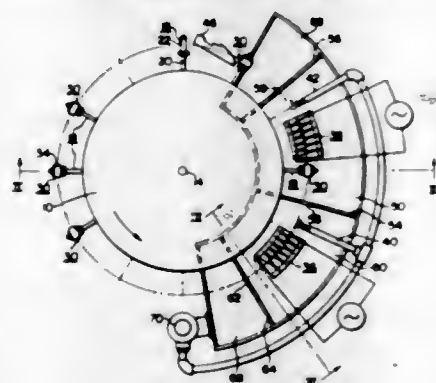
### 3,385,582 CHARGING BUCKET

Henry L. Eickelberg and Robert G. Martinek, Watertown, Wis., assignors to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin  
Filed Dec. 28, 1965, Ser. No. 518,757  
9 Claims. (Cl. 263-47)



1. A charging bucket for steel mills and the like comprising in combination, a container having an openable bottom to drop a charge of material from the inside of said container; a channel-shaped manifold surrounding said container near its bottom; spaced holes about the wall of said container, providing communication between the interior of said container and the interior of said manifold; mixing burner nozzles in said holes; a frame for supporting said bucket; and means mounted on said frame for supplying combustion air and gas to said manifold.

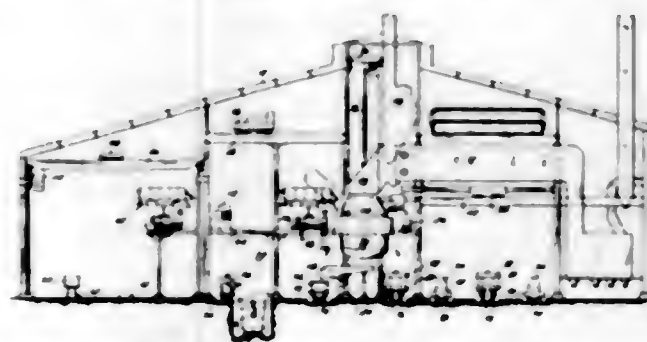
3,385,583  
HEAT TREATING APPARATUS  
Eugene Jablonski, Shoreham, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Mar. 2, 1966, Ser. No. 531,102  
5 Claims. (Cl. 266-4)



1. Apparatus operable to apply heat successively to a portion of each of a plurality of similar workpieces for raising the temperature thereof to a desired extent while preventing an adjacent portion of each of such workpieces from experiencing a similar temperature rise, said apparatus comprising a rotary workpiece-conveyor means rotatable in a horizontal plane about a vertical axis and adapted to removably support an array of circumferentially spaced-apart workpieces in an attitude in which their

respective portions to be temperature-raised occupy a vertical position above their adjacent portions to be temperature-rise-protected; a fixed-location heating means disposed along a path of travel of the to-be-temperature-raised workpiece portions for subjection of same to a heating effect; and heat absorbing means including a pool of liquid beneath said heating means having a surface level maintained at a height substantially equal that to which the to-be-temperature-rise-protected workpiece portions extend, and weir means including notches open to the liquid pool and extending below such surface level, said notches being disposed along the path of travel of the to-be-temperature-rise protected workpiece portions to permit travel of such portions therethrough for their immersion into and removal from the pool of liquid.

3,385,584  
CRANELESS STEEL PLANT  
Roland Kemmetmueller, Pittsburgh, Pa., assignor to Waagner-Biro AG, Vienna, Austria  
Filed Mar. 12, 1965, Ser. No. 439,277  
10 Claims. (Cl. 266-13)

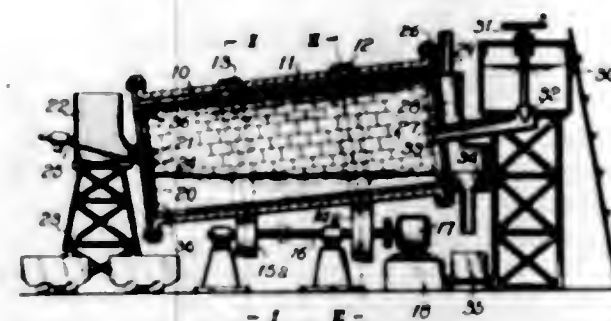


A craneless steel plant wherein a converter is situated between a charging aisle which extends longitudinally of the plant on one side of the converter and a teeming aisle which extends longitudinally of the plant parallel to the charging aisle and on the opposite side of the converter. A plurality of car rails are situated in both of the aisles, and all of the car rails which are situated in these aisles extend exclusively longitudinally thereof, so that in this way the aisles do not have any car rails which extend transversely of the aisles. The plurality of rails include a torpedo car rail in the charging aisle for guiding a torpedo car which delivers pig iron to a charging ladle and a slag car rail in the charging aisle for guiding slag cars which receive slag from the converter to transport the slag out of the plant. The plurality of rails in the teeming aisle include steel car rails for guiding cars which carry teeming ladles for movement longitudinally of the teeming aisles and mold car rails for guiding mold-carrying cars for movement longitudinally of the teeming aisle. A stationary trolley rail is situated over and extends transversely of the charging aisle, and a trolley carried thereby transports a charging ladle to and from the converter, while a stationary trolley rail which is situated over and extends transversely of the teeming aisle carries a trolley for transporting a teeming ladle from a steel car toward and away from a mold car.

3,385,585  
ROTARY FURNACE FOR CONTINUOUSLY REFINING MOLTEN METAL  
Takaho Kawawa, Kawasaki-shi, Japan, assignor to Nippon Kokan Kabushiki Kaisha  
Filed Feb. 25, 1965, Ser. No. 435,190  
Claims priority, application Japan, Feb. 28, 1964, 39/10,926  
8 Claims. (Cl. 266-18)

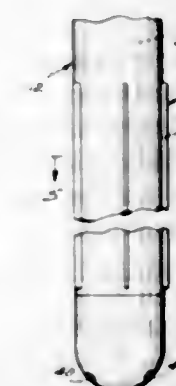
A rotary furnace for continuously refining molten metal is disclosed as including a relatively elongated circular cross section container having end plates at oppo-

site ends, one end plate being formed with a relatively large diameter opening and the second end plate being formed with a relatively small diameter opening. At least the lower arcuate extent of the interior surface of the container slopes downwardly relative to a horizontal plane, from the end plate having the relatively large diameter opening to the end plate having the relatively small diameter opening. The container is mounted for rotation about its axis, and driving means rotate the container at an angular velocity sufficient to agitate a body of fluid therein while maintaining the body of fluid entirely within the lower arcuate extent of the inner surface and with the upper surface of the fluid body lying generally in a substantially horizontal plane.



Molten metal is supplied to the container through the relatively large diameter opening, and slag composition is supplied to the container through the relatively small diameter opening, the slag composition being melted during agitation by rotation of the container, with the molten slag composition forming a layer floating on the substantially horizontal surface of the body of molten metal and overflowing through the relatively large diameter opening. Molten metal discharge means are provided adjacent the end of the container having the relatively small diameter opening in its end plate, and withdraw molten metal from beneath the slag layer at a substantially constant rate and continuously. A burner extends through the relatively small diameter opening in an end plate, and the products of combustion are discharged through the relatively large diameter opening in an end plate.

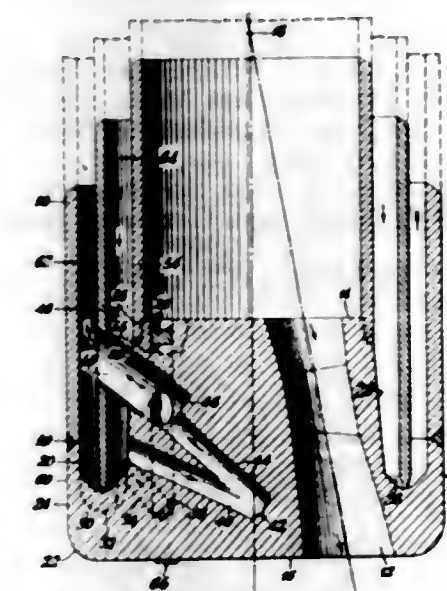
3,385,586  
OXYGEN LANCE WITH SLAG-BREAKING MEANS  
Roland Kemmetmueller, Pittsburgh, Pa., assignor to Waagner-Biro AG, Vienna, Austria  
Filed Feb. 12, 1965, Ser. No. 432,281  
7 Claims. (Cl. 266-34)



An oxygen lance which is adapted to extend into a converter for directing oxygen into the latter. The oxygen lance includes an elongated tubular means which has a bottom end for directing oxygen into the converter from the region of the bottom end of this tubular means,

A slag-breaking means is carried by the elongated tubular means at the exterior thereof and at a substantial distance higher than the bottom end thereof for breaking slag which tends to accumulate on the exterior of the tubular means, so that the broken slag falls from the tubular means to prevent excessive accumulation of slag thereon. The slag-breaking means includes a plurality of ribs which are fixed to and extend longitudinally of the tubular means at the exterior thereof, and these ribs are distributed about the axis of the tubular means while being angularly spaced from each other about the latter axis by less than  $180^\circ$  so that the slag cannot extend around the tubular means to an extent sufficient to enable the slag to shrink onto the tubular means. Therefore when the slag shrinks it will simply fall from the exterior surface of the tubular means.

3,385,587  
HIGH-CAPACITY MULTIJET OXYGEN LANCES  
George H. Smith, New Providence, N.J., assignor to Union Carbide Corporation, a corporation of New York  
Filed May 20, 1965, Ser. No. 457,387  
5 Claims. (Cl. 266-34)



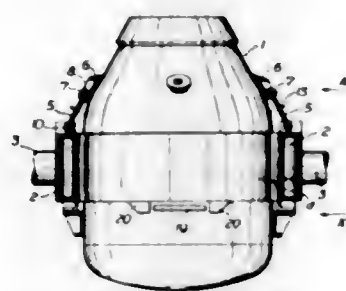
A forged oxygen jet tip having a plurality of oxygen passages, and a plurality of clusters of cooperating cooling water passages located in the body of the tip, between the oxygen passages for cooling the tip especially in the critical zones adjacent the front face of the tip. The inlet passages for the relatively cold water are located closer to the working face of the tip than the outlet passages for the relatively hot water so that incipient steam bubbles are swept upwardly out of such outlet passages by the combination of the water flow and thermal convection currents.

3,385,588  
RELEASABLE BEARING FOR CRUCIBLE OR CONVERTER  
Peter Puxkandl, Linz, Austria, assignor to Vereinigte Österreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria  
Filed Feb. 18, 1966, Ser. No. 528,575  
Claims priority, application Austria, Mar. 4, 1965, A 1,903/65  
10 Claims. (Cl. 266-36)

1. A releasable bearing for a tiltable converter having a substantially cylindrical shell, comprising a closed, annular carrier body which is arranged to surround the periphery of the converter in spaced relationship and on which the converter is supported by upper and lower supporting means, each of said upper supporting means consisting of a supporting member pivotally mounted on



said annular carrier body and of an abutment member having a stop face adapted to cooperate with said supporting member in its swung-in supporting position and being rigidly secured to the converter shell, the radial extension of said abutment members being smaller than the inside radius of said carrier body so that upon release



of said upper supporting means the converter can be lowered out of said carrier body, and said lower supporting means including means rigidly mounted on the converter shell and detachable adjustment means adapted to be positioned against the lower surface of said annular carrier body.

3,385,589

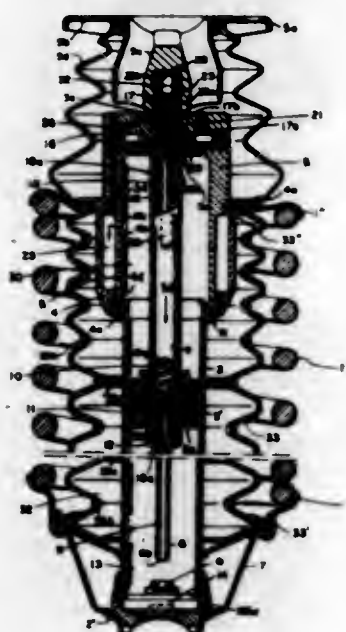
**VEHICULAR SUSPENSION SYSTEM**

Hans Erdmann, Frankfurt am Main, Germany, assignor to Alfred Teves KG., Frankfurt am Main, Germany, a corporation of Germany

Filed June 13, 1966, Ser. No. 557,220

Claims priority, application Germany, June 30, 1965, T 28,909

10 Claims. (Cl. 267—34)



1. In a body-level-adjusting, shock-damping vehicle suspension system having a shock-absorber interposed between an axle portion and a body portion of a vehicle and having hydraulic shock-damping means for reducing relative oscillatory movement of said portions, suspension-spring means extending along said shock-damping means for urging said portions apart, and hydraulic body-elevating means interposed between one of said portions and said spring means for loading said spring means and adjusting the level of said body portion relatively to said axle portion thereby to maintain the level of said body portion under loading thereof, the improvement wherein: said shock-damping means includes a first hydraulic cylinder, and a first hydraulic piston reciprocable within said cylinder to form a dash-pot assembly therewith; and

said body-elevating means includes a second hydraulic cylinder coaxially surrounding said first cylinder at least at one end thereof and telescopically receiving said first cylinder, a second hydraulic piston received in said second cylinder, and pump means for supplying said second cylinder with hydraulic fluid upon reciprocation of said dash-pot assembly.

3,385,590

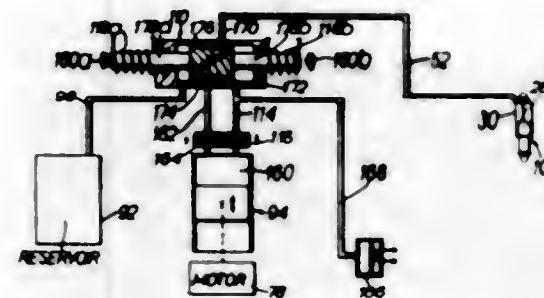
**VEHICLE SUSPENSION ASSEMBLIES**

David Alan Avner, Birmingham, England, assignor to Girling Limited

Filed Jan. 27, 1966, Ser. No. 523,361

Claims priority, application Great Britain, Feb. 5, 1965, 5,091/65

7 Claims. (Cl. 267—65)



A closed or sealed vehicle suspension system including a telescopic strut, a reservoir and pump means for controlling gas flow between the strut and reservoir to expand or contract the strut; selectively reversible means controllable by the vehicle operator for pumping gas from the strut to the reservoir or vice versa comprising in some embodiments a change-over valve and in another a reversible pump motor.

3,385,591

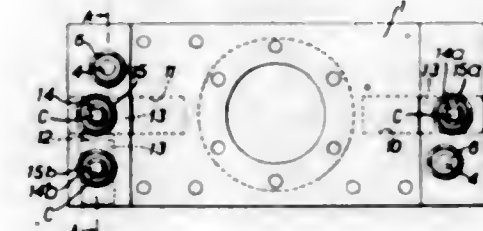
**WORKHOLDER**

Russell Henry Richard Parker, Portchester, England, assignor to J. Evans & Son (Portsmouth) Limited, Portsmouth, England, a British company

Filed Mar. 31, 1965, Ser. No. 444,126

Claims priority, application Great Britain, Apr. 7, 1964, 14,272/64

2 Claims. (Cl. 269—59)



A workholder is adjustably mounted on a support by providing the latter with a pair of aligned slots extending longitudinally of the support and a further slot extending transversely. Adjusting studs are rotatably mounted in the workholder and have eccentrically disposed pins engaging in holes in slides positioned in the slots so that by rotating the studs the workholder can be moved longitudinally or transversely relative to the support.

3,385,592

**UNIVERSAL BULB HOLDER**

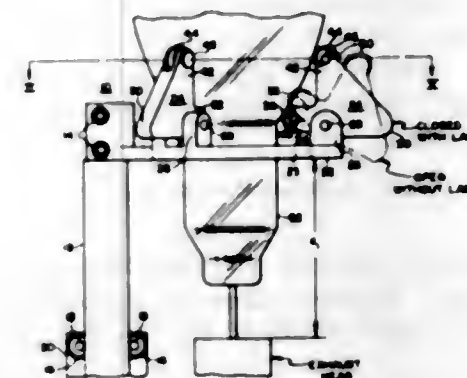
Richard F. Hasell, Bloomfield, and Robert M. Brady, Hazlet, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 26, 1965, Ser. No. 458,942

6 Claims. (Cl. 269—287)

Universal bulb holder for securely retaining in predetermined fixed position a wide variety of differently shaped light bulbs. The bulb holder comprises an annular

support member which has a plurality of contact arms fitted inwardly therefrom. Each arm has two projecting portions, an upper and a lower portion that contact the bulb. The lower projecting portion of each arm is initially contacted upon insertion of the bulb and this pivots



each arm until each other projecting portion also contacts the bulb. The bulb is thus securely retained and positioned within the holder. The center of gravity of each arm is located so that upon removal of the bulb the arm pivots back to the bulb receiving original position.

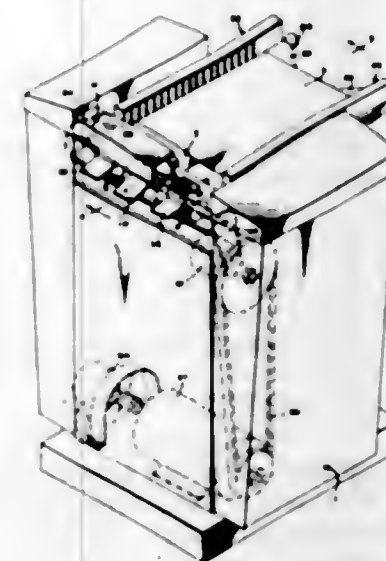
3,385,593

**APPARATUS FOR FEEDING INDIVIDUAL SHEETS OF PAPER OR THE LIKE FROM THE BOTTOM OF A STACK**

Donald L. Snellman, Seattle, Wash., assignor to Norfin Inc., Seattle, Wash., a corporation of Washington

Filed Aug. 27, 1965, Ser. No. 483,243

8 Claims. (Cl. 271—11)



A device for removing a sheet of paper or the like from the bottom of a stack which is partially supported by an air cushion. One end of the bottom of the stack is exposed except for support thereof provided by a narrow angularly shaped bracket which contacts the edge portion of the stack. A movable contact member which comprises a vacuum head is operated so as to move against the bottom sheet in the area of the exposed end and to adhere to the bottom sheet and remove it in one direction from the supporting bracket structure and then feed it in the opposite direction into a set of feed rolls. The supply of vacuum pressure to the vacuum head of the moveable contact member is controlled by a rotary valve, the movement of which is timed so as to apply vacuum pressure when the vacuum head moves into contact with the sheet and to release the vacuum pressure at the instant the sheet is picked up by the feed rolls.

3,385,594

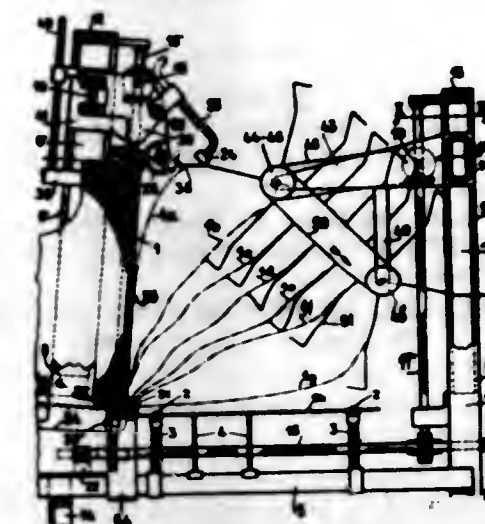
**DEVICE FOR SUCCESSIVELY FEEDING SHEETS TO A CONVEYOR FROM A PILE IN WHICH THE SHEETS ARE SUPPORTED ON EDGE**

Roland Freisig, Lausanne, Switzerland, assignor to J. Bobet et Fils S.A., Lausanne, Switzerland

Filed Feb. 13, 1967, Ser. No. 615,605

Claims priority, application Switzerland, Feb. 14, 1966, 2,191/66

14 Claims. (Cl. 271—12)



A feeder device in which a pile of sheets are supported on edge such that the sheets are slightly inclined with the vertical, the first sheet in said pile being successively removed from the pile by a separating mechanism which is inclusive of a suction device. The first sheet is engaged at its upper edge by the separating mechanism and withdrawn from the pile by being tilted about its lower edge until it reaches a position in which it can freely fall, at which time the sheet is released and supported by a blade member on an endless conveyor and gradually lowered to horizontal position onto a conveyor means which transports the sheets one by one to a processing machine.

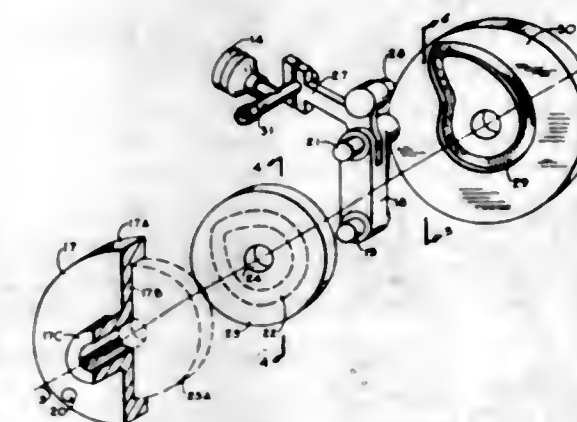
3,385,595

**HIGH SPEED FEEDER MECHANISM**

Victor Benatar and Michael Katogir, Atlanta, Ga., assignors to The Mead Corporation, a corporation of Ohio

Filed May 2, 1966, Ser. No. 546,827

7 Claims. (Cl. 271—27)



The mechanism as disclosed herein is primarily intended for use in withdrawing blanks from a hopper and for quickly depositing the blanks atop a group of items to be packaged. The mechanism is characterized by high speed of operation and utilizes pneumatic suction means for engaging the blanks. A high speed rotatable driving



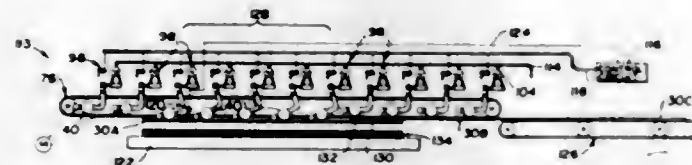
element is pivotally connected with a first driven element which in turn is provided with a cam follower arranged to ride in a cam surface formed in a fixed cam. A second driven element is pivotally connected with the first driven element and also is provided with a cam follower arranged to ride in a cam surface formed in a second fixed cam. A suction cup is mounted on and movable with the second driven element so that a composite motion is imparted thereto whereby the pneumatic suction means is arranged to engage a carton blank and quickly to withdraw it from its hopper and to deposit it atop a group of articles to be packaged.

3,385,596

# METHOD FOR DEPOSITING MAGNETICALLY SUSCEPTIBLE WORKPIECES AT PRESELECTED LOCATIONS

Hugh Ross and Franklin E. Parke, Pittsburgh, Pa., assignors to Ropak Manufacturing Co., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 22, 1965, Ser. No. 500,954  
10 Claims. (Cl. 271-46)



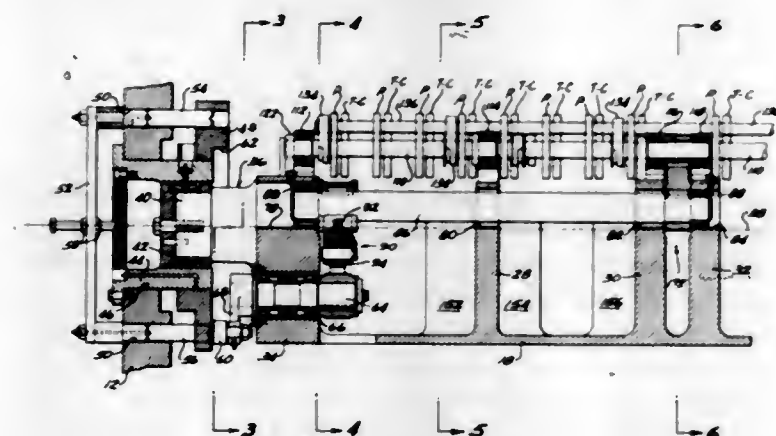
This patent discloses methods for stacking workpieces, such as sheets or pipe, of magnetically susceptible material, such as steel. The workpieces are accurately stopped, without the use of a physical abutment, by being brought into contact with a plurality of magnet-containing rollers, preferably undriven, so as to be decelerated to a stop while in rolling contact with the rollers by absorption of kinetic energy of the workpiece in cutting magnetic lines of flux, whereafter a force is exerted on the workpiece to disengage it from the rollers. The patent further describes force-applying means that act, e.g., on a sheet in such manner that air is trapped under its middle to cushion its descent to the pile or stack being formed.

3,385,597

# SHEET HOLDING AND TRANSFER APPARATUS

Stanley Ludwig Guzik, Latrobe, Pa., assignor to Miller Printing Machinery Co., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 16, 1967, Ser. No. 609,460  
9 Claims. (Cl. 271-82)



Apparatus for tumbling the gripper devices on a transfer cylinder of a perfecting printing press where one or more colors are printed on two sides of a sheet of paper.

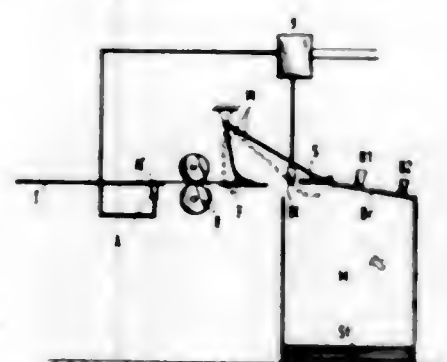
An actuator shaft is journaled in the transfer cylinder and is drivingly connected to the tumbler shaft at a location intermediate the end portions of the cylinder. A drive shaft is journaled in the transfer cylinder and has one end portion connected to a cam actuated lever and the other end portion connected to the actuator shaft by a link mechanism so that rotation of the drive shaft by the cam actuated lever is transmitted through the actuator shaft to the tumbler shaft at a location intermediate the ends of the transfer cylinder to tumble the gripper devices without subjecting the tumbler shaft to torsional deflection.

3,385,598

# PNEUMATIC FILING DEVICE

Jong-Dok Kim, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed June 9, 1966, Ser. No. 556,382  
Claims priority, application Germany, June 18, 1965,  
S 97,682  
3 Claims. (Cl. 271-86)



A filing device used to file sheet-like record carriers such as punch cards which are used in a data processing machine. To prevent damage to the carrier while being placed into a compartment of a filing device, the carrier contacts a brake plate having a suction surface which is disposed over the compartment and stops the movement of the carrier. The filing device further includes either a mechanical or pneumatic mechanism to facilitate the release of the carrier from the plate.

3,385,599

# AMUSEMENT ROLLER SLIDE

James F. Davis, 17154 Nordhoff St., Northridge, Calif. 91324  
Filed Apr. 1, 1966, Ser. No. 539,405  
17 Claims. (Cl. 272-56.5)



1. An amusement device comprising a roller ride, said roller ride comprising first and second spaced side rails, a plurality of slings interconnecting said side rails, the ends of said slings downwardly hanging from said side rails,

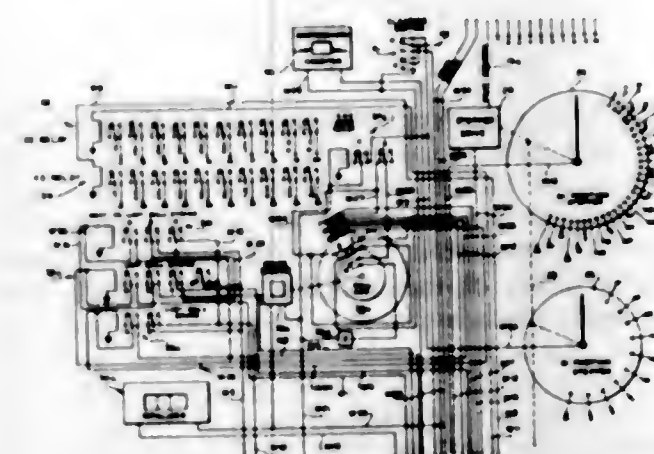
said slings depending below said side rails, each of said slings comprising a plurality of rollers positioned end to end, said plurality of rollers extending substantially from one of said side rails to the other of said side rails, said slings defining a generally downwardly sloping path, said rollers being arranged so that as a person enters upon the rollers at the upper end thereof, the person rides downward on said rollers between said side rails and causes at least some of the rollers to rotate, and wherein said slings are flexible and said rollers at least partially conform in shape to the person riding on the roller ride as he descends along the roller ride from one sling to the next.

3,385,600

# AUTOMATIC BOWLING SCORE COMPUTER

William D. McJunkin, 604 Little John Trall, Marietta, Ga. 30060, and Joseph A. Webb, Sr., 735 Rasada St., Satellite Beach, Fla. 32935

Filed Nov. 4, 1964, Ser. No. 408,862  
10 Claims. (Cl. 273-54)



An automatic bowling score computer for connection to automatic pinsetting equipment and having a separate individual scoring totalizer for each of a plurality of bowlers; the computer including a rotary camming switch adapted to indicate up to a pin count of thirty being added to an appropriate totalizer for each operation of the pinsetting equipment, plus a pair of relays for doubling and tripling the pinfall sensed by the pinsetting equipment for addition of game score to the appropriate totalizer for each operation of the pinsetting equipment. Associated with each individual scoring totalizer is a set of three relays; one being energized during the scoring of the first ball after a spare to operate the doubling relay of the computer, another being energized during the scoring of the first ball after a strike to operate the doubling relay of the computer, and the third being energized during the scoring of the second ball after a strike to operate the doubling relay of the computer. The circuitry of the computer further provides that when the two preceding balls thrown are a strike involving one of the individual scoring totalizers, the scoring of the first ball thrown after the second strike has both second and third individual relays energized which in turn energize both the doubling and tripling relays for tripling the pinfall addition being added to the associated individual scoring totalizer for that ball.

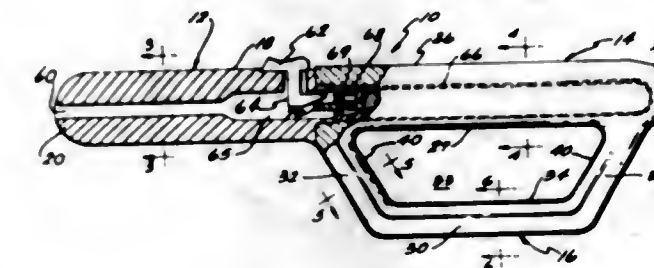
A ball and frame counter is provided with each of the individual scoring totalizers which in turn operates a control means so as to prevent tripling the pinfall of any ball thrown after the first ball of the tenth frame and to prevent doubling the pinfall of any ball thrown after the second ball of the tenth frame, so that each individual scoring totalizer shows a score after each ball is thrown that will be the final score of that game if all subsequent balls thrown in the game score zero.

3,385,601

# BILLY CLUB WITH HAND GUARD AND PERSONNEL IMMOBILIZING AGENT

William R. Black, La Crosse, Wis., assignor to Outers Laboratories, Inc., Onalaska, Wis., a corporation of Wisconsin

Filed May 19, 1965, Ser. No. 456,928  
9 Claims. (Cl. 273-84)



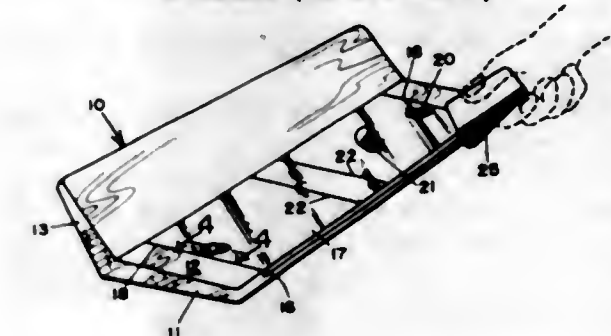
Disclosed herein is a billy club comprising an elongated club portion, an elongated handle portion extending from one end of the club portion in the same general direction, and a guard which is generally located co-extensive with said handle portion and which includes a hand protecting part having a triangular cross section in a plane generally transverse to said handle portion and parts connecting said hand protecting part to said handle portion in spaced relation thereto. The club may contain a personnel immobilizing agent which can be selectively ejected through an end of the club.

3,385,602

# POCKETED SURFACE PROJECTILE GAME WITH PLASTIC PLAYING SURFACE

John A. Wiedeman, 11520 SW. 43rd Terrace, Miami, Fla. 33165

Filed Apr. 19, 1965, Ser. No. 449,024  
1 Claim. (Cl. 273-123)



A game played by two opposing players consisting of a board, a ball and a pusher member used by one player for pushing the ball across the board toward the other player, the board having a tilted planar upper surface; a back wall extending along the side of the board at the higher edge thereof, the planar upper surface having a recess extending to a position adjacent the end portions, a sheet of plastic material mounted in the recess, the plastic sheet having a circular recess adjacent each end with a hemispherical abutment of smaller diameter mounted in each recess forming a peripheral recess for receiving the ball, and boundary marks formed on the plastic sheet adjacent the midportion thereof.

3,385,603

# RESETTING MECHANISM FOR PHONOGRAPH TURNTABLES

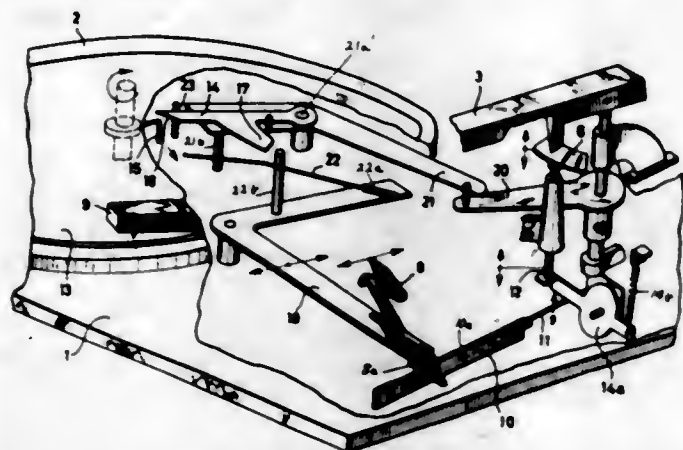
Walter Knopfle, St. Georgen, Black Forest, Germany, assignor to Firma Perpetuum-Ebner, Fabrik fur Feinmechanik und Elektrotechnik Steidinger & Co., Komm. Ges., St. Georgen, Black Forest, Germany

Filed July 2, 1965, Ser. No. 469,063  
Claims priority, application Germany, July 11, 1964,  
P 34,675  
6 Claims. (Cl. 274-15)

A two element resetting mechanism for an automatic



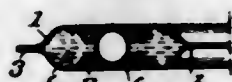
disk record player, one element being driven frictionally by the other element for initiating return of the tone arm



at the end of a playing cycle, with resilient biasing means to return the deflection mechanism to its original position.

### 3,385,604 RESILIENTLY COMPRESSIBLE PACKING JOINTS

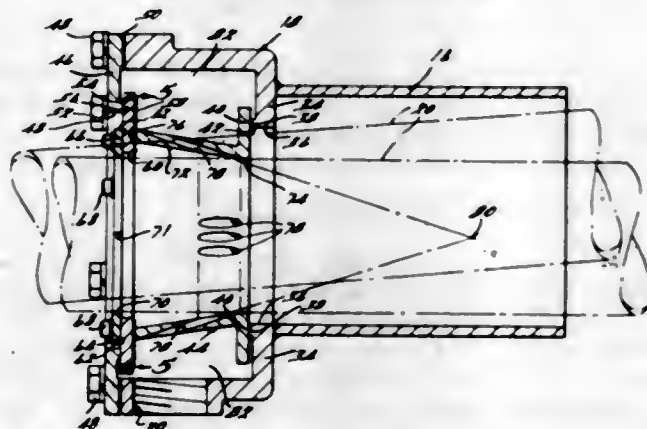
Daniel Trauffer, 48 Ave. Egle, 78 Maisons-Laffitte, France  
Filed Mar. 22, 1966, Ser. No. 536,455  
Claims priority, application France, Sept. 9, 1965,  
30,960  
6 Claims. (Cl. 277-26)



1. A resiliently compressible packing joint which comprises, in combination,
  - a resiliently flexible fluidtight metallic envelope filled with a liquid, and
  - a second fluidtight envelope containing a gas, said second envelope being located in the first one, whereby variations of the volume limited by the first envelope produce variations of the volume of said second envelope, these last mentioned variations being made possible and being resiliently reversible owing to the compressibility of said gas.

### 3,385,605 WALL BOX SEAL ASSEMBLY

Thomas J. Hylbert and John E. Clark, Lancaster, Ohio, assignors to Diamond Power Specialty Corporation, a corporation of Ohio  
Filed Apr. 4, 1966, Ser. No. 539,964  
7 Claims. (Cl. 277-70)

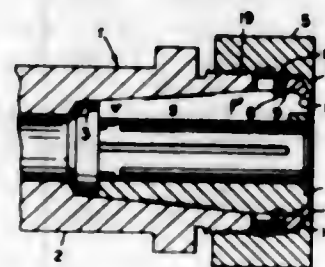


A wall box sealing assembly for an opening in the wall of a heat exchanger apparatus consisting of a housing with longitudinally spaced apart end walls and a collar

through which a tubular element is adapted to extend disposed in sealing sliding relationship between the end walls and formed with air nozzles therethrough for discharging a pressurized fluid supplied to the chamber around the periphery of the tubular element and toward the interior of the heat exchanger apparatus.

### 3,385,606 COLLET CHUCK

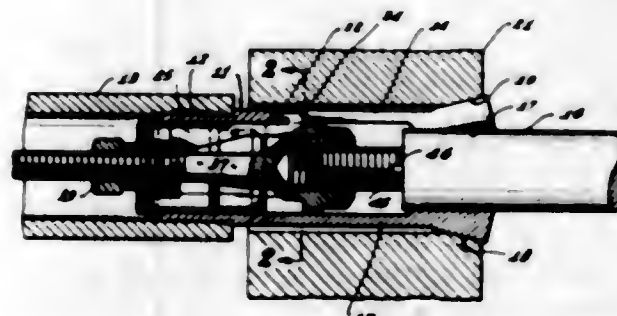
Milton L. Benjamin, Shaker Heights, and David D. Walker, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio  
Filed Apr. 6, 1965, Ser. No. 445,915  
5 Claims. (Cl. 279-49)



A chuck having interengageable faces on the nosepiece, nose ring, and collet for effecting axial inward and outward movements of the collet in response to turning of the nosepiece in opposite directions. Line contact between the interengageable faces on the nosepiece and nose ring enables tilting of the nosepiece with respect to the nose ring and collet.

### 3,385,607 COLLET AND WORKPIECE STOP DEVICE

Charles R. Hughes, 308 Vista Baya, Costa Mesa, Calif. 92627  
Filed Feb. 11, 1966, Ser. No. 526,770  
20 Claims. (Cl. 279-51)



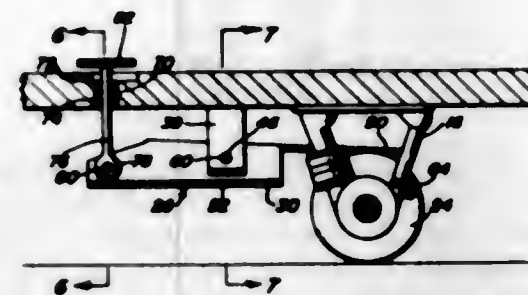
16. For use in a draw collet of the type having a tubular body with a plurality of longitudinal slots through the wall of said body and terminating short of the rearward end thereof to divide said body into a plurality of jaws laterally movable to grip a workpiece adjacent the forward ends thereof, a workpiece stop device comprising in combination:

- (a) a holder adapted to be inserted into the bore of said collet from the rear;
- (b) at least one interlocking member mounted on said holder for reciprocal transverse movement thereon between extended and retracted positions and having a portion adapted when in extended position to project outwardly from said bore into one of said slots and said portion having a rear abutment adapted to engage the rear end of said slot and limit rearward axial movement of said member when it is in extended position and to be disengaged from said slot end when said member is in retracted position to permit withdrawal thereof from said bore;

- (c) operating means operatively engaged with said member and operable from outside said collet to move said member selectively between said extended and retracted positions as aforesaid; and
- (d) stop means including a forwardly facing abutment formed on said member to longitudinally position a workpiece gripped by said collet and positively prevent rearward motion thereof with respect to said collet when said member is in extended position.

### 3,385,608 SKATEBOARD BRAKE

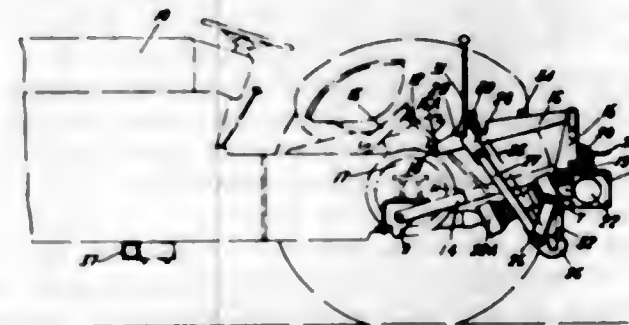
Albert O. Waddell, 2803 Arctic Blvd., Spenard, Alaska, 99503  
Filed Sept. 1, 1966, Ser. No. 576,729  
8 Claims. (Cl. 280-11.2)



A skateboard including brake means operative to automatically brake at least some of the wheels of the skateboard in response to the rider of the skateboard dismounting or falling off the skateboard, the skateboard including an upwardly facing load supporting surface and the brake means including an actuator having a portion movable between a position elevated above the load supporting surface when the brake means is actuated and lowered to a position at least substantially flush with the load supporting surface when the brake means is released together with means yieldingly urging the brake actuator toward an elevated position so as to apply the brake means when a load is not disposed on the load supporting surface.

### 3,385,609 TOWING HITCH

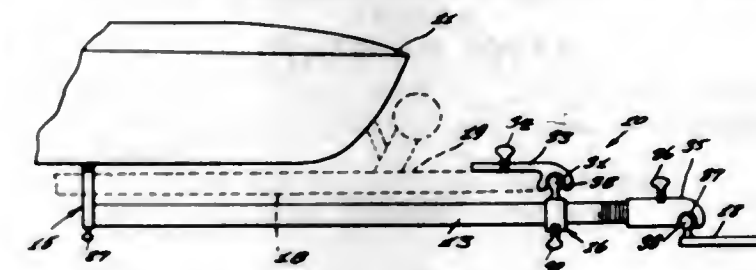
Alfred J. Wenzel, Kassel-Kirchdittmold, and Alwin K. Hantel, Kassel, Germany, assignors to Massey-Ferguson G.m.b.H., Kassel, Germany  
Filed June 30, 1966, Ser. No. 561,944  
Claims priority, application Great Britain, July 7, 1965, 28,878/65  
5 Claims. (Cl. 280-479)



A tractor hitch comprising a drawbar assembly pivotally mounted on the draft links of the tractor, upper and lower selectively employable trailer coupling elements and a tractor coupling element carried by the drawbar, the tractor coupling element being pivotally connected to the tractor above its rear axle and one of the trailer coupling elements being downwardly spaced from the drawbar and from the other trailer coupling element.

### 3,385,610 TRAILER ADJUSTABLE EXTENSION BOOM

Roland J. Vezina, 118 Pollard Road, Lincoln, N.H. 03251  
Filed Nov. 14, 1966, Ser. No. 593,905  
4 Claims. (Cl. 280-482)



A boom for a boat trailer which is longitudinally extendable so to reach a boat in the water while an automobile which carries the boom, can remain far enough from the water's edge so to stay upon solid ground, the boom including a member being secured at one end to an automobile hitch while a frame cradling the boat is slidable thereupon from one end to the other.

### 3,385,611 COUPLING UNIT FOR VEHICLES

Boris Silver, 2340 New York Ave., Huntington Station, N.Y. 11746  
Filed May 4, 1966, Ser. No. 547,604  
2 Claims. (Cl. 280-511)



1. A coupling unit for vehicles comprising in combination a first member adapted for attachment to a first vehicle and a second member adapted for attachment to a second vehicle, said first member comprising a base part lying in a vertical plane, projection means connected to and having a portion extending generally horizontally from said base part, a post-hitch member connected to and extending generally vertically of said projection means, said post-hitch member having a free end including securement means thereat, said post-hitch member being spaced with respect to said base part, a closure member pivotally connected at one end to said projection means, the other end of said closure member including securement means thereat, said latter securement means being adapted for removable securement with respect to said securement means of said post-hitch member, said other end of said closure member being adapted to swing between a closed position contiguous with and secured to the free end of said post-hitch member and an opened position spaced from said latter free end whereby when in closed position said projection means and closure member define a closed loop, a ball-hitch member mounted upright upon and proximately of the other end of said closure member, said ball-hitch member lying outside of said loop, said second member comprising an horizontal bar having a horizontally disposed ring passage therethrough, a ball socket support structure attached to said horizontal bar and a ball-socket provided therein, said ball-socket being spaced superposed with respect to said ring passage, said ball-hitch member being receivable within said ball-socket and said post-hitch member being receivable within said ring passage thereby providing a double connection between said first and second vehicles when said first and second members are attached to said respective vehicles and said ball-hitch and post-hitch members are concurrently received within said ball-socket and ring passage, respectively.



3,385,612

**DISPENSERS FOR NOTE PAPER**

Wilhelm Butter and Charles Bornand, Lausanne, Switzerland, assignors to Note-Service S.A., Lausanne, Switzerland, a corporation of Switzerland

Filed May 3, 1966, Ser. No. 547,278

Claims priority, application Switzerland, May 3, 1965, 6,155/65

1 Claim. (Cl. 281—44)



A note sheet dispenser useable in phone booths and the like comprising an elongated open ended casing freely movable, upwardly and downwardly on an upright support. The casing has a longitudinal through slot along the side wall. The edges defining the slot are received in corresponding slots on the edges of the upright support for travel upwardly and downwardly thereon. The slots in the upright support or guide extend the full length thereof so that the casing can be readily removed longitudinally and the dispenser charged with note paper in stacked condition. The stack of paper rests on a bracket fixed to the upright and disposed interiorly of the casing in use and dimensioned so that the casing can move freely upwardly and downwardly relative to the bracket while extending into the casing. At least one projection is formed on an upper end of the casing supporting the casing on the stack of note papers so that upon removal of each sheet the casing lowers itself of its own weight resting on the next successive sheet on top of the stack.

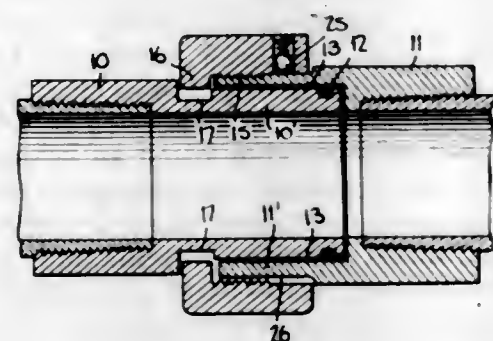
3,385,613

**QUICK DETACHABLE COUPLING**

Harold M. McCall, Fairlawn, N.J., assignor to Raymond International Inc., New York, N.Y., a corporation of New Jersey

Filed May 23, 1966, Ser. No. 552,296

4 Claims. (Cl. 285—84)



A coupling arrangement for hoses and the like comprising a pair of elements one of which carries a rotatable sleeve which is threaded to it and which has formed thereon means for flangibly engaging with another member to be connected to the member on which the sleeve is mounted. The sleeve is arranged to provide an eccentric rela-

tionship so that locking and unlocking are successfully achieved at successive 180° rotational intervals of the sleeve.

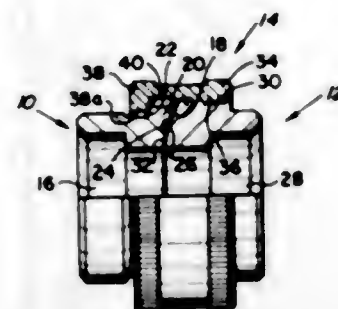
3,385,614

**MISALIGNABLE FLUID-TIGHT COUPLING**

Clifford H. Snyder, Jr., Coraopolis, Pa., assignor to SRM Company, a corporation of Pennsylvania

Filed Oct. 14, 1966, Ser. No. 586,788

1 Claim. (Cl. 285—263)



A pipe union type coupling is disclosed in which the end surfaces of the union halves are formed from mating spherical surfaces. The threaded collar of the union also meets one-half of the coupling along mating spherical surfaces and is oversized relative to the housing body. Accordingly, the spherical surfaces with oversize collar permit axial misalignment of the two coupling halves when joining them. The coupling is sealed by the use of a seal ring located with the concave spherical surface of one coupling portion and the collar of the coupling protects the surface containing the seal ring when the coupling is separated.

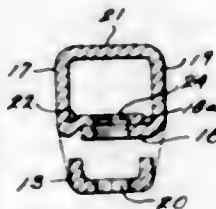
3,385,615

**STEERING POST**

Robert R. Hussey, Ashtabula, Ohio, assignor to The Ashtabula Bow Socket Company, Ashtabula, Ohio, a corporation of Ohio

Filed May 10, 1966, Ser. No. 549,007

4 Claims. (Cl. 287—54.1)



A cycle steering post formed of a one-piece sheet metal stamping including a hollow cylindrical stem portion adapted to be held within the forked stem of a cycle, and including a hollow neck portion formed integral with and extending outwardly from the stem portion. The neck portion has an outer free end (containing a bolt hole) bent back upon itself and spaced from the adjacent wall of the neck portion to form a cycle handle bar clamping head. Said adjacent wall of the neck portion is formed of overlapping wall portions containing a threaded aperture in line with said bolt hole for receiving a bolt (of preselected length) through the bolt hole and thence through the threaded aperture to clamp a handle bar in the clamping head. In a modification, the neck portion includes spaced side walls and a top wall. Interiorly of the neck portion is a planular plate (having an aperture) secured to the side walls and positioned parallel to the clamping head free end. A threaded nut is secured to the plate whereby a bolt of preselected length may be passed through the neck portion free end aperture, thence through the nut to clamp the handle bar.

3,385,616

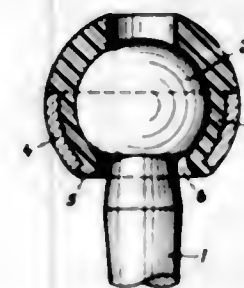
**BALL JOINTS, ESPECIALLY FOR STEERING GEARS**

Rudolf Gottschald, Osterath, Germany, assignor to A. Ehrenreich & Cie, Dusseldorf-Oberkassel, Germany

Filed Nov. 16, 1965, Ser. No. 508,083

Claims priority, application Germany, May 26, 1965, E 29,381

1 Claim. (Cl. 287—87)



The invention relates to ball and socket joints having particular application in the linkage system of the steering mechanism for motor vehicles. Basically, the ball and socket joint consist of a typical hinge pin terminating in a ball head, an annular joint case adapted to accommodate the ball head and a mounting ring member which mounts the ball joint assembly and attaches it to the associated linkage of the system. In particular, the design of the joint case is substantially spherical and includes an inner spherical cavity adapted to accommodate the pin ball head. In addition, the joint case has an annular opening concentrically disposed about the vertical center line of the joint case through which the hinge pin passes and a second opening extending from the uppermost section of the spherical cavity to the outside of the joint case. The second opening is also annular and concentrically disposed about the case vertical centerline but slightly smaller than the opening through which the joint hinge pin passes. The joint case is also formed with an outer annular arcuate recess which extends from a plane substantially below the horizontal center line of the casing to the plane of the opening through which the hinge pin passes. The mounting ring is designed with the same dimensions as the annular arcuate recess and is adapted to fit therein. This design enables the ball joint case and pin to be inserted in the mounting ring from a location above the ring but will not allow the ball or joint case to be forced through the lower opening since the ring member terminates in an annular opening smaller than that of the diameter of the ball pin.

3,385,617

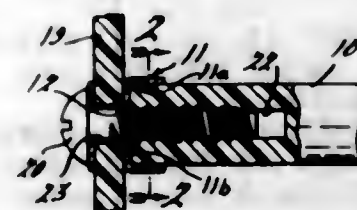
**CUP-SHAPED CAP MEANS IN A JOINT**

James H. Gehring, 4080 N. Sagamore Drive, Fairview Park, Ohio 44126

Continuation-in-part of applications Ser. No. 446,486, Apr. 8, 1965, and Ser. No. 538,090, Mar. 28, 1966.

This application Feb. 27, 1967, Ser. No. 618,974

8 Claims. (Cl. 287—189.36)



Means for joining two rigid load supporting members by providing one of the members with a generally annular protruding boss with a bore therein, placing a metal cap

over the boss and then securing the other member to the boss by means of a threaded fastener threadedly received through the bottom of the cap and extending into the bore in the boss, and in the preferred embodiment, also threadedly engaged with walls of the bore in the boss.

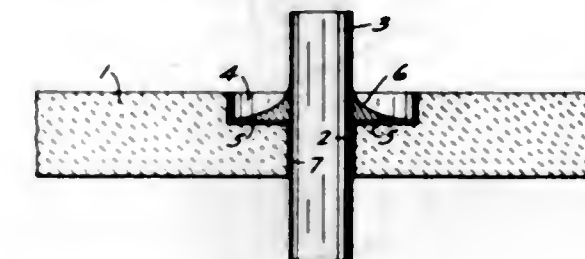
3,385,618

**CERAMIC-TO-METAL SEAL**

Billy M. Hargis, Cleveland, Tenn., assignor to American Lava Corporation, Chattanooga, Tenn., a corporation of Tennessee

Filed May 26, 1965, Ser. No. 459,014

4 Claims. (Cl. 287—189.365)



1. An article comprising:
  - (a) a ceramic member having a circular aperture therein;
  - (b) a circular metal member having a diameter slightly less than the diameter of said aperture extending into said aperture;
  - (c) a metalized area encircling said aperture on a surface of said ceramic member approximately perpendicular to the axis of said aperture;
  - (d) a meniscus shaped fillet of metal joining and hermetically sealing the periphery of said metal member to said metalized area.

3,385,619

**FLY LINE AND METHOD AND MEANS FOR JOINING A LEADER THERETO**

John F. Thomas, Wexford, Pa. (458 McKnight Circle, Pittsburgh, Pa. 15237), and Dennis J. Vish, 12 Airplane Drive, R.D. 3, Coraopolis, Pa. 15108

Filed Aug. 19, 1966, Ser. No. 573,681

6 Claims. (Cl. 289—1.2)



5. In combination, a relatively stout hollow buoyant fly line having a free terminal inlet end portion, a relatively thin leader having an end portion threaded telescopically into the cooperating hollow bore of said inlet end portion, then through and outwardly beyond an orifice provided therefor at a point spaced from the free inlet end of said bore, and that end portion of said leader inwardly of said orifice being tied and thus joined to the coating end portion of said leader adjacent said orifice.

3,385,620

**DOOR LATCH SAFETY RELEASE**

Dennis Porvin, 17601 Kentucky Ave., Detroit, Mich. 48221

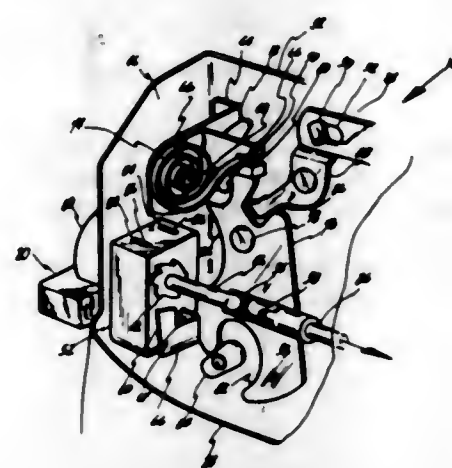
Filed Nov. 3, 1966, Ser. No. 591,894

6 Claims. (Cl. 292—59)

A vehicle door latch mechanism for permitting exiting from a damaged vehicle having a jammed door including a latching member for engagement and disengagement from the keeper member in the conventional manner and



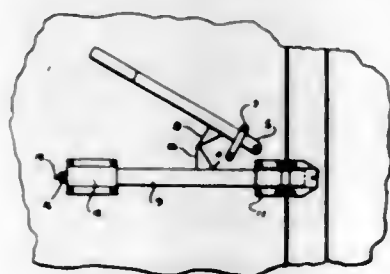
actuating mechanism accessible from the interior of the vehicle and selectively operable with the door closed to and crosswise through holes in the bolt housing and carries devices which will retract the bolt when the knob



move the latching member from engagement with the keeper member to thereby permit the door to be opened.

### 3,385,621 DOOR LOCK

George Watson, 4520 Gothard St., Vancouver, British Columbia, Canada  
Filed Aug. 12, 1966, Ser. No. 572,103  
1 Claim. (Cl. 292-165)

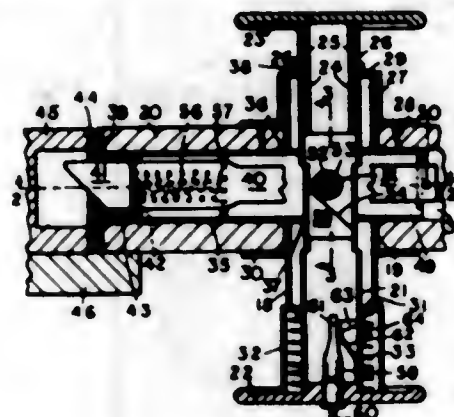


1. A lock as set forth comprising an operating handle pivotally secured at one of its extremities, an operating handle at the opposite extremity, an elongated bracket to limit the scope of travel of said arm, a projection on the underside of said arm having a surface thereon normal to said arm, a locking bar having one of its extremities slidably mounted in a bracket and its opposite extremity encased in a box having an open end and a closed end, a stud secured to the inner end of said bar and extending through the closed end of said box, nuts to prevent said stud from being drawn through said box a compression spring mounted over said stud to urge said bar in a forward position when the operating lever is released and a bevel on said bar to cooperate with said projection to cam said locking bar to retracted position and bevel formed with a vertical section to positively engage said surface and retain said lock in retracted position when the operating lever is drawn against said locking bar.

### 3,385,622 LATCH AND LOCK MECHANISM

Lorin D. Winger, Everett, Wash.  
(5907 California Ave. SW., Seattle, Wash. 98116)  
Filed May 16, 1966, Ser. No. 550,348  
2 Claims. (Cl. 292-170)

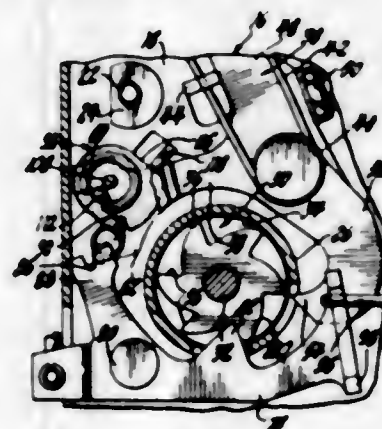
A large tubular knob shank housing extends crosswise through a door, a smaller tubular bolt housing having a bolt in it extends inwardly from an edge of the door and crosswise through holes in the knob shank housing. A longitudinally movable knob shank having a knob on each end extends lengthwise through the knob shank housing



shank is moved lengthwise in the direction the door must be moved to open it.

### 3,385,623 CLOSURE LATCH

Sylvester F. Burns, Rochester, and Lester M. Goeman, Grosse Pointe Woods, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Nov. 8, 1966, Ser. No. 592,850  
5 Claims. (Cl. 292-216)



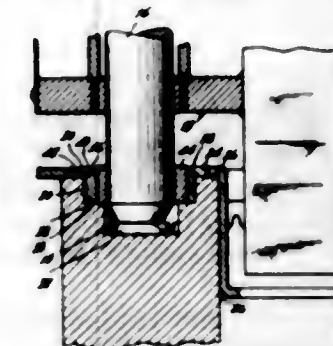
An automobile door latch includes a rotatable latch selectively held in latched position by a handle-operated pawl lever. The bolt may also be held in latched position by a locking lever which is selectively biased toward either a bolt-detenting position or a released position by an overcenter spring connected between the locking lever and a rotatable member on the support operated by the pawl lever. The locking lever may be manually moved between its positions by a garnish button or a key lock. Rotation of the bolt upon closing of the door shifts the bias of the overcenter spring to locate the locking lever in released position if the rotatable member is not operated by the pawl lever. Operation of the pawl lever rotates the control member to a position wherein the overcenter spring locates the locking lever in bolt-detenting position so that keyless locking may be accomplished.

### 3,385,624 ECCENTRIC ADJUSTING DEVICE

David Bacini, 8502 10th Ave., Brooklyn, N.Y. 11228  
Filed Apr. 20, 1966, Ser. No. 544,024  
1 Claim. (Cl. 292-341.18)

An eccentric adjusting device for a door frame comprising a block secured to a door frame with the block in alignment with a hole in the door frame. An outer cam member extends within the hole and is rotatably adjustably received in the socket. An inner cam member extends through the hole and is rotatably received within the outer cam member. The socket includes an outer re-

cess of less diameter than the hole and an inner recess of less diameter than the outer recess. The inner cam



member has a circular bore of less diameter than the inner recess.

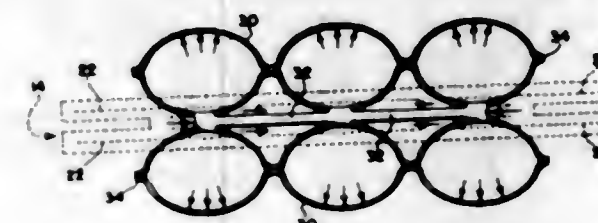
3,385,625  
BEER BARREL HOOK  
Joseph Holmes, 58-18 69th Ave., Ridgewood, N.Y. 11227  
Filed Sept. 7, 1966, Ser. No. 577,720  
1 Claim. (Cl. 294-26)



A T-configured hook for manually maneuvering beer barrels, the hook including a cross handle that fits within a workman's hand, and a projecting hook specially configured so to be adaptable for pulling around barrels.

### 3,385,626 PLASTIC SHEET CARRIER DEVICE

Mitchell S. Wozniak, Atlanta, Ga.  
(2501 N. Keeler Ave., Chicago, Ill. 60639)  
Filed Sept. 21, 1966, Ser. No. 581,103  
1 Claim. (Cl. 294-87)



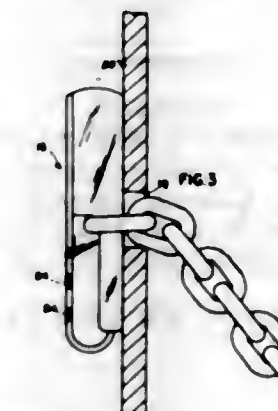
A plastic sheet carrier device for carrying a plurality of containers and the like wherein the carrier device has a scrapless construction, but which when transversely stretched, provides a plurality of apertures for receiving containers in conjunction with an integral handle arrangement.

### 3,385,627 TOGGLES IN LINKED CONNECTION AT THE END OF A CHAIN OR THE LIKE

Frank Zumbo, 1938 E. 1st St., Brooklyn, N.Y. 11215  
Filed Feb. 3, 1967, Ser. No. 613,833  
7 Claims. (Cl. 294-93)

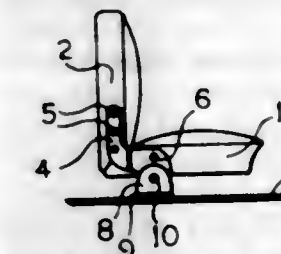
A toggle bar having a longitudinal slot extending from its middle region to near one end thereof whereby said bar end is a bight connecting two runs spaced by said slot.

The end link of a chain associated with the bar is capable of movement on and along the bight and each of said runs. The transverse cross-section of one run is substantially that of the stock a chain link is made of. Said bar is capable of passing through any hole the chain is capable



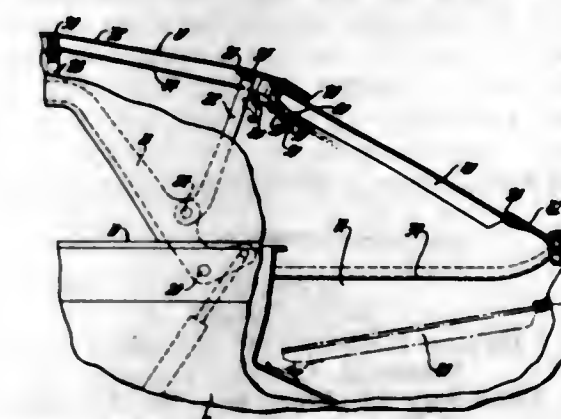
of being passed through and is of a length to lie across the hole and extend beyond it at both ends. There is a means to releasably hold the chain at the middle region of the bar. A section of a run is releasably secured, and when moved, affords entrance and removal of the chain from the slot.

3,385,628  
AUTOMATIC FRONT SEAT LOCKS  
Joseph Mandoza Romulus Lahaise, 39 Hotel-de-Ville St., Hull, Quebec, Canada  
Filed Sept. 19, 1966, Ser. No. 580,535  
5 Claims. (Cl. 296-63)



The invention relates to a back-rest lock for the front seat of an automobile in which a U-shaped locking member is actuated through a lever by the closing of the vehicle door so that its latching portions slide into bores of the pivotal arms of the back-rest to lock the same and are pushed out again into unlocking position by a spring when the door is opened.

3,385,629  
FOLDING TOP STRUCTURE  
Edward G. Podolna, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware  
Filed Jan. 18, 1967, Ser. No. 610,121  
4 Claims. (Cl. 296-146)



Folding top structure for an automotive vehicle includes foldable side rails mounting a rear bow member supporting a top cover provided with a backlite opening



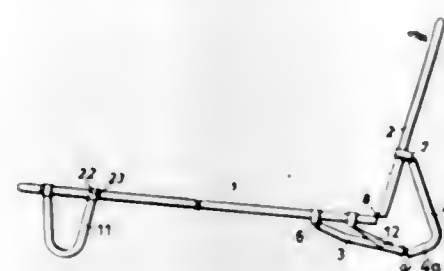
closable by a substantially rigid glass backlite movable between open and closed positions relative to the cover. Cables are connected between the backlite and the side rails and supported on the rear bow member in a manner to operate in tension to move the backlite from open to closed position as the side rail structure moves from lowered to raised position.

3,385,630

**ADJUSTABLE BODY SUPPORT**

Otto Greiner, Brunenstrasse 9, Neustadt, near Coburg, Germany  
Original application Sept. 3, 1965, Ser. No. 484,883.  
Divided and this application Mar. 22, 1967, Ser. No. 651,332

4 Claims. (Cl. 297—19)



1. An adjustable body support, particularly of the folding type, comprising a frame having a seat section and a back; hinges connecting one end of said seat section with one end of said back, means supporting the other end of said seat section, downwardly extending V-shaped supports located on opposite sides of the bed, each of said supports having a supporting arm, means pivotally connecting the upper end of said supporting arm with said seat section adjacent said hinges, another supporting arm, means pivotally connecting the upper end of said other supporting arm with said back adjacent to said hinges, said back-connected supporting arms having a longer upper portion, a shorter lower portion extending at an angle of less than 180° to said upper portion in the direction toward the seat-connected supporting arm and a curved portion joining said upper portion with said lower portion and resting upon the ground when the bed is in use, said back-connected supporting arm constituting a two-armed lever the fulcrum of which is the point of contact of said curved portion with the ground, whereby when the back is swung upwardly the effective length of said lower portion is shortened and the effective length of said upper portion is increased while when the back is swung downwardly the effective length of said lower portion is increased and the effective length of said upper portion is shortened, a transverse tube interconnecting the lower ends of the first-mentioned supporting arms of the two supports, another transverse tube interconnecting the lower ends of said other supporting arms of the two supports, arms swingably mounted upon opposite sides of said seat section adjacent the first-mentioned supporting arms, and a plurality of projections carried by the first-mentioned supporting arms, the last-mentioned arms being adapted to engage any one of said projections.

3,385,631

**BED-CHAIR**

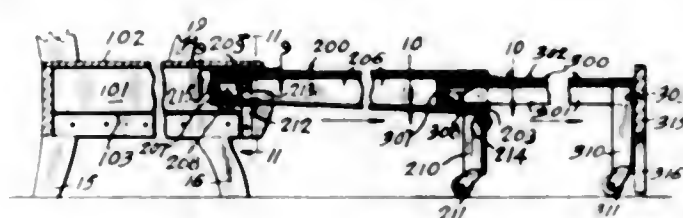
Hyman Gertler, 718 Victoria Ave., Montreal, Quebec, Canada

Filed July 13, 1966, Ser. No. 564,980

8 Claims. (Cl. 297—111)

A chair which is adapted to be converted into a bed. The seat portion of the chair is constructed to contain telescoped sections adapted to be withdrawn to their

full extension from underneath the seat of the chair to form, together with the seat of the chair, a surface large enough to provide a sleeping area. The sections are pro-



vided with rollers at one end resting on the same ledge under the seat to allow them to be easily extended or telescoped, and stops are provided to prevent complete withdrawal of one section from the others.

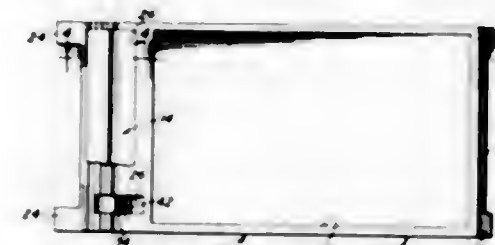
3,385,632

**CHAISE LOUNGE WITH ADJUSTABLE BACK**

Joseph Scelzi, 15741 NE. 15th Ave., North Miami Beach, Fla. 33162

Filed Dec. 15, 1966, Ser. No. 601,941

10 Claims. (Cl. 297—357)



A seat structure including a base defining a seat and an upstanding back supported from the rear of the seat, the base defining opposite side upwardly opening sockets in which opposite side depending arms carried by the back are readily removably received and the base and back including first and second pairs of coacting selectively engageable detent and rack abutment means operative, upon selective engagement of the detent and rack abutment means, to support the back from the seat at different inclined positions relative thereto against rearward movement of the upper end of the back relative to the base.

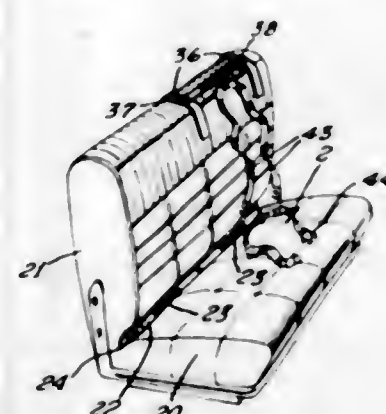
3,385,633

**SAFETY BELTS AND COMBINATIONS OF SUCH BELTS AND ANCHORS THEREFOR**

Frank E. Alzley, 334 Washington Ave., Chelsea, Mass. 02150

Continuation of application Ser. No. 414,214, Nov. 27, 1964. This application Dec. 29, 1966, Ser. No. 605,937

3 Claims. (Cl. 297—389)



Safety seat belt and anchor means, the anchor means including a member extending transversely of a vehicle seat adjacent its back and a second member adjacent the upper end of the back, the belt including a member attachable about the waist of a wearer and at least one

shoulder retainer slidably attached to the second anchor member and connected to one of the other members, and a rigid connection between the belt member and the first named anchor member and slidable relative to both of them.

3,385,634

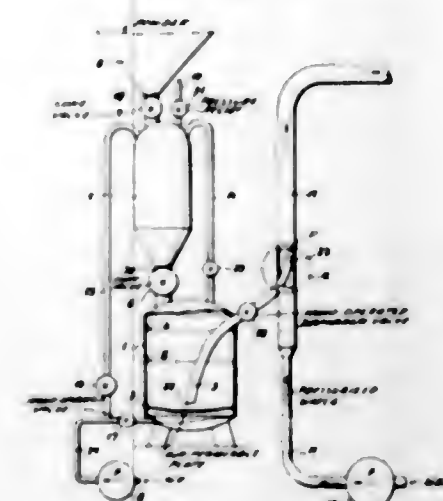
**DEVICE FOR CONTINUOUS HYDROPNEUMATIC CONVEYANCE OF POWDER-LIKE MATERIAL**

György Vigyazo, Budapest, Hungary, assignor to Komplex Nagyberendezések Export-Import Vállalata, Budapest, Hungary

Filed Sept. 13, 1966, Ser. No. 581,136

Claims priority, application Hungary, Sept. 17, 1965, EO-167

3 Claims. (Cl. 302—15)



Method and device for the conveyance of a powder-like material over long distances in which the powder is entrained by air into an upwardly moving stream of liquid from a tank in which the powdered material is fluidized from a pressurized-air stream introduced to the tank from below which the power is supplied from above, the compressed air being at a pressure upon entraining the powder at least equal to the pressure in the liquid line.

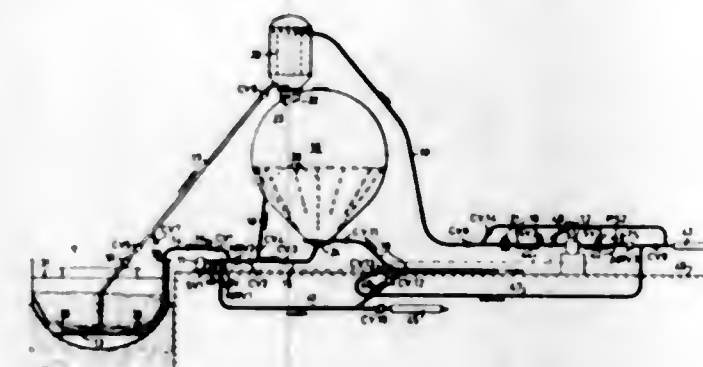
3,385,635

**APPARATUS FOR UNLOADING PULVERULENT BULK CARGO FROM SHIPS**

Helmuth William Carlsen, Malmö, Sweden, assignor to Aktiebolaget Interconsult, Malmö, Sweden, a corporation of Sweden

Filed Jan. 21, 1963, Ser. No. 252,859

4 Claims. (Cl. 302—53)



1. An apparatus for delivering pulverulent material from transportation means having an open cargo compartment, comprising in combination a separator tank; a suction system including a first pump, a first suction conduit connecting said tank with said first pump for drawing air from said tank, a second suction conduit connecting a bottom portion of said compartment with said tank for drawing aerated material from said compartment into said tank, separator means associated with said

tank for separating the material and air drawn into said tank and collecting the material in said tank, and control valves in said suction conduits; and a pressure system including a second pump, a first aerator positioned on the bottom of said compartment below the inlet end of said second suction conduit for aerating material therearound, a first pressure conduit connecting said second pump with said first aerator for supplying said aerator with air under pressure, a second aerator positioned in the bottom portion of said tank for aerating material collected therein, a second pressure conduit connecting said second pump with said second aerator for supplying said second aerator with air under pressure, a third pressure conduit connecting said second pump with said tank for supplying said tank with air under pressure, a pressure discharge conduit connected to said tank for discharging aerated material from said tank, and control valves in said pressure and discharge conduits.

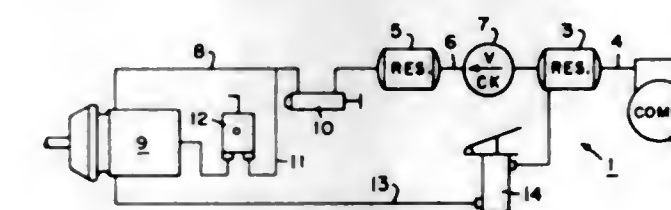
3,385,636

**COMBINED SERVICE AND AUXILIARY BRAKE WHEREIN THE AUXILIARY BRAKE IS MANUALLY AND AUTOMATICALLY CONTROLLED**

Oliver B. Cruse, Florissant, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, a corporation of Delaware

Filed June 3, 1965, Ser. No. 461,143

12 Claims. (Cl. 303—2)



A fluid pressure system having fluid pressure responsive means selectively actuated from a fluid pressure source to energize a friction device, resiliently urged means for mechanical driving engagement with said fluid pressure responsive means to effect mechanical energization of said friction device when the fluid pressure supplied to said resiliently urged means from another source is less than a predetermined value, and selectively operable means for applying fluid pressure from said other source to said resiliently urged means acting against the fluid pressure supplied thereto to drive engage said resiliently urged means with said fluid pressure responsive means and also effect energization of said friction device.

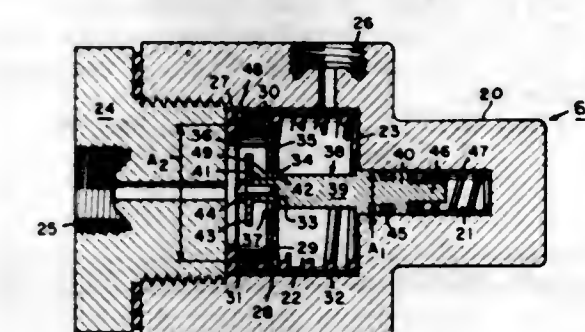
3,385,637

**CONTROL VALVE**

Raymond J. Kersting, Dellwood, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware

Filed July 11, 1966, Ser. No. 564,242

16 Claims. (Cl. 303—6)



A control valve having a pair of resiliently urged means responsive to a predetermined value of fluid pressure applied through said control valve and fluid pres-



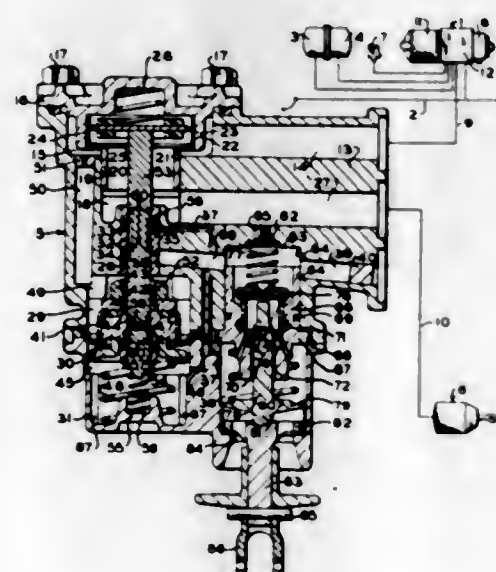
sure supplied thereto to isolate the supplied and applied fluid pressures and thereafter responsive to the supplied fluid pressure in excess of the predetermined value to effect a metered increase in the applied fluid pressure, and said resiliently urged means being concertedly movable to disabled positions in response to increased applied fluid pressure predetermineately greater than the first named predetermined value to re-establish open pressure fluid communication between the supplied and applied fluid pressures.

3,385,638

# FLUID PRESSURE BRAKE CONTROL APPARATUS WITH MANUAL BRAKE CYLINDER RELEASE

William K. Mong, Irwin, and Glenn T. McClure, McKeesport, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania  
Filed Jan. 31, 1967, Ser. No. 613,013

7 Claims. (Cl. 303-69)..



A brake cylinder pressure release valve device, for interposition between a control valve device and a brake cylinder device, operation of which effects release of pressure from the brake cylinder without reduction of pressure in the auxiliary reservoir and which is restored automatically to a position in which fluid pressure may be resupplied to the brake cylinder by restoration of the control valve device to its brake release position. The pressure release valve device comprises a manually operated pilot valve which operates to release pressure from the brake cylinder as long as it is held open. If the brake cylinder supply pressure from the control valve exceeds a certain pressure at the time the pilot valve is opened, a main cut-off and release valve controlled by the pilot valve locks in brake cylinder venting position enabling the pilot valve to be returned to its normal closed position.

3,385,639

# EQUALIZER ARRANGEMENT FOR TABLE EXTENSION SLIDE MECHANISM

William M. Aiken, Sr., Statesville, N.C., assignor to Acme Metal Slide, Inc., Statesville, N.C., a corporation of North Carolina

Filed Oct. 11, 1966, Ser. No. 585,794

7 Claims. (Cl. 308-3.6)



An equalizer arrangement for use with a table extension slide mechanism comprising spaced non-rotatable guide means mounted in lengthwise slots formed in the

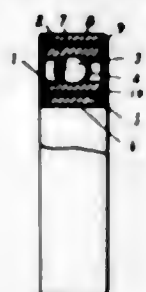
center wall of the central slide mechanism, and cable means extending around the guide members for extension within lengthwise channels of the slide mechanism to a connection with the side walls of oppositely moving slide members for equalizing the extension and retraction thereof.

3,385,640

# ROTARY PLAIN BEARING

Masaya Kawamura, Tokyo, Japan, assignor to Nittoku-Kinzokukogko-Kabushiki-Kaisha, Tokyo, Japan  
Filed Sept. 14, 1964, Ser. No. 396,095

1 Claim. (Cl. 308-35)



1. A combined plain and rotatable bearing comprising an inner bearing ring adapted to be attached to one rotatable member, at least one bearing metal sleeve concentric with and in bearing engagement with said inner ring, an inner race concentric with and in bearing engagement with said bearing metal sleeve, a plurality of rotatable elements rolling on said inner race, an outer race concentric with said inner race and holding said rotatable elements in engagement with said inner race, at least one further bearing metal sleeve concentric with and in bearing engagement with said outer race, and an outer bearing ring concentric with and in bearing engagement with said further bearing metal sleeve and being adapted to be attached to another rotatable member rotatable relative to said one rotatable member, said bearing metal sleeves, bearing rings and races being relatively rotatable with respect to the elements with which they are in contact.

3,385,641

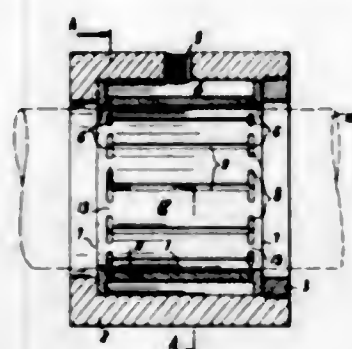
# FLUID BEARING

Sebastien Foglia, Verrieres-le-Buisson, France, assignor to Commissariat à l'Energie Atomique, Paris, France  
Continuation of application Ser. No. 365,091, May 5, 1964. This application June 21, 1966, Ser. No. 563,014

Claims priority, application France, May 21, 1963,

935,490

1 Claim. (Cl. 308-122)



In the wall of the bore of a fluid bearing, having a fluid receiving chamber around the bore, are formed adjacent each end of the bearing a plurality of spaced channels on the same circumference. A port opens between the chamber and the center of each channel. Longitudinal grooves are formed in the wall of the bore extending perpendicularly between the centers of opposite pairs of the channels so that negligible loss of fluid occurs through the short intervals between adjacent channels.

3,385,642

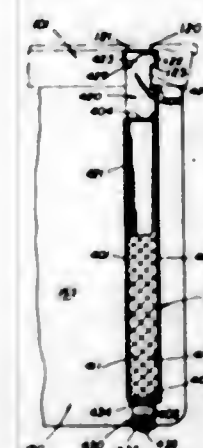
# DESK CONSTRUCTION

Kenneth D. Schreyer, Doylestown, Pa., assignor to Lyon Metal Products, Incorporated, Aurora, Ill., a corporation of Illinois

Original application Oct. 23, 1965, Ser. No. 503,157.

Divided and this application Apr. 5, 1967, Ser. No. 635,941

10 Claims. (Cl. 312-195)



The present invention is directed to a desk including a top having a substantially flat top plate, a mounting channel disposed on the underside of the top plate and spaced inwardly from the rear edge thereof and including a pair of downwardly extending side walls and a pair of inwardly directed flanges on the lower edges thereof and having the inner edges spaced apart, an edging extending along the rear edge of the top plate and including a dependent side flange that extends downwardly well below the mounting channel; and a back panel disposed below the top adjacent to the rear edge thereof and including a pair of spaced apart and substantially parallel sheet metal side walls connected by a pair of sheet metal end walls and a sheet metal bottom wall, a body of rigid cellular construction disposed between the side walls and substantially filling the space therebetween, layers of adhesive disposed between the inner surfaces of the side walls and the adjacent surface of the cellular body for securing the side walls thereto, and a pair of hangers respectively attached to the back panel at spaced apart points thereon and extending upwardly therefrom, each of the hangers having a hook portion at the upper end thereof and extending upwardly through the space between the adjacent edges of the retaining flanges and overlying one of the retaining flanges to mount the back panel upon the mounting channel, each hanger having an abutment shoulder thereon engaging the lower surface of the other retaining flange.

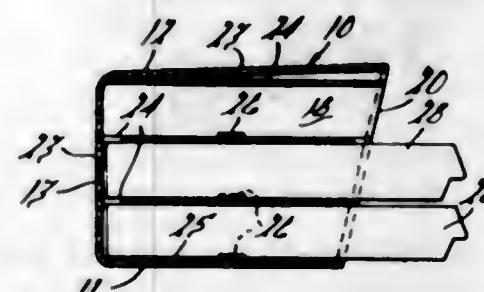
3,385,643

# STEREO TAPE CARTRIDGE CONTAINER

Robert Adell, Birmingham, Mich., assignor to U.S. Products Development, Detroit, Mich., a Michigan partnership

Filed Jan. 3, 1967, Ser. No. 606,849

7 Claims. (Cl. 312-348)



The invention pertains to a detent molded from the same material as its support which is deflected by an article as it moves thereby until a notch therein receives

the detent which secures the article against accidental displacement.

3,385,644

# PROCESS FOR FILLING WITH MERCURY DISCHARGE TUBES AND FOR ABSORBING RESIDUAL NOXIOUS GASES

Paolo Della Porta and Bruno Kindl, Milan, Italy, assignors to S.A.E.S. Getters-S.p.A., Milan, Italy, a company of Italy

No Drawing. Filed Jan. 5, 1966, Ser. No. 518,789

Claims priority, application Italy, Jan. 8, 1965,

319/65, Patent 748,529

9 Claims. (Cl. 316-16)

A tablet and process for releasing mercury in a discharge container. The tablet comprises a mixture of a powdered mercury compound and a stoichiometric excess of a reducing agent. In one embodiment the reducing agent is a non-vaporative getter metal such as a zirconium-aluminum alloy. In another embodiment the reducing agent has fractions of different particle sizes.

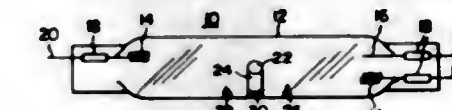
3,385,645

# METHOD OF DOSING THE ARC TUBE OF A MERCURY-ADDITIVE LAMP

John D. Smith, Caldwell, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 24, 1966, Ser. No. 537,169

10 Claims. (Cl. 316-16)



To dose a discharge-sustaining filling into a mercury-additive type lamp, at least some of the additive metal dosing components are introduced as air-stable oxide, along with mercury at least a part of which is in the form of a halide, along with aluminum as metal. When the lamp is initially operated, the aluminum first reacts with the mercury halide to form aluminum halide. The formed aluminum halide then reacts with the additive metal oxide to form stable aluminum oxide and the desired additive metal halide. The stable aluminum oxide, after formation, does not enter into or affect the discharge.

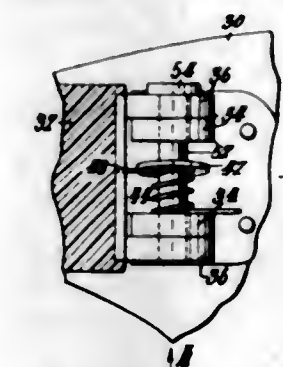
3,385,646

# SPECTACLE TEMPLE HINGE CONNECTION WITH HINGE PIN RETAINER

Alvin L. Johnson, Worcester, Mass., assignor to General Industries, Inc., Worcester, Mass., a corporation of Massachusetts

Filed Sept. 30, 1964, Ser. No. 401,766

1 Claim. (Cl. 351-153)



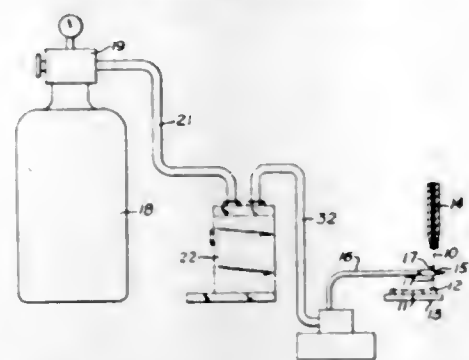
A connection for an eyeglass temple and bow including a pintle extending through overlapping bosses on the temple and the bow and including a cockable washer engaging the pin under spring pressure in such a way as to grip it and prevent its accidental loss but at the same time also providing for easy removal thereof in case this should be found to be necessary.



3,385,647

**METHOD OF MAKING A HYDROGEN FLAME VISIBLE**

Charles Frederick Miller, Anaheim, and Howard L. Spicer, La Habra, Calif., assignors to Basic Products Corporation, a corporation of Wisconsin  
 Filed Aug. 30, 1965, Ser. No. 483,647  
 4 Claims. (Cl. 431-4)

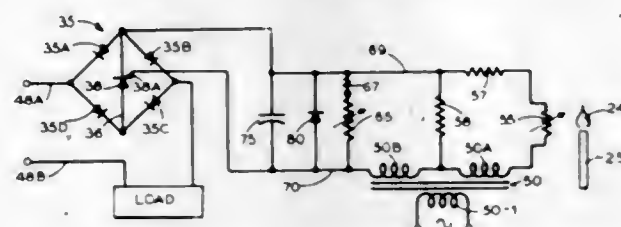


Hydrogen is supplied to an alcohol-hydrogen torch through a sealed container of alcohol. The amount of alcohol is thereby limited to the saturation point of alcohol vapor in hydrogen. The burning alcohol insures a visible hydrogen-alcohol flame.

3,385,648

**SOLID STATE CONTROL SYSTEM FOR PILOT LIGHT FUEL BURNER**

Frederic R. Quinn, Red Hook, N.Y., assignor to Zyrotron Industries, Inc., Red Hook, N.Y.  
 Filed Oct. 24, 1966, Ser. No. 588,887  
 6 Claims. (Cl. 431-59)

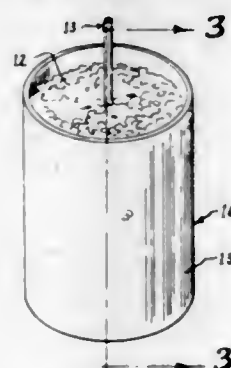


A pilot light detection system which includes a bi-directionally conducting diode bridge connected between an energy source and a fuel pump motor. Conduction of the bridge is initiated by a silicon controlled rectifier connected across the diagonal of the bridge. Conduction of the silicon controlled rectifier is controlled by a pilot light responsive device which is adapted to be disabled in a predetermined interval of time if no pilot light is present to shut off the supply of fuel to the burner.

3,385,649

**CANDLE PACKAGE AND METHOD OF MAKING CANDLE**

Charles M. Hicks, 145 Highland Road, Southern Pines, N.C. 28387  
 Filed June 29, 1964, Ser. No. 378,690  
 12 Claims. (Cl. 431-126)



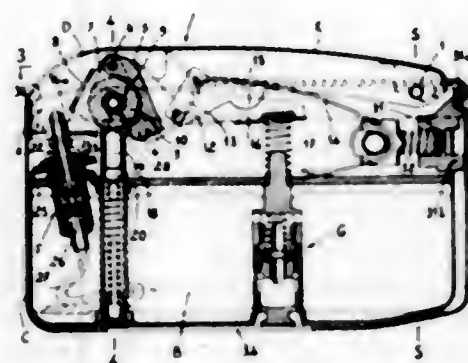
3. A candle comprising a plurality of separate, unadhered, wax granules; a wick; means for arranging said

granules around said wick, wherein said granules provide fuel to support combustion of said wick.

3,385,650

**AUTOMATIC LIGHTER MECHANISM**

Jean Genoud, Saint-Cyr-au-Mont-d'Or, France, assignor to Etablissement Genoud & Cie, Venissieux, Rhone, France  
 Filed Jan. 12, 1966, Ser. No. 520,166  
 Claims priority, application France, Jan. 20, 1965, 45,534, Patent 1,431,760  
 8 Claims. (Cl. 431-254)



A gas lighter comprising a control lever pivoting at its rear portion and acting through its front portion on a link suspended from a catch support hingedly mounted about the spindle of a knurled wheel, the control lever acting simultaneously upon an intermediate lever hinged around the said spindle and raising the valve of the gas burner, said front portion, the suspension of said link and the axis of said spindle being in substantial alignment in their positions of rest.

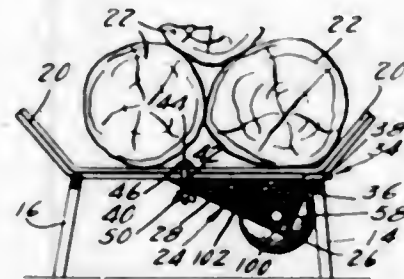
**ERRATUM**

For Class 431-310 see:  
 Patent No. 3,385,084

3,385,651

**GAS BURNER**

Theodore E. Rasmussen, 1407 E. Linda Vista, Whittier, Calif. 90602, and Theodore E. Rasmussen, Jr., 16020 E. Ocean Ave., and Douglas M. Rasmussen, 16043 Amber Valley Drive, both of Whittier, Calif. 90604  
 Filed Mar. 17, 1966, Ser. No. 535,127  
 1 Claim. (Cl. 431-328)



A burner apparatus for fireplaces having an elongated pan for granular refractory material generally V-shaped in cross section with a gas conducting pipe extending longitudinally thereof and adjacent the lowermost part of the V and having longitudinally spaced small gas discharge openings therein.

**CHEMICAL**

3,385,652

**DYEING POLYOLEFIN ARTICLES WITH SOLUBLE DYE AND A SHORT CHAIN POLYETHYLENE GLYCOL ETHER**

Andrew T. Walter, Charleston, and George M. Bryant and Robert G. Curtis, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York  
 No Drawing. Filed Aug. 21, 1963, Ser. No. 303,661  
 9 Claims. (Cl. 8-4)

Applicants dye polyolefin articles, including mixtures of polyolefins and basic polymers with water soluble dyes and long chain alkyl and aryl ether of polyalkylene glycol with up to 8 —C<sub>2</sub>H<sub>4</sub>O— units therein.

3,385,653

**TREATMENT OF TEXTILE MATERIALS**

Robert E. Whitfield, Pleasant Hill, Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture  
 No Drawing. Original application May 28, 1964, Ser. No. 371,150. Divided and this application Mar. 29, 1967, Ser. No. 642,269  
 25 Claims. (Cl. 8-115.5)

1. A process for modifying a fibrous material which comprises serially impregnating a fibrous material with two solutions, one solution containing in a first solvent a preformed polymer having a molecular weight of at least 1000 and bearing *n* highly reactive groups, the other solution containing in a second solvent a fixative bearing *m* highly reactive groups complementary to those on said pre-formed polymer, *n* and *m* each having a value of at least 2, the sum of *n* and *m* being at least 5, the reactive groups of the polymer being reactable with the complementary reactive groups of the fixative to form linkages of the class consisting of carbonate, ester, urethane, amide, and urea, the said first and second solvents being substantially mutually immiscible, the said polymer directly cross-linking with the fixative under said conditions to form a three-dimensional polymer on the fibrous material.

3,385,654

**STERILIZING METHOD AND COMPOSITION THEREFOR**

Michel N. Yardney, New York, and Carl Horowitz, Brooklyn, N.Y., assignors to Yardney International Corp., New York, N.Y., a corporation of New York  
 No Drawing. Filed Dec. 11, 1963, Ser. No. 329,874  
 13 Claims. (Cl. 21-58)

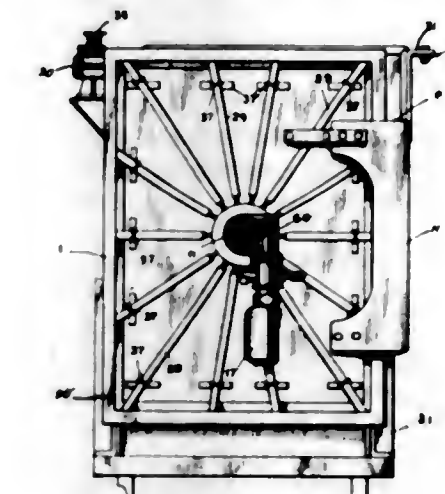
An antimicrobially effective metal compound and a method for utilizing the same in sterilizing the atmosphere of a room. The preferred metal compound is a silver salt of a lower fatty acid, thus a silver hexanoate, octanoate or decanoate. This salt is admixed with an excess of capric, caprylic or capric acid, preferably in a quantity of about 1 to 10 moles of fatty acid per mole of silver salt, with the optimum concentration of the metal compound ranging between approximately 0.005% and 5% by weight of the overall composition.

The antimicrobially effective ammoniacal aqueous medium containing the fatty-acid salt of silver is dispersed in the atmosphere in a substantially saturating concentration with a content of about 1-25 mg. of silver salt per cubic meter of atmosphere and with a particle size ranging between substantially 1 and 25 microns.

3,385,655

**STERILIZER AND POWER-OPERATED DOOR THEREFOR**

Alfred B. Huston, Erie, Robert F. Les, Pittsburgh, and Alvin Lodge, Erie, Pa., assignors to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania  
 Filed Mar. 5, 1964, Ser. No. 349,625  
 14 Claims. (Cl. 21-91)



The present invention provides a motor controlled mechanism whereby a sterilizer door may be swung to closed position by a motor operating through a linkage. The clamping action moves radiating arms outward under a rim on the chamber to clamping position and then swings the arms about a fulcrum with the outer end of the arm engaging the rim of the chamber.

3,385,656

**METHOD OF PURIFYING ZINC AND CADMIUM CHALCOGENIDES**

Manuel Aven, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York  
 No Drawing. Filed Aug. 27, 1964, Ser. No. 392,581  
 9 Claims. (Cl. 23-50)

Semiconducting compounds of the Group IIb-Group VIa class are purified of small quantities of the order of 100 parts per million of metallic impurities by heating the semiconductor in a water slurry of an alkaline earth halide in a flow of inert gas. The alkaline earth halide diffuses into the semiconductor, reacts with the impurity, and the halide of the impurity is released and carried away by the gas flow.

3,385,657

**VINYL ETHER POLYMERIZATION CATALYSTS COMPRISING ALKALINE EARTH METAL HALIDES**

Roland J. Kern, Hazelwood, Mo., assignor to Monsanto Company, a corporation of Delaware  
 No Drawing. Original application June 18, 1962, Ser. No. 202,982, now Patent No. 3,252,953, dated May 24, 1966. Divided and this application Mar. 30, 1965, Ser. No. 456,588  
 4 Claims. (Cl. 23-88)

Vinyl ethers are polymerized by contacting the vinyl ether with at least a catalytic amount of a catalyst of the formula MXF, M being an alkaline earth metal chosen from magnesium, calcium, strontium and barium, and X is a halogen. The catalyst is prepared by reaction of a fluorinating agent with a fluorine free alkaline earth metal dihalide.



3,385,658

**ALUMINUM FLUORIDE MANUFACTURE WITH A MOVING ALUMINUM FLUORIDE BED**

German Broja, Leverkusen, and Horst Grading, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,706

Claims priority, application Germany, Oct. 19, 1964, F 44,259

6 Claims. (Cl. 23—88)

Process for the continuous preparation of aluminum fluoride from hydrated aluminum oxides and hydrofluoric acid which comprises mixing and reacting hydrated aluminum oxide and aqueous hydrofluoric acid in a concentration to maintain an HF concentration in the reaction mixture of at least 50 percent and solidifying the reaction product on a moving bed of solid granules of aluminum fluoride having a particle size of between 10 and 30 mm. maintained at a temperature greater than about 50° C., the moving bed containing sufficient granules of aluminum fluoride to prevent incrustation on the walls of the reactor.

3,385,659

**METAL PHOSPHATE GELS AND METHODS FOR PRODUCING SAME**

Gordon J. Turner and Casimer C. Legal, Jr., Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation-in-part of application Ser. No. 186,868, Apr. 12, 1962, now Patent No. 3,227,519. This application Oct. 21, 1965, Ser. No. 500,336

1 Claim. (Cl. 23—105)

A process for producing aluminum phosphate gels from variscite-strengite minerals and synthetic aluminum phosphate by reacting the aluminum phosphate with sulfur dioxide heating to evolve sulfur dioxide and separating the gel from the liquors.

3,385,660

**CONTINUOUS MULTISTEP PROCESS FOR PREPARING GRANULAR ZINC AMMONIUM PHOSPHATE**

Maria G. Dunseth, 5211 St. Albans Way, Baltimore, Md. 21212

Filed Oct. 21, 1966, Ser. No. 588,508

10 Claims. (Cl. 23—105)

1. A continuous multistep process for preparing granular zinc ammonium orthophosphate composition in a yield of at least about 95% of theory comprising:

- continuously preparing a first flowable slurry comprising ammonium orthophosphate in water, said slurry having an atomic ratio of N:P of about 1:1 to 1.1:1, by continuously reacting an ammoniating fluid selected from the group consisting of liquid anhydrous ammonia and aqueous ammonia, analyzing about 20–30%  $\text{NH}_3$ , with an aqueous solution of orthophosphoric acid, analyzing about 20–60%  $\text{P}_2\text{O}_5$ , selected from the group consisting of wet process orthophosphoric acid and furnace grade orthophosphoric acid in an agitated reactor while continuously adding water to the agitated reactor at such rate as to maintain the moisture content of the first flowable slurry within the range of about 18–30%, based on the total weight of said slurry;
- continuously circulating a substantial portion of the first flowable slurry from the bottom to the top of the agitated reactor in a slurry circulating circuit external to the agitated reactor, and continuously separating a first sidestream of said first flowable slurry from said circuit, said first sidestream being separated at a rate substantially equal to the rate at which the first flowable slurry is formed in the agitated reactor;
- continuously passing the first sidestream into the upper portion of the upstream end of a pug mill;

- continuously preparing a second flowable slurry comprising zinc oxide in water by continuously adding particulate zinc oxide, analyzing at least about 75%  $\text{ZnO}$ , to an agitated mixer at a rate substantially stoichiometrically equivalent (1:1 to 1.1:1) to the rate at which the first flowable slurry is formed in the aforesaid agitated reactor while continuously adding water to the agitated mixer at such rate as to maintain the moisture content of the second flowable slurry within the range of about 60–80% based on the total weight of said slurry;
- continuously circulating a substantial portion of the second flowable slurry from the bottom to the top of the agitated mixer in a slurry circulating circuit external to the agitated mixer and continuously separating a second sidestream of said second flowable slurry from said circuit, said sidestream being separated at a rate substantially equal to the rate at which the second flowable slurry is formed in the agitated reactor;
- continuously passing the second sidestream into the upper portion of the upstream end of the pug mill;
- continuously recycling to the upper portion of the upstream end of the pug mill a sufficient quantity of product from later mentioned sizing and crushing steps to maintain a recycle ratio of about 3:1 to 10:1, said ratio being the weight ratio of recycled product:recovered product;
- continuously adding ammonium sulfate to the upper portion of the upstream end of the pug mill at a rate of about 10–20 lbs. of ammonium sulfate per ton of recovered product;
- continuously withdrawing irregularly shaped granular material from the downstream end of the pug mill;
- continuously passing the withdrawn material into the upstream end of a rotary granulator where the irregular granular material is smoothed by rotating in the presence of steam and hot water, thereby to produce smooth granules;
- continuously withdrawing the smooth granules from the downstream end of the granulator;
- continuously passing the smooth granules into the upstream end of a rotary drum drier where the granules are dried by rotating in the presence of a stream of air having an inlet temperature of about 300–450° F.;
- continuously withdrawing the dried smooth granules from the downstream end of the rotary drier;
- continuously passing the dried smooth granules into the upstream end of a rotary cooler where the granules are cooled by a stream of air which enters the cooler at ambient temperature;
- continuously withdrawing the cooled granules from the downstream end of the cooler;
- continuously passing the cooled granules to a first screen, said first screen having a double deck with a first deck having a screen of about 6–8 mesh and a second deck having a screen of about 10–14 mesh;
- continuously screening the cooled granules, thereby to continuously obtain a first portion of fine particles which pass about a 10–14 mesh screen, a portion of product size granules which pass about a 6–8 mesh screen and are retained on about a 10–14 mesh screen, and a first portion of oversize particles which are retained on about a 6–8 mesh screen;
- continuously recycling the first portion of fine particles to the pug mill;
- continuously passing the first portion of oversize particles into the upstream end of a crusher;
- continuously crushing the first portion of oversize particles in the crusher;

- continuously removing the thus crushed particles from the downstream end of the crusher;
- continuously passing the thus crushed particles to a second screen having a single deck with about a 10–14 mesh screen therein;
- continuously screening the thus crushed particles to obtain a second portion of fine particles and a second portion of oversize particles;
- continuously recycling the second portion of fine particles to the pug mill;
- continuously recycling the second portion of oversize particles into the upstream end of the crusher;
- continuously passing a quantity of product size granules sufficient to maintain the recycle ratio within the range of about 3:1 to 10:1 to the crusher; and
- recovering the remainder of the product size granules.

3,385,661

**METHOD OF PREPARING SODIUM TRIPOLYPHOSPHATE**

Masashi Hayakawa, Tokyo, and Yoshiko Yasutake, Ube-shi, Japan, assignors to Central Glass Co., Ltd., Ube-shi, Yamaguchi-ken, Japan

No Drawing. Filed Apr. 29, 1965, Ser. No. 452,002

5 Claims. (Cl. 23—106)

A method for producing Form II sodium tripolyphosphate by spraying an aqueous solution of sodium orthophosphate having an  $\text{Na}_2\text{O}:\text{P}_2\text{O}_5$  mole ratio of 5:3 into an atomizing tower maintained at a temperature of 180°–280° C. by the injection of a high temperature gas to thereby form an intermediate product consisting principally of sodium pyrophosphate and thereafter calcining the intermediate product in a rotary kiln maintained at a temperature of 250–450° C. to convert said intermediate product into Form II sodium tripolyphosphate.

3,385,662

**PROCESS FOR PREPARING SUBSTANTIALLY PYROPHOSPHATE-FREE DISODIUM PHOSPHATE, DUOHYDRATE**

Fred McCollough, Jr., Chicago Heights, Ill., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 1, 1963, Ser. No. 277,092

6 Claims. (Cl. 23—107)

1. A process for preparing substantially pyrophosphate free crystalline disodium phosphate, duohydrate comprising:

- reacting phosphoric acid with sodium carbonate in proportions to furnish an  $\text{Na}_2\text{O}:\text{P}_2\text{O}_5$  mole ratio of between 1.2 and 1.9;
- maintaining the reaction mixture during the reaction at a Baumé between 40° and 50° and at a pH above 6.5 until the  $\text{CO}_2$  content decreases to less than 1.0% by weight of the reaction mixture;
- thereafter adjusting the  $\text{Na}_2\text{O}:\text{P}_2\text{O}_5$  mole ratio of the reaction mixture to 2.0 with sodium hydroxide; and
- crystallizing disodium phosphate, duohydrate from the reaction mixture whereby disodium phosphate, duohydrate having a pyrophosphate content of below 0.05% by weight is provided.

3,385,663

**PREPARATION OF HIGH SURFACE AREA, WATER-DISPERSIBLE ALUMINA MONOHYDRATE FROM LOW SURFACE AREA ALUMINA TRIHYDRATE**

David A. Hughes, Charleston, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 31, 1964, Ser. No. 386,743

4 Claims. (Cl. 23—143)

Alumina trihydrate having a surface area of 5 to 50 square meters per gram is converted to alumina mono-

hydrate having a surface area of more than 200 square meters per gram by autoclaving the alumina trihydrate at a temperature of 150 to 250° C. in the presence of water, a weak acid such as acetic acid, a water-soluble salt such as ammonium sulfate and optionally in the presence of trace amounts of a mineral acid such as hydrochloric acid. The product when dried is redispersible in water and a very useful form of alumina.

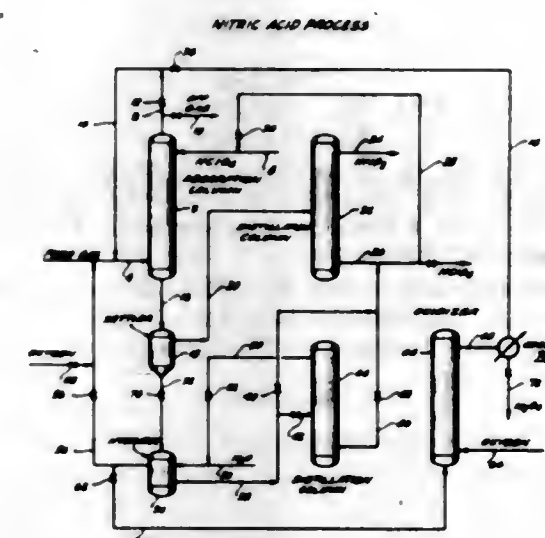
3,385,664

**NITRIC ACID MANUFACTURE USING PERCHLORIC ACID**

Daniel M. Waldorf, La Habra, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Nov. 10, 1964, Ser. No. 410,156

10 Claims. (Cl. 23—157)



The invention comprises the use of perchloric acid for the absorption of nitrogen oxides, forming nitric acid and a solid nitrosyl perchlorate precipitate. The precipitate is separated from the liquid which is distilled to obtain a concentrated nitric acid distillate. The perchloric acid is recycled directly to the absorption column while the solid nitrosyl perchlorate is passed to a hydrator where it is hydrolyzed to perchloric acid and nitrogen oxides. The nitrogen oxides are recovered and recycled to the absorption column, the perchloric acid recovered from the hydrator is concentrated by the removal of water and recycled to the absorption column. Any nitric oxide in the feed gas and the nitric oxide formed in the hydration of the nitrosyl perchlorate can be passed into an oxidizing zone and contacted with oxygen to form additional quantities of nitrogen dioxide for absorption in the absorption zone.

3,385,665

**VAPOR PHASE OXIDATION OF METAL HALIDES TO FORM METAL OXIDES OF PIGMENTARY SIZE AND APPARATUS FOR USE IN ASSOCIATION THEREWITH**

John Peacock, Nunthorpe, Middlesbrough, and Bernard Harris, Acklam, Middlesbrough, England, assignors to British Titan Products Company Limited, Durham, England, a corporation of the United Kingdom

Filed Mar. 16, 1965, Ser. No. 440,094

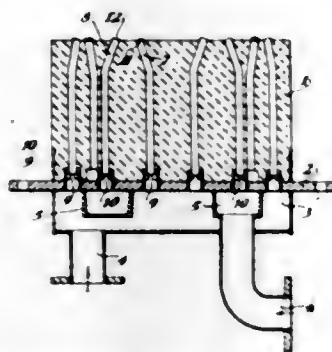
Claims priority, application Great Britain, Mar. 17, 1964, 11,200/64

13 Claims. (Cl. 23—202)

The vapor phase reaction between oxidizing gases and metal halides is a desirable process particularly for the production of pigmentary metal oxides such as titanium dioxide. Problems of accretion of the product on the reactor walls and the difficulty of maintaining control of



the particle size has severely restricted the use of such processes. These problems can be significantly minimized by employing separate streams of halide vapors and



oxidizing gas and causing these streams to intersect in the reactor at an acute angle. The process is particularly adapted for use in the fluidized bed with the streams impinging on each other within the bed.

### 3,385,666 DIOXYGENYL FLUORIDES OF GROUP V ELEMENTS

Archie R. Young II, Montclair, Tetsuyuki Hirata, Wharton, and Scott I. Morrow, Morris Plains, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware  
No Drawing. Filed Jan. 6, 1964, Ser. No. 336,061  
11 Claims. (Cl. 23-203)

1. Dioxygenyl fluorides of the formula:



wherein  $(O_2+)$  is the dioxygenyl radical having a charge of +1, M is an element selected from the group consisting of phosphorus, arsenic, antimony and bismuth.

6. The process of preparing dioxygenyl fluorides of group V of the Periodic Table comprising the steps of formula  $MF_5$ , where M is an element selected from the group consisting of phosphorus, arsenic, antimony and bismuth, until a substantial quantity of product of the formula:



wherein M, having the value previously ascribed to it, is formed and isolating the product contained therein.

3,385,667  
MOLYBDENUM DITELLURIDE AND HIGH-TEMPERATURE, HIGH-PRESSURE SYNTHESIS METHOD OF PREPARING SAME  
Meyer Shea Silverman, Norristown, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania  
No Drawing. Filed Feb. 11, 1966, Ser. No. 526,702  
4 Claims. (Cl. 23-204)

A new form of molybdenum ditelluride having a rhombohedral crystal structure is prepared by subjecting a mixture of molybdenum and tellurium to a temperature of at least about 1700° C. and a pressure of at least about 15 kilobars.

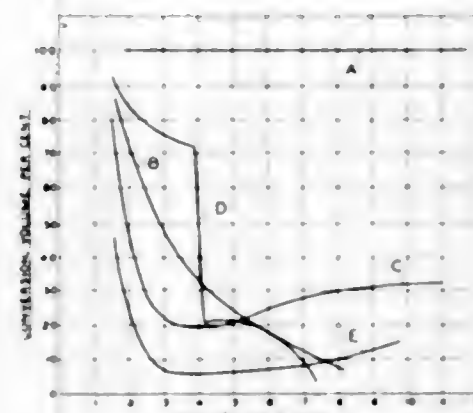
3,385,668  
PREPARATION OF CARBON MONOXIDE BY REACTION OF CARBON DIOXIDE WITH FINELY DIVIDED CARBON IN A FUSED SALT BATH CONTAINING A DISSOLVED CATALYST  
Calvin A. Schunemann, Gates Mills, Ohio, assignor to Horizons Incorporated, a corporation of New Jersey  
No Drawing. Filed Nov. 22, 1966, Ser. No. 596,055  
4 Claims. (Cl. 23-204)

The preparation of carbon monoxide by reaction of carbon dioxide with finely divided carbon. The reaction is carried out in a fused salt bath in which a catalyst for the reaction is dissolved.

3,385,669  
METHOD OF PREPARING ZIRCONIUM CARBIDE FIBERS AND THE PRODUCT THEREOF  
Robert A. Clifton, Jr., Knoxville, and Robert C. Johnson, Norris, Tenn., assignors to the United States of America as represented by the Secretary of the Interior  
No Drawing. Filed Apr. 21, 1965, Ser. No. 449,898  
4 Claims. (Cl. 23-208)

Zirconium carbide fibers are produced by reacting zirconium oxide fibers with carbon.

3,385,670  
STEAM REFORMING OF HYDROCARBONS AND CATALYST THEREFOR CONTAINING A COBALT COMPONENT ON A ZIRCONIA SUPPORT  
James P. Van Hook, Basking Ridge, N.J., and Thomas H. Milliken, New York, N.Y., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware  
Filed Dec. 29, 1964, Ser. No. 421,813  
10 Claims. (Cl. 23-212)

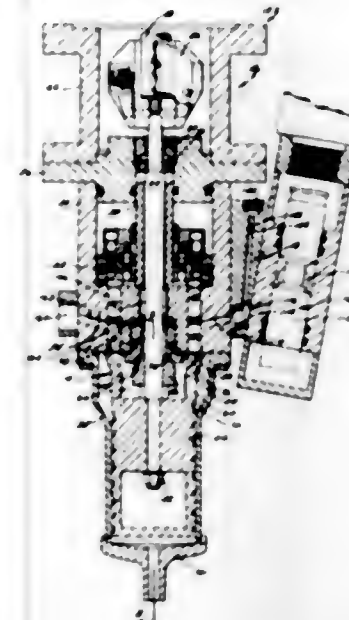


Catalyst composition consisting of elemental cobalt, cobalt oxide or mixtures thereof on a zirconia carrier and in which the content of cobalt, expressed as cobalt oxide, is from 0.5 to 15 weight percent of the total weight of the composition, and method for the steam reforming of hydrocarbons in the presence of the catalyst to produce hydrogen-containing products without substantial deposition of carbon on the catalyst.

3,385,671  
FOAM INJECTION HEAD  
Folke A. Axelsson, Grand Haven, Mich., assignor to Airspace, Inc., Fruitport, Mich., a corporation of Michigan  
Filed Mar. 9, 1965, Ser. No. 438,295  
3 Claims. (Cl. 23-252)

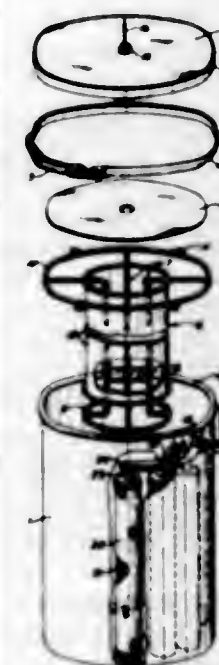
3. A mixing and ejection head for foamable reacting resin materials comprising: a housing including a mixing chamber; a shaft rotatably mounted in bearings in said housing; a rotatable mixer in said chamber and attached to said shaft to be rotated therewith; injection passages in said housing into said chamber for major ingredients to be reacted; unplugging means in said passages shiftable from a first position to a second position to push ingredients therefrom into said chamber; tiny passage and port means in said housing for injecting additional reagents in small amounts into said chamber; said port means communicating with at least one of said ingredient passages intermediate its ends, spaced from said chamber; said plunger means in said second position being between said port means and said chamber means; a recess in said housing adjacent said chamber and around a portion of said shaft; said recess being between said chamber and said bearings; collar means in said recess, forming a restricted annular passage means along said shaft into said chamber; further passage means in said housing for entry of a blowing agent; said passage terminating in said annular pas-

sage means to cause blowing agent flow along said shaft portion into said chamber to prevent reagent flow from said chamber along said shaft into said bearings; a second collar attached to said shaft adjacent said first collar to



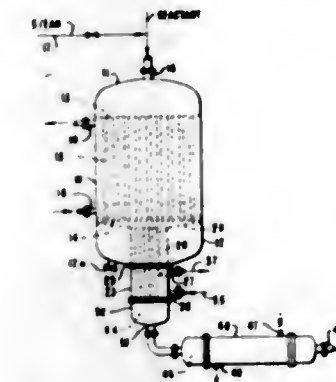
define a controlled outlet from said annular passage into said chamber; and an additional passage in said head communicating with said annular passage means for periodically injecting releasing solvent down said shaft portion and into said chamber.

3,385,672  
OXYGEN GENERATOR  
Miles J. McGoff, Warrendale, and John W. Mausteller, Evans City, Pa., assignors, by mesne assignments, to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Apr. 22, 1965, Ser. No. 450,085  
8 Claims. (Cl. 23-281)



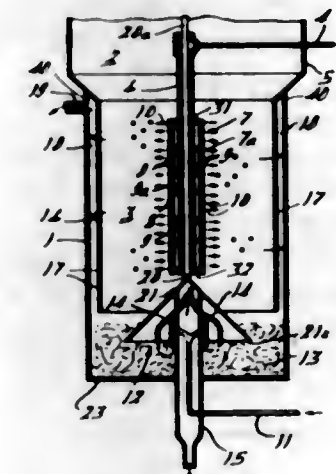
1. An oxygen generator comprising a hollow container having an open top and an oxygen outlet, a plurality of stiff wires in the container having vertical portions spaced laterally from one another and from the side wall of the container to form a removable receptacle for an oxygen candle, a candle support in said receptacle supported by the wires, the upper end portions of the wires being bent outwardly to space said vertical portions from said side wall, a cover detachably mounted on top of the container, a candle-igniter supported by the cover and operable from above it, and oxygen-filtering means disposed inside the container between said receptacle and outlet.

3,385,673  
APPARATUS FOR SUPPRESSING SIDE REACTIONS IN THE OXIDATION OF HYDROCARBONS  
William C. Smith and Donald D. Weaver, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware  
Continuation-in-part of application Ser. No. 199,721, June 4, 1962. This application Aug. 16, 1966, Ser. No. 572,773  
3 Claims. (Cl. 23-288)



An apparatus for oxidation of hydrocarbon products wherein side reactions are inhibited comprising flowing the reactants through extended-surface material, a desuperheater and a condenser so as to destroy free radical formation prior to desuperheating and inhibiting post-reactions after desuperheating.

3,385,674  
LATERAL FLOW ROCK SALT DISSOLVER AND METHOD  
Richard Kolasinski, Richmond Township, Macomb County, Mich., assignor to Diamond Crystal Salt Company, St. Clair, Mich.  
Filed Oct. 7, 1965, Ser. No. 493,706  
5 Claims. (Cl. 23-312)



A lateral flow rock salt dissolver for use in forming brine substantially free from impurities such as calcium sulfate comprising a vessel for holding a salt bed and vertically disposed water distributing means for distributing water such that it flows into the salt bed and through the vessel in a generally lateral direction to thereby dissolve the salt, separate calcium sulfate impurities therefrom, and form brine said vessel also containing top located outlet means for removing the pure brine and bottom located outlet means for removing calcium sulfate impurities, sludge and the like from the dissolver; and, the method of dissolving rock salt to produce a brine substantially free of calcium sulfate through the utilization of the lateral flow of water to dissolve the rock salt and form calcium sulfate free brine.



3,385,675

**DISSOLVING SALT CONTAINING CALCIUM SULFATE IN THE PRESENCE OF AN AMINOPHOSPHONIC ACID**

Howard W. Fiedelman, Woodstock, Ill., assignor to Morton International, Inc., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 11, 1965, Ser. No. 494,876  
6 Claims. (Cl. 23—312)

Process for producing a brine or salt having a reduced calcium sulfate content, which comprises contacting a crude salt containing calcium sulfate as an impurity with a water solution of an organic phosphono compound in an alkaline material, and thereafter maintaining said solution in contact with a crude salt for a period of time sufficient to dissolve the salt and form a substantially saturated brine characterized by a reduced calcium sulfate content.

3,385,676

**BERYLLIUM PRODUCT COMPRISED OF BERYLLIUM PARTICLES COATED WITH A METAL BERYLLIDE**

Charles J. Havel, Allentown, Pa., assignor to The Beryllium Corporation, Reading, Pa., a corporation of Delaware

No Drawing. Original application June 18, 1965, Ser. No. 465,167, now Patent No. 3,298,829, dated Jan. 17, 1967. Divided and this application Sept. 13, 1966, Ser. No. 594,303

3 Claims. (Cl. 29—182.2)

Beryllium metal shapes formed from beryllium metal particles having metal coating thereon which form beryllides, when subjected to heat and pressure, around each particle and at the interface of each beryllium particle.

The beryllium particles are of a size from 4 to 74 microns, and the coating can be any metal such as chromium, copper, nickel, columbium, molybdenum, cobalt or iron.

3,385,677

**SINTERED COMPOSITION MATERIAL**

Horst Schreiner, Nuremberg, and Franz Edlmayr, Amberg, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed June 29, 1966, Ser. No. 561,498  
Claims priority, application Germany, June 30, 1965, S 97,894

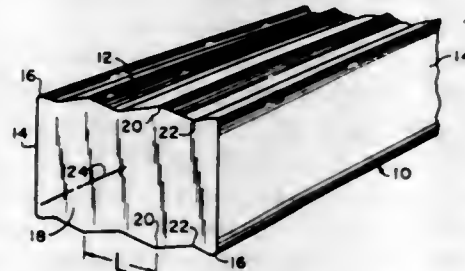
6 Claims. (Cl. 29—182.5)

Described is a sintered composition and process for manufacture thereof, for high-duty electrical contacts. The material consists of a silver matrix having fine, evenly distributed metal oxide particles therein together with graphite particles separated from the oxide particles and distributed throughout the matrix. The silver and oxide particles have a grain size below 200  $\mu$ m, while the graphite particles have a grain size below 10  $\mu$ m. Exemplary metal oxides are those of cadmium, tin and lead.

3,385,678

**CORRUGATED INGOT**

Dale H. Sorenson, Longview, Wash., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Nov. 30, 1965, Ser. No. 510,520  
19 Claims. (Cl. 29—187)

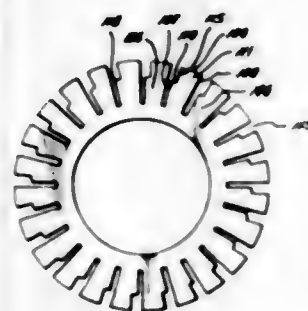
1. An ingot having side faces defining a cylinder which is symmetric about the longitudinal axis of the ingot, at

least two opposite side faces being corrugated, and the distance between another pair of side faces in a direction generally parallel to said corrugated side faces being substantially constant.

3,385,679

**BLANK FOR FORMING AN EXPANSIBLE RING MEMBER**

James H. Current, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Original application Oct. 11, 1965, Ser. No. 500,467, now Patent No. 3,298,440, dated Jan. 17, 1967. Divided and this application Aug. 31, 1966, Ser. No. 576,463  
1 Claim. (Cl. 29—190)

1. As an article of manufacture, a blank for forming an integral, cup-shaped, expansible ring member adapted to confine an end of an elastomeric packing element comprising: a flat disc of sheet metal having a central circular opening therethrough and a plurality of close-shaped, identical, petal-like sectorial segments extending radially outwardly therefrom, the outer extremity of each of said sectorial segments having an identical substantially rectangular notch along one side thereof with an edge of said notch being substantially perpendicular to said one segment side to provide an outwardly facing shoulder and leave a tab portion.

3,385,680

**FLUID BLENDING SYSTEM**

Robert T. Feld, Pitman, N.J., Thomas C. Cattrall, Jr., Huntington, N.Y., and Herman F. Hoffmann, Wenonah, and Charles N. Smith, Woodbury, N.J., assignors to Mobil Oil Corporation, a corporation of New York

Filed Oct. 25, 1962, Ser. No. 232,970

15 Claims. (Cl. 44—2)

13. In a method for automatically blending a motor fuel from a plurality of components, the steps comprising supplying a stream of said motor fuel to a single-cylinder internal-combustion engine performing no useful work and having a repetitive operating cycle; generating a first signal representative of the actual octane number of said motor fuel in said engine; generating a second signal representative of the desired octane number of said motor fuel; generating, in response to said first and second signals, a first error signal representative of the deviation of said first signal from said second signal; generating a third signal representative of the actual value of at least one of the following additional characteristics of said motor fuel: vapor/liquid ratio, distillation point, and Reid vapor pressure; generating a fourth signal representative of the desired value of said one additional characteristic; generating a second error signal representative of the deviation of said third signal from said fourth signal; and generating, in response to said first and second error signals, first and second control signals for varying the proportions of the components blended together so that said motor fuel meets predetermined specifications regarding octane number and said one additional characteristic.

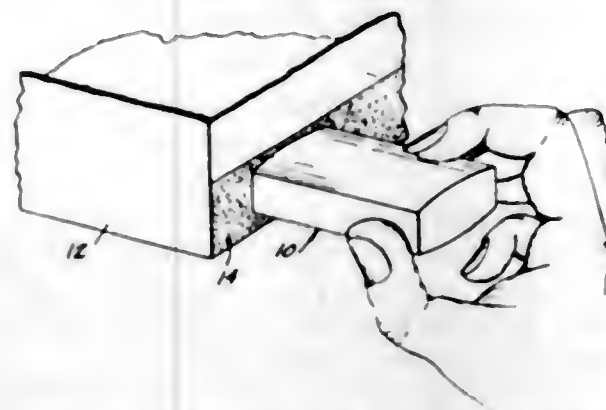
3,385,681

**SELF-STARTING CHARCOAL BRIQUETTE AND METHOD OF MAKING THE SAME**

Frederick C. Mennen, Michigan City, Ind., assignor to United States Packaging Corporation, La Porte, Ind., a corporation of Indiana

Filed Dec. 17, 1963, Ser. No. 331,146

7 Claims. (Cl. 44—17)



1. A charcoal briquette formed of a compacted and dried mixture of granular charcoal of a size to pass through a screen in the range from #20 to #50 mesh and granular combustion initiating and sustaining material adhered by a binder solution, said charcoal comprising from 84% to 88% of said mixture by weight, said combustion initiating material being of the class consisting of potassium chlorate and potassium perchlorate of a finer particle size than said charcoal granules, and comprising from 12% to 16% of said mixture by weight, said combustion initiating material being dispersed throughout the interior of said briquette and being of greater concentration adjacent the surface of the briquette than in the interior thereof said binder being sufficient to bind the granular material.

2. A charcoal briquette formed of a compacted and dried mixture of granular charcoal of a size to pass through a screen in the range from #20 to #36 mesh and granular combustion initiating and sustaining material adhered by a binder solution sufficient to bind the granular material, said charcoal comprising from 84% to 88% of said mixture by weight, said combustion initiating material being of the class consisting of potassium chlorate and potassium perchlorate of a finer particle size than said charcoal granules, and comprising from 12% to 16% of said mixture by weight, said combustion initiating material being dispersed throughout the interior of said briquette and being of increased concentration at the surface of the briquette to facilitate ignition of the briquette by rubbing it against a friction surface.

3,385,682

**METHOD AND REAGENT FOR SURFACE POLISHING**

Jack Lowen, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

No Drawing. Filed Apr. 29, 1965, Ser. No. 451,995

2 Claims. (Cl. 51—293)

A semiconductor polishing composition and process comprising applying to a semiconductor a carrying agent, a complexing agent, an oxidizing agent, and an abrasive material.

3,385,683

**METHOD OF MAKING AND APPLYING AN ABRASIVE TO METAL SURFACES**

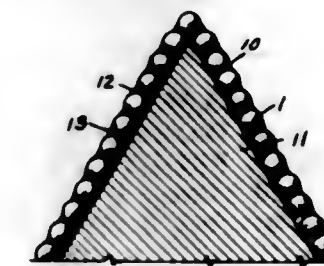
Edward B. Williams, Jr., Greenville, Tex., assignor of one-third each to Edward B. Williams III, Joseph W. Williams and David B. Williams, Greenville, Tex., respectively

Filed Dec. 9, 1963, Ser. No. 328,820

10 Claims. (Cl. 51—293)

1. The method of producing a hard, long wearing, load bearing surface on a rotary drill bit, comprising

mixing finely ground tungsten powder with finely ground metallic bonding powder for cementing granules of the tungsten particles together, pressing the mixed powders in cavities having a geometric shape and free of acute angles to form individual masses having the contour of said cavities,



cementing the particles composing said masses together by heat to produce solid elements of geometric shape and uniform density and hardness without causing the powders to melt and alter said geometric shape, enclosing said elements of geometric shape in a tubular metal welding rod, and melting down the welding rod to lay down said elements in a uniform layer upon surfaces of said drill bit with the metal of said tube flowing uniformly around said elements for bonding them together and securing the elements to said surfaces.

3,385,684

**MULTICRYSTALLINE DIAMOND ABRASIVE COMPOSITION AND ARTICLE**

Roger Conant Voter, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 371,802, June 1, 1964. This application Jan. 3, 1966, Ser. No. 528,328

11 Claims. (Cl. 51—298)

Resin bonded abrasive articles such as grinding wheels utilizing diamonds as the abrasive wherein from 15 to 45 percent of the diamonds are multicrystalline in nature rather than being single crystal diamonds.

3,385,685

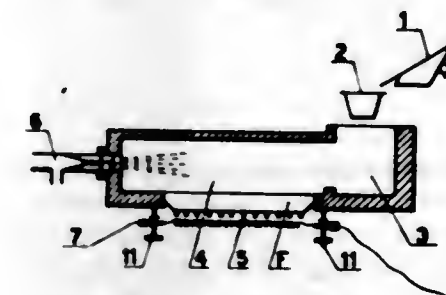
**APPARATUS FOR CONTINUOUS GLASS SPINNING**

Piero Zanaboni, Milan, Italy, assignor to Montecatini Edison S.p.A., Milan, and Vetrotco S.p.A., Porto Marghera, Venice, Italy

Continuation of application Ser. No. 322,451, Nov. 8, 1963. This application Oct. 17, 1966, Ser. No. 587,341

Claims priority, application Italy, Nov. 13, 1962, 22,370/62

5 Claims. (Cl. 65—12)



Apparatus for continuously spinning glass including melting furnace for maintaining glass in molten state, a spinneret communicating with and receiving molten glass from the furnace and having a plurality of outwardly extending nozzle tubes into which the glass flows and tends to solidify, the nozzle tubes having the length L to diameter D ratios of between 1 and 10. The apparatus is also



provided with heating means located externally to and spaced from the spinneret for heating the nozzle tubes to a temperature at which the glass in the tubes is maintained in molten state and flows freely through the tubes, and means for continuously drawing off glass filaments formed by the nozzle tubes and, in the event of a filament break, for drawing off a new filament from the respective nozzle tube.

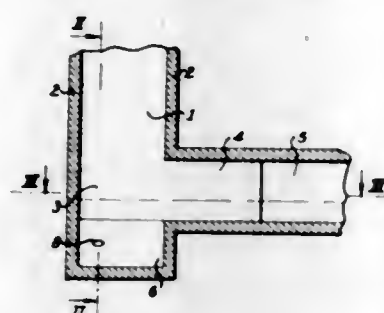
3,385,686

# DEVICE FOR THE WORKING OF PASTY FUSION PRODUCTS

Emile Plumet, Gilly, and Marcel Duperron, Jumet, Belgium, assignors to Glaverbel, Brussels, Belgium, a Belgian company

Filed Oct. 8, 1964, Ser. No. 402,451  
Claims priority, application Luxembourg, Oct. 19, 1963, 44,661

4 Claims. (Cl. 65—335)

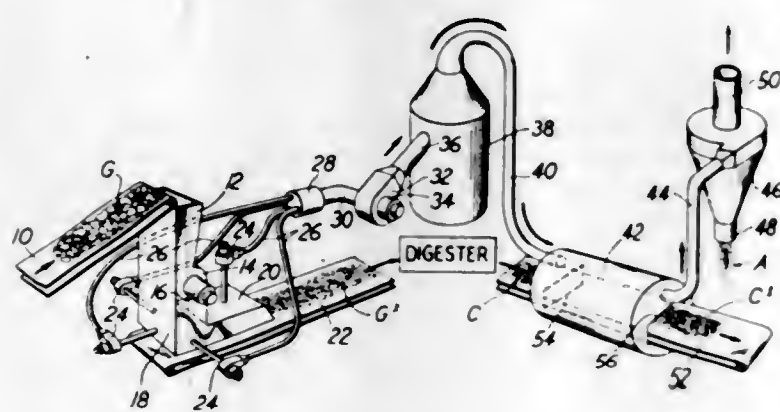


Apparatus composed of a chamber for melting pasty fusion products and a refining basin connected thereto by a conduit having its entry end located above a depressed bottom portion of such chamber, the latter having an area which is defined by inclined side wall portions and increases upwardly toward the conduit entry end, and burner nozzles having their discharge ends injecting hot gases through such inclined side wall portions.

3,385,687

# COMPOSTING PROCESS

Victor Brown, Elmhurst, Ill., assignor to New Life Foundation, a corporation of Illinois  
Filed Feb. 21, 1966, Ser. No. 529,127  
1 Claim. (Cl. 71—13)



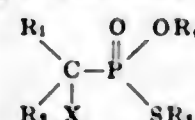
1. In a process for composting town and house refuse which contains garbage, paper and the like, organic and inorganic waste, and which process includes the steps of comminuting, mixing, aerobically digesting, and drying such refuse; the improvement which comprises shredding such paper and the like during the comminuting step to decrease its bulk density, creating a vacuum adjacent such shredded paper and the like, thereby withdrawing a portion thereof from said comminuted refuse, entraining said withdrawn portion in a stream of air and conveying it to a furnace, burning said portion in the furnace, and supplying the products of combustion from the furnace to provide heat for said drying step.

3,385,688  
PHOSPHONOTHIOATES AS HERBICIDES  
Erik A. Regel, Mission, Kans., assignor to Chemagro Corporation, Kansas City, Mo., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 357,761, Apr. 6, 1964. This application Sept. 15, 1964, Ser. No. 396,753

8 Claims. (Cl. 71—87)

Compounds having the formula



where

$R_1$  is alkyl of 1 to 8 carbon atoms,  
 $R_2$  is selected from the group consisting of alkyl of 1 to 8 carbon atoms, phenyl, halophenyl and benzyl,  $R_1$  and  $R_2$  taken together are  $CH_2(CH_2)_nCH_3$  where  $n$  is an integer from 1 to 3 inclusive;  
 $R_3$  is selected from the group consisting of alkyl of 1 to 8 carbon atoms and haloalkyl having 1 to 3 carbon atoms;  
 $R_4$  is selected from the group consisting of alkyl of 1 to 8 carbon atoms, alkenyl of 3 to 8 carbon atoms, alkynyl of 3 to 8 carbon atoms, phenyl, alkylphenyl, halophenyl dihalophenyl, trihalophenyl, nitrophenyl and



$X$  is halogen of atomic weight 35 to 80, are prepared and are employed as herbicides.

3,385,689

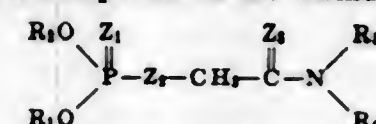
# METHOD OF CONTROLLING UNDESIRABLE PLANT GROWTH

Sidney B. Richter, Chicago, Ill., assignor to Veliscol Chemical Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 391,728, Aug. 24, 1964. This application Oct. 11, 1965, Ser. No. 494,918

13 Claims. (Cl. 71—87)

A method for the control of undesirable plant life which comprises applying to the locus of the undesirable plant infestation a herbicidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is herbicidally injurious to said undesirable plant life a compound of the formula



wherein  $Z_1$ ,  $Z_2$ , and  $Z_3$  are independently selected from the group consisting of sulfur and oxygen;  $R_1$  is aryl;  $R_2$  is selected from the group consisting of alkyl, aralkyl, and aryl;  $R_3$  and  $R_4$  are independently selected from the group consisting of alkyl, hydroxylalkyl, aryl, alkenyl, aralkyl and hydrogen; provided a maximum of one of  $R_3$  and  $R_4$  is hydrogen.

3,385,690

# SYNERGISTIC HERBICIDAL MIXTURES

Raymond W. Luckenbaugh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 415,484, Dec. 2, 1964, which is a continuation-in-part of application Ser. No. 322,074, Nov. 7, 1963. This application Mar. 13, 1967, Ser. No. 622,450

16 Claims. (Cl. 71—93)

Synergistic herbicidal mixtures containing siduron, 1-(2-methylcyclohexyl)-3-phenylurea and one of the following compounds:

Diuron, 3-(3,4-dichlorophenyl)-1,1-dimethylurea,

Linuron, 3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea, Neburon, 1-n-butyl-3-(3,4-dichlorophenyl)-1-methylurea, Diphenamide, N,N-dimethyl-2,2-diphenylacetamide, Norea, 3-(hexahydro-4,7-methanoindan-5-yl)-1,1-dimethylurea, "Cotoran," 3-(m-trifluoromethylphenyl)-1,1-dimethylurea and prometryne, 2-methylmercapto-4,6-bis-(isopropylamino)-s-triazine.

3,385,691

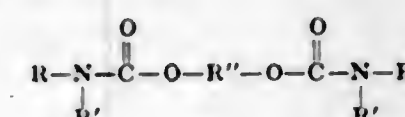
# METHOD FOR CONTROLLING PLANT GROWTH

Stanley J. Strycker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Original application Sept. 10, 1963, Ser. No. 307,787, now Patent No. 3,344,170, dated Sept. 26, 1967. Divided and this application Apr. 8, 1966, Ser. No. 615,855

4 Claims. (Cl. 71—106)

Method for controlling plant growth by applying to plants or their habitats a growth controlling amount of compound of the formula



wherein  $R$  represents alkyl of from 1 to 4, inclusive, carbon atoms;  $R'$  represents hydrogen or nitro; and  $R''$  represents a hydrocarbonylene moiety selected from alkylene of from 2 to 10, inclusive, carbon atoms, 2-butenylene, cyclohexylene, and cyclohexylenedimethylene. Also, novel compositions comprise a carrier or surface active agent in combination with a compound of the above formula wherein each  $R'$  represents nitro.

3,385,692

# METHOD FOR CONTROLLING THE GROWTH OF WEEDS

Richard N. Knowles, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 26, 1964, Ser. No. 392,305

3 Claims. (Cl. 71—120)

Controlling the growth of weeds with 3-(o-fluorophenyl)-1-methylurea.

3,385,693

# METHOD FOR CONTROLLING GROWTH OF SEEDLING WEED GRASSES

Raymond W. Luckenbaugh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

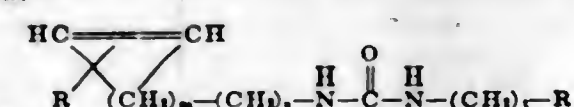
No Drawing. Filed July 22, 1965, Ser. No. 474,149

The portion of the term of the patent subsequent to

Mar. 14, 1984, has been disclaimed

6 Claims. (Cl. 71—120)

Controlling grass weeds with compounds of the formula:



wherein

$R$  is hydrogen or methyl;  
 $R_1$  is aryl, cycloalkyl, bicycloalkyl or cycloalkenyl;  
 $m$  is 3 through 6;  
 $n$  is 0 or 1; and  
 $x$  is 0 or 1.

3,385,694

# METHOD OF PRODUCING IRON POWDER FROM PIG IRON OR SUCH AND IRON OXIDES

Erik Anders Åke Josefsson, Erik Axel Bengtsson, and Sven Hjalmar Backström, Borlange, Sweden, assignors to Stora Kopparbergs Bergslags Aktiebolag, Falun, Sweden, a Swedish company

No Drawing. Filed Dec. 9, 1964, Ser. No. 418,385

11 Claims. (Cl. 75—5)

This invention relates to a method of producing iron powder of a predetermined grain size distribution from carbon-rich iron in which the finely divided carbon-rich iron is roasted at high temperature with an oxide to reduce the carbon content of the iron to not less than 0.1%, cooling the iron and disintegrating the partially decarbonized iron without reducing its particle size to substantially less than the particle size of the carbon-rich iron and then further decarbonizing at a lower roasting temperature to produce iron powder which is suitable for use in powder metallurgy.

## ERRATUM

For Class 75—10 see:  
Patent No. 3,385,494

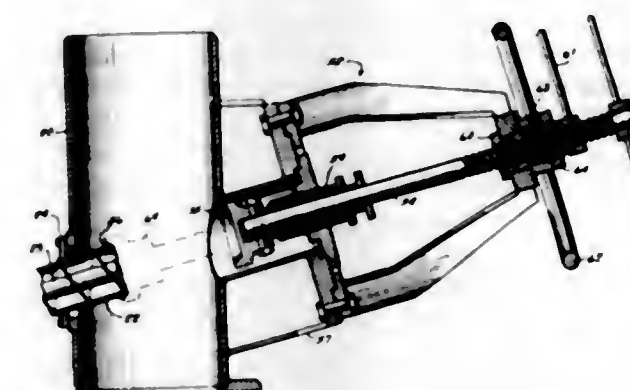
3,385,695

# PROCEDURES AND APPARATUS FOR FEEDING PARTICULATE SOLIDS INTO A CONDENSABLE GAS

Henry J. Howie, Arvida, Quebec, Canada, assignor to Aluminum Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed June 3, 1965, Ser. No. 461,016

19 Claims. (Cl. 75—68)



1. In apparatus for delivering particulate solid material into a confined region having an atmosphere of condensable gas while preventing condensation of the gas in the path of advance of the material, the combination, with structure enclosing said confined region, of a tubular screw-conveyor housing extending to said structure from a locality external thereto along an upwardly inclined axis and opening at its upper end into such region, said upper end of said tubular housing constituting a valve seat; a conveyor screw disposed coaxially within said tubular housing for advancing said particulate material therethrough; means for driving said conveyor screw to advance said particulate material upwardly through said housing; means for supplying said particulate material to said tubular housing at said external locality; and valve means for effecting gas-tight closure of said upper end of said tubular housing, said valve means including a valve head disposed within said confined region and adapted to engage said valve seat, and means for displacing said valve head into and away from engagement with said valve seat.

9. In procedure for evaporating an aluminum halide



from a molten mixture of the aluminum halide and at least one alkali metal halide, wherein a body of the molten mixture is contained in a confined region having an atmosphere of the aluminum halide, a method of delivering quantities of at least one of said halides to said confined region from a locality external thereto for absorption in said body of molten mixture, said method comprising advancing said one halide in particulate solid form from said external locality into said confined region through a laterally confined passage inclined upwardly in the direction of advance of said halide, by rotating a conveyor screw in said passage, while supplying said one halide to said passage in particulate solid form at said external locality, so as to maintain said passage substantially entirely filled with the particulate solid halide.

3,385,696

# PROCESS FOR PRODUCING NICKEL-MAGNESIUM PRODUCT BY POWDER METALLURGY

John Oliver Hitchcock, Underhill, near Sevenoaks, Harold William George Hignett, Cobham, and Norman John Williams, Birmingham, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 10, 1965, Ser. No. 454,652  
Claims priority, application Great Britain, May 13, 1964, 20,019/64

5 Claims. (Cl. 75-130)

1. In the process for producing ductile iron wherein magnesium is employed to effect the occurrence of graphite in the spheroidal form, the improvement which comprises introducing magnesium into molten cast iron as a briquetted agent containing about 10% to about 50% magnesium, with the balance essentially nickel made from an initial powder mix comprising magnesium particles coated with nickel.

5. An addition agent for adding magnesium to molten metals consisting of compacts in which the magnesium is present as nickel-coated magnesium powder having a particle size not greater than 60 mesh BSS, and said magnesium amounts to from 10 to 50% by weight of the compacts, with the balance essentially nickel.

3,385,697

# KEY BLANK

Peter J. Kabelka, Torrington, Conn., assignor to Anaconda American Brass Company, a corporation of Connecticut

No Drawing. Filed Nov. 9, 1964, Ser. No. 410,008

3 Claims. (Cl. 75-157.5)

A key blank having the color, tarnish resistance, machinability and strength for good key formation having an alloy composition consisting of about the following percentages by weight: 58-61 percent copper, 10-15 percent manganese, 0.5-1.5 percent lead and the remainder zinc.

3,385,698

# NICKEL BASE ALLOY

Richard R. MacFarlane, Sinking Spring, and Clyde Raymond Whitney, Reading, Pa., assignors to The Carpenter Steel Company, Reading, Pa., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 447,056, Apr. 9, 1965. This application Jan. 25, 1966, Ser. No. 522,851

6 Claims. (Cl. 75-171)

A hot workable nickel base alloy containing 10% to 20% chromium and 10% to 20% cobalt which in its heat treated condition has high creep resistance and good rupture strength at temperatures in the neighborhood of 1300° F.-1500° F. imparted by controlled additions of the elements molybdenum, tungsten, titanium, aluminum and boron.

3,385,699

# PROCESS FOR PROCESSING ELECTRO- PHOTOSENSITIVE LAYERS

Satoru Honjo, Odawara-shi, Japan, assignor to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan, a corporation of Japan

Filed July 20, 1964, Ser. No. 383,645  
Claims priority, application Japan, July 25, 1963, 38/39,489

6 Claims. (Cl. 96-1)

An electrophotosensitive layer containing zinc oxide and an uncured thermosetting resin is treated to form a visible image on said layer. Thereafter, the thermosetting resin is cured whereby the developed image is permanently fixed.

3,385,700

# RECORDING PROCESS

Jozef Frans Willems and Albert Lucien Poot, Wilrijk-Antwerp, Belgium, assignors to Gevaert Photo-Producten, Mortsel, Belgium, a Belgian company

No Drawing. Filed June 10, 1965, Ser. No. 463,029  
Claims priority, application Great Britain, June 12, 1964, 24,520/64

11 Claims. (Cl. 96-27)

1. A photographic process comprising the step of image-wise or record-wise exposing to U.V.-radiation an element containing as U.V.-sensitive compound a 3,5-cyclohexadienone compound containing in ortho-position to the oxo group at least one acetoxy group or a 2,5-cyclohexadienone compound containing a para-position to the oxo group at least one acetoxy group.

2. A photographic process according to claim 1, wherein the element also contains a nucleophilic reagent capable of reacting with a compound formed by exposing the said cyclohexadienone compound to U.V.-radiation.

3,385,701

# LITHOGRAPHIC OFFSET MASTER AND METHOD

Mary K. Ormsbee and Ruth E. Ormsbee, River Forest, and Frederick O. Bach, Villa Park, Ill., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois

No Drawing. Filed Nov. 9, 1964, Ser. No. 410,011  
10 Claims. (Cl. 96-29)

A duplicating master and method for producing the master comprising a base sheet characterized by a hydrophobic surface. A nucleated hydrophilic coating is provided on the surface in the non-image areas thereof with the hydrophobic surface of the base sheet being exposed in the image areas. The hydrophilic coating originally covers the entire hydrophobic surface but is characterized by the ability to receive silver halide by diffusion transfer in image areas when an exposed negative is brought into contact with the coating in the presence of a developing solution. Metallic silver is formed in the image areas due to the reduction of the halide thereby enabling the removal of the coating in the image areas.

3,385,702

# PHOTOMECHANICAL METHOD OF MAKING METALLIC PATTERNS

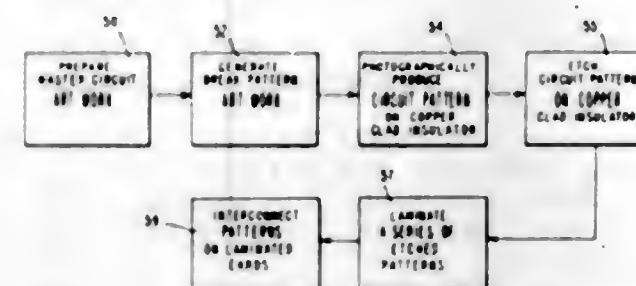
Herman F. Koehler, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 3, 1962, Ser. No. 228,079

5 Claims. (Cl. 96-36.2)

1. A process for fabricating unique metallic patterns comprising the steps of:  
preparing artwork of a universal topological configuration, the artwork including a plurality of points all interconnected by suitable paths and serving as a modular pattern,

preparing matrix artwork by a step and repeat photographic process based upon the modular pattern, said matrix artwork including a plurality of points all interconnected by suitable paths,  
preparing artwork of a desired path modifying pattern which masks out portions of certain selected paths, covering a metal-clad insulating member with a coating of light sensitive emulsion,  
registering the matrix artwork and the modifying pattern artwork with respect to the metal-clad insulating member,



exposing portions of said emulsion to light through said matrix pattern and modifying pattern in order to harden the exposed areas,  
removing said artworks,  
washing away the unexposed portions of said emulsion to uncover portions of the metal-clad material, and etching completely away the uncovered metal so that the metallic patterns remain on the insulating member except in those areas not exposed to light to give metallic patterns derived from said master art work and said modifying artwork.

3,385,703

# RECORDING PROCESS

Albert Lucien Poot, Wilrijk-Antwerp, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel, Belgium, a company of Belgium

No Drawing. Filed June 10, 1965, Ser. No. 463,033  
Claims priority, application Great Britain, Dec. 14, 1964, 50,828/64

7 Claims. (Cl. 96-36.3)

1. Process for the manufacture of a printing element comprising the steps of image-wise exposing to U.V.-radiation a recording element applied to a printing base and which contains as U.V.-sensitive compound a 3,5-cyclohexadienone derivative containing in ortho-position to the oxo group at least one acetoxy group or a 2,5-cyclohexadienone derivative containing in para-position to the oxo group at least one acetoxy group and treating the exposed element with water or an aqueous liquid thereby removing the recording element from said base at the exposed areas.

3,385,704

# SENSITIZATION OF SILVER BROMOIODIDE EMULSIONS WITH AMIDOPHOSPHORIC ACID POLYETHYLENE GLYCOL ESTERS

Herbert Grabböfer, Cologne-Flittard, Hans Ulrich and August Randolph, Leverkusen, Wilhelm Saleck, Schildgen, Bergisch-Gladbach, and Rolf-Fred Pense, Cologne-Flittard, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 1, 1964, Ser. No. 379,738

Claims priority, application Germany, July 11, 1963, A 43,552

4 Claims. (Cl. 96-66)

Increasing the effective sensitivity of photographic silver bromoiodide emulsions by carrying out the development of these emulsions while they are in contact with a sensitizing concentration of certain amidophosphoric acid polyethyleneglycol esters.

3,385,705

# PHOTO-SENSITIVE MATERIAL HAVING A SHALLOW LAYER CONTAINING A BENZENEDIAZO SULFONIC ACID COMPOUND OR SALTS THEREOF

Cornelis Johannes Dippel, Harke Jan Houtman, and Hendrik Jonker, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 25, 1964, Ser. No. 399,326  
Claims priority, application Netherlands, Oct. 9, 1963, 299,034

4 Claims. (Cl. 96-75)

Photosensitive material producing a minimum of image distortions. The material consists of a hydrophobic base with a thin hydrophilic layer of a thickness of at most 2μ and containing a concentration of a light-sensitive benzenediazonium compound such that the extinction per μ is at least 0.2 at a wavelength of 3655 Å.

3,385,706

# PHOTOGRAPHIC MATERIAL FOR THE SILVER DYESTUFF BLEACHING PROCESS

Rudolf Mory, Dornach, and Alfred Ostler, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Feb. 2, 1965, Ser. No. 429,891  
Claims priority, application Switzerland, Mar. 19, 1964, 3,565/64

7 Claims. (Cl. 96-99)

Photographic materials for the silver dyestuff bleaching process, containing in at least one layer at least one dyestuff of the formula



in which R<sub>1</sub> is a benzene radical and R<sub>2</sub> and R<sub>3</sub> each are a monocyclic benzene radical; R<sub>4</sub> is bound to the azo groups in 1:4-position and contains two substituted or unsubstituted alkoxy groups, one group being bound to R<sub>2</sub> in 2-position and one in 5-position and R<sub>4</sub> is the radical of an 8-hydroxynaphthalene disulfonic acid bound to the azo group in 7-position, which radical contains a substituted amino group in 1-position.

3,385,707

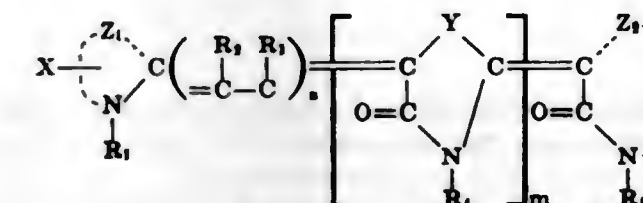
# OPTICALLY SENSITIZED PHOTOGRAPHIC MATERIALS CONTAINING NEUTROCYNINE DYES

Oskar Rießer, Leverkusen, and Max Glass, Cologne-Hochenhans, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed May 14, 1964, Ser. No. 367,438  
Claims priority, application Germany, May 18, 1963, A 43,141

14 Claims. (Cl. 96-102)

1. A light-sensitive photographic material with at least one supported optically sensitized silver halide emulsion layer containing an effective amount of an optical sensitizer of the formula:



wherein:

Z<sub>1</sub> represents the atoms necessary for completing a ring of the group consisting of oxazoles, oxazines, thiazoles, selenazoles, thiodiazoles, oxadiazoles, imid-



azoles, pyrimidines, pyridines, quinolines, isoquinolines, thiazolines or indolenines;  
Y represents a divalent radical of the group consisting of —O—, —S—, —Se—, and



X represents a member of the group consisting of a sulfo-substituted phenyl attached to the adjacent heterocyclic ring by a single chemical bond, a sulfo-substituted phenyl fused to the adjacent heterocyclic ring, a sulfo-substituted naphthyl attached to the adjacent heterocyclic ring by a single chemical bond and a sulfo-substituted naphthyl fused to the adjacent heterocyclic ring;

Z<sub>2</sub> represents the atoms necessary for completing a rhodanine, pyrazolone or oxazolidone ring;

R and R<sub>1</sub> to R<sub>5</sub> each represent a member of the group consisting of hydrogen, alkyl, phenyl and benzyl and m and n each represent an integer from 0 to 3.

3,385,708

#### SENSITIZATION OF PHOTOGRAPHIC SILVER HALIDE EMULSIONS

Herbert Grabböfer, Cologne-Filtard, August Randolph and Hans Ulrich, Leverkusen, and Wilhelm Saleck, Schildgen-Berg, Gladbach, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed May 19, 1964, Ser. No. 368,714  
Claims priority, application Germany, May 31, 1963, A 43,236

6 Claims. (Cl. 96—107)

Sensitivity of photographic silver iodobromide emulsions is increased by polyglycol esters of spirocyclic erythritol di-phosphoric acid. These esters can be polymeric and can be present either in the emulsion or in the developer bath.

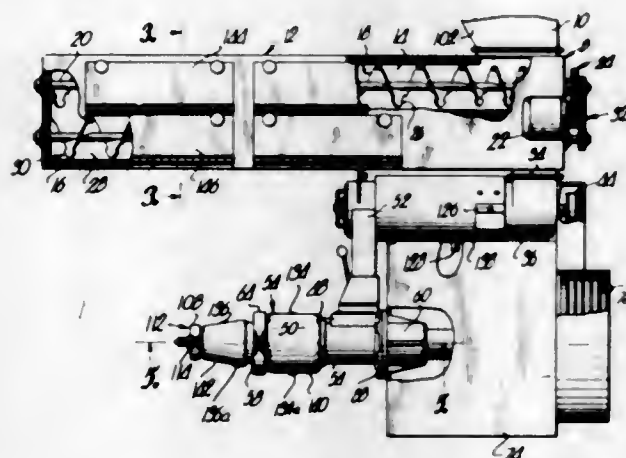
3,385,709

#### TREATMENT OF OLEAGINOUS SUBSTANCES

Lavon G. Wenger and Louis Wenger, Sabetha, Kans., assignors to Wenger Manufacturing, Inc., Sabetha, Kans., a corporation of Kansas

Continuation-in-part of application Ser. No. 136,010, Sept. 5, 1961. This application June 3, 1965, Ser. No. 467,171

8 Claims. (Cl. 99—2)



Continuous treatment of oleaginous products, such as seeds or beans, for reduction of the growth inhibitors therein, by passing the product through a preconditioner in which team is injected to raise the temperature of the product of about 180° to 210° F., passing the product through an extruder and increasing the pressure in a coned nose section of the extruder so that the product emerges from said section at a temperature not lower than approximately 250° F.

#### DISPERSIBLE CHOCOLATE DRINK COMPOSITION AND PROCESS FOR ITS PREPARATION

Dominique Reymond and Theodore Hodel, La Tour-de-Pellz, Switzerland, assignors to Alico S.A., Lausanne, Switzerland, a corporation of Switzerland  
No Drawing. Filed June 24, 1964, Ser. No. 377,504  
Claims priority, application Switzerland, July 12, 1963, 8,701/63

11 Claims. (Cl. 99—26)

A dry, free-flowing composition for the preparation of a chocolate drink comprising agglomerated sugar particles enrobed with chocolate-flavor powder, which may include milk solids. An edible fat is employed to adhere the coating to the sugar particles.

3,385,711

#### ORANGE JUICE PROCESS

George S. Spertl, Cincinnati, Ohio, assignor to Institutum Divi Thomae Foundation, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed June 3, 1964, Ser. No. 372,388  
6 Claims. (Cl. 99—105)

Certain oranges produce a juice which, while perfectly palatable at the time it is expressed from the fruit, soon becomes bitter. Applicant has discovered that the bitterness precursors are in the juice pulp. The process of the invention involves expressing the juice from the fruit in the usual manner, then immediately separating the juice pulp from the liquid components of the juice, and then replacing this pulp with either a juice pulp which never had any bitterness precursor in it, or with a juice pulp from which the bitterness precursor had been removed before bitterness developed. In the latter situation such removal is by prompt washing solely with water as the solvent, and preferably at elevated temperatures.

3,385,712

#### METHOD OF MAKING AN EGG PRODUCT

John W. Dodge, Ithaca, June M. Darfler, Locke, and Robert C. Baker, Groton, N.Y., assignors to Cornell Research Foundation, Inc., Ithaca, N.Y., a corporation of New York

Filed Oct. 7, 1965, Ser. No. 493,744

4 Claims. (Cl. 99—113)

A cooked egg roll product including a central egg yolk portion, and an outer egg white portion arranged concentrically about said egg yolk portion. During manufacture, the core portion is formed by extruding a yolk paste at least fifty percent of which, by volume, comprises completely coagulated yolk, the remainder of said paste comprising incompletely coagulated yolk.

3,385,713

#### STABILIZATION OF FLAVORING, ODORANT AND PERFUME COMPOSITIONS

Arthur A. Levinson, Chicago, Lawrence C. Radtke, Homewood, and Kenneth B. Basa, Evanston, Ill., assignors to H. B. Taylor Co., Chicago, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 399,279, Sept. 25, 1964. This application May 26, 1966, Ser. No. 559,660

7 Claims. (Cl. 99—140)

A stabilized liquid, flavoring, odorant and perfume composition comprising from 1/4 to 90% by weight in relation to solvent of a carbonyl containing compound, an aliphatic polyhydroxy, alcohol carrier and solvent containing at least two hydroxy groups which are substituted in the 1,2-, 1,3-, and 1,4-positions and an alkaline material present in an amount sufficient to substantially inhibit dioxolane formation and less than the amount required to promote alkali catalyzed side reactions.

3,385,714

#### STERILIZED MILKSHAKE AND THE PROCESS FOR MAKING SAME

Watson B. Smith, North Syracuse, N.Y., assignor to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 1, 1965, Ser. No. 429,640

3 Claims. (Cl. 99—171)

This invention relates to sterile packaged liquid milkshake mixes which can be refrigerated, agitated and dispensed from the package to provide a milkshake comprising a sealed container filled to at least about 50% of its total volume with a liquid milkshake mix, said mix containing a viscosity control agent comprising a combination of a colloidal seaweed extracts and vegetable gums, and a colloidal gum, said agent being present in an amount sufficient to give said mix an initial viscosity after sterilization of about 40 to about 90 seconds at 80° F.

3,385,715

#### PROCESS FOR PRODUCING COMPRESSED, DEHYDRATED CELLULAR FOODS

Norman H. Ishler, Valley Cottage, N.Y., and Aloysius J. Knipper, Bergenfield, N.J., assignors to Tronchemics Research Incorporated, South Hackensack, N.J.

Filed Aug. 31, 1964, Ser. No. 393,819

14 Claims. (Cl. 99—204)

A process in which morsels of a freeze-dried cellular food are first rehydrated to a moisture content of about 5% to 13%, compressed together while maintaining the surface moisture of the morsels and the pressure sufficiently high to cause the morsels to adhere during said compression and dehydrated to a moisture content below about 3%, the degree of compression being such that the density of the dehydrated product is in the range of about 0.5 to 0.9 gram per cc.

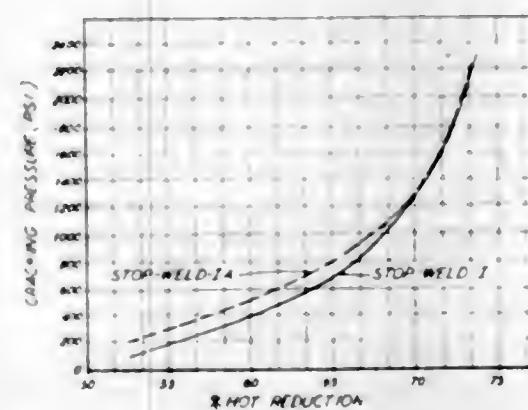
3,385,716

#### WELD ARRESTING COMPOSITION

George J. Jagaciak, Milford, John W. Poulton, Wallingford, and William L. Cronan, East Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Jan. 4, 1966, Ser. No. 518,713

6 Claims. (Cl. 106—2)

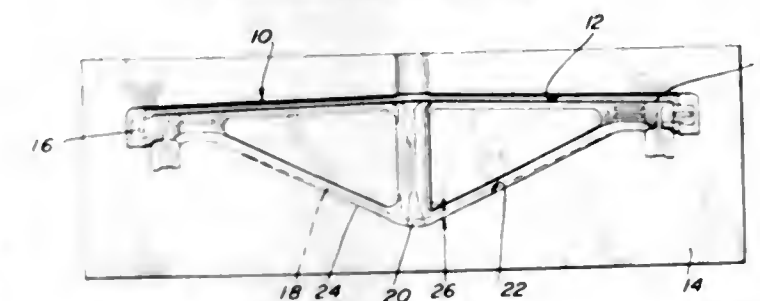


The present disclosure teaches a galvanically neutral weld arresting composition which is an aqueous suspension containing from 5 to 60% by weight titanium dioxide, from 0.5 to 5% by weight bentonite, from 0.10 to 4% by weight magnesium montmorillonite, and the balance essentially water.

3,385,717

#### MOLD WASH COMPOSITION

Paul J. Neff, Lansing, Ill., assignor to Armsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey  
Filed Jan. 19, 1966, Ser. No. 521,656  
6 Claims. (Cl. 106—38.23)



1. A mold wash for shell molds, said wash containing iron oxide in the form Fe<sub>3</sub>O<sub>4</sub>.

3,385,718

#### TITANIUM DIOXIDE-SILICA PIGMENT

Bradford C. Hafford and George E. Snow, Palmerton, Pa., assignors to The New Jersey Zinc Company, New York, N.Y., a corporation of Delaware  
Filed Aug. 21, 1964, Ser. No. 391,334  
3 Claims. (Cl. 106—288)

A titanium dioxide-silica composite pigment is produced by precipitating silica on suspended titanium dioxide as the result of progressively neutralizing with sodium silicate, in the presence of the suspended titanium dioxide, a definite acidic aqueous solution containing fluoride ions.

3,385,719

#### PROCESS FOR PRODUCTION OF AN ALKALI STARCH XANTHATE SOLUTION

Earl B. Lancaster, Peoria, Howard F. Conway, Pekin, and Laurence A. Welnecke and Edward L. Griffin, Jr., Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Filed Feb. 25, 1965, Ser. No. 435,382  
5 Claims. (Cl. 106—213)

Very low viscosity aqueous 10 percent 0.15 D.S. starch xanthate solutions are directly produced without a final addition of water by stirring starch or pregelatinized starch in the form of an aqueous dispersion containing only 10 percent of starch based on the weight of the dispersion with up to 0.5 mole equivalents of NaOH and CS<sub>2</sub>, preferably at or only slightly above room temperature in a closed mixer for up to 1 hour.

3,385,720

#### WAX LAMINATING COMPOSITION

Karekin G. Arabian, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 17, 1964, Ser. No. 383,518

2 Claims. (Cl. 106—230)

A wax laminating composition comprising a microcrystalline wax having suspended therethrough from 2-10% by weight of a polyethylene having a complete crystallization temperature substantially completely above the initial crystallization temperature of the microcrystalline wax.

3,385,721

#### METHOD FOR COATING SHEET MATERIAL

Sam L. Leach, 32653 Seagate Drive, Palos Verdes Peninsula, Calif. 90274

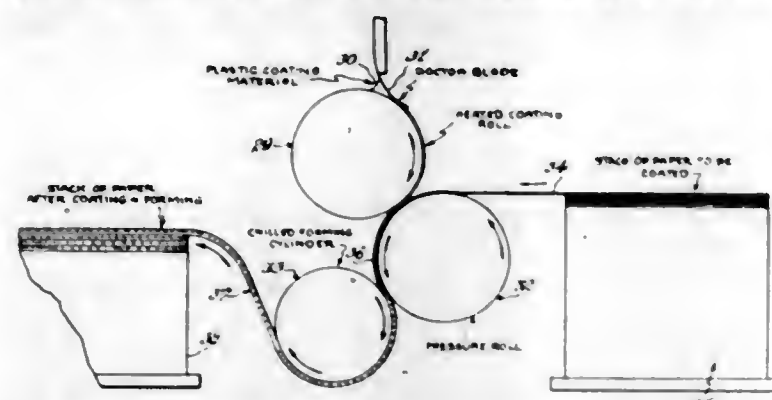
Continuation of application Ser. No. 85,608, Jan. 30, 1961, which is a continuation-in-part of application Ser. No. 582,503, May 3, 1956. This application June 29, 1967, Ser. No. 649,899

5 Claims. (Cl. 117—10)

A method for applying a plastic coating to sheet material to form a lenticular screen overlying the sheet material.



rial. A coating cylinder applies a metered quantity of the plastic in fluent form to the sheet material at a first nip



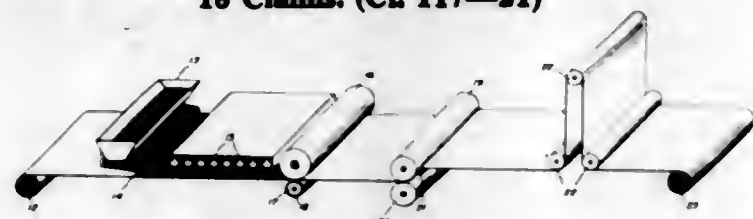
and the sheet material is then transferred directly to a second nip where the plastic material is cooled and formed into a lenticular screen overlying the sheet material.

3,385,722

### PROCESS FOR PRODUCING A THERMOPLASTIC COMPOSITION SURFACE COVERING

John B. Weaver, Lancaster, Pa., and William H. Powell, Livingston, N.J., assignors to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York  
Continuation-in-part of abandoned application Ser. No. 709,531, Jan. 17, 1958. This application Aug. 23, 1963, Ser. No. 304,725

18 Claims. (Cl. 117-21)



13. The method of consolidating a film on a moving backing, the steps comprising depositing a layer of granular thermoplastic composition on said backing, heating said thermoplastic composition to soften the same, and while maintaining the thermoplastic composition in softened condition consolidating the granules with one another on the surface of said backing to form a solid film while urging the backing into contact with a yielding surface.

3,385,723

### CARBON ARTICLE COATED WITH BETA SILICON CARBIDE

Paul B. Pickar, Orange County, Fla., assignor to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland

No Drawing. Filed June 26, 1964, Ser. No. 378,421  
12 Claims. (Cl. 117-46)

This invention relates to the manufacture of a carbon article such as a crucible, in the inner surface of which a protective coating of very pure graphite is created so that thereafter a chemically pure coating of beta silicon carbide can be formed in the crucible, without being contaminated by impurities in the carbon.

3,385,724

### PROCESS AND DEVICE FOR CONTINUOUSLY TREATING POWDERED MATERIALS WITH STABILIZING SUBSTANCES

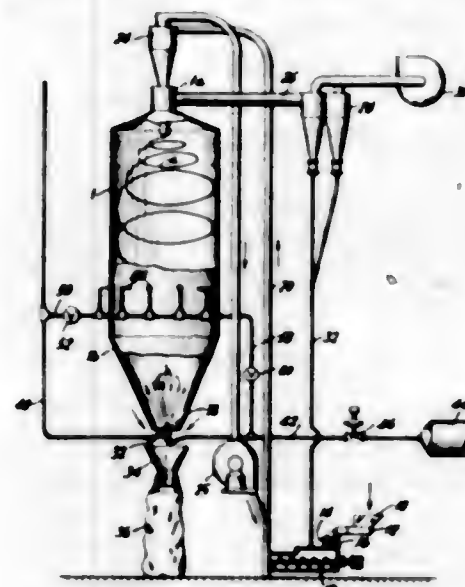
Gustav Grün, Linzberg, Oberhausen, Germany  
Continuation-in-part of application Ser. No. 93,011, Mar. 1, 1961. This application Dec. 2, 1965, Ser. No. 511,589

Claims priority, application Germany, Mar. 2, 1960, G 29,141

19 Claims. (Cl. 117-100)

1. A process for treating a first substance in powder, granular and similar form with a second substance in

fluid form within a reaction chamber having an outlet at the lowermost end thereof, comprising continuously directing a first substance to be treated downwardly into the reaction chamber, continuously directing a second substance against said first substance, and continuously exhausting the upper end of the reaction chamber to direct air into the opening at the lowermost end of the reaction chamber and thence upwardly into the reaction chamber and through said first and second substances to cause the particles of the first substance to swirl in a



cloud formation and to cause the second substance to treat the particles of said first substance while continuously removing gas and entrained particles from the upper end of said reaction chamber, the exhausting being done by an amount and rate sufficient to maintain the lighter untreated substances in whirling motion in the cloud formation, and continuously removing heavier particles of said first substance which have been treated with said second substance through the opening at the lowermost end of the reaction chamber by the action of gravity.

3,385,725

### NICKEL-IRON-PHOSPHORUS ALLOY COATINGS FORMED BY ELECTROLESS DEPOSITION

Arnold F. Schmeckenbecker, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York  
Filed Mar. 23, 1964, Ser. No. 353,849

6 Claims. (Cl. 117-130)

Solutions and processes for the electroless plating of nickel-iron-phosphorus alloys in thin film magnetic devices, in which aqueous solutions of nickel and iron salts, sodium hypophosphite as a reducing agent and complexing agents are used to provide nickel and ferrous ions in ratios in the range of 1 to 5, and hypophosphite ions in concentrations equivalent to about 3.2 to 10 grams of sodium hypophosphite per liter at a pH of about 10 to 13 for plating films having 64.5% to 75.5% nickel content, 24% to 35% iron content and about 0.5% to 2% phosphorus content at a rate in the range of 150 to 1500 Å. per minute.

3,385,726

### CELLULOSE RENDERED WATER REPELLENT BY APPLICATION OF A CATIONIC BETA-IRON OXIDE HYDROSOL

Charles J. Conner, New Orleans, La., assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Aug. 18, 1965, Ser. No. 480,827  
1 Claim. (Cl. 117-135.5)

1. A process for imparting water repellency to cellulosic materials comprising

(a) impregnating the cellulosic material with an aque-

ous cationic beta-iron oxide hydrosol containing about from 1.0% to 3.0%  $\text{Fe}_2\text{O}_3$ ,  
(b) washing the impregnated material in water, and  
(c) drying at temperatures about from 20° to 100° C.

3,385,727

### SILOXANE PAPER RELEASE COATINGS

Peter S. Thomas, Livonia, Mich., and Thomas F. Maguire, Troy, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Sept. 1, 1964, Ser. No. 393,738

5 Claims. (Cl. 117-155)

A paper release coating composition contains a silanol terminated gum, a silane containing 3 or 4 acetoxy groups, a metal salt and an organic solvent. A surface of a sheet of paper is coated with the composition, the solvent is removed and the silanol is crosslinked by reaction with the polyacetoxy silane in the presence of moisture at an elevated temperature. The coated paper produced is useful as a backing sheet for surgical adhesive tape.

3,385,728

### METHOD OF COATING A BASE WITH A CARBOXYLATED LATEX CONTAINING HYDROXYLAMINE HYDROCHLORIDE

Maurice J. Walsh III, Gastonia, N.C., assignor to Uniroyal Inc., a corporation of New York

No Drawing. Filed June 22, 1964, Ser. No. 377,058

2 Claims. (Cl. 117-161)

Carboxylated rubber latex, such as latex of a terpolymer of butadiene, styrene and itaconic acid or methacrylic acid, or similar ethylenically unsaturated carboxylic acid, after neutralization with ammonia, is treated with hydroxylamine hydrochloride (0.2 to 5 parts per 100 parts by weight of terpolymer). A solid deposit from the latex, after heating at 150°-400° F., is resistant to hot water. Fabric coated or sized with the latex can be subjected to dyeing, washing, and similar wet processing at elevated temperature without removal or disintegration of the rubber coating.

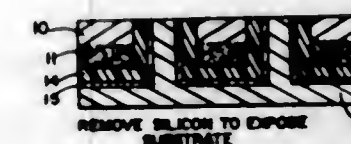
3,385,729

### COMPOSITE DUAL DIELECTRIC FOR ISOLATION IN INTEGRATED CIRCUITS AND METHOD OF MAKING

George A. Larchian, Northridge, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Oct. 26, 1964, Ser. No. 406,471

11 Claims. (Cl. 117-200)

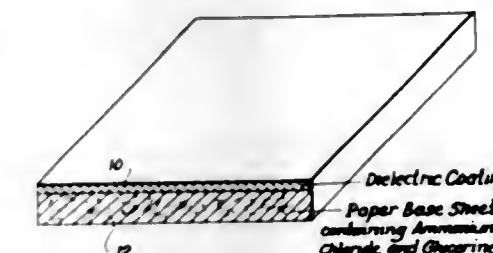


A dual dielectric for isolation of integrated circuits comprising a film of silicon dioxide and an adjacent film of silicon nitride. The dual dielectric is useful for isolating single crystal semiconductor elements from a polycrystalline substrate. The dual dielectric may be produced by thermally or pyrolytically growing silicon dioxide on a silicon substrate, and subsequently providing a film of silicon nitride atop the  $\text{SiO}_2$ . The silicon nitride may be prepared by thermal decomposition of ammonia.

3,385,730

### WRITING MEDIUM FOR ELECTROSTATIC PRINTING

Earl B. Relph, Des Plaines, Ill., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois  
Filed Apr. 1, 1964, Ser. No. 356,382  
5 Claims. (Cl. 117-201)



The invention is addressed to an electrostatic writing medium adapted to receive a latent electrostatic image capable of subsequent development by a liquid or powdered developer and in which the electrostatic writing medium is formed with a dielectric insulating coating on the surface of a paper base sheet which is impregnated for uniform distribution of the combination of a polyhydric alcohol and ammonium chloride.

3,385,731

### METHOD OF FABRICATING THIN FILM DEVICE HAVING CLOSE SPACED ELECTRODES

Paul Kessler Weimer, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Original application Aug. 17, 1961, Ser. No. 132,095, now Patent No. 3,258,663. Divided and this application Nov. 3, 1965, Ser. No. 506,162

2 Claims. (Cl. 117-212)

1. The method of fabricating a solid state device comprising the steps of depositing two spaced metallic electrodes upon one major face of an insulating support by evaporation, utilizing a stretched untwisted wire mounted on a frame as an evaporation mask to form the gap between said two spaced electrodes; imparting relative motion between said frame and said support transversely to said gap and parallel to the plane of said major face for a distance less than the diameter of said wire; repeating the evaporation of said metallic electrodes so as to make said gap between said electrodes less than the diameter of said wire and less than one hundred microns; evaporating a layer of semiconductive material upon a portion of said spaced electrodes and said one major face; evaporating a film of high-resistivity material having a bandgap greater than said semiconductive material upon said layer; and evaporating upon said film a third metallic electrode, said third electrode being opposite said gap between said spaced electrodes.

3,385,732

### ELECTRIC CIRCUIT STRUCTURE

Robert A. Curran, Wayland, Mass., assignor, by mesne assignments, to The First Safe Deposit National Bank of New Bedford, New Bedford, Mass., a national banking association

Original application May 21, 1962, Ser. No. 196,319, now Patent No. 3,330,695. Divided and this application Aug. 22, 1966, Ser. No. 594,295

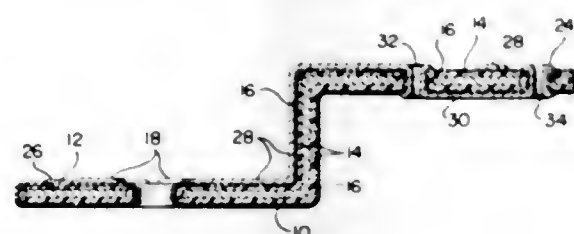
18 Claims. (Cl. 117-212)

1. An electric circuit structure comprising, in combination:

- a support member including a support surface;
- a layer of a solidified coating compound adhered directly to said surface;
- a coating substantially completely covering said layer and comprising finely divided particles of a hard, infusible, dielectric material embedded in said layer; and



a plurality of metallic electric conducting elements fused directly to said coating and arranged in an electric circuit array;



said conducting elements being electrically insulated from each other and from said support member by said layer and said coating thereon.

3,385,733

## MANUFACTURE OF CARAMEL COLOR

Otto Ackermann, Long Island City, N.Y., assignor to D. D. Williamson & Co., Inc., Long Island City, N.Y., a corporation of New York

Filed July 9, 1964, Ser. No. 381,354

5 Claims. (Cl. 127-34)

1. The continuous process of producing caramel color which comprises, preparing a syrup of carbohydrate food material, mixing therewith a caramelization catalyst, pumping the mixture through a heat exchanger, heating the mixture as it passes through said heat exchanger to a caramelizing temperature in the range of 350° to 1000° F. with a liquid heat exchange medium to avoid carbonizing said mixture, maintaining the flowing mixture at the caramelizing temperature for a period up to 300 minutes, discharging the caramelized mixture through a pressure-reducing valve, and cooling and recovering the caramel color thus produced.

3,385,734

## PROCESS AND COMPOSITION FOR PICKLING STEEL

Lloyd B. Barkley, Pittsburgh, and Robert G. Buckingham, Finleyville, Pa., assignors to Pennsylvania Industrial Chemical Corporation, a corporation of Pennsylvania

No Drawing. Filed Dec. 2, 1964, Ser. No. 415,493

5 Claims. (Cl. 134-3)

1. In a method of pickling steel the steps of blending about 5 to 15 percent of 20° Bé. HCl with a pickling bath concentrate consisting essentially of, by weight, about 80 to 85 percent of 20° Bé. hydrochloric acid and about 10 to 15 percent additional water, about 1 to 3 percent of sodium dihydrogen phosphate monohydrate, about 0.5 to 1.5 percent of polyethylene glycol, and about 0.2 to 1.5 percent of at least one ethanolamine, diluting the blend with water to about 8 to 15 percent of HCl, and passing the steel through the resultant bath.

3,385,735

## METHOD FOR CLEANING HYDRAULIC SYSTEMS

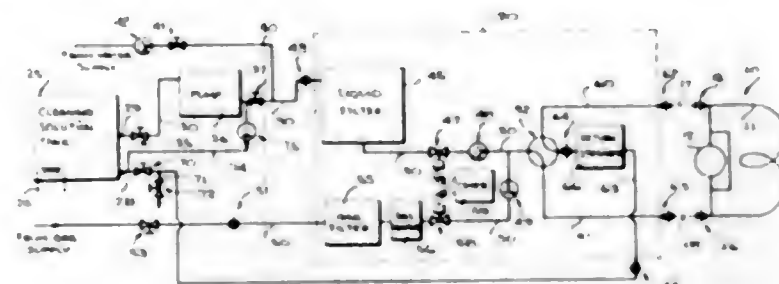
Thomas V. Brabrand and Richard J. Baumler, Newport News, Va., assignors to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia

Filed Nov. 15, 1962, Ser. No. 237,976

2 Claims. (Cl. 134-28)

1. The method of cleaning hydraulic systems comprising degreasing the system by circulating a first non-acid cleaning solution through the system, introducing fresh filtered water into the system to displace the cleaning solution and rinsing out the system, draining said water from the system, blowing the system dry with heated gas,

then removing scale and flux by circulating a mild acid solution through the system, then introducing filtered water again into the system to displace said acid solution and rinsing said system, then introducing a second non-acid cleaning solution into the system and circulating said cleaning solution in alternate directions at certain time intervals for producing a bi-directional flush, intermittently introducing injections of gas into the circulating liquid during said bi-directional flush, and further during the bi-directional flush at certain intervals alternately stopping the cleaning solution flow while simultaneously



introducing slugs of gas into the system, then again introducing fresh water into the system to displace said last-mentioned cleaning solution, rinsing the system and then draining the water from the system, then again blowing the system dry with heated gas to dry out the whole system, and then circulating an oil solution flush through the system along the normal flow path below the normal operating pressure for residual contamination removal and upon completion of the oil flush, circulating gas through the system at the normal working pressure of the system to test for leaks.

3,385,736

## METHOD OF MAKING ELECTRODE FROM VISCOELASTIC DOUGH

Max C. Delbert, Needham Heights, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

Filed Mar. 1, 1965, Ser. No. 435,821

18 Claims. (Cl. 136-120)

1. A method of making a diffusion membrane electrode which is a continuous network of interconnected polymer particles coated with electrode materials which comprises forming a homogeneous viscoelastic dough by mixing a particulate electrode material with a polymeric binder and a liquid dispersion medium in proportions including about the maximum liquid:solids ratio producing a viscoelastic dough, spreading the dough to a viscoelastic membrane of electrode thickness without substantially changing the liquid content of said dough, and heating said membrane to cure it.

3,385,737

## MANUFACTURING THIN MONOCRYSTALLINE LAYERS

Bertrand Alain Dreyfus, Sevres, Seine-et-Oise, France, assignor to Societe d'Electronique et d'Automatisme, Seine, France

No Drawing. Filed July 8, 1964, Ser. No. 381,264

Claims priority, application France, July 15, 1963,

941,415, Patent 1,370,724

2 Claims. (Cl. 148-1.6)

Thin monocrystalline layers of semi-conducting materials, e.g., germanium, are produced by controlled condensation of monoatomic vapors of the semi-conducting material upon an amorphous substrate to create a layer of between about 300 Å. to some tens of microns thickness.

3,385,738

## CHROMATE CONVERSION COATING FOR ALUMINUM

William S. Russell, Warren, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 10, 1964, Ser. No. 410,263

16 Claims. (Cl. 148-6.2)

A process for forming protective coatings on aluminum-containing surfaces wherein the surface is contacted with an aqueous acidic solution which contains hexavalent chromium ions, fluoride ions, and from 0.01 to 0.1% by weight of the solution of arsenic, as an accelerator. The aqueous coating solution is maintained in contact with the aluminum containing surface for a period sufficient to form the desired protective coating on the aluminum surface.

3,385,739

## ALLOY STEEL ARTICLES AND THE METHOD OF MAKING

Louis J. Danis, Battle Creek, Mich., assignor to Eaton Yale & Towne, Inc., a corporation of Ohio

No Drawing. Filed Apr. 13, 1965, Ser. No. 447,902

12 Claims. (Cl. 148-12.1)

A wear and corrosion resistant engine poppet-type valve and method of making same comprising a forgeable alloy steel core consisting essentially of about 10% to about 30% chromium, up to about 80% nickel and/or cobalt or combinations thereof, up to about 15% manganese, up to 0.6% nitrogen, up to 4% silicon, less than 0.7% carbon and the balance iron and conventional impurities, and a hardened casing integrally formed around at least the head portion of the valve core and of a thickness of about 0.010 to about 0.20 inch and containing at least 0.8% carbon.

3,385,740

## WELDABLE AND HARDENABLE STEEL AND METHOD OF PRODUCING SAME

Karl Göte Baggeström, Karlskoga, and Karl Gerhard Sune Persson, Keddaesen, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a Swedish company

Continuation-in-part of application Ser. No. 331,912,

Dec. 19, 1963. This application June 5, 1967, Ser.

No. 644,450

Claims priority, application Sweden, Jan. 5, 1963,

121/63

8 Claims. (Cl. 148-136)



A weldable, corrosion-resistant, austenitic-martensitic steel, containing about 15 to 40% austenite dispersed in a martensite matrix, is obtained by heating a steel of the composition:

|            | Percent   |
|------------|-----------|
| Carbon     | 0.03-0.25 |
| Silicon    | 0.10-0.70 |
| Manganese  | 0.25-2    |
| Chromium   | 11-14     |
| Nickel     | 4-8       |
| Molybdenum | 0.5-3.5   |

the remainder being essentially iron, to effect complete austenitization, cooling to room temperature, and tempering at a temperature between about 550° to 650° C.

3,385,741

## METHOD OF SECURING PLASTIC CLOSURES AND CONTAINERS

Richard C. Allen, Glen Ellyn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Original application Mar. 2, 1964, Ser. No. 348,419, now Patent No. 3,261,516, dated July 19, 1966. Divided and this application Apr. 28, 1966, Ser. No. 546,091

13 Claims. (Cl. 156-69)



A method of securing a closure to a container by contacting portions thereof and imparting relative rotation therebetween such that the material of the components fuses to maintain the container and closure in assembled relationship. A chamber is provided between a neck of the container and a peripheral skirt of the closure to receive and confine the flowable, fusible material. The closure may be of a two-piece construction in which case relative rotation is imparted between the outermost member and the container to fuse the innermost member to the container.

3,385,742

## METHOD AND APPARATUS FOR FASTENING ANTI-SKID SPIKES IN TIRES

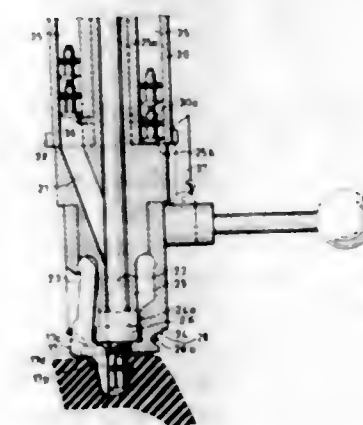
Erik Elias Pettersson, Linköping, Sweden, assignor to Stora Kopparbergs Bergslags Aktiebolag, Falun, and Sandviken Jernverks Aktiebolag, Sandviken, Sweden

Filed Dec. 20, 1963, Ser. No. 332,209

Claims priority, application Sweden, Dec. 22, 1962,

13,944/62

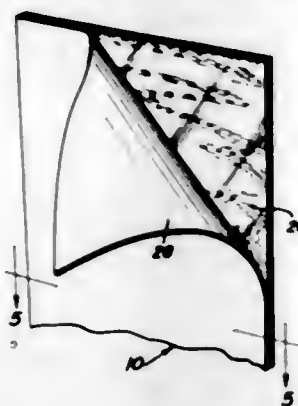
8 Claims. (Cl. 156-114)



The method and tool for inserting an anti-skid spike in rubber tires, for which uniform diameter holes has been provided, the tool being provided with fingers which on insertion in the holes are limited in depth of penetration by the outside shape of the fingers bearing on the outside of the holes. The fingers spread open the hole to receive from a magazine a spike which is forced by a plunger down between the fingers into the hole. Said spike is maintained in the hole by the plunger while the fingers are withdrawn.

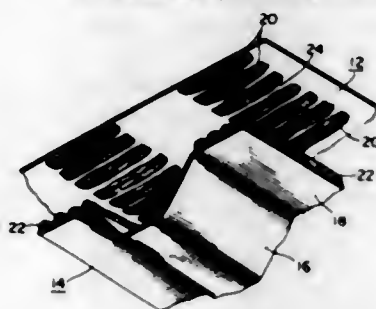


**3,385,743**  
**SELF-ADHERING SURFACE FINISH LAMINATE**  
 Richard W. Backberg, 3580 Mill St.,  
 Eugene, Oreg. 97405  
 Filed Apr. 5, 1965, Ser. No. 445,669  
 2 Claims. (Cl. 161-145)



A thin veneer-type surface covering including an adhesive thereon so as to enable the surface covering to adhere to a wall or the like. The covering includes a veneer strip backed by a strip reinforcing layer of paper which in turn has polyethylene coatings on the opposite faces thereof so as to provide both a moisture and a heat barrier. The polyethylene coated paper layer projects along one longitudinal edge of the strip so as to present a contrasting strip border utilized in providing a panel effect when mounted on a wall with similar strips.

**3,385,744**  
**BONDING WITH EPOXY RESIN ADHESIVES IN TWO OR MORE CURING RATES**  
 Herbert D. Van Sciver II, Merion, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania  
 Continuation-in-part of application Ser. No. 220,794, Aug. 31, 1962. This application June 22, 1967, Ser. No. 648,137  
 4 Claims. (Cl. 156-310)

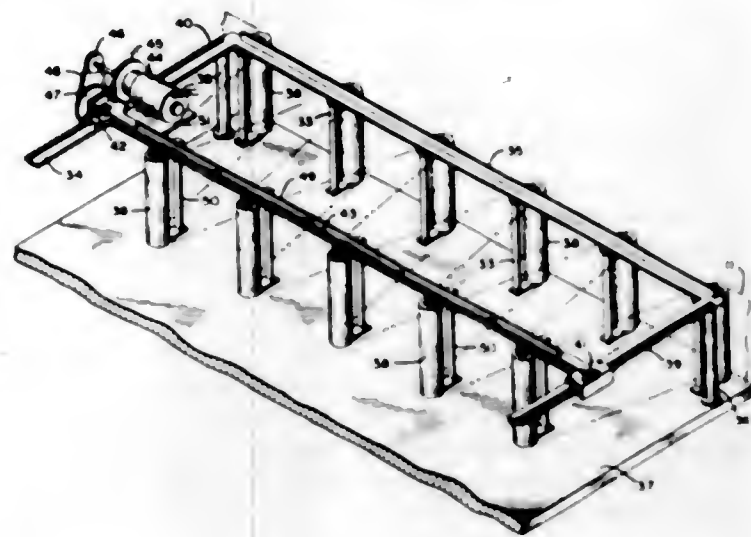


A production method of joining metal stampings by means of epoxy resins for eliminating surface imperfections caused by welding. The method comprises the steps of applying an epoxy resin mixed with a thixotropic agent to a first workpiece in parallel rows, applying a compatible hardener mixed with a thixotropic agent in parallel rows substantially at right angles to the epoxy resin to a second workpiece, joining the workpieces and mechanically intermixing the epoxy resin and hardener, holding the workpieces until the epoxy resin sets, and then releasing the joined workpieces.

**3,385,745**  
**SYSTEM FOR PROCESSING CONTINUOUS WEBBING**  
 Norman B. Mears, Dakota County, Minn., assignor to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota  
 Filed Feb. 19, 1965, Ser. No. 433,950  
 10 Claims. (Cl. 156-345)

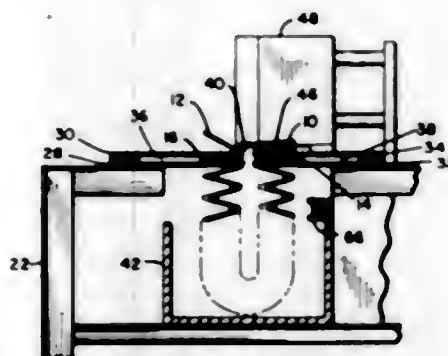
A continuous strip of metal webbing which may be, for example, stainless steel measuring approximately 21

inches wide and .01 inch thick, is fed on edge through a number of treating stations for a series of processing operations. The webbing may be fed through some of the stations at a continuous velocity and through others in an intermittent stop and go manner. Between these proc-



essing stations are located take-up and feed mechanisms comprising movable vertical rollers through which the webbing is threaded and which operate to take up any slack that develops in the webbing to maintain a constant tension to prevent the webbing from creasing or bending as it travels between the processing stations.

**3,385,746**  
**APPARATUS FOR SEALING THE ENDS OF A STRIP OF PLEATED FIBROUS MATERIAL**  
 Abbott M. Rohn, Minneapolis, Minn., assignor to Gould National Batteries, Inc., a corporation of Delaware  
 Filed Dec. 26, 1963, Ser. No. 333,427  
 12 Claims. (Cl. 156-443)

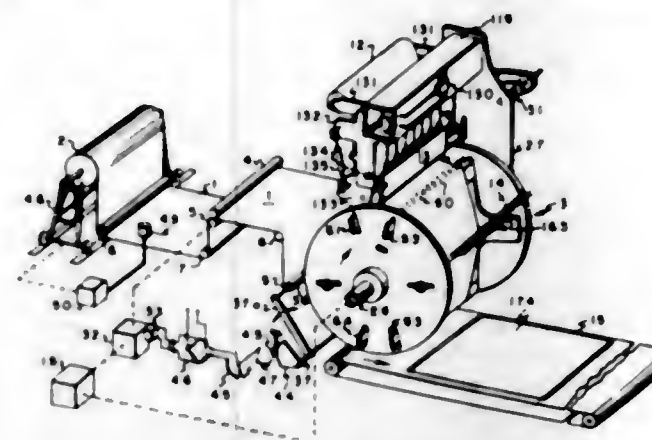


A machine for attaching together the ends of a strip of pleated fibrous filter material having a pair of raceways which form tracks for holding end pleats of the material while the rest of the material hangs down in a loop along with an arm for pushing against the loop of the material to slide it down the tracks and with a mechanism for applying adhesive to the exposed end flaps and pressing the adhesive coated flaps to seal them together.

**3,385,747**  
**TEXTILE MACHINE**  
 Norman E. Klein and Charles A. Wethington, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware  
 Filed Mar. 2, 1964, Ser. No. 348,469  
 20 Claims. (Cl. 156-517)

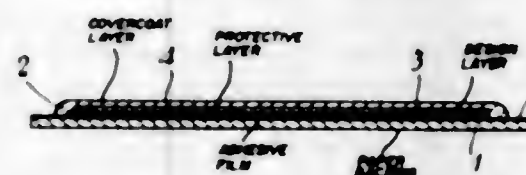
1. A machine comprising: a rotating member having an axis of rotation, a reciprocating member reciprocating

about said axis of rotation, and means synchronizing the angular velocity of said rotating member with the angular



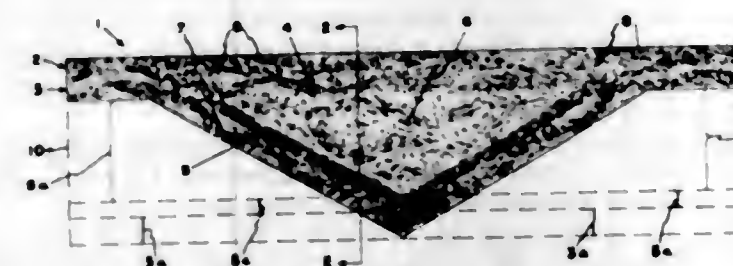
velocity of said reciprocating member during a portion of the path of travel of said members.

**3,385,748**  
**WATER RELEASE TRANSFER**  
 Kenneth William James Neale and David Wellings Panton, Stoke-on-Trent, England, assignors to Johnson, Matthey & Company Limited, London, England, a British company  
 Filed July 15, 1963, Ser. No. 295,054  
 Claims priority, application Great Britain, July 17, 1962, 27,390/62  
 1 Claim. (Cl. 161-6)



1. A water release transfer of the covercoat support film kind comprising a paper backing carrying a layer of a water-soluble adhesive, a design layer comprising a sulfo-resinate of gold on the said layer of water-soluble adhesive, a protective layer comprising a material selected from the group consisting of alkyd resins, phenolic resins, and urea resins covering said design layer and a flexible covercoat film formed of resin-based material covering the said protective layer including the edges of said protective layer and the edges of said design layer, the protective layer being impervious to the covercoat film and inert to the gold in the design layer.

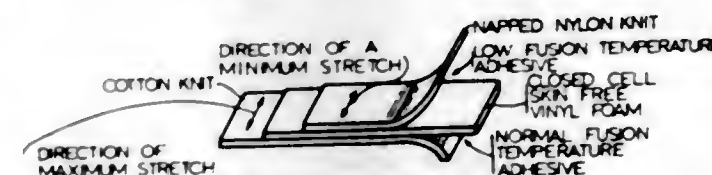
**3,385,749**  
**GRADIENT DENSITY REINFORCED STRUCTURAL MATERIAL**  
 William J. Hampshire, Cuyahoga Falls, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware  
 Filed June 3, 1965, Ser. No. 461,097  
 9 Claims. (Cl. 161-59)



1. In a lightweight laminate the combination of a plurality of layers of foamed resin, a plurality of elongate relatively straight glass fibers intermixed with the resin and defining a crisscross pattern thereby essentially forming a fabric-like con-

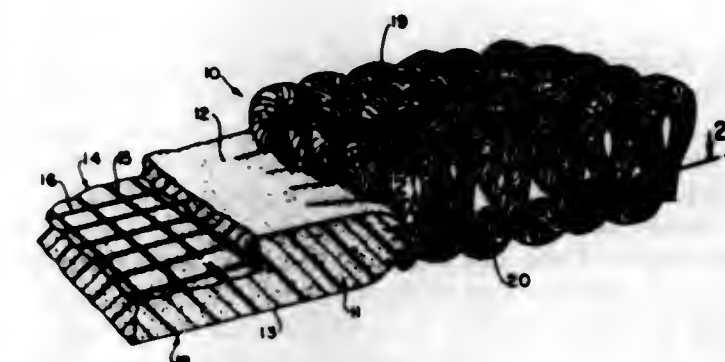
sistency to the resin, and where the amount of fibers and the length thereof is varied across the layers of foamed resin to develop the greatest density and strength of the fibers near the surfaces of the laminate.

**3,385,750**  
**LAMINATED FABRIC FOR UPHOLSTERY AND THE LIKE**  
 Kermit E. McCormack, Durham, and John T. Revell, Raleigh, N.C., assignors to Plymouth Cordage Industries, Inc., Boston, Mass., a corporation of Massachusetts  
 Filed Dec. 27, 1965, Ser. No. 516,530  
 1 Claim. (Cl. 161-64)



A laminated fabric suited to tailored upholstery applications comprises a polyvinyl chloride foam sheet bonded by plastisol adhesives to cotton knit and tricot knit fabrics, the character of the adhesives and fabrics enabling the laminate to be made on a continuous production basis and in the finished fabric to exhibit both dimensional stability and washability.

**3,385,751**  
**TUFTED PILE CARPET AND MANUFACTURE THEREOF**  
 Holland L. Willard, South Duxbury, and John Willy, Attleboro, Mass., assignors to Specialty Converters Inc., a corporation of Delaware  
 Filed Sept. 18, 1963, Ser. No. 309,743  
 12 Claims. (Cl. 161-66)



1. A pile carpet which comprises a base sheet formed of a sheet of plastic foam with a reinforcing layer disposed fully within the sheet and substantially parallel to the broad upper and lower surfaces thereof, and characterized by interstices formed between strands of the reinforcing layer, and rows of pile elements extending through and out of the base sheet to form pile along the upper surface of the base sheet with the pile elements in one row being interconnected at the lower surface of the base sheet and the foam sheet being compressed to a reduced thickness against and around the reinforcing strands and between the interstices from both broad faces thereof and around a portion of the pile elements to hold the pile elements in an extended position out of the base material by means of compressive and frictional forces of the foam in its compressed state.



## ERRATUM

For Class 161—145 see:  
Patent No. 3,385,743

3,385,752

# **DIELECTRIC PAPER OF WOOD FIBERS AND RELATIVELY LARGE DIAMETER RAYON OR POLY-VINYL FORMAL FIBERS**

William A. Selke, Stockbridge, and John H. Mathews, Lee, Mass., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Jan. 21, 1965, Ser. No. 426,784  
3 Claims. (Cl. 162—138)

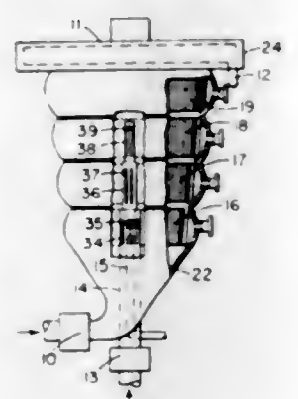
Dielectric paper, for use between capacitor electrodes, consisting of wood pulp fibers and as a bulking agent relatively large-diameter rayon or polyvinyl formal fibers. Latter fibers no more than 1/4 inch in length and present in an amount between about 2% and 10% of the dry weight of the paper.

3,385,753  
STRAINER

John Parker Rich, Nashua, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Delaware

Continuation of application Ser. No. 590,326, Oct. 28, 1966, which is a continuation-in-part of application Ser. No. 300,213, Aug. 6, 1963. This application May 15, 1967, Ser. No. 638,471

2 Claims. (Cl. 162—251)



A strainer of extended axial length especially useful in the separation of liquid from a wood-chip liquid mixture. It includes a vessel with a wall means of increasing cross-sectional area from its inlet to its outlet and having a plurality of slot elements defining narrow slots of increasing width in the direction of the outlet. The inner edges of the slot elements increase in their spacing from one another and at least do not decrease in radius in the direction of the outlet, with the inner edges of each slot element in the outlet direction being outward radially of the next preceding slot element inner edges. This provides an open ended slot of progressively increasing width for advance of a wood-chip or other solid particle without plugging or jamming.

3,385,754

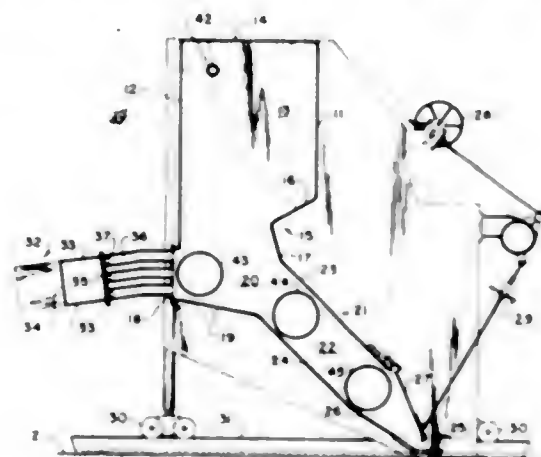
# **STOCK DISTRIBUTION SYSTEM**

William H. Burgess, Jr., Covington, Va., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

Filed Feb. 11, 1965, Ser. No. 431,903  
10 Claims. (Cl. 162—299)

A papermaking machine having primary and secondary stock distribution systems including a compact secondary headbox which has a relatively straight flow path there-through and a downwardly extending nozzle which permits the secondary headbox to be spaced from the forming surface of the papermaking machine. A series of

relatively short tubes having inserts therein interconnect the headbox with a tapered manifold, and stabilization of



the flow through the headbox may be enhanced by positioning rectifier rolls in the headbox and headbox nozzle.

3,385,755

# **UNDECYLENIC ACID ALKYLAMIDE DERIVATIVES FOR CONTROLLING BACTERIA, FUNGI, AND DANDRUFF**

Hans Bernhard Seeböhm, Steinau, Kreis Schluchtern, Germany, assignor to Rewo Chemische Fabrik G.m.b.H., Steinau, Kreis Schluchtern, Germany

No Drawing. Filed July 31, 1962, Ser. No. 213,598  
8 Claims. (Cl. 167—22)

1. A process for inhibiting the growth of and destroying harmful bacteria and fungi which comprises contacting said bacteria and fungi with an effective amount of a compound selected from the group consisting of the free acids and alkali metal, ammonium and alkylamine salts of a member selected from the group consisting of the reaction product of equimolecular proportions of:

- phthalic anhydride with a member of the group consisting of undecylenic acid monoethanolamide and undecylenic acid monoisopropanolamide;
- maleic anhydride with a member of the group consisting of undecylenic acid monoethanolamide and undecylenic acid monoisopropanolamide;
- succinic anhydride with a member of the group consisting of undecylenic acid monoethanolamide and undecylenic acid monoisopropanolamide; and
- the sodium sulfite reaction product of (b).

3,385,756

# **METHODS OF DESTROYING INSECTS WITH NITRO-SUBSTITUTED SALICYLANILIDES**

Jack D. Early, Bethesda, Md., and John P. Chupp, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 462,127, June 7, 1965. This application Mar. 22, 1966, Ser. No. 536,256

6 Claims. (Cl. 167—31)

Compounds characterized by a 2'-chloro-4'-nitrosalicylanilido nucleus useful as insecticides.

3,385,757

# **QUANTITATIVE HEMADSORPTION ASSAY TECHNIQUE FOR THE ESTIMATION OF INTERFERON**

Norman Boyne Flinter, Macclesfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Nov. 14, 1963, Ser. No. 323,712  
Claims priority, application Great Britain, Nov. 23, 1962, 44,354/62

16 Claims. (Cl. 167—84.5)

1. An interferon assay comprising the following sequence and combination of steps:

- forming a tissue culture system of living cells in which a hemadsorbing virus will grow;

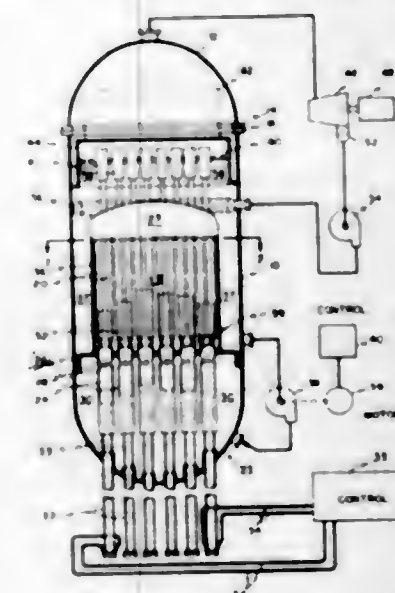
- treating the cells with dilutions of the interferon preparations to be tested;
- adding a hemadsorbing virus;
- maintaining a period of incubation, during which the hemadsorbing virus grows in the presence of the interferon generally lasting for about 24 hours at a temperature of 36 to 39° C.;
- adding a suspension of red blood cells to the hemadsorbing virus-infected tissue culture cells, and maintaining them in contact for at least long enough to insure adequate hemadsorption;
- washing the cell sheet containing adsorbed red blood cells, after hemadsorption has taken place, with a saline medium in order to remove any unadsorbed red blood cells and minimizing possible enzymic elution of adsorbed red blood cells from the cell surface;
- adding an aqueous medium to the adsorbed red blood cells after completion of the washing operation for removal of unadsorbed red blood cells, thereby liberating the hemoglobin from the adsorbed red blood cells;
- decanting the aqueous solution of hemoglobin which can be estimated by means of spectrophotometric technique according to standard methods.

3,385,758

# **ROD WORTH MINIMIZER**

Geza L. Gyorey, Gerald R. Parkos, George A. Roupe, Orville Andrew Thompson, San Jose, and Russell Lee Crowther, Saratoga, Calif., assignors to General Electric Company, a corporation of New York

Filed May 16, 1966, Ser. No. 550,207  
6 Claims. (Cl. 176—33)



This describes a method of operating the control rods of a nuclear reactor core to minimize individual control rod worth. The control rods are withdrawn as a sequence of groups of substantially evenly dispersed control rods to leave a checkerboard pattern of control rods remaining at least partially inserted in the core. Advantageously the rods are periodically swapped by inserting the rods that have been withdrawn and withdrawing the rods that have been inserted.

3,385,759

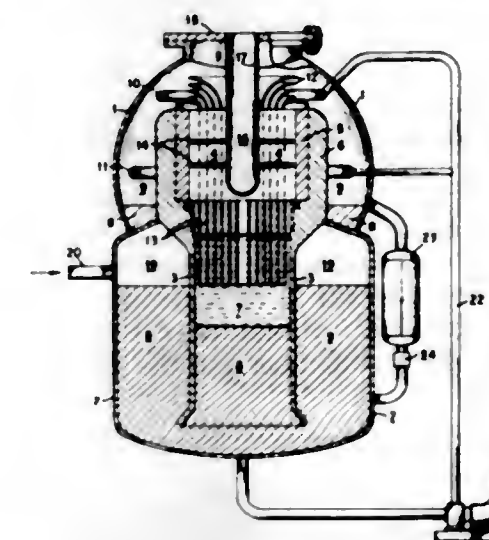
# **FAST BURST NEUTRONIC REACTOR**

Edward S. Bettis, Knoxville, Tenn., and Joseph H. Westsik, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed May 8, 1967, Ser. No. 637,880  
8 Claims. (Cl. 176—49)

A pulsed neutronic reactor incorporates a core arrangement wherein molten salt containing fissionable fuel floats

on a liquid metal reservoir. The molten salt fuel is driven upward through a tubulation by raising the level of the liquid metal on which it floats. The molten salt fuel becomes supercritical as it passes upward through the tubulation, emits a short but intense burst of neutrons, and then becomes subcritical as it continues upward. Following



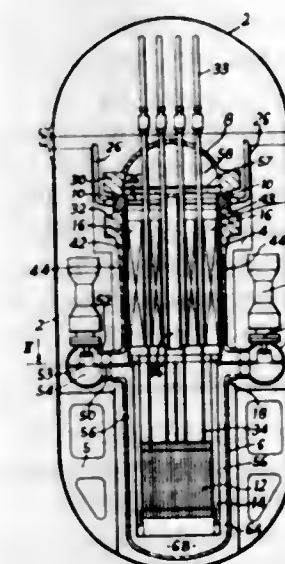
the "burst," the molten salt fuel passes into an annular cooling cavity where liquid metal from the reservoir is discharged into the molten salt to cool it. The molten salt fuel is then returned to the region below the core which it occupied prior to its being driven into a supercritical configuration whereupon the above procedure is repeated and another "burst" obtained.

3,385,760

# **INTEGRAL NUCLEAR REACTOR-HEAT EXCHANGER SYSTEM**

Ronald J. Hawkins, London, England, assignor to Babcock & Wilcox, Limited, London, England, a corporation of Great Britain

Filed July 3, 1966, Ser. No. 562,627  
Claims priority, application Great Britain, July 6, 1965, 28,705/65  
5 Claims. (Cl. 176—65)



A reactor comprising a pressure vessel in which a reactor core including a fuel assembly is located below the heat exchanger tube banks. The assembly and tube banks are surrounded by a casing spaced apart from the pressure vessel to define an annular flow space. A plurality of chambers extending outwardly from the pressure vessel at a common level have pumps associated therewith for circulating primary coolant through the vessel. Each chamber is divided into a suction and discharge zone by a member sealed to the casing and chamber such



that the pump associated with a given chamber circulates coolant through the chamber, annular flow space, core and exchanger.

**3,385,761**  
**PROCESS FOR PREPARING 5'-XANTHYLIC ACID BY THE FERMENTATION METHOD**  
Takashi Nara, Tokyo, Masanaru Misawa, Kawasaki-shi, and Toshio Komuro, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan  
No Drawing. Filed Jan. 18, 1965, Ser. No. 426,398  
Claims priority, application Japan, Jan. 20, 1964, 39/2,294

**4 Claims. (Cl. 195—28)**  
A method is provided for the preparation of 5'-xanthylic acid which method comprises culturing *Brevibacterium ammoniagenes* in an aqueous nutrient medium containing assimilable sources of carbon and nitrogen, pantothenic acid and thiamine and the antiotic compound psicofuranine.

**3,385,762**  
**PROCESS FOR THE PRODUCTION OF L-TRYPTOPHAN BY FERMENTATION**  
Hiroshi Okazaki, Musashino-shi, Tokyo, Japan, assignor to Chugai Seryaku Kabushiki Kaisha, Chuo-ku, Tokyo, Japan, a corporation of Japan  
No Drawing. Filed June 15, 1965, Ser. No. 464,209  
Claims priority, application Japan, June 29, 1964, 39/36,341

**6 Claims. (Cl. 195—29)**  
Production of L-tryptophan by the cultivation of a L-tryptophan producing mutant of the microorganism *Micrococcus* in an aqueous nutrient medium, in the presence of at least one precursor selected from the group consisting of anthranilic acid and indole.

**3,385,763**  
**MALTING PROCESS DESIGNED TO INHIBIT SPROUTING**  
Felix Bloch, Oakland, Calif., assignor to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Filed June 11, 1965, Ser. No. 463,405  
**6 Claims. (Cl. 195—70)**

A process of maling grain by subjecting unsteeped cereal grain or cereal grain steeped up to four hours to repeated impact in the presence of an excess of water to inhibit sprouting, thereafter holding the grain under conditions normally conducive to germination, and finally drying the grain. Repeated impact being caused by agitating a body of water against the grain by a power driven propeller.

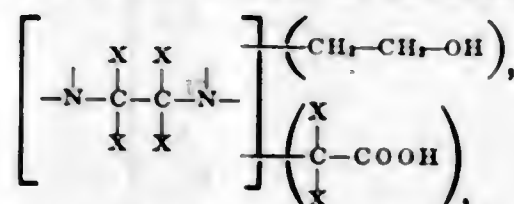
**3,385,764**  
**PROCESS FOR PREPARATION OF FUSAFUNGINE**  
Jacques Servier, Neuilly-sur-Seine, France, assignor to Biofarma, Societe Anonyme, Neuilly-sur-Seine, Seine, France  
No Drawing. Filed Feb. 24, 1964, Ser. No. 347,001  
Claims priority, application Great Britain, Feb. 25, 1963, 7,516/63

**8 Claims. (Cl. 195—80)**  
Production of antibiotic fusafungine using measured aeration of about 0.7–0.9 liter per minute of air per liter of nutrient medium at pH of about 3.5 to 7 to obtain increased yields and shorter fermentation periods. Permits extraction with organic solids at ambient temperatures.

**3,385,765**  
**NOVEL PROCESS OF PRODUCING 1,3,4,10,11,12-HEXAHYDROXY-6-METHYLNAPHTHACENE-2-CARBOXAMIDE**  
Jerry Robert Daniel McCormick, Spring Valley, Ursula Joachim, White Plains, and Elmer Raymond Jensen, Nanuet, N.Y., and Newell Oscar Sjolander, Saddle River, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed Feb. 3, 1965, Ser. No. 430,184  
**3 Claims. (Cl. 195—80)**

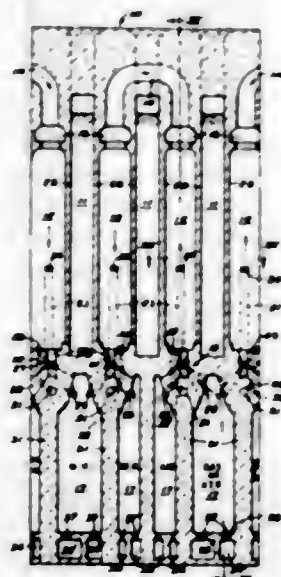
1,3,4,10,11,12-hexahydroxy-6-methylnaphthacene-2-carboxamide and 6,11-dehydro-11-keto-6-methyl-3,6,10,12-tetrahydroxynaphthacene-1,4-quinone-2-carboxamide are produced and recovered from the submerged aerobic fermentation of blocked mutants of *Streptomyces aureofaciens*.

**3,385,766**  
**LEAD CHELATES FOR BIOLOGICAL SEPARATIONS**  
James C. Lewis, Berkeley, Calif., assignor to the United States of America as represented by the Secretary of Agriculture  
No Drawing. Filed June 17, 1965, Ser. No. 464,876  
**10 Claims. (Cl. 195—96)**  
Divalent lead chelates of acids of the structure



wherein X is H or  $-\text{CH}_2\text{OH}$ , are used as solutes in density fractionations, for example, separation of different bacterial spores from each other or separation of undamaged from damaged bacterial spores. Preferred embodiments are the divalent lead chelates of N,N'-bis-(2-hydroxyethyl) ethylenediamine diacetic acid and N,N-bis-(2-hydroxyethyl) ethylenediamine diacetic acid.

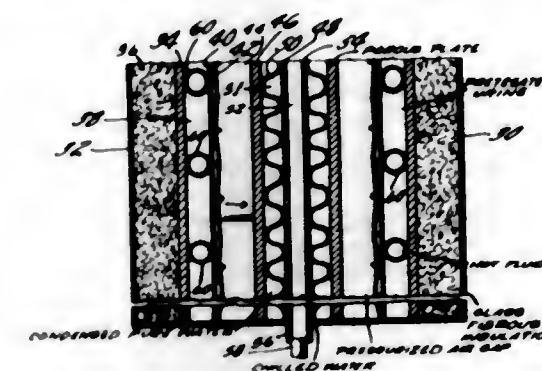
**3,385,767**  
**CONSTRUCTION FOR THE IMPROVED DISTRIBUTION OF AIR, LEAN GAS AND WASTE GAS BETWEEN HIGH AND LOW LEVEL PORTS IN HIGH CHAMBERED HORIZONTAL COKE OVENS**  
Joseph Van Ackeren, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware  
Continuation of application Ser. No. 250,338, Jan. 9, 1963. This application Dec. 5, 1966, Ser. No. 599,672  
**7 Claims. (Cl. 202—141)**



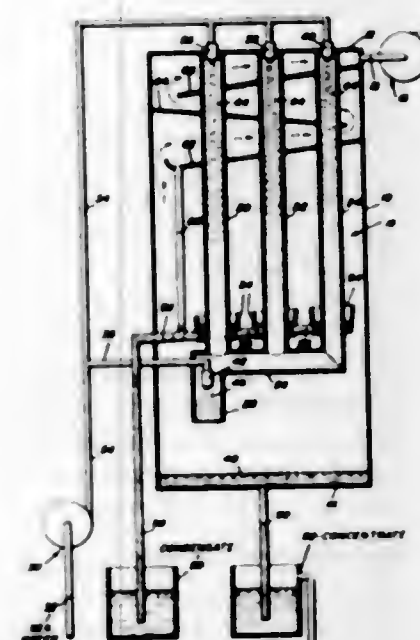
A regenerative horizontal coke oven battery with coking chambers of substantial height. The coking chambers extend cross-wise of the battery and have heating chambers on opposite sides thereof to supply heat to the cok-

ing chambers. The heating chambers are divided into separate heating flues by transverse walls and the flues have high level and low level burners. Regenerators are located beneath the coking chambers and are divided into separate compartments by transverse walls. The transverse walls of the regenerator compartments are arranged intermediate the transverse walls of the heating chambers. One regenerator compartment is connected to the high level burners in a pair of adjacent flues on opposite sides of the coking chamber so that the compartment may supply fluid to four high level burners in four separate heating flues. Another compartment in the same regenerator is connected by passageways to low level burners in a pair of adjacent flues on opposite sides of the coking chamber so that the other regenerator compartment may supply fluid to four low level burners.

membrane, and water vapor migrates across an air gap between the membrane and a porous plate. Since the porous plate is cooled below the temperature of the in-



**3,385,768**  
**VAPOR-COMPRESSION WATER DISTILLATION APPARATUS**  
John V. Yost, 2233 Riverside, Trenton, Mich. 48104  
Filed July 26, 1965, Ser. No. 474,656  
**4 Claims. (Cl. 202—186)**



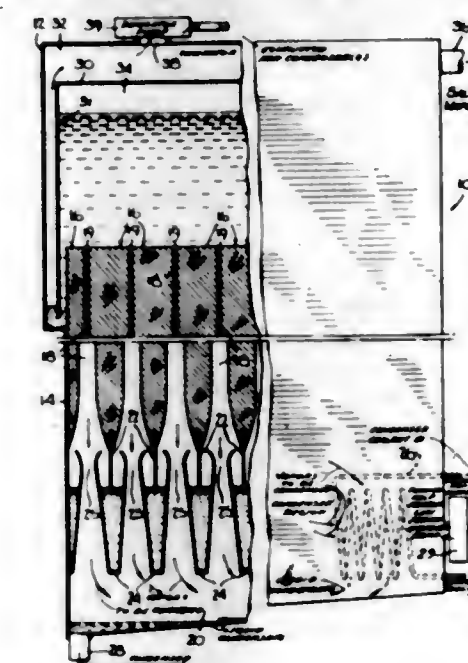
A vapor compression apparatus for de-salinating water in a closed system including a vertically disposed evacuated tank having a plurality of vertically disposed tubes therein, the lower ends of which communicate with the interior of the tank. Each vertically disposed tube is provided at its upper end with a water jet pump for directing a high speed jet of water to be de-salinated downwardly into said tube whereby a reduction of pressure is effected in at least a portion of each of the tubes to flash off water vapor directed about the exterior of the vertical tubes to effect condensation thereof at generally increased pressures.

**3,385,769**  
**APPARATUS FOR RECLAIMING WATER**  
Harlan F. Brose, Longmeadow, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware  
Filed June 29, 1965, Ser. No. 468,065  
**5 Claims. (Cl. 202—197)**

Heated urine which has been pretreated to fix the ammonia content and destroy the bacteria therein enters the apparatus and is caused to flow to a semipermeable membrane; pure water permeates the membrane; evaporation of the water occurs from the opposite surface of the

coming heated urine, the water vapor condenses on the plate. The condensed pure water passes through the porous plate and into a pure water reservoir.

**3,385,770**  
**APPARATUS FOR USE IN EVAPORATIVE PROCESSES**  
Ralph C. Roe, Tenafly, and Edward Charles Kehoe, North Caldwell, N.J., Joseph Lichtenstein, Bayville, N.Y., and Elwood C. Walker, North Caldwell, N.J., assignors, by mesne assignments, to Saline Water Conversion Corporation, a corporation of New York  
Filed Sept. 17, 1964, Ser. No. 397,263  
**7 Claims. (Cl. 202—236)**



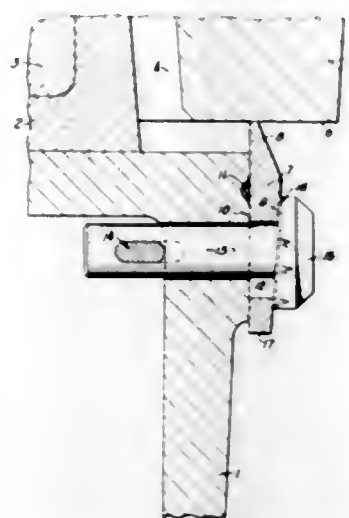
An evaporation system including a vertically extending vaporization conduit, the upper end of which opens fully into an upper liquid reservoir so that liquid from the reservoir can flow freely and directly down into the conduit filling its upper end, and a lower region maintained at low pressure and into which the lower end of the conduit extends, the arrangement serving to obtain falling film vaporization of the controlled flash variety whereby the vapors thus formed serve to maintain the falling liquid in a film configuration.

**3,385,771**  
**SELF-SEALING COKE OVEN DOOR**  
Walter Stanke, Essen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware  
Filed Aug. 14, 1964, Ser. No. 389,662  
**4 Claims. (Cl. 202—248)**

The sealing bar of a coke oven door has a knife edge that engages a sealing surface on the door frame and



has a sloping surface matching and coacting with the head of a bolt having a shank projecting through the sealing bar and door. The through bolt has an elongate slot in

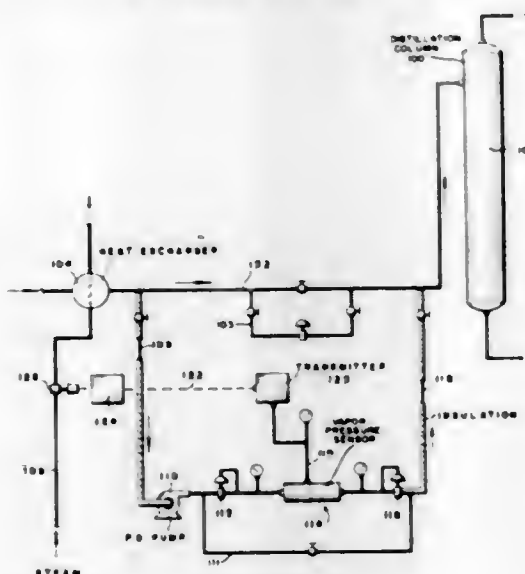


it which receives a wedge that coacts with the door and bolt to secure the sealing bar in position relative to the door.

3,385,772

#### PROCESS AND APPARATUS FOR CONTROLLING THE VAPOR PRESSURE OF THE FEED IN A DISTILLATION OPERATION

Joe F. Barker, Norman E. Luker, and Bertram H. Shoopman, Jr., Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company  
Filed Mar. 22, 1965, Ser. No. 441,751  
4 Claims. (Cl. 203—2)



The conditions on a feed tray of a fractionating column are dependent upon the vapor pressure of the liquid feed introduced thereon. The present invention provides a method and apparatus whereby the actual vapor pressure of the feed stream is sensed and the desired vapor pressure is controlled as a function of the sensed vapor pressure by changing the heat input into the feed stream. The process and apparatus are particularly applicable to the fractionation of hydrocarbon liquids.

3,385,773

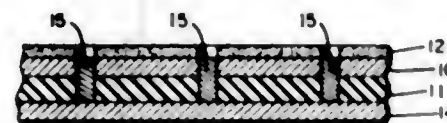
#### PROCESS FOR MAKING SOLID ELECTRICAL CONNECTION THROUGH A DOUBLE-SIDED PRINTED CIRCUIT BOARD

John J. Frantzen, St. Paul, Minn., assignor to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota

Filed May 28, 1965, Ser. No. 459,664  
2 Claims. (Cl. 204—16)

Holes are mechanically pierced completely through a single sided printed circuit laminate and then one end

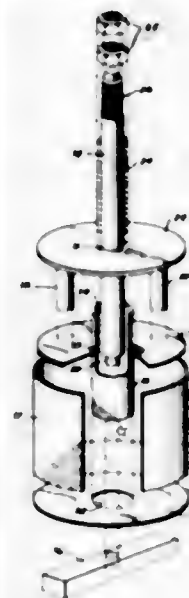
of the holes are closed up by attaching a metallic conductive layer to the exposed surface of the insulating



layer. The holes are then filled with a conductive material by electroplating.

3,385,774

METHOD AND MEANS OF ANODIZING  
William A. Thompson, Apollo, and John H. Powers, Arnold, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Mar. 16, 1964, Ser. No. 352,230  
4 Claims. (Cl. 204—58)

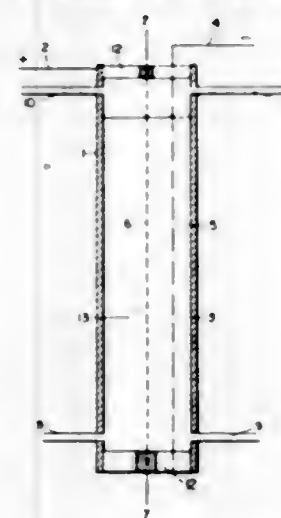


Anodizing apparatus having a submerged rotatable separate chamber with a movable pressure plate locatable to pressure pack a mass of articles therein in anodically energized condition and subject to a centrifugally induced flow of anodizing electrolyte therethrough.

3,385,775

PRODUCTION OF HALOGENATED ORGANIC COMPOUNDS IN FUSED ELECTROLYTE  
George Ernest Edwards, Runcorn, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
Filed Oct. 28, 1964, Ser. No. 407,260

Claims priority, application Great Britain, Oct. 28, 1963, 42,395/63  
12 Claims. (Cl. 204—62)



There is provided a process for halogenating organic compounds by electrolyzing a fused electrolyte consisting essentially of at least one organic compound, notably hy-

drocarbons and partially halogenated derivatives thereof, and at least one metallic halide which on electrolysis yields free halogen other than fluorine. Representative metallic halides are the halides of aluminum, boron, gallium, magnesium, zinc, iron and mercury, for example, aluminum chloride. A hydrogen halide, particularly hydrochloric acid, may be included in the electrolyte to minimize solid deposits on the cathode. Alkali metal, alkaline earth metal or hydrogen halides may also be included in the melt to lower the melting point thereof.

3,385,776

#### PROCESS FOR ALLOYING LITHIUM TO SEMI-CONDUCTOR MATERIAL

Hans Juergen Volker Fiedler, Dundas, Ontario, Canada, assignor to Nuclear Diodes, Inc., Highland Park, Ill., a corporation of Illinois  
No Drawing. Filed June 11, 1965, Ser. No. 463,328  
7 Claims. (Cl. 204—130)

1. A process for alloying lithium with a semi-conductor ingot comprising the steps of:

- (1) selecting an ingot of semi-conductor material,
- (2) preparing a mixture of lithium salt and a low temperature electrolytic carrier for reducing the melting point of the mixture to a temperature below that of the lithium salt,
- (3) heating said mixture to above the melting point thereof,
- (4) contacting an anode element and a cathode element to said heated mixture wherein said cathode element is the ingot of semi-conductor material,
- (5) applying a source of electric current across said anode and cathode elements,
- (6) regulating the current flow through said mixture to establish an effective electrolytic action in said mixture, and
- (7) maintaining said electrolytic action in said heated mixture for a period sufficient to secure diffusion of the lithium in the semi-conductor ingot to a predetermined depth.

3,385,777

#### ELECTROCHEMICAL DEPOSITION OF ORGANIC FILMS

Ernest W. Haycock, El Cerrito, and Donald M. Seld, Richmond, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Dec. 30, 1964, Ser. No. 422,417  
6 Claims. (Cl. 204—147)

This invention relates to electrochemical deposition of a polymer film on a metallic surface to protect it from corrosion and to reduce its current requirements in cathodic protection.

3,385,778

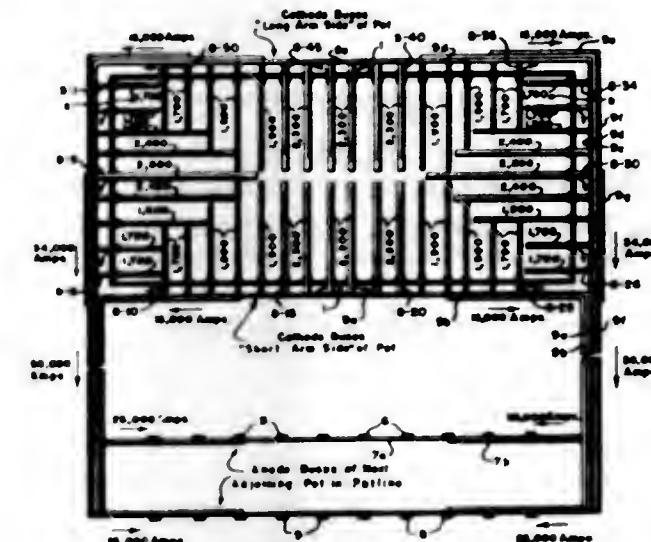
#### CURRENT COLLECTING METHOD AND APPARATUS FOR ALUMINUM REDUCTION CELLS

Arthur F. Johnson, Riverdale, N.Y., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 21, 1964, Ser. No. 405,371  
13 Claims. (Cl. 204—243)

1. In a rectangular vessel assembly adapted to the electrolytic reduction of cryolite fusions of alumina to molten aluminum, including an electrical conducting lining positioned in said vessel as a cathode and cathode collector elements arranged in current collecting engagement with portions of said lining and electrically connected to current carrying bus disposed exteriorly of said vessel, the improvement of providing said bus along each side and along at least one end of said vessel and so disposing said bars in said lining that parts of the current collected from the lining are drawn to the bus portions along each

side from lining portions adjacent to each side bus portion and that another part of the current collected from said



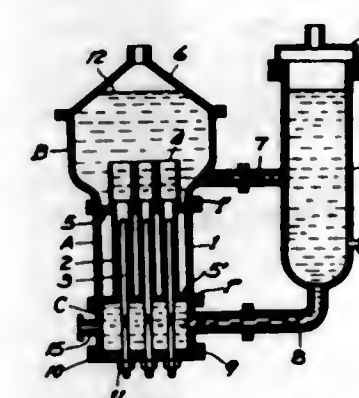
lining is drawn to the bus portion along the end of said vessel from lining adjacent said end bus portion.

3,385,779

#### ELECTROLYTIC CELL FOR THE PRODUCTION OF HALOGENOUS OXY-SALTS

Yoshiharu Nishiba, Yokohama, Shigehiro Fujimori, Ichikawa-shi, Chiba-ken, and Tatsuo Itakura, Tokyo, Japan, assignors to Dalki Engineering Company, Limited, Tokyo, Japan, a corporation of Japan

Filed Nov. 16, 1965, Ser. No. 508,012  
Claims priority, application Japan, Dec. 12, 1964, 39/69,797  
9 Claims. (Cl. 204—272)



1. An electrolytic cell for the production of halogenous oxy-salts comprising, in combination, an upper tank; a lower tank downwardly spaced from said upper tank; upright tubular cathode means extending between and communicating at upper and lower ends thereof with said upper and said lower tanks, respectively; anode means extending with clearance at least partly through said tubular cathode means; passage means arranged laterally of the tubular cathode means and communicating at one end thereof with a bottom portion of said upper tank and with a lower end thereof with said lower tank; inlet means communicating with said lower tank for feeding electrolyte into said lower tank so that the electrolyte will pass through the clearance between said tubular cathode means and said anode means to be electrolyzed and to pass as electrolyzed product into said upper tank; lifting pipe means communicating with said upper end of said tubular cathode means and projecting upwardly therefrom into said upper tank to such a length so that its upper end is adapted to be located below the level of an electrolyzed



product solution therein so as to produce an increased circulation of electrolyte product solution from said upper tank through said passage means to said lower tank; and solution outlet means communicating with said passage means for controlled discharge of electrolyzed product solution therefrom.

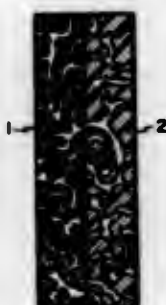
3,385,780

# POROUS DUAL STRUCTURE ELECTRODE

I-Ming Feng, Kenilworth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed July 10, 1964, Ser. No. 381,859

1 Claim. (Cl. 204-294)



A thin porous electrode consists of a thin layer of polytetrafluoroethylene pressed against a thin layer of polytetrafluoroethylene containing finely divided platinized carbon, the platinum being present in minimal amounts of 1.2 to 0.1 mg./cm.² in the electrically conductive face of the thin electrode.

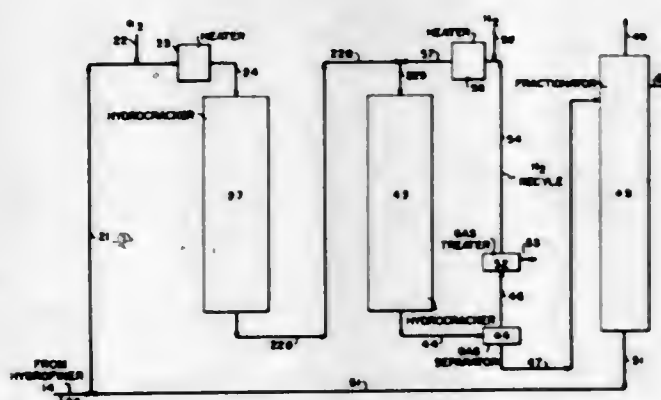
3,385,781

# HYDROCRACKING PROCESS

Glen Porter Hamner, Jesse Metteau Carr, Jr., and William Floyd Arey, Jr., Baton Rouge, and Ralph Burgess Mason, Denham Springs, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Apr. 1, 1965, Ser. No. 444,767

17 Claims. (Cl. 208-59)



1. A process for hydrocracking a hydrocarbon feed which comprises contacting said feed at hydrocracking conditions in the presence of added hydrogen, in a first hydrocracking zone, with a catalyst comprising a crystalline aluminosilicate zeolite combined with a platinum group metal, said zeolite having uniform pore openings of about 6 to 15 Å. and containing less than 10 wt. percent alkali metal oxide; and contacting at least a portion of the normally liquid effluent from said first hydrocracking zone at hydrocracking conditions in the presence of added

hydrogen, in a second hydrocracking zone, with a catalyst comprising a platinum group metal combined with a zinc-containing crystalline aluminosilicate zeolite having uniform pore openings of about 5 Å.

3,385,782

# PRODUCTION OF LIGHT HYDROCARBON GASES BY HYDROCRACKING HIGH BOILING HYDROCARBONS

Waldeen C. Buss, Richmond, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed May 6, 1966, Ser. No. 548,258

1 Claim. (Cl. 208-111)

Hydrocracking hydrocarbon feeds boiling above 900° F. to produce light hydrocarbon gases, C<sub>1</sub>-C<sub>4</sub>, in a yield of at least 25 weight percent, using a Group VIII hydrogenating metal component associated with a crystalline zeolitic aluminosilicate.

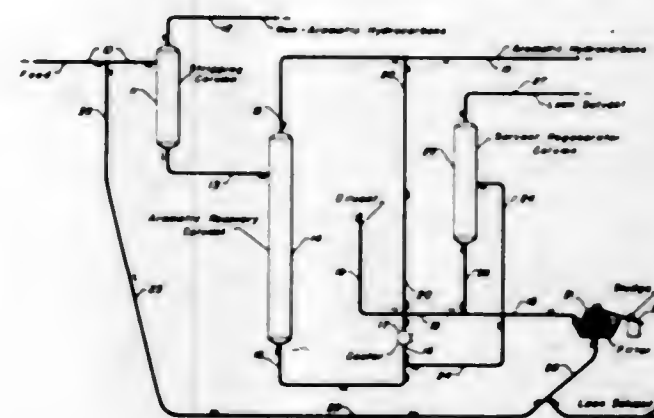
3,385,783

# AROMATIC HYDROCARBON SOLVENT REGENERATED BY FILTRATION

Toshio Okuma, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Oct. 10, 1966, Ser. No. 585,485

10 Claims. (Cl. 208-321)



Method for solvent extracting a suitable feed stream to produce an aromatic extract and a non-aromatic raffinate. The aromatic extract is subsequently distilled to produce an aromatic hydrocarbon-solvent stream and a solvent stream which has become contaminated with impurities. At least a portion of the contaminated solvent is passed into filtering means under conditions sufficient to produce a regenerated solvent substantially free from the contaminants.

3,385,784

# METHOD FOR REGENERATING AROMATIC HYDROCARBON SOLVENT WITH WATER AND FILTRATION

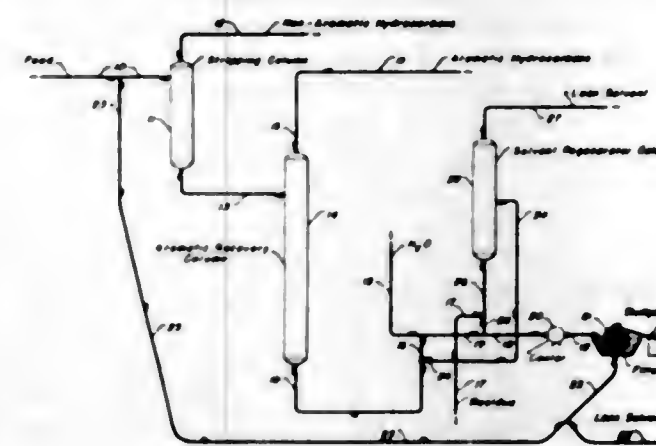
Toshio Okuma, Des Plaines, and Kenneth D. Ukti, Bensenville, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 627,834

8 Claims. (Cl. 208-321)

Process for regenerating a solvent which has become contaminated with relatively non-volatile organic mate-

rial during a solvent extraction step for separating aromatic hydrocarbons from non-aromatic hydrocarbons. The contaminated solvent is mixed with water and the



aqueous mixture is then subjected to filtration. The filtrate contains the regenerated solvent, and the reject stream from the filter contains the contaminant.

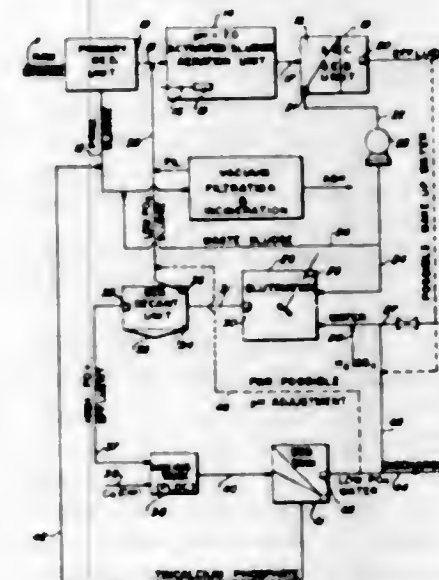
3,385,785

# METHOD OF CONTROLLING PHOSPHATE CONCENTRATION IN SEWAGE TREATMENT SYSTEMS

Tom H. Forrest, Evanston, Ill., and Devere W. Ryckman, Glendale, Edward Edgerley, Jr., Kirkwood, and Bernard A. Ruina, University City, Mo., assignors to FMC Corporation, a corporation of Delaware

Filed May 4, 1966, Ser. No. 547,496

10 Claims. (Cl. 210-6)



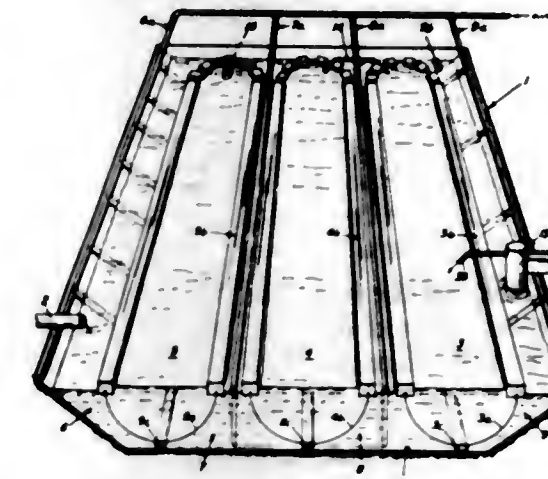
The process of this invention deals with the treatment of sewage to produce an effluent having a low biochemical oxygen demand and a markedly reduced content of nutrients such as phosphorus compounds. In the illustrative embodiment, a mixed liquor formed from phosphorus-containing influent sewage and a phosphate-depleted sludge and having a solids concentration of a minimum of 60 pounds of solids per pound of phosphate in the sewage being converted to mixed liquor, is aerated for from 1 to 2 hours. The aerated mixed liquor is withdrawn from the aeration tank and separated into a low phosphate content aqueous medium for discharge from the system and a phosphate-containing sludge concentrate. The sludge concentrate is adjusted in pH to between 3.5 and 6 and elutriated with water to wash out the phosphates. The low phosphate content sludge, separated from the elutriation water, is recycled to the aeration tank.

# SYSTEM FOR BIOLOGICAL TREATMENT OF SEWAGE

John W. Klock, Tempe, Ariz., assignor to the United States of America as represented by the Secretary of the Interior

Filed Oct. 28, 1966, Ser. No. 591,053

18 Claims. (Cl. 210-12)



Sewage is first passed through a serpentine path for anaerobic digestion, and then through a serpentine trough floating on the sewage in the anaerobic digestion zone. In the floating trough the sewage is exposed to light and aerobic digestion to promote the growth of algae.

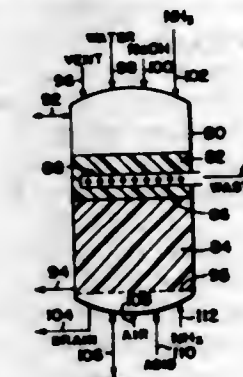
3,385,787

# CONDENSATE PURIFICATION PROCESS

George J. Critz, Havertown, Pa., and Walter H. Zahn, Colwick, N.J., assignors to Crane Co., Chicago, Ill., a corporation of Illinois

Filed Apr. 3, 1967, Ser. No. 627,818

12 Claims. (Cl. 210-32)



A condensate purification process involving demineralization in a mixed bed exchanger, including anion exchange resin granules of relatively lower density and at least ultimately ammoniated cation exchange resin granules of relatively higher density, under conditions minimizing alkali metal leakage by preventing the presence of alkali form of the cation exchange resin in the demineralizer. The resins are separated into layers and regeneration is accomplished in different vessels or in the same vessel. Minor amounts of cation exchange resin are unavoidably present in the anion exchange resin during its regeneration, and the sodium form of this small amount of cation exchange resin is transformed into the ammonium form prior to subsequent admixture of the two resins.

3,385,788

# PROCESSES FOR OPERATING FIXED BEDS OF ACTIVE MEDIA

Robert F. Hunter, 2351 1st St., Burlington, Toronto, Ontario, Canada

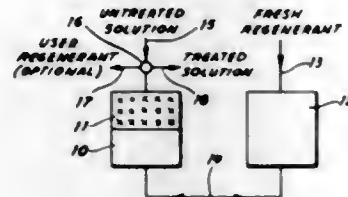
Filed Jan. 29, 1965, Ser. No. 428,901

9 Claims. (Cl. 210-35)

Process of treating a liquid solution such as tap water and sea water to remove components such as calcium and



magnesium ions from the solutions in which the solutions are passed vertically through fixed beds of particles such as ion exchange resin particles and the beds are regenerated by passing a liquid regenerant



vertically through the bed. The liquids used in the process are alternately passed into the bed from opposite ends of the bed so that whenever two liquids are in contact the more dense of the two liquids is below the less dense liquid.

### 3,385,789 COMPOSITION AND METHOD FOR SHALE CONTROL

Charles M. King, Raceland, La.  
(Louise Drive, P.O. Drawer E, Lockport, La. 70374)  
No Drawing. Filed Mar. 5, 1964, Ser. No. 349,764  
11 Claims. (Cl. 252-8.5)

A composition and method utilized in earth boring to control heaving shale and inhibit water loss which composition comprises clay, pulverized lignite, graphite and asphalt, said method being carried forth by circulating said composition with the drilling mud, while drilling, in sufficient amounts to inhibit shale hydration and water loss.

### 3,385,790 ANTIOXIDANT COMPOSITIONS

Henry Meurig Davies, Rogerstone, Newport, and Arthur Samuel Thomas, Newport, England, assignors to Monsanto Company, a corporation of Delaware  
No Drawing. Filed Apr. 22, 1966, Ser. No. 544,406  
Claims priority, application Great Britain, Apr. 27, 1965, 17,634/65  
7 Claims. (Cl. 252-32.7)

Compositions which exhibit improved lubricating oil qualities and a reduced tendency towards pitting of metal members by the incorporation of an alkenylsuccinic compound-polyamine reaction product, a Group II metal dithiophosphate at a minimum concentration of about 1% and an aralkyl phenol into a lubricating oil. The compositions can be utilized for the lubrication of internal combustion engines.

### 3,385,791 LUBRICANT OIL COMPOSITION

Charles C. Colyer, Crown Point, Walter W. Frank and John V. Peterson, Portage, and William L. Slexer, Crown Point, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana  
No Drawing. Continuation-in-part of application Ser. No. 441,841, Mar. 22, 1965. This application Sept. 15, 1967, Ser. No. 668,165  
3 Claims. (Cl. 252-32.7)

High severity service function over extended oil drain range, e.g., 2,500 to 6,000 mile, recommended by manufacturers of automobile engines having positive crankcase ventilating devices is provided by crankcase lubricating oil formulations having an essential combination of three additive components dissolved in hydrocarbon oils of lubricant oil class. The essential combination is (a) oil-soluble nitrogen- and boron-containing dispersant-detergent having a weight ratio of nitrogen to boron in the range of 0.1 to 0.5 weight percent nitrogen per weight per-

cent boron that are boric acid borated disuccinimides of a bis(polyaminoethyl)symmetrical urea, (b) oil soluble calcium or magnesium sulfonate of high alkalinity such as those having a total base number of at least 300, and (c) oil-soluble zinc dialkyldithiophosphates whose two alkyl groups are of different carbon contents with one alkyl group having three or four carbons and the other alkyl group being primary alkyl with from five to ten carbons. The three additives are present in the concentrations to provide on the basis of 100 gallons of oil from 3 to 20 pounds of (a), an amount of (b) equivalent to 1.05 to 3.2 pounds of calcium and an amount of (c) to provide 0.25 to 1.2 pounds of zinc. Dispersant-detergent (a) is, for example, derived by boric acid boration of the disuccinimide product of the reaction between two moles of 400 to 2,900 molecular weight polybutenyl substituted succinic anhydride with one mole bis(polyaminoethyl) urea under conditions for splitting out and removing water of reaction. The bis(polyaminoethyl)urea is the product of reacting two moles of polyethylene polyamine (e.g., tetraethylene pentamine) with one mole of urea with the splitting out and removal of two moles of ammonia.

### 3,385,792 LUBRICANTS CONTAINING MIXED METAL SALT OF FATTY ACID AND DIPHENOLS

Arnold J. Morway, Clark, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware  
No Drawing. Filed Nov. 5, 1965, Ser. No. 506,604  
8 Claims. (Cl. 252-33.6)

A shear-hardening lubricating grease for bearing lubrication comprising lubricating oil thickened with a mixture of alkali metal salt of  $C_2$  to  $C_4$  fatty acid, a diphenol containing 13 to 25 carbon atoms and a  $C_{12}$  to  $C_{24}$  fatty acid.

### 3,385,793 ELECTROVISCOUS FLUID AND METHOD OF USING SAME

Donald L. Klass, Barrington, and Vincent Brozowski, Mundelein, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California  
Continuation-in-part of application Ser. No. 71,625, Nov. 25, 1960. This application Mar. 19, 1965, Ser. No. 458,802  
11 Claims. (Cl. 252-75)

1. A field-sensitive chucking fluid consisting essentially of about 30% by weight of white oil, about 50% by weight of silica having a particle size less than about 10 microns, about 5% by weight of ethylene glycol, and about 13.5% by weight of 1-hydroxyethyl-2-heptadecenyl-imidazoline, to which is added 1 to 40% by weight based on the weight of the aforementioned components of a particulate conductive metal having a particle size of less than about 30 microns.

### 3,385,794 STABILIZATION OF FLUORINATION CATALYSTS

Otto Scherer, Bad Soden, Taunus, and Jürgen Korinth and Peter Paul Rammek, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany  
No Drawing. Filed June 26, 1964, Ser. No. 378,419  
Claims priority, application Germany, June 29, 1963, F 40,107  
8 Claims. (Cl. 252-415)

1. In a process of improving a chromium oxyfluoride catalyst the step of activating or stabilizing said catalyst by passing chlorine over said catalyst at a temperature from 100° C. to 500° C.

3,385,795  
EPOXIDE POLYMERIZATION CATALYSTS AND THEIR PREPARATION  
Richard R. Durst and Wendell O. Phillips, Stow, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio  
No Drawing. Original application Sept. 26, 1962, Ser. No. 226,443, now Patent No. 3,313,740, dated Apr. 11, 1967. Divided and this application Jan. 31, 1967, Ser. No. 612,814  
10 Claims. (Cl. 252-429)

Essentially anhydrous  $Al(OR)_3$  and essentially anhydrous  $MX_3$  in a mol ratio of from about 10:1 to 0.7:1 are reacted together under an inert atmosphere at a temperature of from about 60 to 250° C. to form a reaction product useful as a catalyst for polymerizing saturated and unsaturated epoxides to form polymers and copolymers of high molecular weight which are useful in the coating of fabrics, in making tires, and in making rubbery molded products and so forth. Preferably, during the reaction, volatile by-products are removed and the reaction product is treated with solvent, etc. to remove any unreacted materials. R is a hydrocarbon radical of from 1 to 20 carbon atoms and is free of aliphatic unsaturation, M is cadmium or zinc, and X is a halogen atom.

3,385,796  
CATALYST FOR OXIDATION OF HYDROCARBONS  
Ralph O. Kerr, Houston, Tex., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware  
No Drawing. Original application Apr. 19, 1963, Ser. No. 274,350, now Patent No. 3,255,213, dated June 7, 1966. Divided and this application Oct. 21, 1965, Ser. No. 510,114  
4 Claims. (Cl. 252-437)

1. A catalyst which comprises a catalytic composition of vanadium, phosphorus, oxygen and copper deposited on a carrier in an atomic ratio of about 1.1 to 1.8 atoms of phosphorus per atom of vanadium and about 0.005 to 0.3 atom of copper per atom of vanadium.

3,385,797  
CATALYST MANUFACTURE  
Herman S. Bloch, Skokie, Ill., and William G. Nixon, Clearwater, Fla., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 411,681, Nov. 13, 1964. This application Mar. 6, 1967, Ser. No. 620,622  
4 Claims. (Cl. 252-439)

A refractory inorganic oxide is reacted with a hydrogen halide or ammonium halide and then reacted with a substantially anhydrous halosulfonic acid and a catalytic composition of matter is obtained for use as a hydrocarbon conversion catalyst.

3,385,798  
CATALYST CONTAINING IRON OXIDE, CHROMIUM OXIDE AND A POTASSIUM COMPOUND  
John E. Mahan, Stanley D. Turk, and Ralph P. Williams, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 859,150, Dec. 14, 1959, which is a continuation-in-part of application Ser. No. 734,424, May 12, 1958. This application Nov. 2, 1964, Ser. No. 408,403  
4 Claims. (Cl. 252-470)

A catalyst containing 1 to 7 weight percent iron oxide, 20 to 50 weight percent chromium oxide and 45 to 79 weight percent of at least one potassium compound (calculated as  $K_2CO_3$ ) selected from the group consisting of KOH,  $K_2O$  and  $K_2CO_3$  has high selectivity in the dehydrogenation of alkylpyridines.

3,385,799  
METALIZING COMPOSITIONS  
Lewis C. Hoffman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
Continuation-in-part of application Ser. No. 258,606, Feb. 14, 1963. This application Nov. 9, 1965, Ser. No. 506,986  
12 Claims. (Cl. 252-514)

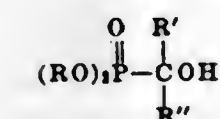
1. A noble metal alloy metalizing composition suitable for use in the formation of capacitor electrodes comprising 30-90% solids content which comprises a noble metal alloy powder having particles of an irregular shape with at least 90% of said alloy particles being of a size not greater than 5 microns, and wherein the alloy powder consists essentially of two noble metals selected from the group consisting of silver, gold, platinum and palladium with one of the metals of the alloy being present therein in an amount within the range of from 5-95%, said solids being dispersed in 10-70% of an inert liquid organic vehicle.

3,385,800  
POLYMERIZATION OF ALKYLENE OXIDES BY A CATALYST SYSTEM COMPRISING ORGANOMETALLIC COMPOUNDS IN COMBINATION WITH AN OXYGEN-CONTAINING COCATALYST  
Junji Furukawa, Sakyo-ku, Kyoto, Teiji Tsuruta, Fushimi-ku, Kyoto, Takeo Saegusa, Kita-ku, Kyoto, and Ryoza Sakata, Kakogawa-cho, Kakogawa, Japan, assignors to The General Tire & Rubber Company, a corporation of Ohio  
No Drawing. Filed Nov. 20, 1959, Ser. No. 854,257  
Claims priority, application Japan, Nov. 24, 1958, 33/33,458, 33/33,459  
7 Claims. (Cl. 260-2)

A process is disclosed for producing an epoxide polymer which comprises polymerizing an alkylene oxide at about -10° to 200° C. in the presence of about 0.02 to 10 mole percent of a catalyst of an organometallic compound of the formula  $MRR'_{x-1}$  where M is a metal selected from Groups I, II or III of the Periodic Table, where R is a hydrocarbon radical having from 1 to 10 carbon atoms, where each R' is a member selected from the class consisting of a hydrogen atom, a halogen atom, a hydrocarbon radical of 1 to 10 carbon atoms, an alkoxy radical and a secondary amino radical and where x is the valency of the metal M and a cocatalyst consisting of controlled amounts of water, alcohol or oxygen or various combinations of these cocatalysts.

3,385,801  
FLAME-RESISTANT POLYURETHANES  
Gail H. Birum, Kirkwood, and Richard M. Anderson and Rodney B. Clappitt, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed May 5, 1964, Ser. No. 365,159  
8 Claims. (Cl. 260-2.5)

1. A fire resistant polyurethane prepared by incorporating into the reactant mixture used to prepare the polyurethane a small but fire resistance imparting amount of a dialkyl  $\alpha$ -hydroxyalkylphosphonate of the formula



wherein each R is an alkyl group of from 1 to about 4 carbon atoms, R' is selected from the group consisting of hydrogen and alkyl groups of from 1 to about 3 carbon atoms, and R'' is selected from the group consisting of



hydrogen, and the methyl group and allowing the resulting mixture to polymerize to a polyurethane.

3,385,802

# FOAMED POLYESTER COATINGS CONTAINING COAL AS FILLER

George E. Trieschok, Westfield, N.J., assignor, by mesne assignments, to United States Steel Corporation, Pittsburgh, Pa., a corporation of New Jersey

No Drawing. Filed July 30, 1964, Ser. No. 386,446

4 Claims. (Cl. 260—2.5)

Novel coatings for concrete and metal have been prepared using unsaturated polyester/vinyl monomer as the vehicle, and coal, either anthracite or bituminous, as a filler. The coating can be foamed to provide an insulating layer as well as a protective coating.

3,385,803

# POLYURETHANE FOAMS AND PROCESS FOR THEIR PRODUCTION

Bernard Rabussier, Poitiers, France, assignor to Societe Elekal, Paris, France

No Drawing. Filed Nov. 12, 1964, Ser. No. 410,785

Claims priority, application France, Jan. 2, 1964, 959,151; Patent 1,388,971

5 Claims. (Cl. 260—2.5)

Polyurethane foam prepared from a polyether and an organic polyisocyanate. The polyether itself being a polyoxyalkylene adduct of the sorbitan monoester of a fatty acid, said foam being characterized by improved hydrophilic properties.

3,385,804

# FOAMABLE POLYSTYRENE COMPOSITIONS CONTAINING FATTY ACID AMIDE LUBRICANTS

Earl S. Hill, Jr., Coraopolis, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Dec. 14, 1964, Ser. No. 417,999

14 Claims. (Cl. 260—2.5)

An expandable polystyrene composition is produced by extruding, at a temperature of about 450° F., a mixture of polystyrene particles, a solid organic acid, and a lubricant which is an amide of a fatty acid containing between 12 and 30 carbon atoms. The extrudate is coated with an alkali metal carbonate or bicarbonate to form the expandable composition.

3,385,805

# METHOD FOR THE MANUFACTURE OF SYNTHETIC LEATHER AND PRODUCT THEREOF

Barend Pieters, Huizen, Netherlands, assignor to Bala-mundi Nederland N.V., Havenstraat, Holland, a corporation of the Netherlands

No Drawing. Filed Apr. 16, 1965, Ser. No. 448,836

13 Claims. (Cl. 260—2.5)

The present invention is directed to synthetic leathers having air and water-vapor permeability and to the method of producing such. The synthetic leather is prepared by (1) depositing upon a carrier a composition comprising (a) an aqueous dispersion of a vinyl polymer or copolymer, (b) a plasticizer for said polymer, and (c) from 5 to 40% by weight of a thermosetting resin and (2) gelling said composition preferably at a temperature above 160° C. The preferred thermosetting resins are the alkylated urea-formaldehyde resins and the alkylated melamine-formaldehyde resins.

3,385,806

# PRODUCTION OF TIGHT FLEXIBLE URETHANE FOAM

Frank E. Critchfield, Charleston, Benjamin F. James, St. Albans, and Curtis C. Barber, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Filed Oct. 1, 1965, Ser. No. 491,969

5 Claims. (Cl. 260—2.5)

1. A process for the production of flexible urethane foams having a high portion of closed cells which comprises reacting a polyoxyalkylene polyol with an organic polyisocyanate in the presence of a foaming agent, stannous acylate catalyst, a polysiloxane polyoxyalkylene block copolymer emulsifier, and from about 0.0005 to about 1 weight percent, based on weight of said polyoxyalkylene polyol of oxalic acid, ammonium oxalate, or alkali metal oxalate.

3,385,807

# CELLULAR URETHANES AND PROCESS FOR PREPARING SAME WHEREIN A COMBINATION OF STANNOUS AND LEAD SALTS ARE EMPLOYED

Richard J. Herdlein, Buffalo, and Andrew Shultz, Williamsville, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 414,903, Nov. 30, 1964. This application Nov. 5, 1965, Ser. No. 506,577

12 Claims. (Cl. 260—2.5)

1. A one-shot process for preparing flexible cellular urethane foams comprising admixing:

- organic diisocyanate;
- a polyether polyol;
- water;
- an organic-tin catalyst selected from the group consisting of stannous oleate and stannous octoate in an amount of about 1200 to about 3800 parts by weight per million parts by weight of polyether polyol; and
- a lead conforming agent consisting essentially of trace amounts of a lead salt of an organic carboxylic acid of 5 to 30 carbon atoms, said lead salt being present in an amount providing about 10 to about 175 parts by weight of lead per million parts by weight of polyether polyol with the proviso that when more than about 2300 parts by weight of said organic tin compound and less than about 70 parts by weight of said lead per million parts by weight of said polyether polyol is used, said polyether polyol is an ethylene oxide tipped polyether polyol.

3,385,808

# DRY PIGMENT COMPOSITIONS OF DYEING PLASTICS

Wulf von Bonin, Leverkusen, Jürgen Koerner, Opladen, Reinhold Hörnle, Cologne-Fliktard, and Karlheinz Wolf, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Oct. 27, 1964, Ser. No. 406,927

Claims priority, application Germany, Nov. 14, 1963, F 41,278

18 Claims. (Cl. 260—17)

Free flowing, non-aqueous, finely divided combinations for coloring plastics are disclosed which are composed of 10–80% by weight of a pigment and 90–20% by weight of a graft polymer prepared by radical polymerization of a polymerizable vinyl compound and a polyalkylene oxide having a molecular weight of about 1000 to 2000 and a formaldehyde-polyalkylene glycol acetal having a molecular weight of about 800 to 4000.

# FAT ACID AMIDES OF N,N-DIALKYL(ALKYLENE DIAMINES) AS CURING AGENTS FOR EPOXY RESINS

Bernard M. Wiltgen, Jr., Villa Park, Ralph P. Arthur, Addison, and Samuel Shore, Roselle, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed Sept. 3, 1965, Ser. No. 485,074

6 Claims. (Cl. 260—18)

Process of producing cured epoxy resins using fatty amido amines to provide products with toughness and flexibility. Illustrative of the fatty amido amines is dimethyl amino propyl stearylamine.

3,385,810

# BITUMEN COATING COMPOSITIONS

Richard C. Barrett, New Milford, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 4, 1965, Ser. No. 437,295

11 Claims. (Cl. 260—28.5)

The invention more particularly relates to bitumen coating compositions having substantially improved application and drying properties and producing coatings of improved properties including resistance to ultra violet rays and "alligatoring" resulting therefrom, said coating compositions comprising volatile solvent solutions of a bitumen coating material having softening point between 110° F. to 250° F. and between about 1–60% by weight of an oxychlorohydrocarbon polymer from the group of oxychloropolyethylene, oxychloropolypropylene, oxychlorocopolymers of ethylene and propylene and oxychlorinated vinyl chloride polymers, said oxychloropolymers containing between 55–85% by total weight of chlorine and 0.3–3% chemically combined oxygen based on weight of the total oxygen and carbon in the oxychloropolymer, and having molecular weight corresponding to an intrinsic viscosity between about 0.08 to 1.0 in o-dichlorobenzene at 100° C.

3,385,811

# SULFUR-MODIFIED UNSATURATED BLOCK COPOLYESTERS

Joan Lesley Carrington and William Michael Corbett, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 1, 1965, Ser. No. 510,953

Claims priority, application Great Britain, Dec. 7, 1964, 49,715/64

8 Claims. (Cl. 260—29.6)

A block copolyester suitable for coating polyester fibers has been prepared by melt blending (1) sulfur free polyester homopolymer or copolymer comprising acids and glycols corresponding to those of the fiber to be coated e.g. polyethylene terephthalate with (2) an ethylenically unsaturated polyester. The resultant unsaturated block copolyester can be sulphonated by treating with sulphur dioxide, sulphurous acid or salts of sulphurous acid. The unsaturated block copolymer is applied to the fiber as an aqueous solution prior to sulphonation.

3,385,812

# FINISHING COMPOSITION COMPRISING A FLUORO-CHEMICAL AND A POLY-ORGANOSILOXANE

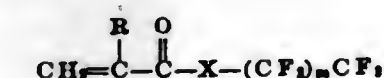
Armand E. Brachman, Newburgh, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 467,119, June 25, 1965. This application Apr. 13, 1966, Ser. No. 542,228

17 Claims. (Cl. 260—29.6)

1. A composition comprising  
(A) a fluorochemical which is

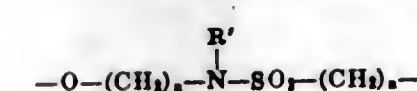
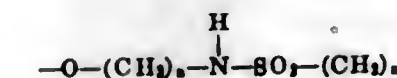
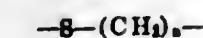
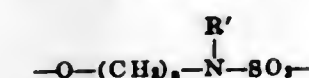
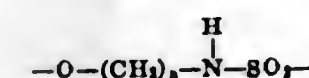
(1) a substantially linear polymer of ethylenically unsaturated monomers, at least 35% (by weight) of said monomers being represented by the formula



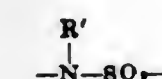
where

R can be H, —CH<sub>3</sub>, —CH<sub>2</sub>CH<sub>3</sub>, or halogen

X can be —O—(CH<sub>2</sub>)<sub>n</sub>—



or



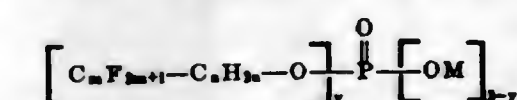
where n is a number 1 through 14 and

R' is an alkyl radical of 1 through 6 carbon atoms, and

m is a number 1 through 13;

or

(2) a compound represented by the formula



where M is hydrogen, alkali-metal, ammonium or substituted ammonium;

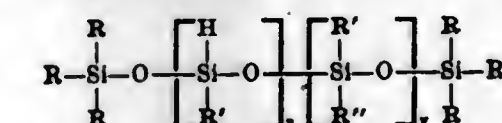
y is a number of average value from 0.1 to 2.5;

m is a number 4 through 12;

n is a number 1 through 16;

with C<sub>m</sub> and C<sub>n</sub> making up a straight chain of not less than 8 carbon atoms;

(B) a curable substantially linear polyorganosiloxane represented by the structure



where R, R' and R'' can be —CH<sub>3</sub>, —C<sub>2</sub>H<sub>5</sub>, —C<sub>3</sub>H<sub>7</sub>, phenyl, —OCH<sub>3</sub>, or —OC<sub>2</sub>H<sub>5</sub>, 60% through 100% (mol) being —CH<sub>3</sub>, and the silicon atoms within the brackets each bearing from 0.3 to 1 hydrogen atoms and from 1 through 1.7 R groups, the total being two;

x and y are numbers which will give the siloxane a molecular weight of at least 500;

the amount of fluorochemical in the composition being 25% through 90% and the amount of polyorganosiloxane being 10% through 75%, by weight of the total of (A) and (B); and

(C) a liquid carrier.



3,385,813

## VINYL CHLORIDE POLYMERS PLASTICIZED WITH MORPHOLIDES

Frank C. Magne, Evald L. Skau, and Robert R. Mod, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture. Continuation-in-part of application Ser. No. 334,685, Dec. 10, 1963. This application July 20, 1966, Ser. No. 571,951

12 Claims. (Cl. 260—30.4)

Vinyl chloride polymers and vinyl chloride-vinyl acetate copolymers are plasticized with compatible, solvent-type, primary plasticizers comprising mixed morpholides of long chain saturated and unsaturated fatty acids or their epoxidized derivatives. The fatty acids are 16 to 22 carbon atoms found in natural glycerides. Compatibility with the vinyl polymers is achieved through careful selection of the proportions of saturated, monounsaturated, polyunsaturated, and epoxidized fatty acids from which the mixed morpholides are produced.

3,385,814

## LINEAR POLYCARBONATE-CONTAINING SPINNING SOLUTIONS

Béla von Falkai, Artur Prietzsch, Wolfgang Rellensmann, Alfred Reichle, and Horst Wieden, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation. No Drawing. Filed Mar. 31, 1964, Ser. No. 356,052

5 Claims. (Cl. 260—31.4)

Improved solutions based on the inclusion of monohydroxy, dihydroxy and/or higher polyhydroxy compounds and esters and others thereof in a solvent solution of a polycarbonate prior to use of the same as spinning solutions.

3,385,815

## POLYVINYL ALCOHOL PLASTICIZED WITH THE REACTION PRODUCT OF POLYHYDRIC ALCOHOL AND ETHYLENE OXIDE

Toshihiko Yoshitake, Kiyokazu Imai, Shunji Miyake, and Ichiro Nitta, Kurashiki-shi, Japan, assignors to Kurashiki Rayon Co., Ltd., Kurashiki-shi, Japan, a corporation of Japan

No Drawing. Filed Feb. 9, 1965, Ser. No. 431,470

6 Claims. (Cl. 260—33.2)

A water-soluble, solid polyvinyl alcohol resin having incorporated therein a plasticizer relatively unaffected by high temperature and humidity. The plasticizer is the water-soluble reaction product of a polyhydric alcohol and ethylene oxide, the ratio of ethylene oxide to polyhydric alcohol being 1 to less than 20 moles of ethylene oxide per mole of polyhydric alcohol.

3,385,816

## POLYETHER LEVELING AGENTS FOR POLYURETHANE COATINGS

Arthur W. Sawyer and Trescott B. Larchar, Sr., Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,204

15 Claims. (Cl. 260—33.2)

Glycol diethers and certain polyether formals are added in a small but effective proportion to a urethane resin solution of an isocyanate-terminated polyether polyol in a hydrocarbon solvent in order to lower viscosity of the urethane resin solution and act as a leveling agent for the resulting urethane coating, which is substantially clear and free of indentations.

## ISOTACTIC POLY(BUTENE-1) FILLED WITH CARBON BLACK

Robert H. Jones, Ellicott City, Md., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed Dec. 27, 1965, Ser. No. 516,777

5 Claims. (Cl. 260—41)

Solid isotactic polybutene-1 compositions having a density from about 0.88 to about 0.92 and containing from 35 to about 300 weight parts of carbon black per 100 weight parts of polybutene-1.

3,385,818

## RIGID POLYVINYL CHLORIDE RESIN COMPOSITIONS HAVING INCREASED RESISTANCE TO HEAT DETERIORATION

Otto S. Kauder, Jamaica, N.Y., assignor to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of New York

No Drawing. Filed Jan. 8, 1962, Ser. No. 164,973

11 Claims. (Cl. 260—45.75)

1. A rigid polyvinyl chloride resin composition containing less than about 10% by weight of a plasticizer, and having increased resistance to deterioration when heated at 375° F. consisting essentially of (a) a rigid polyvinyl chloride polymer resin, (b) an amount within the range from about 0.2 to about 10 parts by weight per 100 parts of polyvinyl chloride resin of an organotin compound in which tin is in a tetravalent state having organic radicals linked to tin only through carbon and oxygen, at least two organic radicals being linked through oxygen to a carboxyl group of an unsaturated aliphatic dicarboxylic acid ester of an alcohol having from one to two hydroxyl groups, and (c) an amount within the range from about 0.01 to about 2 parts by weight per 100 parts of polyvinyl chloride resin of a hindered phenol having an inert substituent in each position ortho to each phenolic hydroxyl group, to enhance the stabilizing effect of the organotin compound.

3,385,819

## FIRE RETARDANT COMPOSITIONS

Edward Vernon Gouinlock, Jr., Buffalo, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,076

16 Claims. (Cl. 260—45.75)

Sodium tetraborate compounds have been found to be effective adjuvants for rendering fire retardant polymeric combustible polymers containing a halogenated organic compound selected from the group consisting of perhalo-pentacyclodecane and compounds of the formula:



wherein X is selected from the group consisting of bromine, chlorine and fluorine, Y is selected from the group consisting of bromine, chlorine, fluorine, alkyl and alkoxy and Z is a tetravalent hydrocarbon radical having at least four carbon atoms wherein the valences are attached to two pairs of adjacent carbon atoms. In addition, incandescent after-glow is reduced.

3,385,820

## POLYURETHANES STABILIZED WITH A MIXTURE OF PHENOLS

Joseph Burton Finlay, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 25, 1966, Ser. No. 529,963

3 Claims. (Cl. 260—45.95)

1. A thermoplastic elastomeric composition stabilized against heat- and light-induced degradation consisting essentially of an elastomer from the group consisting of polyurethanes and polyalkyleneether polyurethaneamides, having incorporated therein about 0.25–2% by weight, based on the weight of the elastomer, of a stabilizing mixture of (A) 4,4'-butylidene-bis(2-t-butyl-5-methyl phenol) and (B) 2,2'-methylene-bis(4-methyl-6-t-butyl phenol) wherein the weight ratio of A to B is in the range of 2:1 to 9:1.

3,385,821

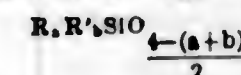
## ORGANOPOLYSILOXANES SUBSTITUTED WITH TRIALKYLSILYLPHENYL SUBSTITUENTS

Tae C. Wu, 9 Clemente Lane, Waterford, N.Y. 12188

No Drawing. Filed Nov. 21, 1966, Ser. No. 595,632

13 Claims. (Cl. 260—46.5)

High molecular weight organopolysiloxanes of improved flexibility have the average formula:



where R is a particular type of trialkylsilylphenyl group and R' represents a member selected from the class consisting of monovalent aryl groups and trialkylsilylphenyl groups, a is from 0.33 to 2, b is from 0 to 1.67, and the sum of a plus b is from 1.98 to 2.01.

3,385,822

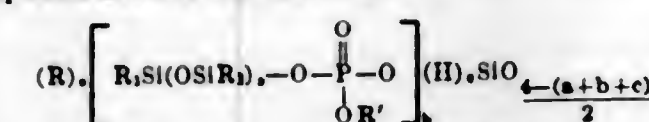
## MOISTURE CURABLE POLYSILOXANE PHOSPHATE COMPOSITION

Edgar D. Brown, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed July 3, 1967, Ser. No. 650,591

5 Claims. (Cl. 260—46.5)

This invention relates to a polysiloxane composition which cures when exposed to atmospheric moisture. The compound has the unit formula:

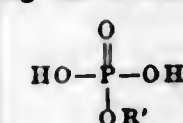


where R is an organic radical, and R' is a lower alkyl radical.

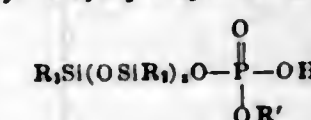
The composition is prepared by first reacting a polysiloxane of the formula:



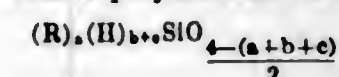
where x has a value from 1 to 99, with an alkyl ester of phosphoric acid having the formula:



The polysiloxanyl alkyl phosphoric acid diester formed,



is then reacted with a polysiloxane of the unit formula:



The curable reaction product produced can be used as an adhesive.

3,385,823

## CURABLE ORGANOPOLYSILOXANE COMPOSITIONS

Joel Francis Di Paola, Danbury, Conn., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 9, 1967, Ser. No. 659,307

10 Claims. (Cl. 260—46.5)

Curable organopolysiloxane compositions convertible to the elastomeric state at room temperature upon exposure to moisture comprising the reaction product of a polyuriedosilane, such as



and a silanol-terminated diorganopolysiloxane. The curable organopolysiloxane compositions are substantially free of odor and show superior metal to rubber adhesion when cure is effected in contact with a metal.

3,385,824

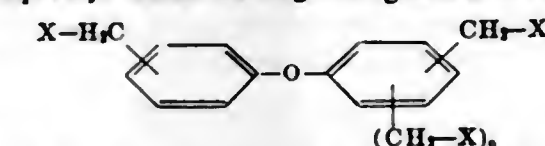
## THERMOSETTING PHENOLIC RESINS PREPARED BY CURING A PHENOL-BENZALDEHYDE CONDENSATE WITH A POLY(HYDROXYALKYL) DIPHENYL OXIDE

Harry A. Smith, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 21, 1965, Ser. No. 457,796

6 Claims. (Cl. 260—52)

This application is concerned with thermosettable resin composition which comprises a mixture of (a) a thermoplastic phenol-benzaldehyde resin, (b) a poly(hydroxy-alkyl) diphenyl oxide having the general formula



wherein X is hydroxyl and n is an integer from 0 to 1, together with (c) a catalytic amount of an acidic catalyst.

3,385,825

## FIBER-FORMING POLYKETONES

Isaac Goodman and James Eric McIntyre, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

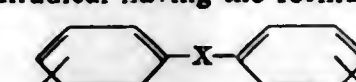
No Drawing. Filed Oct. 28, 1963, Ser. No. 319,532

11 Claims. (Cl. 260—61)

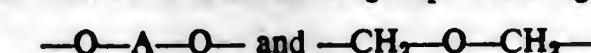
1. High molecular weight polyketones consisting of at least one of the repeating units



where R is a diradical having the formula:



wherein X is selected from the group consisting of



A is an alkylene diradical containing 1–10 carbon atoms, each aromatic nucleus being unsubstituted; R' is a member chosen from the group consisting of (a) an alkylene diradical containing 1 to 9 carbon atoms, (b) an aromatic diradical the aromatic nuclei of which contain at most four substituents each of which is chosen from the group consisting of methyl, fluoro, chloro, bromo and lower alkoxy radicals, (c) a mixed alkyl/aryl diradical the aromatic nuclei of which contain at most four substituents each of which is chosen from the group consisting of methyl, fluoro, chloro, bromo and lower alkoxy radicals, and (d) a cycloaliphatic diradical selected from the group consisting of cyclohexyl and cyclopentyl.



3,385,826

## PROCESS FOR PREPARING TRIOXANE HOMO- AND COPOLYMERS

Hans-Dieter Hermann and Edgar Fischer, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany  
No Drawing. Filed July 6, 1965, Ser. No. 469,883  
Claims priority, application Germany, July 8, 1964, F 43,369

1 Claim. (Cl. 260—67)

A process has been provided for improved control of properties of homopolymers and copolymers of trioxanes. The improvement is achieved by incorporating with the reactants as a polymerization control agent a boric acid ester of the formula  $B(OR)_3$ , wherein R is an alkyl radical of 1 to 20 carbon atoms, a cycloalkyl radical of 5 to 6 carbon atoms, and aryl radical of 6 to 14 carbon atoms.

3,385,827

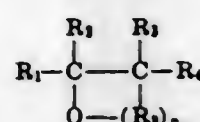
## TRIOXANE TERPOLYMERS

Edgar Fischer, Frankfurt am Main, and Claus Schott, Hofheim, Taunus, Germany, assignors to Farbwerk Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany  
No Drawing. Continuation-in-part of application Ser. No. 327,118, Nov. 29, 1963. This application Nov. 17, 1965, Ser. No. 508,395

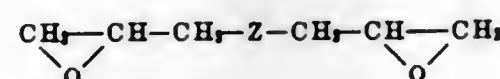
Claims priority, application Germany, Nov. 30, 1962, F 38,429

9 Claims. (Cl. 260—67)

1. A copolyacetal comprising the terpolymerization product of (A) 99.89% to 89% of trioxane, (B) 0.1% to 10% of a compound of the formula



wherein each of  $R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  is a hydrogen, a lower alkyl or a halogen-substituted lower alkyl,  $R_5$  is a methylene, an oxymethylene, a lower alkyl or halo-lower alkyl substituted methylene, or a lower alkyl or halo-lower alkyl substituted oxymethylene, and  $n$  is an integer of 0 to 3, and (C) 0.01% to 1% of a diglycide of the formula



wherein Z is a carbon-to-carbon bond, an oxygen or an alkoxy of 1 to 8 carbon atoms or an oxy-poly(lower alkoxy), said percentages being by weight calculated on the total weight of said (A), (B) and (C) components.

3,385,828

## N-SULFONYL-1-OXA-3-AZA-CYCLOALKANE AND COPOLYMERS THEREOF WITH TRIOXANE

Ernst-Ulrich Köcher, Kuno Wagner, and Wolfgang von der Emden, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed Apr. 26, 1965, Ser. No. 451,014  
Claims priority, application Germany, June 18, 1964, F 43,199

24 Claims. (Cl. 260—67.5)

Copolymers of trioxane and 0.5 to 50 mol percent based on the trioxane of an N-sulfonyl-1-oxa-3-aza-cycloalkane.

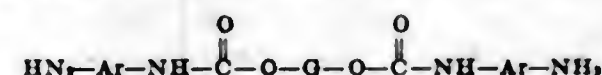
3,385,829

## POLYURETHANE ELASTOMERS

Wolfgang Heydkamp, Erwin Müller, and Cornelius Muhlhausen, Leverkusen, and Helmarich Boden, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany  
No Drawing. Filed Dec. 7, 1964, Ser. No. 416,584  
Claims priority, application Germany, Dec. 5, 1963, F 41,483

4 Claims. (Cl. 260—75)

Polyurethane-polyurea elastomers are prepared by reacting a diamine having a molecular weight of from 800 to 3000 and having the formula



wherein  $-\text{O}-\text{G}-\text{O}-$  is a bivalent radical obtained by removing the terminal hydrogen atoms from a polymeric diol having a molecular weight of from about 550 to 2750 and Ar is a bivalent arylene radical and from 5 to 40% based on the quantity of the diamine having a molecular weight of from 800 to 3000 of an aromatic diamine having a molecular weight less than about 500 with an excess of an organic diisocyanate. These polyurethane-polyurea elastomers are particularly suitable for spraying onto substrates.

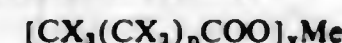
3,385,830

## PROCESS FOR MANUFACTURING POLYETHYLENE TEREPHTHALATE EMPLOYING METAL SALTS OF HALOGENATED ALIPHATIC ACIDS

Hans-Otto vom Orde and Paul-Friedrich Förster, Balingen, near Augsburg, and Adolf Hartmann, Gensertshausen, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany  
No Drawing. Filed Mar. 4, 1965, Ser. No. 437,279  
Claims priority, application Germany, Mar. 7, 1964, F 42,233

3 Claims. (Cl. 260—75)

Production of polyethylene terephthalate by ester interchange of a dialkyl ester of terephthalic acid with ethylene glycol and polycondensing the resulting bis-( $\beta$ -hydroxyethyl)-terephthalate employing as a catalyst at least one salt of an acid of the formula



where each X is independently hydrogen or halogen, at least one being halogen,  $n$  is a whole number from 0 to 6,  $y$  is the valency of Me and Me is a metal of the group lithium, sodium, potassium, magnesium, calcium, barium, strontium, zinc, cadmium, mercury, tin, lead, manganese, cobalt or nickel.

3,385,831

## TEXTILE FIBERS OF POLYETHYLENE TEREPHTHALATE/HEXAHYDROTEREPHTHALATE COPOLYESTER

William H. Watson, Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 298,595, July 30, 1963. This application Feb. 6, 1967, Ser. No. 614,025

3 Claims. (Cl. 260—75)

Linear condensation copolyester fibers for use in textile fabric are disclosed to be an improvement over conventional polyethylene terephthalate fibers. The copolyester fibers differ from the conventional fibers in having 8 to 18 mol percent of the terephthalic acid component replaced by hexahydroterephthalate components. The fibers possess enhanced dyeability and good over-all physical properties, with absolute shrinkage values at 196° C. of not more than about 5% higher than comparable fibers of polyeth-

ylene terephthalate homopolyester. Fabric prepared from the fibers exhibits superior wash-wear performance.

3,385,832

## OXYMETHYLENE POLYMERS HAVING OLEFINIC DOUBLE BONDS IN THE POLYMER CHAIN

Brian Edmund Jennings, Welwyn, and John Brewster Rose, St. Albans, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain  
No Drawing. Continuation-in-part of application Ser. No. 244,021, Dec. 12, 1962. This application Sept. 28, 1964, Ser. No. 399,910

3 Claims. (Cl. 260—73)

3. A copolymer of trioxane and a cyclic formal of an unsaturated dihydric alcohol having 4 to 10 carbon atoms, said copolymer having olefinic double bonds in the main chain and consisting of 80 to 99.9 mole percent of  $-\text{OCH}_2-$  units and 0.1 to 20 mole percent of units other than  $-\text{OCH}_2-$  derived from the cyclic formal.

3,385,833

## PROCESS FOR PREPARING POLYURETHANES

Rudolph Pariser, Hockessin, and William K. Witsiepe, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Jan. 8, 1965, Ser. No. 424,183

6 Claims. (Cl. 260—77.5)

A process for preparing a polyurethane polymer from (a) a bischloroformate of a polyalkyleneether glycol, (b) a bischloroformate of a low molecular weight polyol, and (c) an organic secondary diamine, said bischloroformates and diamine being employed in the proportions of about 1.0–1.1 moles of diamine per mole of bischloroformate, which comprises (1) reacting about 1 mole of one of the bischloroformates (a) or (b) with from about 1 to 2 moles of said diamine, followed by (2) reacting the prepolymer resulting from step (1) with the other bischloroformate and the remaining portion of the diamine.

3,385,834

## HOMOPOLYMERIZATION OF MALEIC ANHYDRIDE

Ashot Merijan, Rahway, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Apr. 3, 1964, Ser. No. 357,277

3 Claims. (Cl. 260—78.4)

1. A method of homopolymerizing maleic anhydride which comprises initiating homopolymerization of maleic anhydride with 1% by weight based on the weight of maleic anhydride of a free radical homopolymerization initiator selected from the group consisting of dibenzoyl peroxide and di-*t*-butyl peroxide at a homopolymerization threshold temperature of at least 80° C. followed by adding from 3 to 5 successive increments of 1% by weight of said initiator.

3,385,835

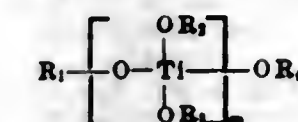
## CURABLE MIXTURES COMPRISING CYCLOALIPHATIC POLYEPOXY COMPOUNDS, CURING AGENTS, AND METAL ACCELERATORS

Fritz Kugler, Muttens, Otto Ernst, Pfellingen, Basel-Land, Wolfgang Seiz, Basel, and Peter Ruf, Binningen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company  
No Drawing. Filed Oct. 12, 1964, Ser. No. 403,371  
Claims priority, application Switzerland, Oct. 18, 1963, 12,792/63

6 Claims. (Cl. 260—78.4)

Curable compositions for coatings, castings, moldings or adhesives and the like are provided by the combination of

- A cycloaliphatic polyepoxy compound containing at least one 1,2-epoxide group in a five-membered ring.
- A curing agent for epoxy resins, especially a polycarboxylic acid anhydride, and
- As accelerator, a titanic acid ester or polymeric titanic acid ester, e.g. of the formula



where  $\text{R}_1$  to  $\text{R}_4$  each represents an identical or different organic radical, for example an aliphatic, cycloaliphatic, araliphatic, aromatic or heterocyclic radical, and  $n$  is an integer. One or several of the radicals  $\text{R}_1$  to  $\text{R}_4$  may be an organometal radical or an organic radical containing titanium metal.

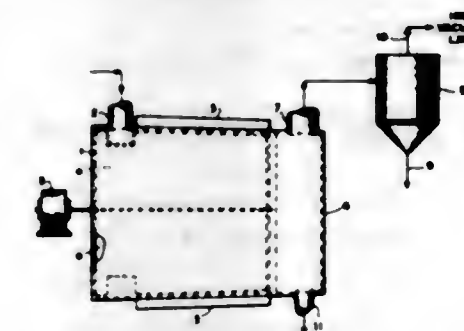
The titanic acid ester accelerates the curing of the epoxy resin by polycarboxylic acid anhydrides.

3,385,836

## PREPARATION OF DIALLYL PHTHALATE PREPOLYMERS

Sol A. Mednick, Baltimore, Md., Leonard Seglin, New York, N.Y., and William B. Truemmer, Catonsville, Md., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware  
Continuation-in-part of application Ser. No. 396,508, Sept. 15, 1964. This application Sept. 8, 1965, Ser. No. 485,882

8 Claims. (Cl. 260—78.4)



This application discloses a method of producing diallyl phthalate prepolymer by polymerizing diallyl phthalate monomer under conditions which leave no significant amount of catalyst residue in the resulting mixture of prepolymer and monomer and then distilling the prepolymer-monomer mixture continuously under high vacuum in a still of short residence time, in which the prepolymer-monomer mixture is spread as a thin film to insure rapid heat transfer and high evaporative surface, at an elevated temperature such that the molten prepolymer will flow from the still.

3,385,837

## POLY(OXATHIAHYDRAZIDES)

Walter Patrick Fitzgerald, Jr., New Castle, and August Henry Frazer, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed July 15, 1965, Ser. No. 472,297

19 Claims. (Cl. 260—79)

Pyridine-soluble poly(oxathiahydrazides) formed by heating a mixture of  $\text{P}_2\text{S}_5$ , pyridine and a polyhydrazide. Heating must be at a temperature of at least 100° C. for less than 40 minutes. Solutions of the products can be spun to produce fibers or cast to produce films; heat treatment of these provides fibers and films of poly(1,3,4-thiadiazoles).







3,385,848

**PROCESS FOR THE CONVERSION OF THE ANGULAR METHYL GROUPS OF STEROIDS**

Albert Wettstein, Riehen, Oskar Jeger, Zurich, Georg Anner, Karl Heuser, and Jaroslav Kalvoda, Basel, Charles Meystre, Reinach, and Peter Wleand, Basel, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 102,114, Apr. 11, 1961. This application Sept. 19, 1962, Ser. No. 224,847

Claims priority, application Switzerland, Apr. 14, 1960, 4,272/60; Sept. 22, 1961, 11,068/61

29 Claims. (Cl. 260—239.55)

The invention includes oxygenation of the angular methyl groups in positions 10 and 13 of steroids by treating 11 $\beta$ -hydroxysteroids with heavy metal acylates having an oxidizing action in the presence of iodine, and if desired treating the resulting iodides with a hydrolysing or acylolytic agent and/or oxidising the products so obtained. The process furnishes 18:11 $\beta$ -oxidosteroids or 19:11 $\beta$ -oxidosteroids which may be substituted in position 18 or 19 by iodine or by alkoxy or acyloxy groups. The 18-substituted or 19-substituted 11 $\beta$ :18-oxido or 11 $\beta$ :19-oxido compounds are transformed either by direct hydrolysis or by exchange of the iodine atom for an acyloxy radical and subsequent acid or alkaline hydrolysis into 18-hydroxy-18:11 $\beta$ -oxidosteroids or 19-hydroxy-19:11 $\beta$ -oxidosteroids representing the hemiacetals of the 11 $\beta$ -hydroxy-18-als or -19-als respectively. These compounds, or also the iodo compounds, can if desired, be oxidised to the 18:11 $\beta$ -lactones or 19:11 $\beta$ -lactones of the steroid-18-acids or -19-acids which are also formed by direct oxidation of the resulting unsubstituted oxidosteroids with, for example, chromium trioxide or ruthenium tetroxide.

3,385,849

**PROCESS FOR THE PREPARATION OF 17 $\beta$ -PREGNANES FROM 17-OXO-STEROIDS**

Alan Martin Krubiner, Cedar Grove, and Eugene Paul Oliveto, Glen Ridge, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed July 1, 1965, Ser. No. 468,974

15 Claims. (Cl. 260—239.55)

Compounds of the 17 $\beta$ -pregnane series are prepared from 17-oxo-steroids of the androstane series by a process which comprises the steps of reacting a 17-oxo-steroid with ethylenetriphenylphosphorane and treating the so-obtained  $\Delta^{17(20)}$ -pregnene with hydroboron and then hydrogen peroxide.

3,385,850

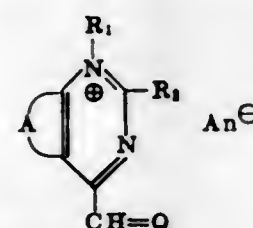
**N-SUBSTITUTED BICYCLIC AZACYCLES**

Richard William James Carney, Murray Hill, Herbert Morton Blatter, Millburn, and George de Stevens, Summit, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 351,200, Mar. 11, 1964. This application Jan. 21, 1965, Ser. No. 427,151

20 Claims. (Cl. 260—240.7)

Bicyclic 4-arylidene-methyl-pyrimidinium salts of the formula



A=alkylalkylene with 3–5 C.

R<sub>1</sub>=alkyl, aralkyl or aryl

Q=mono- or bicyclic aza-, oxa- or thiacyclic arylidene

An<sup>−</sup>=halide ion

are dyes and sensitizers of photographic emulsions.

3,385,851

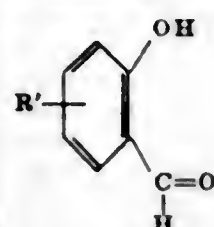
**PROCESS FOR PREPARING 3,4-DIHYDRO-4-HYDROXY-2H-1,3-BENZOXAZINE-2-ONES**

Richard E. Strube, Alexandria, Va., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

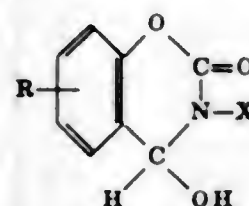
No Drawing. Original application Mar. 27, 1964, Ser. No. 355,466, now Patent No. 3,296,259. Divided and this application Oct. 17, 1966, Ser. No. 586,939

3 Claims. (Cl. 260—244)

1. The process which comprises reacting, in the presence of a basic catalyst and an inert reaction medium, a 2-hydroxybenzaldehyde of the formula:



wherein R' is selected from the group consisting of benzo and from zero to not more than 4 members selected from the group consisting of alkyl of not more than 3 carbon atoms, alkoxy of not more than 3 carbon atoms, hydroxy, halogen, and nitro with a compound selected from the group consisting of phenyl isocyanate and a loweralkyl isocyanate to produce a compound of the formula:



wherein X is selected from the group consisting of lower-alkyl and phenyl and R is selected from the group consisting of benzo and from zero to not more than 4 members selected from the group consisting of alkyl of not more than 3 carbon atoms, alkoxy of not more than 3 carbon atoms, loweralkylcarbamyloxy, phenylcarbamyloxy, halogen, and nitro hydrogenolytically cleaving the latter compound to obtain a 2-hydroxybenzylamine.

3,385,852

 **$\alpha$ -SUBSTITUTED 1-NAPHTHYLACETIC ACIDS**

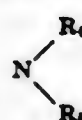
Silvano Casadio, Milan, Italy, assignor to Istituto de Angeli S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Continuation-in-part of application Ser. No. 364,792, May 4, 1964. This application Apr. 23, 1965, Ser. No. 450,496

Claims priority, application Great Britain, May 14, 1963, 19,159/63; Aug. 7, 1964, 32,309/64; Oct. 1, 1964, 40,025/64; Oct. 12, 1964, 41,578/64

8 Claims. (Cl. 260—246)

The present application is directed to naphthylacetic acid derivatives and in particular to  $\alpha,\alpha$ -disubstituted naphthylacetic acids. The compounds of the invention fall within two distinct categories, that is, the "short chain"  $\alpha,\alpha$ -disubstituted naphthylacetic acids where the short chain substituent group is represented by the grouping  $-\text{CH}_2-\text{CH}_2-\text{X}$ , wherein X represents morpholino, piperidino or the grouping



where each of R<sub>4</sub> and R<sub>5</sub> represent an alkyl group of from 1 to 6 carbon atoms or benzyl. The compounds of the second category are the "long-chain"  $\alpha,\alpha$ -disubstituted naphthylacetic acids which are characterized by having on the  $\alpha$ -carbon at least one substituent represented by the

grouping  $-(\text{CH}_2)_n-\text{X}$ , wherein X is as above defined and n represents an integer of from 3 to 5. In each category, the second  $\alpha$ -substituted substituent may be an alkyl of from 1 to 6 carbon atoms or a grouping similar to that represented by the  $-\text{CH}_2-\text{CH}_2-\text{X}$  on the "short chain" compounds and the  $-(\text{CH}_2)_n-\text{X}$  in the "long chain" compounds. The compounds of the invention exhibit various therapeutic properties which make them particularly valuable.

3,385,853

**PRODUCTION OF TRIS-(2-HYDROXYALKYL) ISOCYANURATES**

David E. Scheirer and Elmer L. Nelson, Chester, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 4, 1966, Ser. No. 525,152

8 Claims. (Cl. 260—248)

1. In the process wherein cyanuric acid is reacted with an alkylene oxide in the presence of an inert solvent to produce a tris-(2-hydroxyalkyl) isocyanurate the improvement which comprises maintaining an amount of water in said solvent in the range of about 0.7% to 10% by weight of the solvent.

3,385,854

 **$\alpha$ -TRIAZINES HAVING HERBICIDAL AND FUNGICIDAL PROPERTIES**

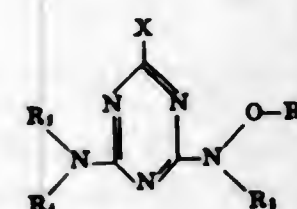
Enrico Kottli, Riehen, and Jürg Rümpf, Binningen, Basel-Land, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 170,263, Jan. 31, 1962. This application Mar. 31, 1964, Ser. No. 356,043

Claims priority, application Switzerland, Feb. 1, 1961, 1,153/61, 1,154/61

5 Claims. (Cl. 260—249.9)

1. A member selected from the groups consisting of a triazine derivative of the formula



wherein

X is a member selected from the group consisting of lower alkyl and lower haloalkyl,

R<sub>1</sub> is a member selected from the group consisting of lower alkyl, lower alkenyl and lower alkynyl,

R<sub>2</sub> and R<sub>4</sub> are independently selected from a group consisting of hydrogen, lower alkyl and lower alkenyl, and

R<sub>3</sub> is a member selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower alkanoyl and  $-\text{OR}_1$ ,

and the acid addition salts of said triazine derivative.

3,385,855

**DIALKYL 1,2,3,4-TETRAHYDROPHENAZINE-1,4-DICARBOXYLATES**

Hans R. Schweizer, Herrliberg, Switzerland, assignor, by mesne assignments, to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,814

8 Claims. (Cl. 260—250)

Dialkyl-1,2,3,4-tetrahydrophenazine-1,4-dicarboxylates are prepared by reacting a dialkyl-1,2-cyclohexanedione-3,6-dicarboxylate with an o-phenylenediamine. The compounds of the invention are useful as intermediates in the preparation of organic compounds such as polyesters and coloring agents.

3,385,856

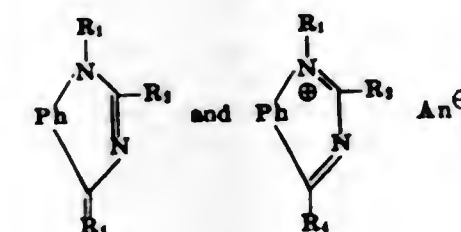
**N-ARYL-SUBSTITUTED BICYCLIC AZACYCLES**

Herbert Morton Blatter, Irvington, Richard William James Carney, Murray Hill, and George de Stevens, Woodland Park, Summit, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 455,315, May 12, 1965. This application Sept. 17, 1965, Ser. No. 488,264

6 Claims. (Cl. 260—251)

1-aryl-quinazolines of the formulae



Ph=a 1,2-phenylene

R<sub>1</sub>=aromatic radical

R<sub>2</sub>=aliphatic or aromatic radical

R<sub>3</sub>=O, S or an imino group

R<sub>4</sub>=amino, etherified OH or SH or azacyclic arylidene-methyl

An<sup>−</sup>=an anion

are anti-inflammants, dyes or intermediates.

3,385,857

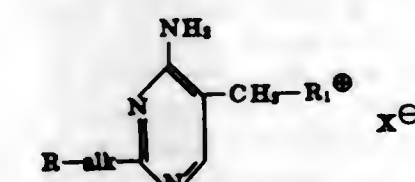
**CYCLOALIPHATIC PYRIMIDINES**

Renat Herbert Mizsoni, Long Valley, and George de Stevens, Summit, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 572,671, Aug. 16, 1966. This application Nov. 7, 1966, Ser. No. 592,314

13 Claims. (Cl. 260—256.4)

1. Quaternary 5-ammoniummethyl-4-amino-2-cycloaliphatic-lower alkyl-pyrimidine salts having the formula



in which R is a member selected from the group consisting of 3 to 8 ring membered cycloalkyl, cycloalkenyl, and any such radical substituted by a member selected from the group consisting of lower alkyl, halogen, lower alkoxy and lower alkylmercapto, alk is lower alkylene, R<sub>1</sub> is pyridinium, quinolinium, isoquinolinium, pyridazinium, pyrimidinium, pyrazinium, quinazolinium, phthalazinium, 1,5-naphthyridinium, 1,6-naphthyridinium, 1,7-naphthyridinium, 1,8-naphthyridinium, N-lower alkyl-N'-pyrazolium, N-lower alkyl-N'-imidazolium, thiazolium, oxazolium, 1,3,5-triazinium, 1-lower alkyl-1H-pyrrolo-[3,2-b]pyridinium, 6-lower alkyl-6H-pyrrolo[3,4-b]pyridinium, thieno[3,2-b]pyridinium, thieno[2,3-b]pyridinium, pyrido[3,2-b]pyrimidinium, pyrido[2,3-b]pyrazinium, pyrazolinium, N-lower alkyl-N'-pyrazolinium, imidazolinium, N-lower alkyl-N'-imidazolinium, thiazolinium, oxazolinium and each of said groups substituted by a member selected from the group consisting of lower alkyl, hydroxy, lower alkoxy, mercapto, lower alkylmercapto, halogen, trifluoromethyl and di-lower alkylamino and X<sup>−</sup> is the anion of a therapeutically useful acid, and a therapeutically useful acid addition salt thereof.



3,385,858

**HIGH MOLECULAR WEIGHT FATTY PIPERAZINE AMPHOTERIC SURFACTANTS**

Jacob Katz, Providence, R.I.  
(1224 Mendon Road, Ashton, R.I. 02904)  
No Drawing. Filed Oct. 24, 1965, Ser. No. 504,996  
5 Claims. (Cl. 260—268)

The present disclosure describes piperazine amphoteric surfactants made by combining N - aminoethyl piperazine, N - hydroethyl piperazine, N - aminopropyl piperazine, N - hydroxypropyl piperazine and N,N' - aminoethyl piperazine with a high molecular weight fatty acid, such as oleic acid, tall oil fatty acid, coconut fatty acid, or sebacic acid, followed by reaction with acrylonitrile or methacrylate. Then the resultant compound is saponified. The final product may be used in shampoos, in soaps, for textile scouring, and for other uses.

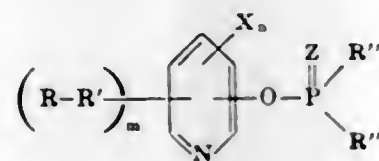
3,385,859

**THIO-, SULFINYL-, AND SULFONYL-PYRIDYL PHOSPHOROTHIOATE DERIVATIVES**

Raymond H. Rigerink, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 25, 1966, Ser. No. 544,826  
5 Claims. (Cl. 260—294.8)

1. Compound of the formula



wherein R represents a member, the same in each occurrence, selected from the group consisting of lower-alkyl and phenyl; R' represents a member, the same in each occurrence, selected from the group consisting of thio, sulfinyl, and sulfonyl; X represents halo; Z represents a member selected from the group consisting of oxygen and sulfur; each R'' independently represents a member selected from the group consisting of lower-alkoxy, amino, and loweralkylamino; m represents an integer of from 1 to 2, both inclusive; and n represents an integer of from 0 to 3, both inclusive, the sum of m and n being an integer of from 1 to 4, both inclusive.

3,385,860

**PROCESS FOR PREPARING LOWER ALKYL 2-PYRIDINIUM ALDOXIME SALTS**

Richard Bennett Margerison, Florham Park, and John Archibald Nelson, Morris Plains, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 462,388, June 8, 1965. This application July 19, 1966, Ser. No. 566,222

16 Claims. (Cl. 260—296)

The invention involves a novel procedure for preparing lower alkyl 2-pyridinium-aldoxime salts, more particularly the 2-pyridine-aldoxime methohalides, such as the methochloride. The process involves mixing a lower alkyl 2-picolinium salt with an alkyl nitrite, adding a base material to the reaction mixture and finally neutralizing with an acid to obtain the desired product. The products produced by this procedure are anti-cholinesterase inhibitors.

3,385,861

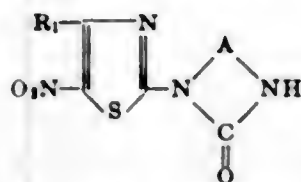
**PROCESS FOR THE MANUFACTURE OF A 3-UN-SUBSTITUTED 1-[5-NITRO-2-THIAZOLYL]-2-OXO-TETRAHYDROIMIDAZOLE**

Konrad Meier, Riehen, and Walter Fuhrer, Zurich, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

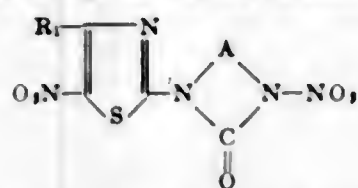
No Drawing. Filed Dec. 28, 1965, Ser. No. 517,069  
Claims priority, application Switzerland, Jan. 20, 1965, 766/65

4 Claims. (Cl. 260—306.8)

Process for the manufacture of a compound of the formula



by hydrolysing a compound of the formula



R<sub>1</sub> being hydrogen or an aliphatic hydrocarbon radical and A an optionally substituted ethylene radical. Compounds made by this process are useful as antiparasitary compounds.

3,385,862

**5-t-BUTYL-3-PHENYL-2-OXADIAZOLONES**

Jean Metivier, Paris, and Roger Boesch, Vitry-sur-Seine, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Continuation-in-part of application Ser. No. 416,650, Dec. 7, 1964. This application Jan. 14, 1966, Ser. No. 520,674

Claims priority, application France, Dec. 13, 1963, 957,151; Oct. 29, 1965, 36,781, Patent 90,369

13 Claims. (Cl. 260—307)

The compounds of the invention are 5-t-butyl-3-phenyl-2-oxadiazolones. They are prepared by reacting the appropriate 1-trimethylacetyl-2-phenyl-hydrazine with phosgene. Herbicidal compositions containing them and the manner of use thereof are also disclosed.

3,385,863

**VAT DYESTUFFS OF THE ANTHRAQUINONE-IMIDAZOLE SERIES**

Arnold Wick, Therwil, Basel-Land, and Jacob Koch, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Apr. 13, 1965, Ser. No. 447,911

Claims priority, application Switzerland, Apr. 22, 1964, 5,179/64; Feb. 25, 1965, 2,631/65

10 Claims. (Cl. 260—309.2)

Dyestuffs of the anthraquinoneimidazole series can be prepared by condensing, in a molar ratio of 2:1, 1:2-diaminoanthraquinones in which the amino groups are unsubstituted with compounds of the formula



in which the symbols A represent aryl residues, X represents a direct linkage or an acyclic bridge and the symbols Y represent carboxylic acid or aldehyde groups or the functional derivatives thereof.

3,385,864

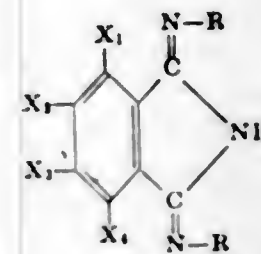
**1,3-BIS-ARYLIMINO-ISOINDOLINES**

André Pugin, Riehen, Kurt E. Burdeska, Basel, and Alfred Staub, Binningen, Basel-Land, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Apr. 28, 1965, Ser. No. 451,606  
Claims priority, application Switzerland, Apr. 30, 1964, 5,665/64

5 Claims. (Cl. 260—326.1)

The invention is directed to the process for the pigmenting of high molecular weight organic products, to the new pigments useable for such pigmenting, to the processes for the production of such pigments and to the colored high molecular weight organic materials as industrial products. The method comprises mixing with the high molecular weight material a colored compound of the formula



wherein each of X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub> and X<sub>4</sub> represents chlorine or bromine and R represents an unsubstituted, a non-ionogenically substituted or condensed phenyl radical.

3,385,865

**METHOD FOR THE PRODUCTION OF ISOINDOLES**

Gerlinde Metzler, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,580

5 Claims. (Cl. 260—326.1)

A process for the preparation of isoindole compounds comprising reacting an orthodiketone with an excess of a mono-N-substituted ammonium formate, at from about 175° C. up to about 250° C. for a period of about ten hours up to about seventy-two hours.

3,385,866

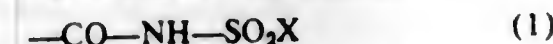
**PROCESS FOR PREPARING ORGANIC COMPOUNDS CONTAINING ONE OR A PLURALITY OF NITRILE GROUPS**

Gerhard Lohaus, Kelkheim, Taunus, and Roderich Graf, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Oct. 29, 1964, Ser. No. 407,545  
Claims priority, application Germany, Nov. 2, 1963, F 41,176

6 Claims. (Cl. 260—326.5)

1. A process for preparing organic compounds containing at least one nitrile group, which comprises reacting (A) a saturated or unsaturated aliphatic, cycloaliphatic, aromatic pyrene, thiophene or pyrrolidone compound containing at least one grouping of the formula



wherein X represents a halogen atom, which grouping is bound to a carbon atom, with (B) an acyclic or cyclic organic compound containing at least one carboxylic acid amide grouping in which the nitrogen is substituted by members of the group consisting of hydrogen and organic radicals.

3,385,867

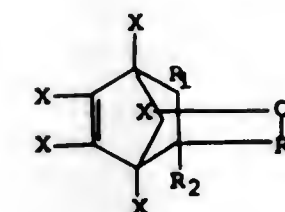
**PENTAHALOOXATRICYCLONONENES AND METHOD OF PREPARATION**

Wen-H. Chang, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 28, 1964, Ser. No. 392,910

12 Claims. (Cl. 260—346.2)

This invention relates to compounds corresponding to the formula:



where X is selected from the group consisting of chlorine and bromine, R<sub>1</sub> and R<sub>2</sub> are selected from the group consisting of hydrogen, phenyl and alkyl groups having 1 to 6 carbon atoms and where R<sub>3</sub> is selected from the group consisting of hydrogen and alkyl groups having 1 to 6 carbon atoms, at least one of R<sub>1</sub> and R<sub>2</sub> being hydrogen and at least one of R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> being a substituent other than hydrogen, prepared by reacting a hexahalocyclopentadiene with a substituted allyl alcohol. The compounds are useful as pesticides and are fire retardant additives to polyurethanes and polyesters.

3,385,868

**PROCESSES FOR FUSED CYCLOPROPYL STEROIDS**

Alexander D. Cross, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Continuation-in-part of application Ser. No. 441,318, Mar. 19, 1965. This application Oct. 15, 1965, Ser. No. 496,719

Claims priority, application Mexico, Apr. 17, 1964, 76,755

23 Claims. (Cl. 260—397.4)

Process of introducing a fused cyclopropyl group across a double bond of a steroid nucleus in an allylic or homoallylic position with respect to a pre-existing hydroxyl group, the cyclopropyl group having a cis configuration with respect to the hydroxyl group. Process of cleaving such fused cyclopropyl group to yield a methyl group having the same configuration.

3,385,869

**PROCESS FOR THE PREPARATION OF 16β-ACYLOXY-3,11-DIKETO-4α,8,14-TRIMETHYL-18-NOR-5α,8α,9β,13α,14β-CHOLESTA-17(20), 24-DIEN-21-OATE**

Gerlad W. Krakower, Elizabeth, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

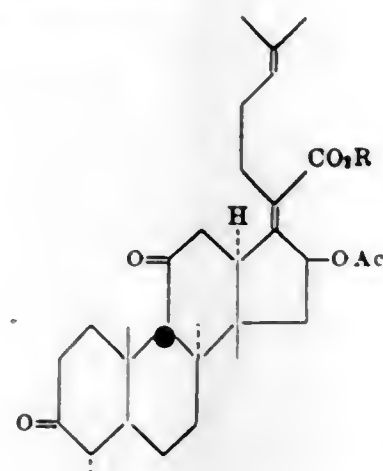
No Drawing. Filed Mar. 21, 1966, Ser. No. 535,719

2 Claims. (Cl. 260—397.1)

1. A process which comprises reacting a steroid selected from the group consisting of an alkali metal salt of fusidic acid and an alkali metal salt of fusidic acid derivatives selected from the group consisting of 24(25)-dihydro fusidic acid and 24(25),17(20)-tetrahydro fusidic acid with an alkyl halide to form an alkyl ester, oxidizing with



a chromic acid solution the alkyl ester and recovering a steroid having the structure



wherein R is lower alkyl and Ac is acyl, and derivatives thereof.

3,385,870

# SEMICARBAZONES AND THIOSEMICARBAZONES OF 17- $\beta$ -ACETONYLOXY-3-ALKOXYESTRA-1,3,5(10)-TRIENES

Gerhard R. Wendt, Havertown, and Kurt W. Ledig, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware  
No Drawing. Filed July 1, 1965, Ser. No. 468,927  
4 Claims. (Cl. 260-397.4)

The invention is directed to the process, and resultant products, of reacting a semicarbazide and a 17 $\beta$ -acetonxy-3-alkoxyestra-1,3,5(10)-triene. The compounds have utility in the treatment of hyperlipaemia in mammals.

3,385,871

# HALOGENATED CYCLOPROPYL AND CYCLOPROPENYL ESTRATRIENES AND PROCESS FOR THEIR PREPARATION

John A. Edwards, Palo Alto, Calif., and Lawrence H. Knox, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama  
No Drawing. Filed Dec. 15, 1965, Ser. No. 514,136  
17 Claims. (Cl. 260-397.4)

Steroids having an aromatic A-ring and substituted at C-17 with a dihalocyclopropyl, dihalocyclopropenyl, or oxocyclopropenyl group useful as estrogenic agents.

3,385,872

# PROCESS FOR THE PREPARATION OF 3-HYDROXY-19-NOR- $\Delta^{1,3,5(10),9(11)}$ -TETRAENE STEROIDS

Francisco Alvarez, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama  
No Drawing. Filed Aug. 29, 1966, Ser. No. 575,551  
13 Claims. (Cl. 260-397.45)

Process for the preparation of 3-hydroxy-19-nor- $\Delta^{1,3,5(10),9(11)}$ -tetraene steroids which have known uses from the corresponding 3-keto-19-nor- $\Delta^{4,9(10)}$ -diene steroids.

3,385,873

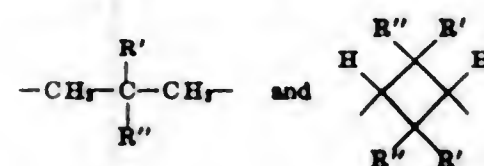
# SULFATE ESTERS OF HINDERED ALCOHOLS

John R. Caldwell, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey  
No Drawing. Filed Oct. 17, 1963, Ser. No. 317,038  
23 Claims. (Cl. 260-400)

1. A compound selected from the group having the formula



wherein R is a substituent selected from the group consisting of straight and branched chain alkyl containing from 1-20 carbon atoms, cyclohexyl and phenyl, and wherein Y is selected from the group consisting of



wherein R' and R'' are alkyl containing 1-4 carbon atoms and wherein M is an ion selected from the class consisting of hydrogen, alkali metal and alkylamine containing from 1-12 carbon atoms, and N,N-diethylcyclohexylamine.

3,385,874

# $\gamma$ -FORMYL-N,N'-DIHYDROCARBYL-AMINOTROPONEIMINES AND DERIVATIVES THEREOF

Alden Dwayne Josey, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed June 4, 1964, Ser. No. 372,713  
14 Claims. (Cl. 260-429)

$\gamma$ -Substituted-N,N'-bis(hydrocarbyl substituted)-aminotroponeimines, prepared by reacting a N- $\gamma$ -dithio-N,N'-disubstituted-aminotroponeimine with a carbonyl compound, and derivatives thereof including chelates are claimed. These compounds are useful as dyes.

3,385,875

# PROCESS FOR ZINC THIOBENZOATE

Earl Kaplan, Metuchen, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine  
No Drawing. Filed June 15, 1964, Ser. No. 375,296  
3 Claims. (Cl. 260-429.9)

An improved process for preparing zinc thiobenzoate which comprises reacting benzoyl chloride in aqueous medium with a soluble hydrosulfide, acidifying the resulting salt product until a controlled pH of between 4.0 and 6.5 is obtained, converting the acid to a soluble thiobenzoate by the addition of alkali at a controlled pH of between 10.5 and 13.5, and adding a soluble zinc salt to the soluble thiobenzoate to form the stable product, zinc thiobenzoate.

3,385,876

# CURING CATALYST SYSTEM FOR Si-H ADDITIONS

John M. Nielsen, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed Dec. 18, 1964, Ser. No. 420,857  
4 Claims. (Cl. 260-448.2)

Organic solvent soluble platinum catalysts for SiH-olefin addition reactions are prepared by reacting chloroplatinic acid with an alkyl ortho-titanate in the presence of a solvent which is inert to the reactants under the conditions of the reaction.

3,385,877

# CYCLOPOLYSILOXANES

Tse C. Wu, Waterford, N.Y., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed Feb. 9, 1965, Ser. No. 431,463  
5 Claims. (Cl. 260-448.2)

This invention is directed to spirocyclosiloxanes in which a spiro silicon atom is a member of a first ring containing two or three diarylsiloxane units and a member of a second ring containing four or five methylene radicals. These spirocyclosiloxanes are useful in forming silicone elastomers which can be used for coating glass cloth.

3,385,878

# CYCLOPOLYSILOXANES

Tse C. Wu, Waterford, N.Y., assignor to General Electric Company, a corporation of New York  
No Drawing. Filed Mar. 4, 1965, Ser. No. 437,286  
5 Claims. (Cl. 260-448.2)

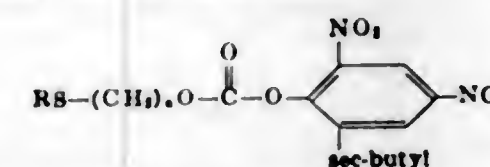
Hexaorganocyclotrisiloxanes and octaorganocyclotetrasiloxanes are disclosed in which two or three of the diorganosiloxane units contain two monovalent aryl groups and in which one of the diorganosiloxane units contains two para-phenoxy phenyl groups. These compounds are useful in the formation of high molecular weight silicone polymers useful as coating materials.

3,385,879

# THIOALKYL PHENYL CARBONATES

Karoly Szabo, Orinda, and Thomas B. Williamson, Santa Clara, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Oct. 20, 1965, Ser. No. 499,049  
6 Claims. (Cl. 260-463)

1. A compound of the formula



wherein R is a member selected from the group consisting of alkyl radicals, containing from 1 to 10 carbon atoms, inclusive, phenyl and chlorophenyl; n is an integer up to 8.

3,385,880

# PROCESS FOR THE PREPARATION OF ALKYL MONONITRILES

Richard L. Abbott, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland  
No Drawing. Filed June 16, 1965, Ser. No. 464,577  
7 Claims. (Cl. 260-465.1)

A process for preparing alkyl mononitriles by passing a gaseous stream of a primary or secondary nitroalkyl reactant into contact with platinum under vapor phase reaction conditions. Exemplary of primary nitroalkyl reactants is 1-nitropropane. Exemplary of secondary nitroalkyl reactants is 2-nitropropane.

3,385,881

# PROCESS FOR THE CONTINUOUS PREPARATION OF MONOMERIC AND OLIGOMERIC BIS-2-HYDROXYETHYL PHTHALATES

Ditmar Bachmann, Hofheim, Taunus, Helmut Gerstenberg, Frankfurt am Main, Emmerich Paschory, Hofheim, Taunus, and Erwin Schrott, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany  
Filed June 20, 1963, Ser. No. 289,343  
Claims priority, application Germany, June 23, 1962, F 37,141  
5 Claims. (Cl. 260-475)

1. In a process for the continuous preparation of bis-2-hydroxyethyl esters of aromatic dicarboxylic acids selected from the group consisting of terephthalic acid and isophthalic acid and the polymers of said esters which have a low molecular weight and contain up to ten monomer units in the chain the continuous preparation being effected by the interchange of ester radicals of the dimethyl esters of the aforesaid acids with ethylene glycol in the presence of a catalyst in a heated reaction zone maintained at a uniform pressure of from 1 to 4 atmospheres which zone is subdivided into a plurality of zones in which the different stages of the process take place, into which reaction zone ethylene glycol and dimethyl esters of the said acids

are continuously introduced and from which reaction zone the vapours which form therein and the bis-2-hydroxyethyl esters which form therein are continuously drawn off, the improvement comprising immediately drawing off the vapours of methanol, ethylene glycol and by-products which form in the reaction zone, preventing the recondensation of said vapors, and introducing additional quantities of ethylene glycol into at least one of the plurality of zones of the reaction zone.

3,385,882

# FLUOROALKYL GLUTARATES

Victor Tullio, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Continuation-in-part of application Ser. No. 277,031, Apr. 30, 1963. This application Oct. 16, 1964, Ser. No. 404,527  
6 Claims. (Cl. 260-485)

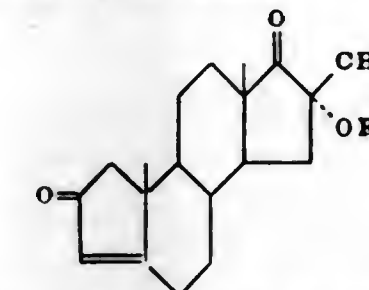
Process for preparing esters of  $\alpha$ -methyleneglutaric acid which comprises dimerizing  $\text{CH}_2=\text{CH}-\text{COOR}$  where R is fluoroalkyl in the presence of a tertiary phosphine. Novel dimers of  $\text{CH}_2=\text{CH}-\text{COOR}$  which are useful as oil and water repellents and as lubricants.

3,385,883

# A-NOR-D-HOMOSTEROIDS

Seymour D. Levine, North Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware  
No Drawing. Filed Mar. 17, 1966, Ser. No. 534,996  
4 Claims. (Cl. 260-488)

1. A steroid having the formula



wherein R is selected from the group consisting of hydrogen and acyl derived from hydrocarbon carboxylic acids having less than twelve carbon atoms.

3,385,884

# PLANT HORMONE CARBOXYLIC ACID SALT OF AN AMINATED POLYOXYETHYLENE ALIPHATIC AMINE OR ALIPHATIC ALCOHOL

Thomas J. Galvin and Frank S. Black, Wilmington, Del., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Apr. 15, 1964, Ser. No. 360,106  
5 Claims. (Cl. 260-501.16)

1. A salt of plant hormone carboxylic acid and a fatty amine material selected from the group consisting of  
(a) a reaction product of an aminating agent selected from the group consisting of ammonia, primary amines and secondary amines, said primary and secondary amines containing from 1 to 6 carbon atoms, and  
a polyoxyethylene derivative of an amine containing a saturated aliphatic radical of from 10 to 20 carbon atoms,  
said derivative containing from 2 to 20 moles of ethylene oxide units for each equivalent of amino hydrogen in said amine, and  
(b) a reaction product of an aminating agent selected from the group consisting of ammonia, primary amines and secondary amines, said primary and secondary amines containing from 1 to 6 carbon atoms, and



a polyoxyethylene derivative of an alcohol containing a saturated aliphatic radical of from 6 to 20 carbon atoms,  
said derivative containing from 2 to 20 moles of ethylene oxide units for each hydroxy equivalent in said alcohol.

3,385,885

# 11-METHYLAMINO-9,10-ETHANO-9,10-DIHYDRO-ANTHRACENE AND ITS ACID-ADDITION SALTS

Keizo Kitahonoki, Nara, and Ryonosuke Kido, Osaka, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan  
No Drawing. Filed Jan. 22, 1965, Ser. No. 427,458  
Claims priority, application Japan, Jan. 27, 1964, 39/3,893, 39/3,895

1 Claim. (Cl. 260-501.21)

The present invention relates to 11-methylamino-9,10-dihydroanthracene and its acid-addition salts, and to the production thereof.

3,385,886

# PHENYL PROPIONIC ACIDS

John Stuart Nicholson and Stewart Sanders Adams, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England, a British company  
No Drawing. Continuation-in-part of application Ser. No. 167,941, Jan. 22, 1962. This application July 23, 1963, Ser. No. 296,914

Claims priority, application Great Britain, Feb. 2, 1961, 3,999/61; July 26, 1962, 28,780/62

1 Claim. (Cl. 260-515)

1. A compound selected from the group consisting of 2,4'-isobutyl phenyl propionic acid and 2,4'-cyclohexyl phenyl propionic acid.

3,385,887

# 4-ISOBUTYLPHENYLACETIC ACID

John Stuart Nicholson and Stewart Sanders Adams, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England, a British company  
No Drawing. Original application Jan. 22, 1962, Ser. No. 167,941, now Patent No. 3,228,831, dated Jan. 11, 1966. Divided and this application Oct. 21, 1965, Ser. No. 500,306

Claims priority, application Great Britain, Feb. 2, 1961, 3,999/61

1 Claim. (Cl. 260-515)

1. 4-isobutylphenylacetic acid.

3,385,888

# METHOD FOR PREPARING CHLOROPIVALIC ACID

Elmore L. Martin, Shellburne, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Feb. 1, 1965, Ser. No. 429,639

5 Claims. (Cl. 260-539)

Carbonylation of 1,2-dichloro-2-methylpropane or 2-chloro-2-methylpropane with carbon monoxide, water and hydrogen fluoride at from 0 to 140° C. and 10 to 1,000 atmospheres pressure to form  $\beta$ -chloropivalic acid or pivalic acid.

3,385,889

# PROCESS OF PREPARING CIS- $\beta$ -HALOACRYLIC ACIDS

Carl Magnus Christoffer Rappe, Gefjersgatan 3, Uppsala, Sweden

No Drawing. Filed Feb. 1, 1965, Ser. No. 429,665  
Claims priority, application Sweden, Feb. 3, 1964, 1,285/64

4 Claims. (Cl. 260-539)

Pure cis- $\beta$ -haloacrylic acids are prepared in good yield by reaction of a trichloro- or tribromo-acetone in the liquid or molten state with an aqueous solution of an

inorganic base, in a mole ratio of at least the stoichiometric ratio.

3,385,890

# PREPARATION OF DITHIOOXAMIDE

Wilhelm Gruber, Darmstadt, Germany, assignor to Rohm & Haas G.m.b.H., Darmstadt, Germany

No Drawing. Filed Apr. 2, 1965, Ser. No. 445,258

Claims priority, application Germany, Apr. 9, 1964, R 37,654

14 Claims. (Cl. 260-551)

An improvement in the preparation of dithiooxamide from hydrogen sulfide and cyanogen in the presence of a basic catalyst which involves carrying out the reaction in a liquid, substantially anhydrous and inert medium.

3,385,891

# METHOD FOR THE PRODUCTION OF AMIDES AND AMIDINES

Donald M. Fenton, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed May 13, 1965, Ser. No. 455,622

5 Claims. (Cl. 260-561)

The invention comprises the use of mercuric oxide as an oxidant for the oxidation of an alkyl, alkenyl or cyclohexylamine to an amide or amidine. The amidine is formed under anhydrous conditions and the presence of water favors formation of the amide. The oxidation results in reduction of the mercuric oxide to mercury which can be reoxidized by conventional methods for reuse in the process. The oxidation of secondary amines furnishes a convenient route to fully N-substituted amidines as well as providing a convenient route to the production of amides from primary and secondary amines. The reaction is performed at temperatures from 25° to about 300° C. and pressures up to 10,000 p.s.i.g. sufficient to maintain liquid phase conditions.

3,385,892

# BORIC ACID-NITROGEN COMPOUNDS

Ludwig Konrad Huber, Philadelphia, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 6, 1965, Ser. No. 423,816

5 Claims. (Cl. 260-583)

A compound of the formula  $(CH_3)_nNH_{(3-n)}mHBO_2$  wherein  $n$  is a digit from 2 to 3 and  $m$  is 3 where  $n$  is 2 and further  $m$  is 4 when  $n$  is 3, which is produced by reacting the corresponding amine with boric acid in a non-aqueous system, useful as corrosion inhibitors.

3,385,893

# PROCESS FOR MAKING LONG CHAIN UNBRANCHED ALKYL TERTIARY AMINES

Reginald L. Wakeman, Philadelphia, Pa., assignor to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 384,489, July 22, 1964. This application June 28, 1965, Ser. No. 467,543

9 Claims. (Cl. 260-583)

This relates to the preparation of long chain unbranched aliphatic tertiary amines by subjecting straight-chain paraffins, in the preferred range of 10 to 20 carbon atoms, to chlorination. The resultant alkyl chlorides are then converted into suitable tertiary amines by reacting, under pressure, with an excess of an alkyl secondary amine, such as dimethyl amine, at about 100° to about

250° C. over a period of about 4 to 20 hours. The alkyl tertiary amine hydrochloride formed in the reaction is then separated from the reaction mixture and is treated with an alkaline solution to yield the free tertiary amine.

The object of the present invention is the preparation of long chain unbranched aliphatic tertiary amines of low cost.

3,385,894

# OXIDATION OF ACTIVATED METHYLENE GROUP CONTAINING COMPOUNDS TO THE CORRESPONDING CARBONYL COMPOUNDS

Edgar Schlipper, Clifton, N.J., assignor to Shulton, Inc., Clifton, N.J., a corporation of New Jersey

No Drawing. Filed June 30, 1965, Ser. No. 468,639

3 Claims. (Cl. 260-590)

The process is described for the oxidation of compounds containing activated methylene groups to form the corresponding carbonyl compounds using chlorine or bromine in the presence of at least a molar excess of a dialkyl sulfoxide such as dimethyl sulfoxide.

3,385,895

# PREPARATION OF SUBSTITUTED ALPHALINDANONES FROM HALOGENATED ALIPHATIC ETHERS

Herman A. Bruson, Woodbridge, and Howard L. Plant, Milford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Apr. 1, 1966, Ser. No. 539,284

8 Claims. (Cl. 260-590)

The process for preparing beta-disubstituted alpha-indanones by reacting carbon monoxide, a benzene-type aromatic compound and a halogenated aliphatic ether in the presence of an aluminum halide selected from the group consisting of aluminum chloride and aluminum bromide.

3,385,896

# PRODUCTION OF MESITYL OXIDE

Jules Mercier, Melle, Deux-Sevres, France, assignor to Les Usines de Melle (Societe Anonyme), Melle, Deux-Sevres, France, a corporation of France

Filed Jan. 3, 1964, Ser. No. 335,627

Claims priority, application France, Oct. 16, 1963, 950,740

2 Claims. (Cl. 260-593)

This disclosure describes a continuous process for the production of mesityl oxide by contacting a liquid acetone-water mixture containing 1-3% water with a sulfonic type ion exchange resin in the acid form at a temperature of from 100° C. to 160° C. at a sufficiently elevated pressure (5-20 kg./cm.<sup>2</sup>) to maintain the reaction mixture in the liquid phase.

3,385,897

# PROCESS FOR THE OXIDATION OF ALKYL-AROMATIC HYDROCARBONS

William Daniel Vanderwerff, West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 22, 1966, Ser. No. 596,085

10 Claims. (Cl. 260-599)

This invention relates to a process for the oxidation of alkylaromatic hydrocarbons, particularly alkyl-poly-nuclear aromatic hydrocarbons, to intermediate oxidation products such as alcohols, aldehydes or ketones. It especially relates to a process for the preparation of polynuclear aromatic aldehydes via oxidation of the requisite hydrocarbon with a superheated, acidified, aqueous alkali-metal vanadate solution as the novel oxidizing agent.

3,385,898

# PROCESS FOR THE PREPARATION OF ALKYL-AROMATIC ALDEHYDES FROM ALKYLAROMATIC HYDROCARBONS

William D. Vanderwerff, West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 21, 1966, Ser. No. 603,427

8 Claims. (Cl. 260-599)

A process preparing alkylaromatic aldehydes by oxidizing chloromethyl alkylaromatic compounds with a hot (i.e., about 100-380° C.) aqueous alkali-metal or ammonium vanadate under pressure. Preferably the reaction employs a temperature of about 200-275° C., a sodium metavanadate solution and autogenous pressure.

3,385,899

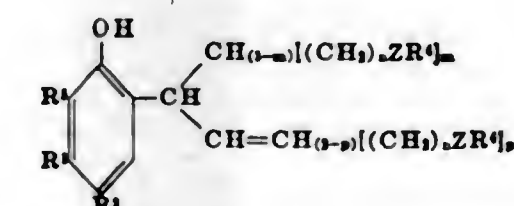
# SUBSTITUTED ALLYL PHENOLS

Edward D. Well, Lewiston, and Hans L. Schlichting, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Feb. 20, 1963, Ser. No. 260,076

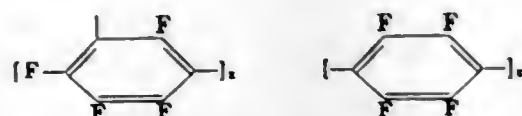
5 Claims. (Cl. 260-611)

1. A composition of the formula

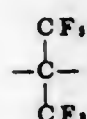




wherein R is a radical selected from the group consisting of



with X=1, 2, 3 and Y is an atom or radical selected from the group consisting of H, F, Cl, I, Br, —CF<sub>3</sub> and



which carbinols are useful in the preparation of synthetic resins.

The process for making these fluorinated carbinols comprises reacting organo-metallic reagents, such as pentafluorophenyllithium with hexafluoroacetone at a temperature of —55° C. followed by acidic hydrolyzing.

3,385,902

#### PRODUCTION OF TRIMETHYLPHENOLS

David Bruce Bright, Oakland, Walter V. Turner, Jr., Berkeley, and Ellis R. White, Oakland, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Nov. 25, 1966, Ser. No. 596,767  
6 Claims. (Cl. 260—621)

Trimethylphenols, particularly 3,4,5- and 2,3,5-trimethylphenol, are prepared by (1) low-temperature chlorination of 3,5,5-trimethyl-3-cyclohexen-1-one to produce 4-chloroisophorone and (2) heating 4-chloroisophorone with an aqueous mineral acid solution. The phenols are especially useful as germicidal materials and for conversion into soil insecticidal materials.

3,385,903

#### PRODUCTION OF TRIMETHYLPHENOLS

David Bruce Bright, Oakland, Walter V. Turner, Jr., Berkeley, and Ellis R. White, Oakland, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Nov. 25, 1966, Ser. No. 596,808  
6 Claims. (Cl. 260—621)

Trimethylphenols, particularly 3,4,5- and 2,3,5-trimethylphenol, are prepared by heating 2-chloroisophorone with an aqueous mineral acid solution at autogenous pressure. The phenols are especially useful as germicidal materials and for conversion into soil insecticidal materials.

3,385,904

#### DECYCLIZATION OF FLUORINATED CYCLIC ETHERS TO PERFLUORINATED TERTIARY ALCOHOLS

Frank J. Pavlik, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware  
No Drawing. Filed Oct. 30, 1962, Ser. No. 234,222  
2 Claims. (Cl. 260—633)

1. A process which comprises reacting a perfluoroisobutylene oxide-1,2 having at least 4 and not more than 20 carbon atoms per molecule with anhydrous hydrogen fluoride at a temperature between about 20 and about 350° C. to produce the corresponding tertiary-alkyl alcohol.

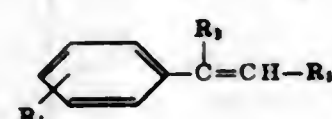
2. The process of claim 1 in which said perfluoroisobutylene oxide-1,2 is perfluoroisobutene oxide-1,2 and the product is perfluoro-tert-butyl alcohol.

3,385,905

#### PREPARATION OF OLIGOMERS OF MONO-ALKENYL AROMATIC MONOMERS

James G. Smith and Charlotte Doreen Veach, Sarnia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware  
No Drawing. Filed Feb. 18, 1966, Ser. No. 528,343  
9 Claims. (Cl. 260—668)

1. A method for preparing oligomers of monoalkenyl aromatic monomers having the general formula



wherein R<sub>1</sub> is hydrogen, an alkyl group, an aryl group, a halogen, a nitro group, sulfonic acid group, or carboxylic acid group; R<sub>2</sub> is an alkyl group, an aryl group, or a substituted aryl group; R<sub>3</sub> is hydrogen or an alkyl group; which method comprises reacting the monoalkenyl aromatic monomer in trifluoroacetic acid with the weight ratio of trifluoroacetic acid to the monoalkenyl aromatic monomer being greater than 0.5:1.

3,385,906

#### PRODUCTION OF CUMENE

Stephen Kaufman, East Brunswick Township, N.J., assignor to Union Carbide Corporation, a corporation of New York  
No Drawing. Filed May 25, 1965, Ser. No. 458,743  
15 Claims. (Cl. 260—671)

Process for transalkylating diisopropyl benzene to cumene by reacting diisopropyl benzene and benzene in the liquid phase in the presence of a zeolitic molecular sieve catalyst and recovering cumene.

3,385,907

#### MIXED POTASSIUM-SODIUM OXIDES IN IODINE RECOVERY FOR DEHYDROGENATION OF HYDROCARBONS

Petrus M. Beneken-Kolmer, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Apr. 27, 1966, Ser. No. 545,568  
Claims priority, application Netherlands, Oct. 5, 1965, 65—12,875  
2 Claims. (Cl. 260—683.3)

Poor fluidization (agglomeration) occurs in the finely divided acceptor/carrier particles when sodium oxide alone is the acceptor or, say, alumina carrier. Addition of 0.5–2.0 moles K<sub>2</sub>N<sub>2</sub> gives excellent fluidization and permits much higher iodine loading.

3,385,908

#### FLAME RETARDANT PHENOLIC POLYGLYCIDYL ETHER RESIN COMPOSITIONS

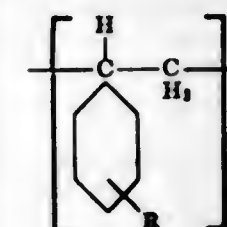
Carl G. Schwarzer, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware  
No Drawing. Filed Apr. 9, 1965, Ser. No. 447,057  
5 Claims. (Cl. 260—830)

New epoxy ethers capable of being cured to form flame resistant castings and coating are obtained by reacting a methylol-substituted halobicycloheptenyl bisphenol with an epoxy-halo-substituted alkane or a dihalo-hydroxy substituted alkane in the presence of an alkaline material.

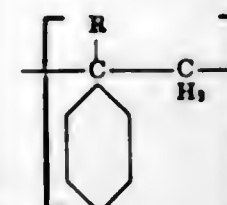
3,385,909

POLYURETHANE RESINS BLENDED WITH POLY-LOWER ALKYL STYRENE RESINS  
Earl C. Haag, Jr., Carnegie, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware  
No Drawing. Filed Jan. 12, 1965, Ser. No. 425,084  
5 Claims. (Cl. 260—859)

Polyurethane polymers having mechanically blended therein from about 0.1 to about 5 parts per 100 parts of polyurethane of a poly-lower alkyl-styrene resin having a softening point of at least 80° C. and containing at least 20% by weight of a unit having the formula



or



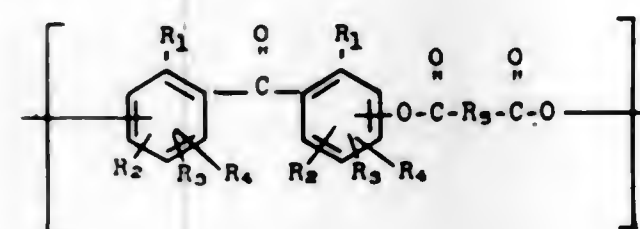
where R is a lower alkyl radical having 1 to 6 carbon atoms. The polymers have improved processing characteristics.

3,385,910

#### POLYMERIC LIGHT STABILIZERS AND COMPOSITIONS THEREOF

Stanley Tocker, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware  
No Drawing. Filed Apr. 15, 1964, Ser. No. 360,085  
11 Claims. (Cl. 260—860)

Polymeric light stabilizers are provided having the following recurring group:



wherein R<sub>1</sub> is selected from the group consisting of hydrogen and hydroxyl with the proviso that at least one R<sub>1</sub> be hydroxyl;

R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are selected from the group consisting of hydrogen, halogen, alkyl and alkoxy radicals;

R<sub>5</sub> is selected from the group consisting of arylene radicals and alkylene radicals of from 2 to 10 carbon atoms; and

n is a positive integer of at least two.

3,385,911

#### MASS POLYMERIZATION PROCESS IN THE PRESENCE OF ALKOXYLATED MONOHYDRIC ALCOHOLS

Alva F. Harris, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed Nov. 12, 1965, Ser. No. 507,569  
13 Claims. (Cl. 260—880)

There is disclosed a mass polymerization process for monovinylidene aromatic hydrocarbons wherein there is incorporated in the polymerizable mixture an alkoxyated

monohydric alcohol, following which the mixture is heated to produce polymerization of the monomers. Thereafter the polymerized formulation is separated from the reaction vessel.

3,385,912

#### MASS POLYMERIZATION PROCESS IN THE PRESENCE OF POLYALKYLENE GLYCOLS

Alva F. Harris, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware  
No Drawing. Filed Nov. 12, 1965, Ser. No. 507,575  
13 Claims. (Cl. 260—880)

There is disclosed a mass polymerization process for monovinylidene aromatic hydrocarbons wherein there is incorporated in the polymerizable mixture a polyalkylene glycol, following which the mixture is heated to produce polymerization of the monomers. Thereafter the polymerized formulation is separated from the reaction vessel.

3,385,913

#### THERMOSETTING COPOLYMERS BASED UPON PROPYLENE OXIDE-BUTADIENE MONOXIDE COPOLYMERS

Michael J. Strypa, Camillus, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York  
No Drawing. Filed Mar. 24, 1965, Ser. No. 442,532  
8 Claims. (Cl. 260—898)

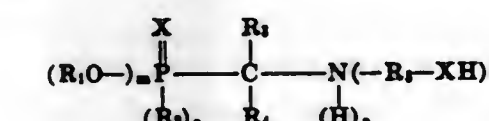
This invention relates to new thermoset cross-linked copolymers of a propylene oxide-butadiene monoxide copolymer cross-linked with either methyl-α-cyanoacrylate or vinylidene cyanide. The propylene oxide-butadiene monoxide copolymer employed contains 1 to 13 allylic groups, preferably 4 to 8 allylic groups, per 1000 grams of copolymer. The cross-linking agent is employed in a proportion of about 0.25 to 3 mols, preferably 0.9 to 1.3 mols, with an especially preferred range of 1.1 to 1.3 mols, per double bond in the copolymer. The cross-linked propylene oxide-butadiene monoxide copolymers of the present invention are advantageously employed as castings, laminates, surface coatings, and adhesive agents which are resistant to chipping, cracking, and atmospheric degradation even at elevated temperatures, and to processes for their preparation.

3,385,914

#### PHOSPHORUS-CONTAINING MONOMERS

Raymond R. Hindersman, Lewiston, N.Y., and Miltiadis I. Illopoulos, Stuttgart, Germany, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York  
No Drawing. Filed Dec. 12, 1961, Ser. No. 158,877  
3 Claims. (Cl. 260—944)

Selected phosphorus compounds, carbonyl compounds and alkanolamines are reacted to produce compounds of the formula:



wherein m and n are zero to two and m+n equals two; a is zero to one, b is one to two and a+b equals two; X is oxygen or sulfur; R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are organic radicals and R<sub>5</sub> and R<sub>6</sub> can also be hydrogen, and R<sub>7</sub> is an alkyl group. Such compounds can be reacted with carboxylic compounds to produce polyesters, or with epoxides to form polyethers. Such polyesters and polyethers, as well as the compounds themselves, can be reacted with isocyanates to produce polyurethane compositions. When the reaction is carried out in the presence of a foaming agent, cellular products are produced.



3,385,915

**PROCESS FOR PRODUCING METAL OXIDE FIBERS, TEXTILES AND SHAPES**

Bernard H. Hamling, Warwick, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 320,843, Nov. 1, 1963, and Ser. No. 523,549, Jan. 28, 1966. This application Sept. 2, 1966, Ser. No. 576,840

13 Claims. (Cl. 264—5)

Metal oxide fibers, textiles and shapes are produced by heating a preformed, organic polymeric fiber, textile or shape impregnated with a metal compound. The temperature is sufficiently high to carbonize and oxidize said organic polymeric fiber, textile or shape without igniting same, and to convert the metal compound to a metal oxide.

3,385,916

**PROCESS FOR PRODUCING MICROPOROUS POLYURETHANE FIBRIDS**

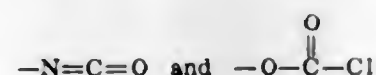
Esperanza G. Parrish, Wilmington, Del., and John Farago, Richmond, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 3, 1965, Ser. No. 506,272

11 Claims. (Cl. 264—50)

1. A process for the production of microporous polyurethane fibrids which comprises

- (a) forming a polyurethane prepolymer solution having a radial spread rate of about 1 to 40 centimeters/second in which the prepolymer is formed from an active-hydrogen containing material and in which the terminal groups of the prepolymer are selected from the group consisting of



- (b) forming a polyurethane film by adding said prepolymer solution to an amine solution under conditions wherein the prepolymer solution spreads freely on the surface of said amine solution; said amine solution having a pH of at least 8 and comprising a non-solvent for the resulting polyurethane polymer and at least one amine having at least two amino nitrogen atoms each having at least one active hydrogen attached thereto;
- (c) shearing the polyurethane polymer film into microporous polyurethane fibrids after said film is formed; the shear conditions being such that the power number is about 0.03 to 3.

3,385,917

**METHOD AND APPARATUS FOR EXTRUDING PLASTICS**

Carel J. Breukink, Rijswijk, and Jacob Vermeulen, Zoetermeer, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

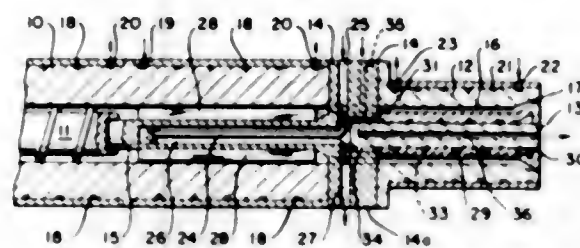
Filed May 12, 1965, Ser. No. 455,248

Claims priority, application Netherlands, May 12, 1964, 64—5,249

8 Claims. (Cl. 264—51)

Apparatus and method for extruding plastic materials. A hollow barrel member is provided having rotatable screw means operatively positioned within the barrel member near one end thereof. An extrusion orifice is formed in the opposite end of the barrel member and a reduced-

diameter mandrel member is positioned within the barrel intermediate the screw means and extrusion orifice. Heat exchange channels are formed in both the barrel and the mandrel for circulating a heat exchange liquid thereto. A plurality of heat exchange fins are mounted on at least



a portion of the outer surface of the mandrel and arranged circumferentially in axial rows with the main surface of each fin being substantially parallel to the longitudinal axis of the mandrel, the fins in each row being staggered relative to the fins of an adjacent row.

3,385,918

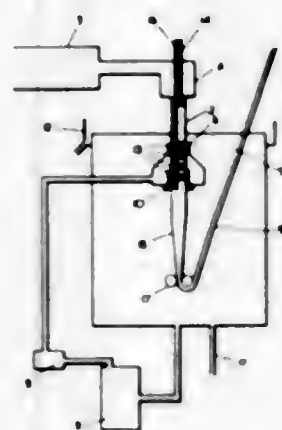
**EXTRUSION PROCESS AND APPARATUS FOR ISOTACTIC POLYPROPYLENE**

James Jack, Mistley, and Godfrey Austin King, Manningtree, England, assignors to B. X. Plastics Limited, London, England, a British company

Continuation-in-part of abandoned application Ser. No. 326,959, Nov. 29, 1963. This application Mar. 23, 1966, Ser. No. 543,460

Claims priority, application Great Britain, Dec. 1, 1962, 45,575/62, 45,576/62; Mar. 26, 1965, 12,841/65

9 Claims. (Cl. 264—180)



1. A process for the production of a quenched tube of isotactic polypropylene for conversion into biaxially oriented film which comprises extruding a solid unperforated tube of the polypropylene downwardly over a former comprising at least two separated discs lying at right angles to the axis of the tube and having a shape identical to the desired cross-section of the quenched tube and being below the surface of a bath of quenching liquid, while passing the tube through a tubular sleeve around the former and below the surface of the bath of quenching liquid and having the inner surface thereof spaced from the outer surface of the tube, and drawing quenching liquid downwardly through the space between said sleeve and said tube at such a rate that rapid quenching of the tube occurs within the sleeve and boiling of the quenching liquid in the bath and within the sleeve is avoided, the width and shape of the sleeve relative to those of the tube and the distance of the sleeve below the surface of the quenching liquid being such as to produce a quenched tube having the desired crystallite form.

3,385,919

**METHOD OF USING A RELEASE COMPOSITION IN THE FORMATION OF CEMENT ARTICLES**

Gerald M. Spence, Tehachapi, Calif., assignor to Monolith Portland Cement Company, Los Angeles, Calif.

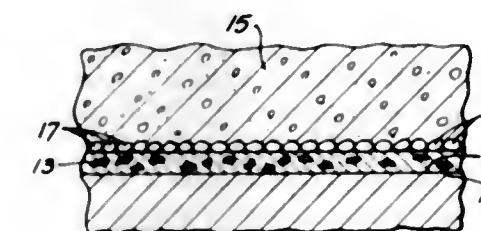
Filed Oct. 21, 1963, Ser. No. 317,558

2 Claims. (Cl. 264—338)

1. A method of forming an article from a cement, water containing composition against a surface so that such article is released from said surface which method comprises:

- coating a surface with water soluble film containing metal particles capable of reacting with an aqueous caustic solution so as to form a gas so that said metal particles cover said surface so that said film adheres to said surface;
- locating an aqueous, plastic cement composition against said coated surface, said composition being caustic in

character, said cement within said composition being capable of forming a solid article; and



allowing the cement in said composition to form a solid article, said composition contacting said metal on said surface during the formation of said article and reacting with said metal, forming gas bubbles between said surface and said article, facilitating the removal of said article from said surface.

**ELECTRICAL**

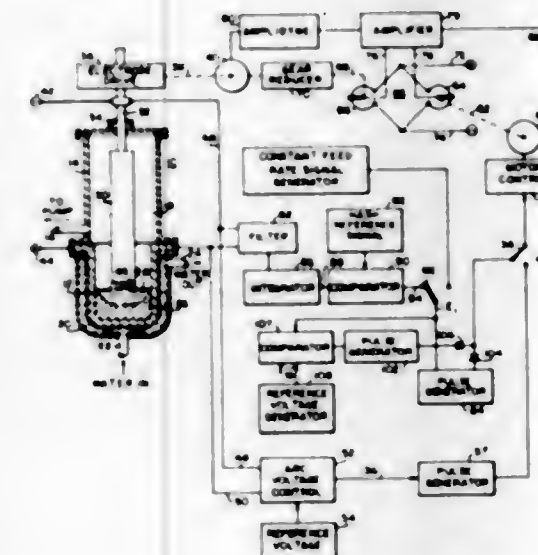
3,385,920

**CONTROL SYSTEM FOR CONSUMABLE ELECTRODE FURNACE**

Samuel S. Harbaugh, Natrona Heights, Pa., Donald C. McCarter, Schenectady, N.Y., and Peter A. Lajoie, Natrona Heights, Pa., assignors to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania

Filed Oct. 1, 1965, Ser. No. 491,946

8 Claims. (Cl. 13—13)



1. In a consumable electrode furnace of the type in which an arc is struck between a consumable electrode and a molten pool of metal beneath it and in which an electrically-controlled motor device is employed to move the electrode downwardly toward the molten pool as it is consumed; the combination of means for producing an electrical signal which varies non-linearly as a function of the spacing between the electrode and said molten pool, means for controlling said motor device in response to changes in said electrical signal in a servo-loop arrangement, the electrical signal having a high gain factor as its magnitude increases due to said non-linearity, and means for superimposing on said electrical signal an auxiliary signal of magnitude sufficient to permit the servo loop to operate at a lower gain factor for a given rate of movement of the electrode than it would without the auxiliary signal.

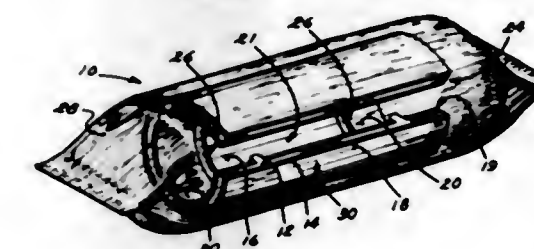
3,385,922

**ELECTRICAL CONNECTOR WITH HERMETIC SEALING UTILIZING POLYMERIZATION**

Alvist V. Rice, Fairfax County, Va., assignor to The Susquehanna Corporation, a corporation of Delaware

Filed July 27, 1965, Ser. No. 475,105

7 Claims. (Cl. 174—84)



In one embodiment, the connector is made of an electrically-insulated split sleeve made of a deformable material such as a lead alloy or plastic. The inner surface of

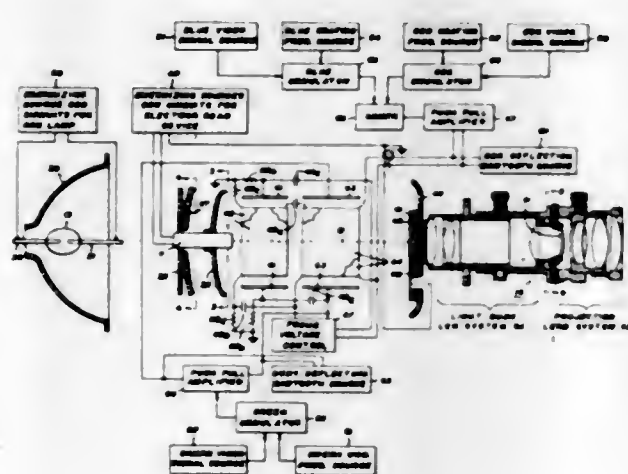


the sleeve is coated with an electrically-conductive, water-reactive, polymerization system, and the sleeve is enclosed in a water-impermeable jacket made of a material such as polyethylene. When it is desired to join wires to make the connection, the jacket is removed and the connector is exposed to the air for about a minute to permit the water-reactive polymerization system to absorb moisture. Then the wires are placed within the sleeve, and the sleeve is crimped to seal tightly the wire ends in a firm connection. Because the bond that seals the connector and joins the wires results from a polymerization process with no evaporation of solvent, a vent through the sleeve is not required and the connection is hermetically sealed as it is formed.

3,385,923

## PROJECTION SYSTEM

Henry J. Vanderlaan, Liverpool, and Michael Graser, Jr., Fayetteville, N.Y., assignors to General Electric Company, a corporation of New York  
Filed Nov. 4, 1964, Ser. No. 408,866  
7 Claims. (Cl. 178—5.4)



1. A system for simultaneously controlling point by point the intensity of each of a pair of primary color components in a beam of light in response to respective electrical signals comprising:

a light modulating medium,  
means for directing said beam on said light modulating medium,

means for simultaneously producing two sets of deformation in said medium, the deformations in each set being arranged in uniformly spaced similarly directed lines to form respective light diffraction gratings, the lines in each set extending in the same direction, one of said diffraction gratings having a line to line spacing smaller than the other of said gratings, means for controlling the amplitude of the lines of deformation of said one grating in response to the one of said electrical signals corresponding to the one of said color components of longer wavelengths,

means for controlling the amplitude of lines of deformation of the other of said gratings in response to the other of said electrical signals,

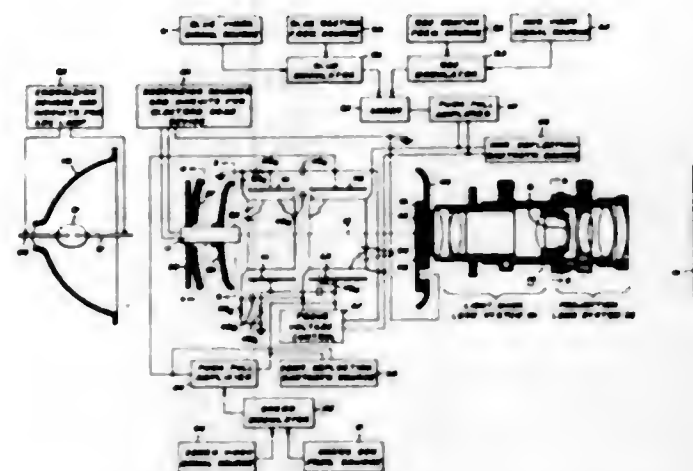
a light mask including a set of transparent slots of equal width interleaved with a set of wide and narrow opaque bars, said narrow opaque bars being of appreciably less width than said wide opaque bars and interleaved therewith, each of said slots being successively positioned in a line orthogonal to said lines of deformation, each of said slots being oriented parallel to said lines of deformation and disposed in the path of light coming from said light modulating medium,

means for imaging light from said source through said light modulating medium on said wide bars in the absence of deformation in said medium.

3,385,924

## PROJECTION SYSTEM

Michael Graser, Jr., Fayetteville, N.Y., assignor to General Electric Company, a corporation of New York  
Filed Nov. 4, 1964, Ser. No. 408,867  
3 Claims. (Cl. 178—5.4)



1. In apparatus for projecting a color image corresponding to deformations contained in a light modulating medium in the form of three superimposed light diffraction gratings, a first grating having lines extending in one direction and second and third gratings having lines extending in another direction orthogonal to said one direction, the deformations of said first grating having an amplitude dependent upon the intensity of a first color component, the deformations of said second grating having an amplitude dependent upon the intensity of a second color component and the deformations of a third diffraction grating having an amplitude dependent upon the intensity of a third color component, the line to line spacing of said second diffraction grating being different from the line to line spacing of said third diffraction grating, the combination of:

a source of light for producing said three color components of light,

a first mask including a first and a second set of opaque bars and transparent slots, the bars and slots of one set extending in said one direction and the bars and slots of said other set extending in said other direction, said first light mask interposed between said source and said light modulating medium, said first set of opaque bars and transparent slots contained in one area of said mask and said second set of bars and slots contained in the remaining area of said mask,

a second light mask including a first and second set of opaque bars and transparent slots, the bars and slots of each set extending respectively in said one and said other directions and disposed in the path of light coming from said light modulating medium, said first set of opaque bars and slots contained in one area of said second light mask and said second set of opaque bars and transparent slots contained in the remaining area of said second mask, said one area of said light masks and said remaining areas of said light masks being similar, said one area of said masks consists of two segments of substantially the same area and symmetrically located on said member with respect to the vertical axis thereof, and said other area consists of the central section between said segments vertically oriented with respect to said projected image, the slots in said one area of said masks being horizontally oriented and the slots of said other area of said masks being vertically oriented,

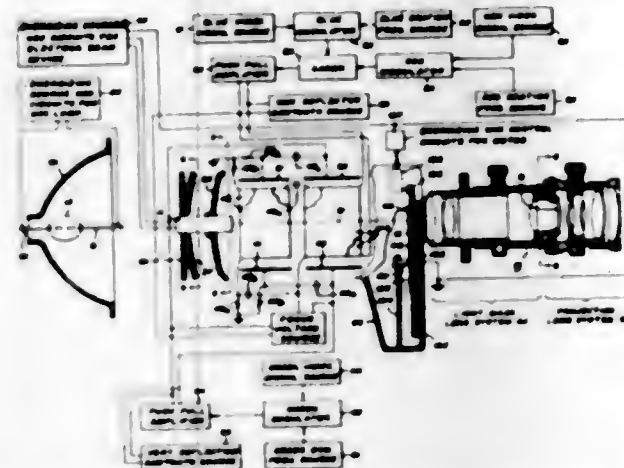
the bars in said other area of said second mask located adjacent said segments of said one area being appreciably wider than the other bars of said other

area, said increased width being in the inward direction of the mask,  
means for imaging light of said first color component from said source through said one area of said first mask and said light modulating medium on said one area of said second mask and for imaging light from said source of said second and third color components through said remaining areas of said first mask and said light modulating medium on said remaining area of said second mask.

3,385,925

## PROJECTION SYSTEM AND METHOD

William E. Good, Liverpool, and Thomas T. True, Camillus, N.Y., assignors to General Electric Company, a corporation of New York  
Filed Dec. 18, 1964, Ser. No. 419,475  
6 Claims. (Cl. 178—5.4)

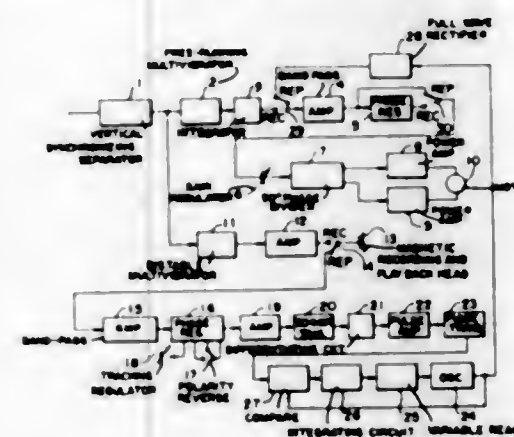


A system utilizing electron beam produced light diffraction deformations in a light modulating fluid for control of light passed through the system for projection of color images in accordance with the deformation without development of random deformations in the fluid. The physical and electrical parameters of the system, such as electron beam current, fluid layer depth and viscosity of modulating fluid are set in particular relationships to one another to achieve only the desired deformations in the fluid.

3,385,926

## CONTROL SYSTEM IN A MAGNETIC RECORDING AND REPRODUCING APPARATUS

Tomiyuki Tanaka and Takahiro Suzuki, Tokyo, and Tsuneo Kosugi, Yokohama, Japan, assignors to Victor Company of Japan, Limited, Kanagawa-ken, Japan  
Filed Nov. 9, 1964, Ser. No. 409,786  
Claims priority, application Japan, Nov. 12, 1963, 38/60,759  
7 Claims. (Cl. 178—6.6)



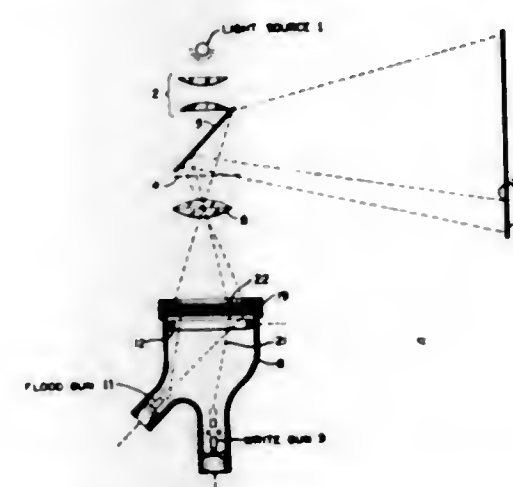
A magnetic recording and reproducing system records high frequency signals on a magnetic medium. Signals are reproduced from the medium by a rotary magnetic

head assembly driven by a synchronous motor responsive to a control signal, having a synchronous characteristic, which is recorded on the medium along with a television signal. The rotor of the motor is biased by a permanent ferrite magnet so that the motor behaves as a synchronous motor when running below a given load torque and as an induction motor when running above the given load torque.

3,385,927

## DISPLAY DEVICE UTILIZING A MEDIUM THAT ALTERS THE DEGREE OF REFRACTION OF LIGHT

Omer F. Hamann, La Jolla, Calif., assignor, by mesne assignments, to Stromberg-Carlson Corporation, a corporation of Delaware  
Filed Aug. 26, 1964, Ser. No. 392,231  
4 Claims. (Cl. 178—7.5)

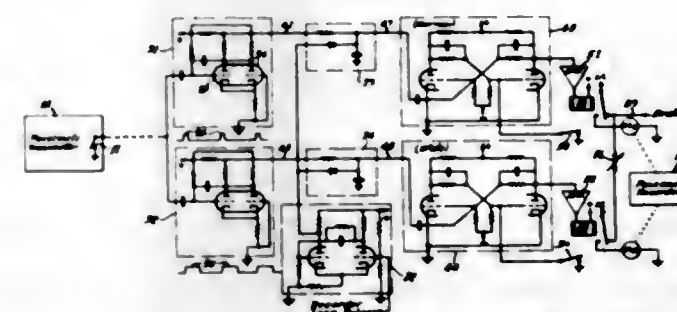


A display system including an electron discharge device capable of generating a charge pattern on the screen thereof, a multi-layer dielectric mirror mounted outside the envelope of the discharge device adjacent the screen thereof, means for transferring the charge image to the dielectric mirror, optical control means mounted over said dielectric mirror for altering the degree of refraction of light in the area of the electrostatic image, and means for projecting a visible image corresponding to said electrostatic image from said mirror.

3,385,928

## AUTOMATIC PHASING SYSTEMS

Bernard M. Rosenheck, Bronx, N.Y., assignor to Litton Systems, Inc., Beverly Hills, Calif.  
Filed Apr. 30, 1964, Ser. No. 363,775  
13 Claims. (Cl. 178—69.5)



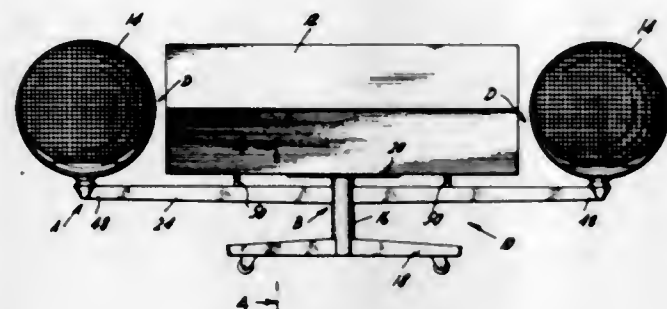
Mechanism for phasing two driven members which are to operate in synchronism and in phase, such as the scanning and recording devices of a facsimile transmitter and recorder. Phasing signals or pulses are generated, the time spacing between the pulses corresponding to the magnitude of the phase discrepancy at any instant. The rate of



phase correction is reduced when the in-phase relation is approached, by pulse-shaping and gating means, to permit rapid phase correction during the initial stage of the phasing cycle.

### 3,385,929 SUPPORT FOR A HIGH FIDELITY STEREOPHONIC SYSTEM

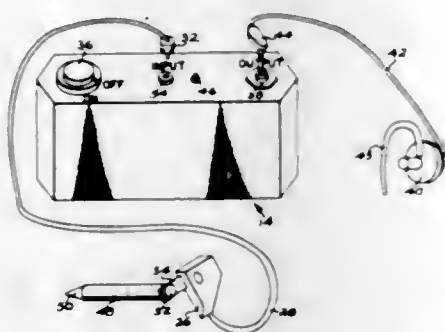
John Magyar and Richard Houghton Spencer, Toronto, Ontario, Canada, assignors to Clairtone Sound Corporation Limited, Rexdale, Ontario, Canada  
Filed July 23, 1964, Ser. No. 384,607  
11 Claims. (Cl. 179-1)



A high fidelity stereophonic system including a turntable, a pair of speakers and a common support for these components including a column which supports the turntable and also an elongated boom, the speakers being mounted, in practice, on opposite ends of this boom such that vibrations from the speakers are effectively dissipated during travel along the boom to prevent feedback to the turntable unit.

### 3,385,930 ELECTRONIC SOUND DETECTOR

John H. Harshbarger, Xenia, Ohio, assignor to Visual Information Institute, Inc., Xenia, Ohio, a corporation of Ohio  
Filed Mar. 8, 1965, Ser. No. 437,970  
8 Claims. (Cl. 179-1)



Vibrations are transmitted to a crystal microphone through any of numerous, special-purpose, detachable probes. A pocket sized amplifier connects to the microphone and drives an earphone.

### 3,385,931 ERROR DETECTING CIRCUITS FOR TELEPHONE REGISTER AND SENDER APPARATUS

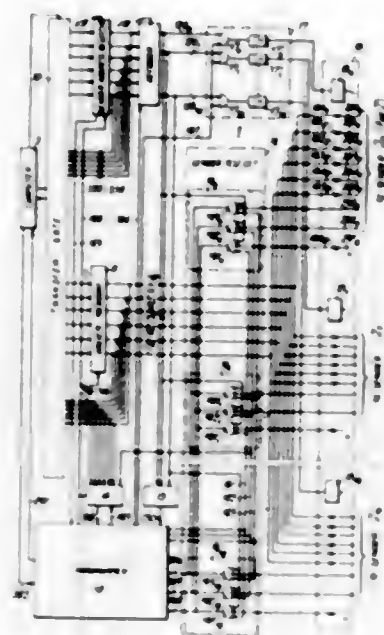
Pierre M. Lucas, 20 Rue Tariel, Issy-les-Moulineaux, France; Jean F. Duquesne, 41 Rue Esquirol, Paris, France; Jacques J. Nuttal, Rosancan-Plouaret, France; and Jean-Pierre L. Berger, 124 Blvd. Augusta Blanqui, Paris, France

Filed Dec. 21, 1964, Ser. No. 419,777  
Claims priority, application France, Dec. 24, 1963, 958,443

3 Claims. (Cl. 179-18)

Telephone register and sender apparatus comprising a register apparatus registering information data relative to

called subscribers and retransmitting said data in a "p-out-of-n" binary code and a sender apparatus receiving said last data and retransmitting them in the form of decimal dialing pulses through outgoing trunk lines. The sender apparatus comprises a plurality N of sender circuits and an access circuit including a sender address register is inserted between the register apparatus and the sender apparatus. The selection of a sender circuit is achieved on a "one-out-of-N" code basis and connection between the register apparatus and one of the sender circuits through

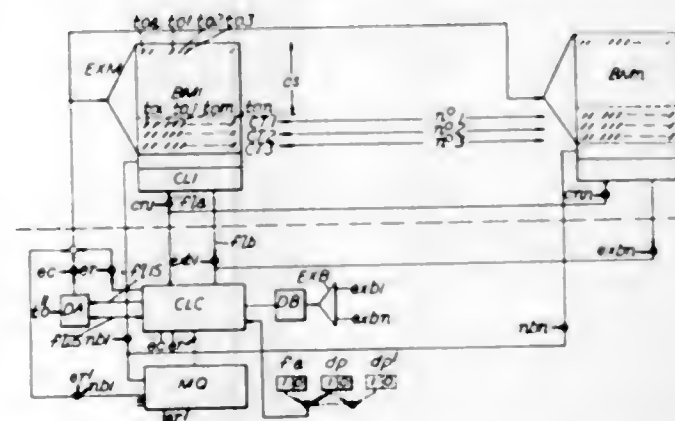


the access circuit is controlled by a first code error detecting circuit. The number of dialing pulses sent is expressed in the conventional binary code and a comparator compares the data expressed in the "p-out-of-n" code and represented by the states of n serially connected gates successively with the increasing binary code numbers represented by the states of a number of gates serially connected therebetween and with the preceding gates. The initiation of the decimal dialing pulse transmission is controlled by a second code error detecting circuit and the stopping of said transmission is controlled by the comparator.

### 3,385,932 SELECTION SYSTEM FOR ELECTRICAL CIRCUITS HAVING MEMORY BLOCK MEANS

Jean Louis Masure, Wilrijk-Antwerp, Belgium, and Pierre Rene Louis Marty, Paris, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 28, 1964, Ser. No. 421,513  
Claims priority, application Netherlands, Dec. 30, 1963, 302,736  
10 Claims. (Cl. 179-18)

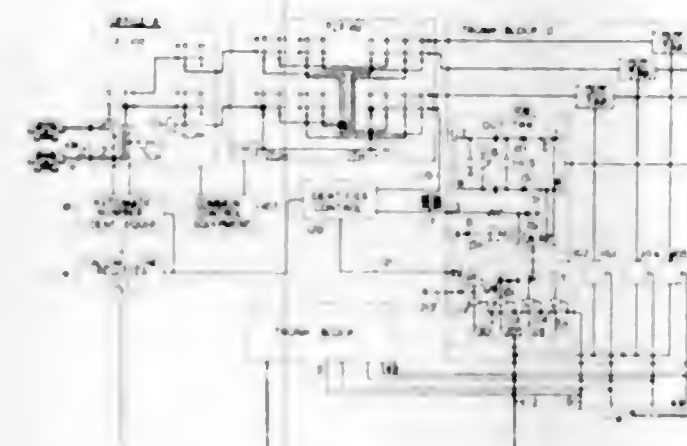


A selection system for systematically connecting a plurality of devices to common equipment. The system uses separate memory blocks which have compartments that are individually and temporarily associated with each of

the devices to record all of the information characterizing the instantaneous status of the devices.

### 3,385,933 ANNOYANCE CALL TRACING ARRANGEMENT RECORDING CALLED PARTY IDENTIFICATION AND VOICE SAMPLE

Charles Abert, Mantoloking, N.J., Donald E. Anderson, North Easton, Mass., and Alfred Zarouni, Middletown, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Filed Jan. 21, 1965, Ser. No. 426,729  
17 Claims. (Cl. 179-18)

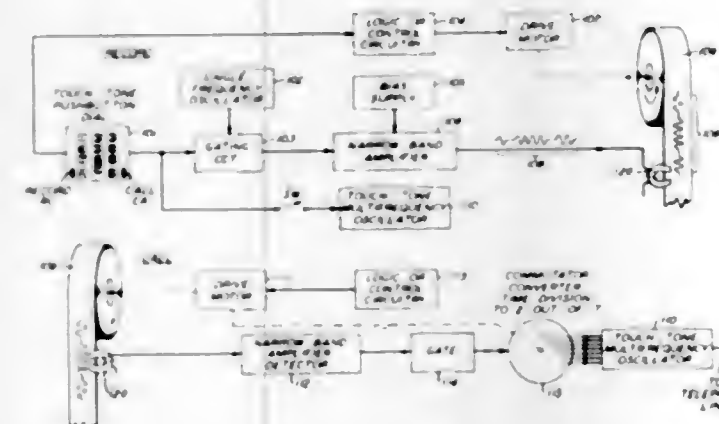


An annoyance call tracing arrangement for tracing calls originating from within the office and from other central offices. The calling party disconnect apparatus is deactuated by a called party identification signal which is sent out by equipment partly installed at the called party's location. The equipment is actuated by dial pulses from the called party's set. The equipment at the central office records the complete called party identification and calling party trunk along with a voice sample during the call.

### 3,385,934 TELEPHONE REPERTORY DIALER

James L. Fischer, Carmel, and Lawrence A. Strommen, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

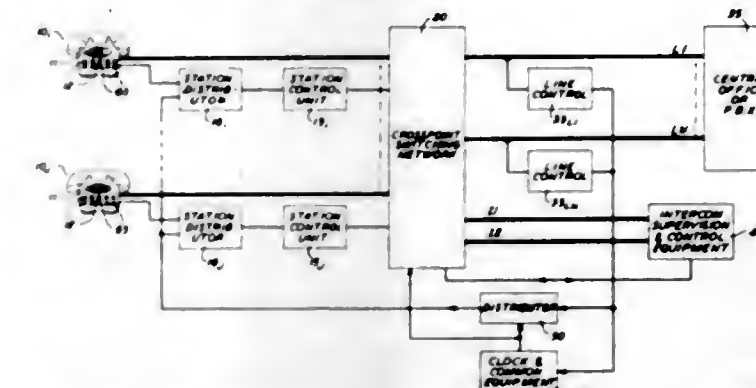
Filed Dec. 28, 1964, Ser. No. 421,455  
12 Claims. (Cl. 179-90)



In a repertory dialer telephone set conventionally generated multifrequency dial signals are translated into time coded signal envelope indicia for the purpose of storage. In the CALL mode, translation of the stored signal indicia is effected by a commutator arrangement in combination with a multifrequency oscillator.

### 3,385,935 KEY TELEPHONE SYSTEM

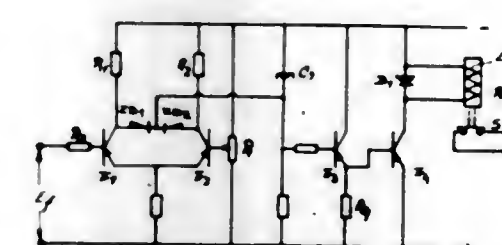
Harold P. Anderson, Lincroft, Donn Baker, Red Bank, David T. Davis, Jamesburg, Lawrence A. Hohmann, Jr., Middletown, Lloyd L. Maul, Lincroft, James R. McEwen, Madison Township, Middlesex County, Henry A. Meise, Jr., Middletown Township, Monmouth County, and George W. Well, Lincroft, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Filed Oct. 19, 1964, Ser. No. 404,621  
24 Claims. (Cl. 179-99)



In a key telephone system, time division switching principles are employed to selectively connect a key telephone set to a plurality of telephone and intercommunication channels, thereby reducing the number of conductors, associated with, and the cost of installing, key telephone equipment. A hold feature and various signaling modes for indicating the status of the telephone set are provided, as well as means for preferring a particular line for incoming or outgoing calls and means for excluding other telephone sets on multistation lines from monitoring calls on those lines.

### 3,385,936 MAGNETIC TAPE REPRODUCER UTILIZING PHASE ERROR CONTROLLED SIGNAL SUPPRESSION

Cornelis Bernardus Reiff, Vlaardingen, Netherlands, assignor to N.V. Optische Industrie "De Oude Delft"  
Filed Sept. 24, 1964, Ser. No. 399,011  
Claims priority, application Netherlands, Sept. 30, 1963, 298,592  
1 Claim. (Cl. 179-100.2)



A magnetic video tape reproducer with a video signal suppressing circuit which is designed to temporarily cut off the output in response to an error signal developed when the magnetic head assembly is out of phase with the signal tracks on the tape.

### 3,385,937 HEARING AIDS

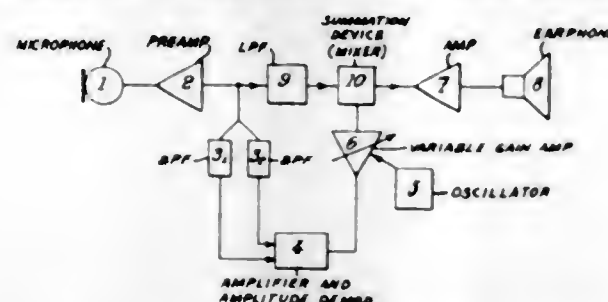
Jean-Claude Lafon, Saint-Rambert-l'Isle-Barbe, Rhone, France, assignor to Centre National de la Recherche Scientifique, Paris, France, a French Government administration

Filed Jan. 29, 1964, Ser. No. 341,004  
Claims priority, application France, Feb. 14, 1963, 924,885  
7 Claims. (Cl. 179-107)

An auditory prosthesis device comprising a microphone, two band-pass filters connected to the output of said microphone for passing, respectively, frequencies ranging,



on the one hand, from 1500 to 3500 c.p.s. and, on the other hand, from a lower limit ranging from 4500 to 6000 c.p.s. to an upper limit ranging from 7000 to 8000 c.p.s., means for detecting the amplitude of the signals passed through each of said filter means, two oscillators for producing each a distinct alternating voltage of a frequency ranging from 350 to 1000 c.p.s., a modulator for modulating the voltage supplied by each of said oscil-



lators in accordance with the output of each of said detecting means, respectively, means for mixing the modulated voltages supplied by said two modulators, an amplifier connected to the output of said microphone in shunt with said band-pass filters, a mixer having two inputs connected respectively with the output of said amplifier and with the output of said mixing means and an earphone having its input connected with the output of said mixer.

3,385,938

**METAL ENCLOSED SWITCHGEAR HAVING CIRCUIT INTERRUPTER MEANS MOUNTED ON THE DOOR AND CONNECTED IN SERIES AND INTERLOCKED WITH SWITCH BLADE MEANS**  
Guenter G. Schockelt, Skokie, Ill., assignor to S.C. Electric Company, Chicago, Ill., a corporation of Delaware  
Filed May 23, 1966, Ser. No. 558,165  
31 Claims. (Cl. 200—50)



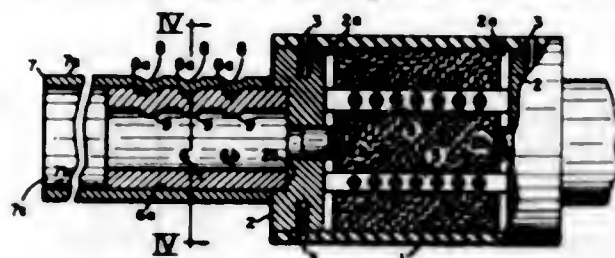
Circuit interrupter means on a door of metal enclosed switchgear is connected in series with switch blade means interlocked with the door which can be opened only when the switch blade means is in open position.

3,385,939

**ELECTRIC FUSE ADAPTED TO BE CONDUCTIVELY CONNECTED TO A CABLE**  
Phillip C. Jacobs, Jr., Newtonville, Mass., assignor to The Chase-Shawmut Company, Newburyport, Mass.  
Filed Jan. 9, 1968, Ser. No. 696,546  
2 Claims. (Cl. 337—252)

An electric fuse adapted to be conductively connected to a cable, and more particularly to a cable made up of strands of aluminum. This is achieved by a tubular projection of copper integral with and coaxial to one of the terminal plugs of the fuse, and a tubular sleeve

of aluminum mounted on said projection. The projection and the sleeve are joined together by local indents in

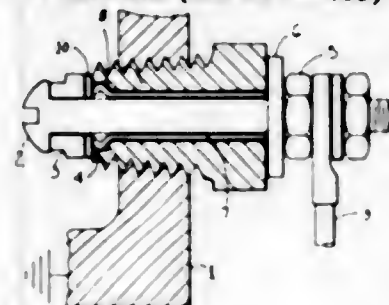


the aluminum sleeve having such a depth as to form registering radially inwardly oriented mounds on the radially inner surface of the aforementioned projection.

3,385,940

THERMAL SWITCH

John Roper, 1325 Eutaw Place, Baltimore, Md. 21217  
Filed Oct. 21, 1966, Ser. No. 588,453  
2 Claims. (Cl. 337—403)

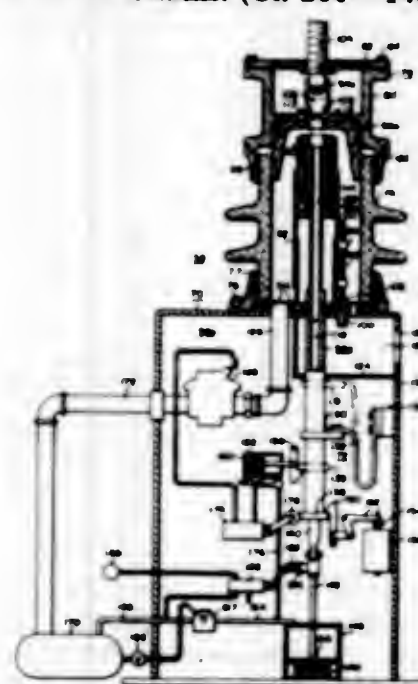


A thermal switch for preventing damage to a combustion engine in the event of overheating due to the loss of engine coolant having an element, fusible at relatively low temperature, immersed in the engine coolant and electrically in circuit with a component of the engine necessary to its operation and resilient means operable upon the fusible element to collapse the same and break the electrical circuit therethrough and thus stop the engine when the engine overheats and the element fuses.

3,385,941

**COMBINED PROTECTIVE GAP DEVICE AND BY-PASS SWITCH FOR SERIES CAPACITOR INSTALLATIONS**

Ralph E. Marbury, Bloomington, Ind., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Continuation-in-part of application Ser. No. 390,288, Aug. 18, 1964. This application Oct. 3, 1967, Ser. No. 672,643  
9 Claims. (Cl. 200—148)



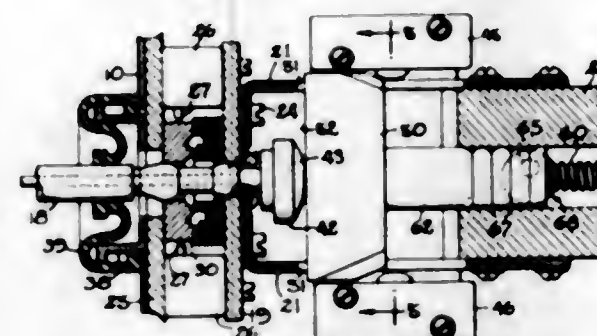
A combined overvoltage protective gap device and by-pass switch for series capacitors having a protective gap

and a by-pass switch disposed in a common housing with common gas blast means for extinguishing arcs in the gap or between the switch contacts, thus combining over-voltage protection for a series capacitor with a by-pass switch having load break capability.

3,385,942

**JOYSTICK CONTROL LEVER WITH PUSHBUTTON SPEED CONTROL FOR MACHINE TOOLS**

Walter L. McCann, Fond du Lac, Wis., assignor to Giddings & Lewis Inc., a corporation of Wisconsin  
Filed Sept. 19, 1966, Ser. No. 580,354  
3 Claims. (Cl. 200—153)

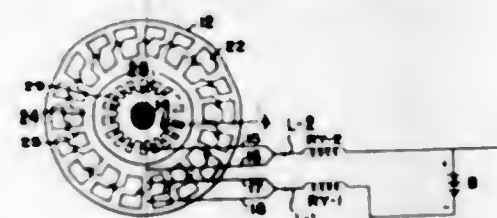


A hand-operated control switch is described for controlling the direction and speed of traversing machine tool elements. A swivel control handle of the "joystick" type contains a thumb-operated pushbutton which selectively increases the rate of movement as it is progressively depressed.

3,385,943

ELECTRIC SIGNAL CODE GENERATOR

Everett A. Westphal, Lafayette, Calif.  
(325 7th St., Oakland, Calif. 94607)  
Filed May 2, 1967, Ser. No. 635,562  
5 Claims. (Cl. 200—166)



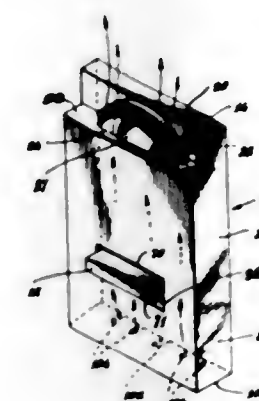
An electrical signal code generator wherein an electrical circuit is interrupted according to a desired pattern includes a wheel carrying two mutually insulated contacts, at least one of which is a ring of separated contacts wiped by a brush, each of which is connected to a second contact element on the wheel by severable electrical connectors which can be selectively severed, as by drilling, to break the connection and form a desired code. The second contact element can be continuous or interrupted and can be wiped by a second brush or have external electrical contact through the wheel axle. Several pairs of such contacts can be provided to adapt the wheel to an alarm system, e.g., suitable for use in a McCulloh loop.

3,385,944

**ELECTRIC ILLUMINATING LIGHT DIMMER CONTROL UNIT**

Czeslaw Mackiewicz, Trumbull, and John Pistey, Fairfield, Conn., assignors to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut  
Filed Sept. 12, 1966, Ser. No. 578,536  
14 Claims. (Cl. 200—167)

A light dimmer control unit having a wall plate and including mounted thereon a dimmer control including a dimmer wheel, a three-position switch, a switch bar, and

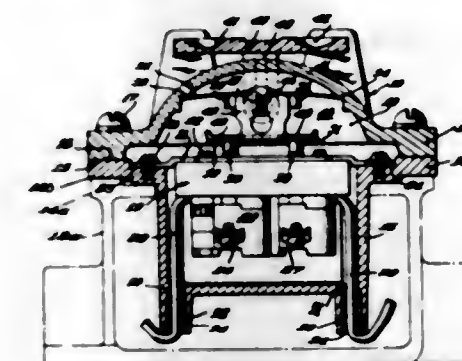


switch bar. The wall plate is securable upon a wall box in heat transfer and electrical grounding relation thereto.

3,385,945

**PREWIRED AND PRESEALED DEVICES FOR USE IN HAZARDOUS AREAS**

John M. Tums, Oak Park, Ill., assignor to The Pyle National Company, Chicago, Ill., a corporation of New Jersey  
Filed Dec. 9, 1966, Ser. No. 600,457  
2 Claims. (Cl. 200—168)



A prewired and presealed device for use in hazardous areas having upper and lower housing portions joined together at low tolerance explosion-proof flanges and having a switch cavity formed therein with a switch means deployed within the cavity and having lead wires extending through explosion-proof openings in the housing and employing a rocker-arm type switch actuator to allow explosion-proof operation of the switch means.

3,385,946

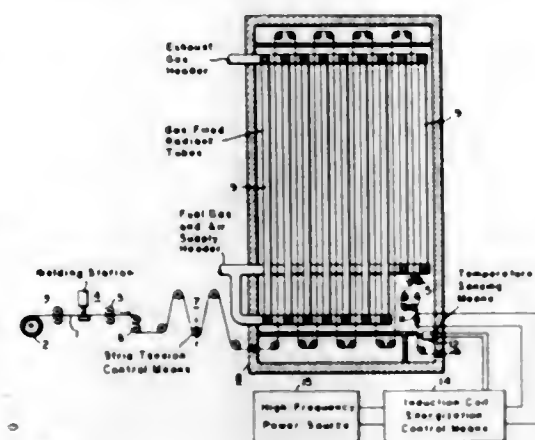
**CONTINUOUS ANNEALING METHOD AND APPARATUS**

Donald G. Hatchard, Arnold, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Continuation-in-part of application Ser. No. 146,526, Oct. 20, 1961. This application Apr. 16, 1965, Ser. No. 453,866  
2 Claims. (Cl. 219—10.47)

A continuous annealing method and apparatus therefor, wherein metal strip, such as cold-worked low carbon steel tinplate strip, is consecutively heated continuously by travel first through a multiple-loop radiant furnace operated at a temperature below the recrystallization temperature of the metal strip, below 1100° F. in the case of such tinplate strip, and then through an induction heating coil means to provide the upper strip



temperature, above 1100° F. and less than 1400° F. in the case of such tinplate strip, under regulation of the



heating coil means which prevents exceeding such upper strip temperature during cessation of such travel.

3,385,947

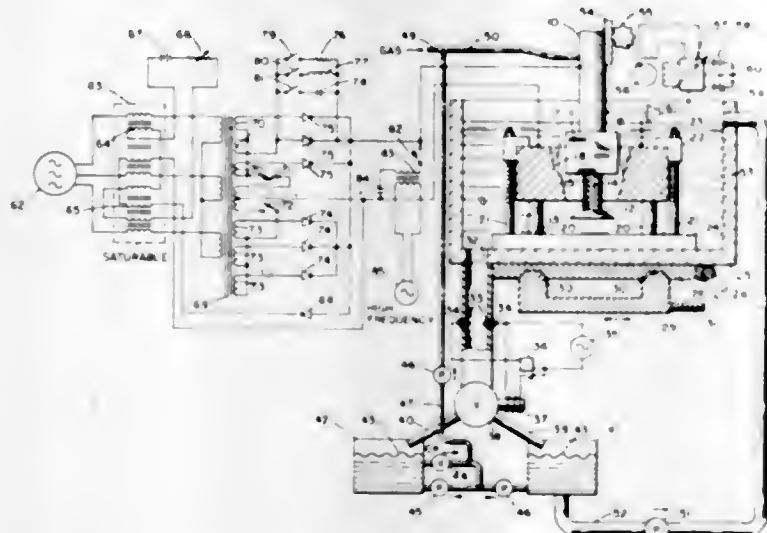
# **APPARATUS FOR COMBINED ELECTRICAL DISCHARGE MACHINING AND ELECTRO-CHEMICAL MACHINING**

Kiyoshi Inoue, Kanagawa, Japan (183 3-chome, Tamagawayoga-machi, Setagaya-ku, Tokyo, Japan)

Filed Nov. 12, 1963, Ser. No. 323,042

Claims priority, application Japan, Nov. 13, 1962, 37/49,784; Feb. 21, 1963, 38/9,028; Apr. 12, 1963, 38/27,019; May 7, 1963, 38/23,448; Aug. 5, 1963, 38/41,656

14 Claims. (Cl. 219—69)



Apparatus for combined electrical discharge machining and electrochemical machining having a selective coolant system for combining and separating of coolants of different electrical conductivity.

The electrode employed may have different-diameter axially displaced portions for sequential use with different coolants, and may be insulation-coated in parts to insulate such parts from electrolytic coolants.

3,385,948

# **SEAM WELDING METHOD**

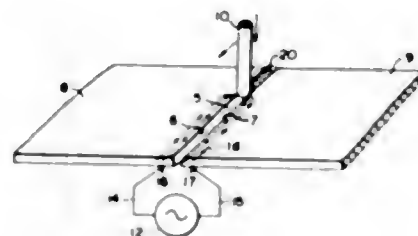
John A. Redmond, Ellicott City, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 13, 1965, Ser. No. 425,174

6 Claims. (Cl. 219—106)

1. A method of forming a seam between two workpiece surfaces of electrically-conductive resistance-heatable material, comprising the steps of arranging such surfaces so

as to be initially spaced-apart to form a gap therebetween in extension to a desired joining point, electrically bridging the gap between such surfaces with the tip of an electrically-conductive resistance-heatable rod at such



point, and causing high frequency current to flow along the gap edges in respective instantaneously opposite directions via the rod tip to preheat such edges and cause melting of the rod in the immediate vicinity of such tip to form a bond between edges at such location.

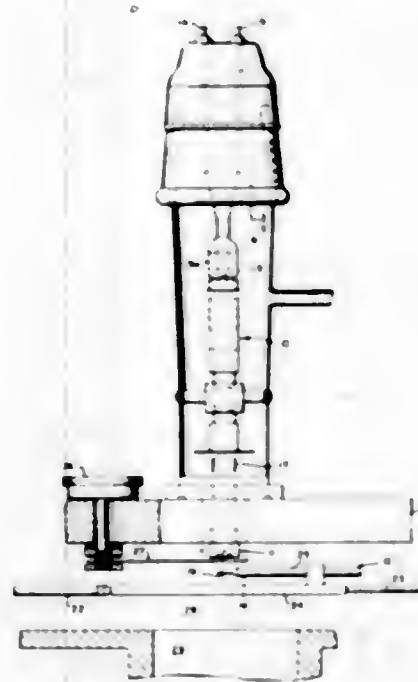
3,385,949

# **ION GUN APPARATUS FOR TREATMENT OF SURFACES WITH BEAMS OF VERY SMALL SIZE**

Hans Hell, Malibu, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 23, 1964, Ser. No. 405,986

4 Claims. (Cl. 219—121)



An electron beam machining and etching apparatus used in the formation of miniaturized electronic circuits. The apparatus includes an electron beam gun having a cathode hairpin wire and an alkali metal vapor environment. A focuser is mounted at the gun outlet for transmission therethrough of a stream of electrons. The focuser includes a thin sheet material with a concentric limiting aperture of one mil diameter and a converging lens element having an aperture of 5 mils diameter. A series of electron lens elements are positioned in alignment with the cathode and focuser. A micromanipulator is positioned below the focuser and adjacent a target to be bombarded with the stream of electrons. The focuser and target are electrically connected such that an accelerating electric field is created therebetween. The micromanipulator is made to scan a desired area whereby the bombarding current is controlled in the gun so that an intended pattern results.

3,385,950

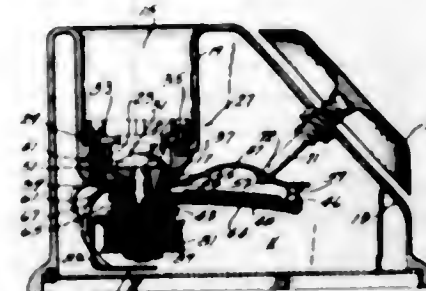
# **ELECTRODE TYPE BOTTLE WARMER HAVING TIME-CONTROLLED OPERATION**

Edward R. Lipor, 6160 S. 6th St.,

Milwaukee, Wis. 53221

Filed Oct. 4, 1965, Ser. No. 492,556

8 Claims. (Cl. 219—295)



A bottle warmer wherein heat is produced by electric current passing through water bridging a pair of electrodes at the bottom of the bottle receiving receptacle of the warmer. An adjustable timer comprising a thermally responsive switch mounted in heat exchange with one of the electrodes and operative to break the circuit to the electrodes after a predetermined amount of heat has been transferred from the electrode to the switch is provided for selectively timing the heating interval independently of the quantity or the conductivity of the water bridging the electrodes. Audible alarm means is provided to signal termination of the heating period.

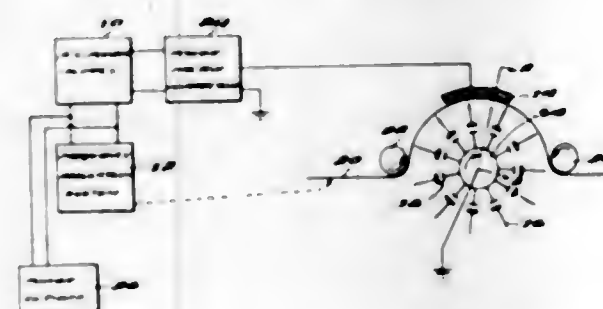
3,385,951

# **APPARATUS FOR PERFORATING AND BONDING MOVING SHEETS OF MATERIAL BY ELECTRICAL DISCHARGES**

Lewis Clinton Bancroft and William Allan Cook, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 20, 1966, Ser. No. 551,621

10 Claims. (Cl. 219—384)



1. Apparatus adapted to perforate and bond moving sheets by simultaneous, multiple electric arc discharges comprising:

- (A) a fixed plate electrode having an arcuate shape;
- (B) a plurality of pin electrodes, each having an individual impedance, connected in parallel and adapted to rotate in a path concentric to and in close proximity to said fixed plate electrode;
- (C) means for advancing a sheet between said plate and pin electrodes in the direction of rotation of and at the same velocity as said pin electrodes;
- (D) an A.C. power source of high voltage and adjustable frequency for said plate and pin electrodes to provide simultaneous, multiple arc discharges between said plate and pin electrodes; and
- (E) means for regulating and maintaining the size of said perforations within predetermined limits by correspondingly altering the frequency of said power source as the velocity of said sheet and pin electrodes is changed.

3,385,952

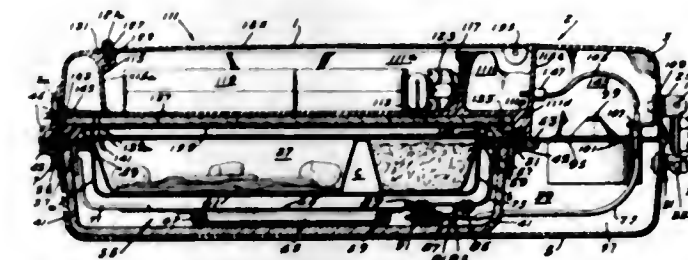
# **LUNCH KIT FOR CARRYING AND HEATING FROZEN-FOOD TRAYS**

Edward W. Mix, 13929 Elmbrook Drive,

La Mirada, Calif. 90638

Filed July 19, 1965, Ser. No. 472,911

6 Claims. (Cl. 219—387)



1. Lunch kit means adapted to receive, hold, thaw, and heat a tray-like container of frozen food, comprising, in combination:

- (a) case means having an upper and a lower part which fit together to form an enclosure;
- (b) fastening means accessory to said case means adapted to permit locking together and unlocking of its upper and lower parts;
- (c) receptive means within the lower part of said case means so constructed as to receive and hold a tray-like container of frozen food upright when positioned consistently with the food thawing and heating position of the lunch kit;
- (d) heating means disposed within said lower part of said case means and underneath the aforesaid receptive means therewith;
- (e) temperature control means disposed within the lower part of said case means;
- (f) means for energizing said heating means, whereby the heating means can serve to thaw and heat frozen food disposed in said receptive means;
- (g) support and positioning means for the aforesaid heating and temperature control means and the means for energizing said heating means securing them in proper functional and positional relationship on and within said lunch kit means;
- (h) heat insulating means disposed in surrounding relationship to a space within said case means, when its upper and lower parts are fastened together, encompassing the heat generating portion of said heating means and the aforesaid receptive means for the tray-like container of frozen food;
- (i) means securing said heat insulating means in functional position within said case means;
- (j) holding means adapted to hold said tray-like container of frozen food within said receptive means when said upper and lower parts of said case means are locked together; and
- (k) means securing said holding means, in proper functioning position, to said lunch kit means;
- (l) the various parts of the lunch kit means cooperating to thaw and heat a tray-like container of frozen food when said container is placed in said receptive means within the lower part of said case means, the two parts of said case means are fastened together, and said heating means are energized for a sufficient period of time to accomplish the intended purpose.

3,385,953

# **HEATER FOR EXTRUSION PRESS CONTAINER**

Charles V. Henneberger, Penfield, N.Y., assignor to Farrel Corporation, Rochester, N.Y., a corporation of Connecticut

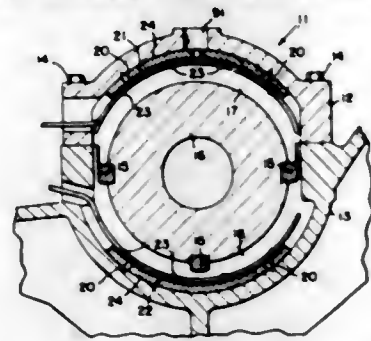
Filed Sept. 29, 1965, Ser. No. 491,118

3 Claims. (Cl. 219—390)

Three electrical heating elements are mounted in serpentine fashion in each of a pair of confronting, arcuate recesses formed in a pair of separable housing sections,



which surround an annular billet container. The elements are connected in delta to a three phase power source, and are controlled by a pair of solenoid operated switches controlled in turn by a thermocouple. When the temperature of the container reaches a first value, one of

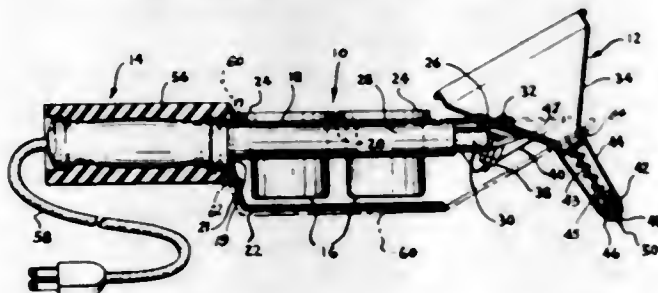


the switches opens to halve the voltage across the elements; and when said temperature exceeds a second value above the first, the second switch opens to deenergize the elements until the temperature falls below said second value.

3,385,954

### ELECTRICALLY HEATED WAX MELTING TOOL FOR ENCAUSTIC PAINTING

Harold W. Rabinowitz, and Madeline V. Rabinowitz, both of Carmel Road, Bethany, Conn.  
Filed Oct. 19, 1965, Ser. No. 498,007  
6 Claims. (Cl. 219-421)

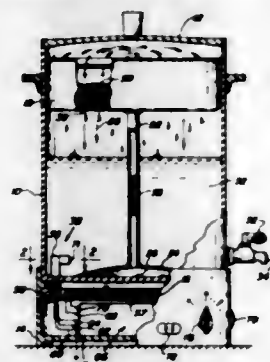


A tool for melting wax for batik and encaustic painting has a palette with removable wax melting cups combined with a wax dispensing pen. The palette and pen are heated by a single heating element. Wax of various colors is melted in the cups for application by brush or swab stick. Wax is also melted in the pen and dispensed through a valved spout in a smooth even line. A modified version of the tool includes only the palette portion. The heating element in both versions comprises a conventional electric soldering iron, the handle of which is used to manipulate the wax melting tool.

3,385,955

### COFFEE PERCOLATOR HAVING AUTOMATIC CONTROL CIRCUIT

Charles M. Tucker, 195 N. Broadway, Burns, Oreg. 97720  
Filed Oct. 22, 1965, Ser. No. 500,497  
8 Claims. (Cl. 219-441)



A coffee percolator is described having an automatic control circuit which stops the brewing operation when the electrical resistance of the coffee liquid reaches a

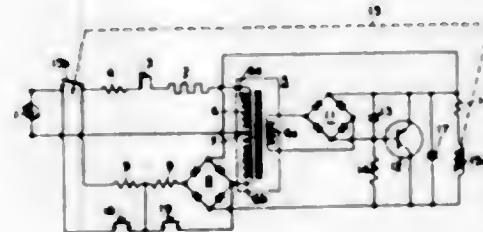
predetermined value corresponding to the desired "strength" of such coffee liquid, and includes probe contacts immersed in such coffee liquid for measuring such resistance.

3,385,956

### PROTECTIVE DEVICE FOR ELECTRICALLY WARMING CLOTH

Eiichi Ohara and Shinichi Nakamura, Kamakura, and Tomie Nakamura, Yoshihiro Nakano, and Yasushi Takanashi, Nitta-gun, Japan, assignors to Mitsubishi Denki Kabushiki-Kaisha, Tokyo, Japan, a corporation of Japan

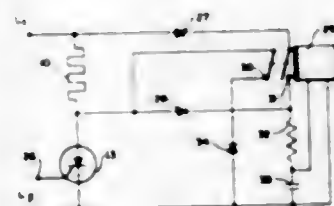
Filed July 15, 1965, Ser. No. 472,228  
Claims priority, application Japan, July 30, 1964, 39/60,480  
4 Claims. (Cl. 219-481)



A temperature control device for heating pads, blankets and the like having a differential transformer including a pair of primary windings one of which is connected to a length of electric resistance wire for controllably warming a warming blanket or pad and the other of which is connected to an operating relay winding through a rectifier. In normal heating operation the secondary winding of the transformer produces an output but overheating of the resistance wire produces no output. When energized the relay operating winding closes the associated contacts connected in series to the length of electric resistance wire. A transistor connected to the secondary transformer winding through a rectifier is non-conducting when normal heating is effected but in case of overheating it becomes conductive to short the operating relay winding thereby to open the contacts to deenergize the resistance wire.

3,385,957

ELECTRONICALLY CONTROLLED HEATER  
Arden L. Munson, Logansport, and James A. Hirsch, Indianapolis, Ind., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware  
Filed Aug. 2, 1965, Ser. No. 476,454  
11 Claims. (Cl. 219-501)



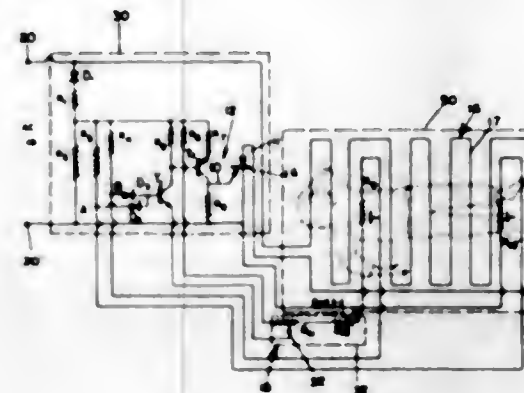
An adjustable unijunction-transistor control circuit including a thermistor and operating directly from an AC line controls the firing of an SCR connected in series with a heater across the AC line. When the AC power is initially applied, a diode connected across the SCR through NC relay contacts allows full-wave power to flow through the heater. When the SCR turns off as the heater reaches proper temperature, the relay latches open to disconnect the diode. Heater temperature is thereafter maintained as necessary only by half-wave power through the SCR. The relay does not unlatch until AC power is manually removed from the entire circuit.

3,385,958

### ELECTRIC BLANKET

Peter Lauck III, Princeton, N.J., assignor of one-half to Robert H. Myers, Washington, D.C.  
Continuation-in-part of application Ser. No. 454,417, May 10, 1965. This application Oct. 20, 1965, Ser. No. 498,954

11 Claims. (Cl. 219-501)



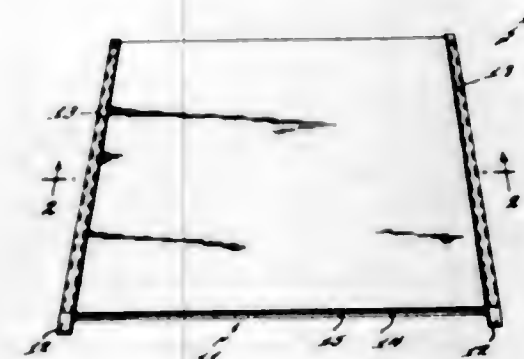
An electric blanket employing a silicon controlled rectifier to control the heating element of the electric blanket, and having means to select the temperature to which it is desired to heat the sleeping area associated with use of the electric blanket. A control circuit employing transistors is used to control conduction of the silicon controlled rectifier, and thereby the heating element current, to maintain the sleeping area temperature at the desired selected temperature. Further, a plurality of temperature sensitive means positioned in the electric blanket at locations adjacent to selected temperature sensitive areas of a user are connected to the control circuit, to compensate for temperature differences that may occur within the sleeping area, to maintain the overall sleeping area temperature substantially at the desired selected temperature.

3,385,959

### FLEXIBLE HEATING ELEMENTS

Jack Ames, Bannock, and Robert Patton, Saltcoats, Scotland, assignors to Imperial Chemical Industries Limited, Millbank, England, a corporation of Great Britain  
Filed May 26, 1965, Ser. No. 459,017  
Claims priority, application Great Britain, May 29, 1964, 22,307/64

9 Claims. (Cl. 219-549)

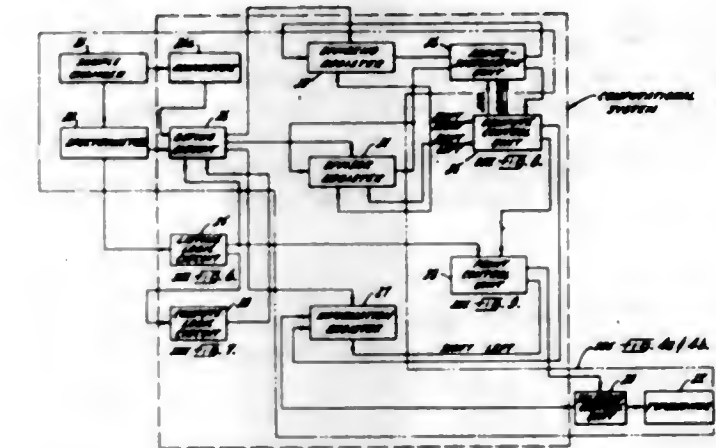


There is provided a flexible heating element suitable for wall or ceiling heating panels or heating jackets for vessels which is formed of a non-woven, non-knitted web substrate having coated thereon an electrically conducting elastomeric material comprising an organopolysiloxane gum, carbon black and fillers, additives and catalysts. The non-woven, non-knitted web substrate with the above-mentioned compositions coated thereon provide a structure with uniform electrical properties in all directions which is flexible, tough and resistant to cracking.

3,385,960

### ELECTRONIC RATIO CALCULATOR PERFORMING ALIGNING AND SUBTRACTION OPERATIONS

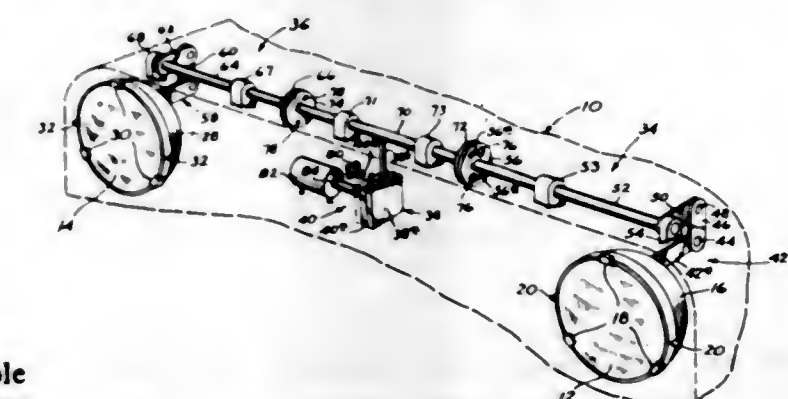
Steve M. Bue, Brookfield, Ill., assignor, by mesne assignments, to Packard Instrument Company, Inc., Downers Grove, Ill., a corporation of Delaware  
Filed Apr. 13, 1964, Ser. No. 359,037  
13 Claims. (Cl. 235-159)



7. In a system for performing a dividing operation, the combination which comprises, a dividend register, a divisor register, means for storing data representative of desired numbers in the registers, aligning means rendered operative in response to the storage of data in the registers for digitally shifting the divisor data to the left to the last position at which the dividend has a greater value than the divisor, and dividing means rendered operative in response to the completion of operation of the aligning means for (1) repeatedly subtracting the divisor from the dividend until a negative answer is produced, (2) restoring the dividend to its value prior to the last subtracting operation and digitally shifting the divisor one digit to the right when a negative answer is produced, and (3) repeating the subtracting, restoring and shifting operations until the divisor is restored to its initial position and a negative answer is produced, the number of subtracting operations at each succeeding divisor position prior to the production of a negative answer being representative of a succeeding digit of the quotient.

3,385,961

HEADLIGHT ADJUSTING APPARATUS  
John E. Lemberger, Long Creek, Oreg. 97856  
Filed Nov. 22, 1966, Ser. No. 596,214  
6 Claims. (Cl. 240-7.1)



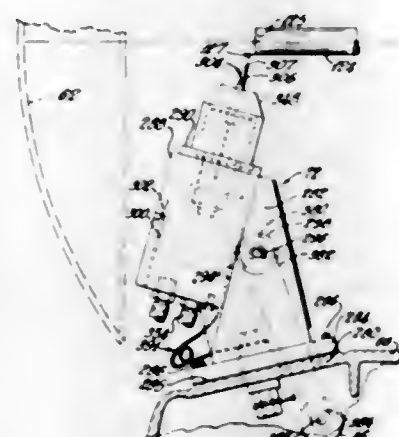
In a vehicle including headlights mounted for pivotal movement about axes extending transversely of the vehicle body, apparatus for adjusting the angular positions of such headlights relative to the body to compensate for tilting thereof relative to the ground. The apparatus includes a pendulum which may swing, due to the



action of gravity thereon, with tilting of the vehicle body, such pendulum being positively connected through shafts and links to the headlights to produce related pivotal movements therein. A solenoid-actuated friction member is selectively engageable with the pendulum to lock it in place relative to the vehicle body, with the headlights then remaining in fixed positions relative to the body.

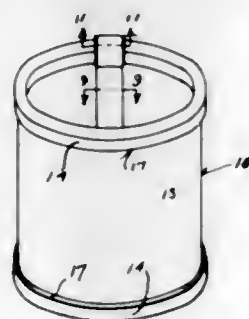
**3,385,962**  
**METHOD OF AND APPARATUS FOR PRODUCING HIGH INTENSITY RADIATION BY AN ARC**  
 Robert S. Freeman, Toledo, Ohio, assignor to The Strong Electric Corporation, Toledo, Ohio, a corporation of Delaware

Filed Sept. 23, 1965, Ser. No. 489,682  
 10 Claims. (Cl. 240-41)



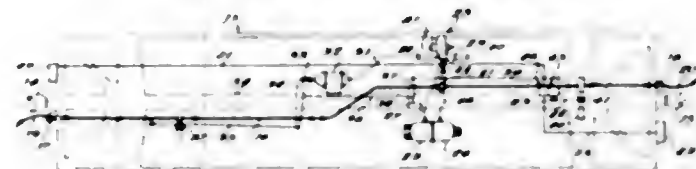
The device disclosed embraces a method of and apparatus for producing an arc of high intensity radiation involving the use of a substantially nonconsumable negative metal electrode cooperating with a positive carbon electrode and wherein the arc is struck between the electrodes at a region spaced from the tip of the negative electrode, and an inert gas delivered to the environment of the arc.

**3,385,963**  
**MEANS FOR ATTACHING A COVERING SURFACE TO AN ELECTRIC LAMP SHADE**  
 Raymond W. Washick, 6109 Belleair Place, Cincinnati, Ohio 45224  
 Filed Oct. 6, 1966, Ser. No. 584,777  
 8 Claims. (Cl. 240-108)



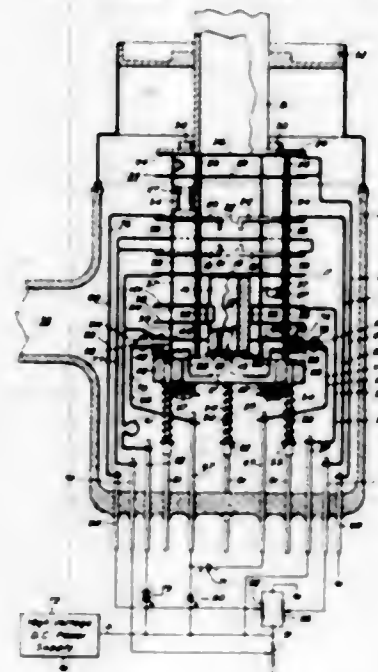
A hollow shade having open upper and lower ends is adapted to have secured thereto an exterior cover of some type of covering material. The exterior covering material is wrapped around the free upper and lower ends of the lamp shade and said cover secured in position by a clamping member which includes flexible clamping fingers respectively engaging the covering material and holding it against displacement on the lamp shade body. Preferably the said holding member is in the form of a strip of flexible vinyl plastic.

**3,385,964**  
**AUTOMATIC CAR SPEED CONTROL SYSTEM**  
 Deodat Clejan, Chicago, and Joseph A. Ferro, Park Ridge, Ill., assignors to General American Transportation Corporation, a corporation of New York  
 Filed Feb. 2, 1966, Ser. No. 524,385  
 27 Claims. (Cl. 246-182)



An automatic speed control system for a vehicle, that is free moving along a path to be coupled to another vehicle by impact, at the proper time reduces the speed of the moving vehicle, if necessary, to a safe coupling speed. This reduction in speed occurs when the system determines that the vehicles are a predetermined maximum distance apart. The system can also limit the speed of free movement to a predetermined maximum speed. It is useful in the classification of freight cars to make up a train.

**3,385,965**  
**ION SOURCE HAVING A HOLLOW CYLINDRICAL PERMANENT MAGNET MAINTAINED AT A POSITIVE POTENTIAL RELATIVE TO THE ELECTRON EMITTER**  
 William D. Davis, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
 Filed Aug. 10, 1965, Ser. No. 478,668  
 5 Claims. (Cl. 250-41.9)

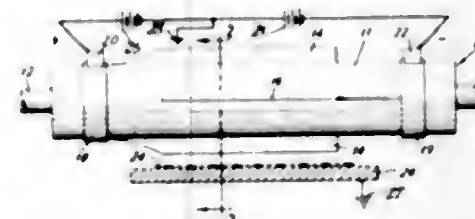


A mass spectrometer ion source for highly efficient production of ions at very low pressures having substantially no energy spread utilizes a magnetic field to enhance ionization. Electrons emitted from a hairpin filament situated within the interior of a hollow cylindrical permanent magnet are constrained by electric fields to remain within the interior of the magnet and thereby increase the probability of collisions with gas molecules.

**3,385,966**  
**CORONA DISCHARGE ELECTRODES OF OPPOSING POLARITY ROTATABLE ABOUT A COMMON AXIS TO TREAT POLYMER SURFACES**  
 Louis A. Rosenthal, Highland Park, N.J., assignor to Union Carbide Corporation, a corporation of New York  
 Filed Dec. 30, 1964, Ser. No. 422,234  
 8 Claims. (Cl. 250-49.5)

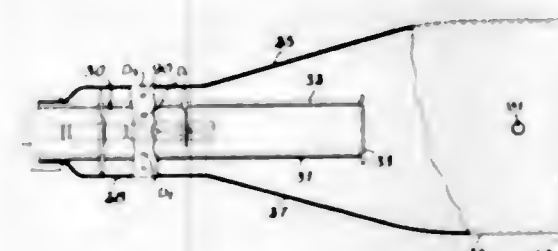
Apparatus is provided for DC corona discharge treatment of plastic surfaces wherein at least two electrodes of

opposing polarity are rotated about a common axis, to pass in sequence in ionizing gap proximity with such



plastic surface. DC potential is thus utilized to produce corona discharge treatment of, for example plastic film for improved coating and ink receptivity.

**3,385,967**  
**ELECTRON DIFFRACTION APPARATUS FOR MEASURING WAVE LENGTH OF ELECTRONS**  
 Harry F. Meiners, Latham, N.Y., and Stanley A. Williams, Ames, Iowa, assignors to The Welch Scientific Company, Chicago, Ill., a corporation of Illinois  
 Continuation-in-part of application Ser. No. 363,798, Apr. 30, 1964. This application Sept. 7, 1967, Ser. No. 675,268  
 8 Claims. (Cl. 250-49.5)

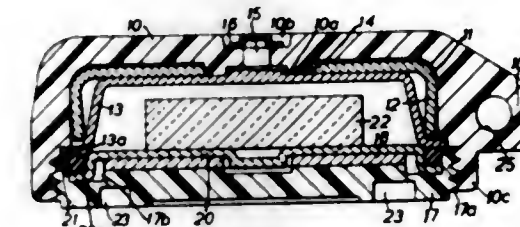


Apparatus for conducting electron-diffraction experiments. This apparatus includes a permanently evacuated electron-diffraction, cathode ray tube having an electron gun mounted in the tube neck at one end and an aluminum coated phosphor screen at the opposite end. A permanently mounted target is supported in the tube approximately halfway intermediate of the electron gun and screen. A graphite coating or other suitable conductive coating is applied to the interior of the tube in a spiral strip with the spacing between laterally-adjacent strip portions generally not exceeding 1/4 inch. In this manner, the anode voltage is substantially constant within the tube and visual inspection of the tube interior is permitted.

**3,385,968**  
**RADIOACTIVE RADIATION DOSIMETER OF THE SILVER PHOSPHATE GLASS TYPE**  
 Robert George Bryer, Ruislip, England, assignor to R. A. Stephen & Company Limited, Mitcham, Surrey, England, a limited company of the United Kingdom  
 Continuation-in-part of application Ser. No. 282,039, May 21, 1963. This application Jan. 18, 1966, Ser. No. 521,284  
 Claims priority, application Great Britain, May 21, 1962, 19,462/62  
 2 Claims. (Cl. 250-83)

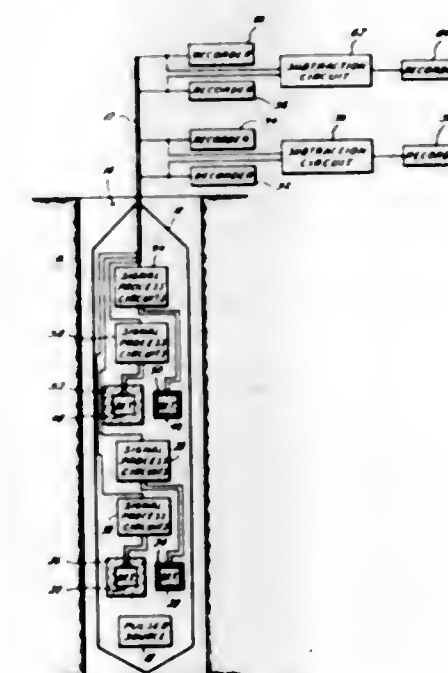
1. A portable dosimeter comprising in combination: (a) a casing made of a gas diffusion pervious material and having a generally cup-shaped bottom part and a lid screwable into the rim of the bottom part; (b) an inner casing made of a substantially gas impervious material and having an imperforate generally cup-shaped bottom part nested in the outer casing bottom part and an imperforate lid fitted between the lid of the outer casing and the peripheral rim of the bottom part of the inner casing, said rim terminating in an outwardly extended flange

and said inner casing lid having a set-off peripheral rim disposed in parallel superimposition with said flange spaced apart therefrom to define an annular space between said flange and said rim; (c) a sealing ring fitted in said space, sealing pressure being applicable to the ring by screwing the outer casing lid into the outer casing bottom part;



(d) a substantially imperforate cup-shaped lead shield interposed between said two casing bottom parts; (e) a substantially disc-shaped imperforate lead shield interposed between two lids; and (f) a radiation-sensitive element disposed within said inner casing.

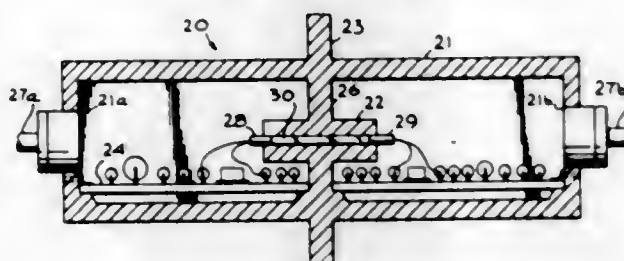
**3,385,969**  
**NEUTRON THERMALIZATION ANALYSIS**  
 William B. Nelligan, Danbury, Conn., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas  
 Filed Sept. 11, 1962, Ser. No. 222,807  
 2 Claims. (Cl. 250-83.1)



1. A method for deriving indications of the molecular composition or state of hydrogen compounds in earth formations traversed by a borehole, comprising the steps of irradiating said formations with successive bursts of relatively fast neutrons from a source in the borehole, detecting neutrons returning to the borehole at first and second points spaced at different distances therealong from said source, said neutrons being detected at each of said points intermediate such bursts with energies which are substantially solely in at least one preselected band having a lower limit slightly above the energy of thermal equilibrium and an upper limit less than 1.0 electron volt, and recording indications correlated with depth which vary in accordance with the rate at which neutrons are detected at each of said points in the preselected energy band.



**3,385,970**  
**NONRECIPROCAL SIGNAL COUPLING APPARATUS USING OPTICAL COUPLING LINK IN WAVEGUIDE OPERATING BELOW CUTOFF**  
 David P. Coffin, Jr., Towson, and Arcady B. Iwaskiw, Baltimore, Md., assignors to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware  
 Filed Dec. 18, 1964, Ser. No. 419,401  
 9 Claims. (Cl. 250-199)



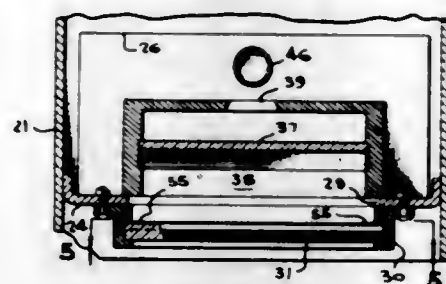
5. Apparatus useful for coupling intelligence, represented by input signals within a known frequency spectrum, from a first chamber to a second chamber, which chambers are separated from one another by a wall of magnetic material having an aperture therein and where there exists within one of said chambers spurious energy falling within said frequency spectrum, said apparatus comprising:

closure means including a housing disposed in and substantially closing said aperture, said housing having a partition therein thus defining first and second compartments; at least one tubular waveguide dimensioned so as to have a lower cut-off frequency above the upper frequency limit of said spectrum projecting through said partition with the first and second extremities thereof respectively terminating in said first and second compartments;

a source of electromagnetic energy of a frequency above said waveguide cut-off frequency, said source being positioned at a first extremity of said waveguide for directing energy emitted thereby to a second extremity of said waveguide;

means for modulating said energy emitted by said source in accordance with said input signals; and means positioned at said second extremity of said waveguide and responsive to said modulated energy for developing an output signal representing said intelligence.

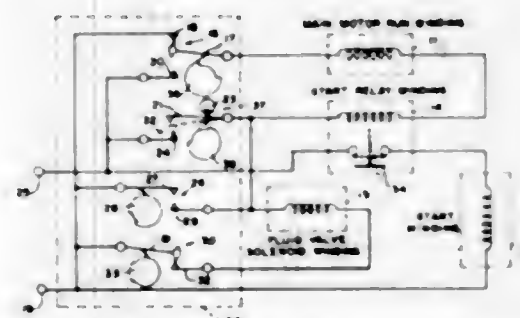
**3,385,971**  
**RADIATION SENSITIVE FABRIC FLAW DETECTING SYSTEMS**  
 Raymond Baines Fertig, Saint Albans, and Henry T. Sessions, Roncverte, W. Va., assignors to Appalachian Electric Instruments, Incorporated, Roncverte, W. Va., a corporation of West Virginia  
 Filed Aug. 6, 1965, Ser. No. 477,749  
 11 Claims. (Cl. 250-219)



2. Detecting apparatus for detecting holes and like selected light modifying conditions in webs of material while the material is moving along a processing path and producing output signals upon occurrence of such selected conditions comprising a detector head including a substantially point source of light, an elongated lens having a cylindrical surface defining an axis of curvature paralleling the longitudinal axis of the lens for spreading light

rays from said source substantially uniformly along divergent incident ray paths lying in a single plane through said axis of curvature to form a line image of light at the material to be inspected spanning a selected distance, retro-reflective means disposed on the opposite side of said material from said detector head positioned to receive light from said source along any of said incident ray paths intercepted by said selected conditions in the material and retro-reflect the same back along its incident ray path through said lens, photocell means in said detector head, a semi-transparent mirror between said lens and light source to transmit light from source toward said lens and to reflect any of said retro-reflected light rays to said photocell means, light mask means between said lens and said mirror, having an elongated light aperture therein aligned with said longitudinal axis shaped to substantially equalize light intensity of retro-reflected light reflected to said photocell means along any of said ray paths, and means responsive to a selected level of light activation of said photocell means to generate a signal indicative of detection of said selected conditions.

**3,385,972**  
**SEQUENTIAL TIMER**  
 Lyle W. Bement, New Whiteland, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware  
 Filed Nov. 23, 1964, Ser. No. 413,085  
 16 Claims. (Cl. 307-37)



Activation of a programmed sequential timer actuates a subinterval cam to couple a solenoid, a motor and a motor-starting relay in series to one of two power input terminals of the timer. Subsequent motion of the subinterval cam couples across the input terminals the solenoid in parallel with the series-coupled motor and relay. Further motion of the timer cams connects the solenoid, motor and relay in series across the input terminals.

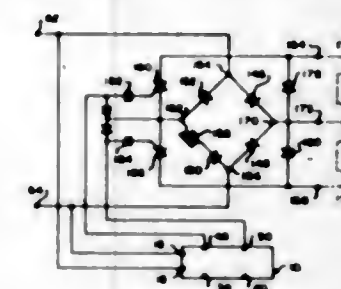
**3,385,973**  
**BISTABLE AMPLIFIER CIRCUITS**  
 Harry J. Abrams, Monroeville, and Roland W. Roberts, Pittsburgh, Pa., assignors to Norbatrol Electronics Corporation, a corporation of Pennsylvania  
 Filed Apr. 14, 1964, Ser. No. 359,643  
 26 Claims. (Cl. 307-38)

9. A dual output bistable amplifier switching power from an AC source to a first output or to a second output depending upon the polarity and magnitude of a control current to the amplifier comprising:

(a) a power control circuit connected between the AC source and the first and second outputs, the power control circuit having a plurality of silicon controlled rectifiers having cathodes, anodes, and gates, the silicon controlled rectifiers controlling the flow of current from the AC source to the first and second outputs;

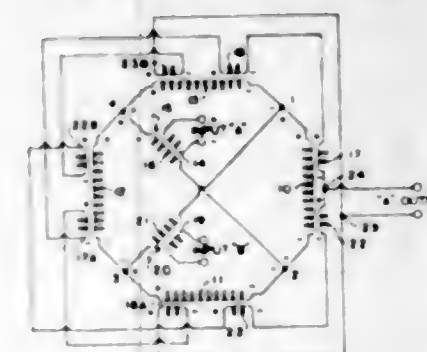
(b) a half wave self-saturating push-pull magnetic amplifier having an output coupled to gates of silicon controlled rectifiers, the magnetic amplifier producing a pulse output voltage of a first polarity which triggers a silicon controlled rectifier depending upon the polarity and magnitude of control current to the

magnetic amplifier whereby power to the first output is switched, the magnetic amplifier producing a pulse output voltage of a second polarity which triggers a silicon controlled rectifier depending upon the polarity and magnitude of control current to the



magnetic amplifier whereby power to the second output is switched;  
 (c) means coupling the output of the magnetic amplifiers to the silicon controlled rectifiers; and  
 (d) means coupling the AC source to the magnetic amplifier.

**3,385,974**  
**UNIVERSAL DIPLEXER**  
 Ronald J. Rockwell, Cincinnati, Ohio, assignor, by mesne assignments, to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware  
 Filed Aug. 16, 1965, Ser. No. 479,786  
 5 Claims. (Cl. 307-72)

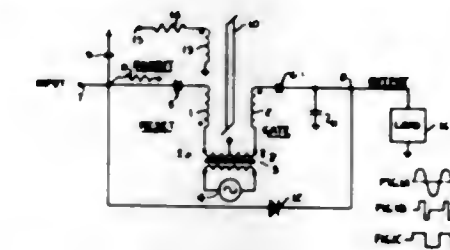


1. The combination of:  
 four primaries wound in the same direction and connected in a closed configuration providing four input terminals respectively designated in rotation by the Arabic numerals 1, 2, 3, and 4, so that the primaries are identified, according to their terminal connections, by the designations 1-2, 2-3, 3-4, and 4-1;  
 a first source of power coupled to a first pair of said terminals designated 2 and 4;  
 a second source of power coupled to the other pair of said terminals designated 1 and 3;  
 a first secondary having equal electrically additively connected windings coupled to the primaries which are between said first pair of terminals designated 2 and 4;  
 and a second secondary having equal electrically additively connected windings coupled to the primaries which are between said second pair of terminals designated 1 and 3.

**3,385,975**  
**MAGNETIC LOGIC CIRCUITS HAVING A MAGNETIC AMPLIFIER CONFIGURATION**  
 Arthur J. Radcliffe, Jr., Plymouth, Mich., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland  
 Continuation of application Ser. No. 813,141, May 14, 1959, now Patent No. 3,121,173, dated Feb. 11, 1964.  
 This application Oct. 10, 1963, Ser. No. 315,167  
 13 Claims. (Cl. 307-88)

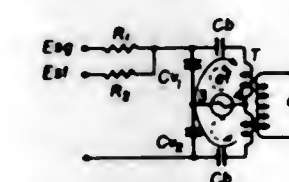
A saturable reactor used in a magnetic amplifier configuration is modified by capacitor storage, diode gates,

feedback circuits, and the like, to provide logic circuits such as And gates, Or gates, Flip-Flops, Inhibit gates, and the like. When these logic circuits are interconnected,



a resulting circuit may be made to perform any desired Boolean functions. The inventive circuit has special value in hostile environments.

**3,385,976**  
**SIGN DETECTING SYSTEM**  
 Shintaro Oshima, Musashino-shi, Hajime Enomoto, Sagami-machi, Shiyoji Watanabe, Tokyo-to, and Yasuo Koseki, Chofu-shi, Japan, assignors to Kokusai Densha Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan  
 Continuation-in-part of application Ser. No. 50,689, Aug. 19, 1960. This application Aug. 25, 1964, Ser. No. 391,885  
 4 Claims. (Cl. 307-88)



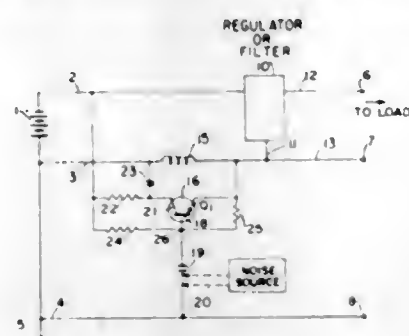
4. An electric sign detecting system comprising two series ferroelectric elements having hysteresis characteristics substantially symmetrical with respect to their original point, circuit means connecting said elements across said system, a transformer having a primary and a secondary winding in parallel with said elements and capacitors in a series with said primary winding, said circuit means comprising said elements, said capacitors and said primary winding connected in a loop, and said primary winding having a neutral point, means connected in said system comprising terminals and resistances in series with at least one of said capacitors for applying an input signal and a reference standard signal to said series connection, and exciting terminals comprising said neutral point and a connection point intermediate said series elements for receiving in operation a setting signal for removing the effect of residual polarization and an alternating-exciting signal, thereby to derive an output signal from said secondary winding of said transformer having a frequency equal to the second high harmonic component of the exciting signal and one of two opposite phases in accordance with an algebraic sign of an algebraic difference between said input signal and said reference standard signal.

**3,385,977**  
**ELECTRICAL NOISE CIRCUIT**  
 Gordon B. Thompson, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada  
 Filed Oct. 14, 1964, Ser. No. 403,782  
 9 Claims. (Cl. 307-93)

A circuit comprising a reference conductor and at least a second conductor for supplying current for operating an adjacent apparatus is described in which an impedance is inserted in series with the current supply conductor for isolating one part of the supply conductor from the second part. A detecting means for high frequency tensions



is connected between the reference conductor and the second part of the second conductor, which detecting means is connected to an amplifier for supplying current to the second part of the second conductor from the first part of the second conductor in such a sense so as to re-



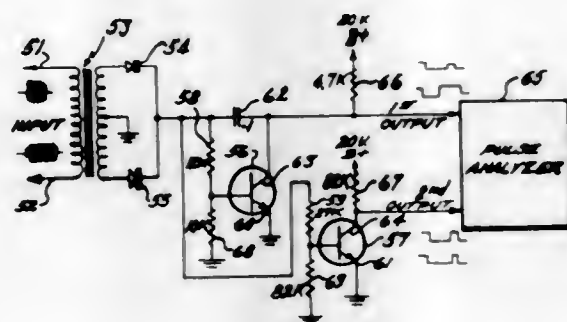
duce the high frequency tension detected. This circuit can reduce noise present on the second part of the second conductor or alternatively introduce noise in the case in which a noise voltage source is inserted in series with the detecting means.

3,385,978

### SYSTEM FOR DISTINGUISHING A COMMAND SIGNAL USING DUAL LEVEL DETECTION

David S. Willard, High Rolls, N. Mex., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 19, 1964, Ser. No. 412,579  
4 Claims. (Cl. 307-235)



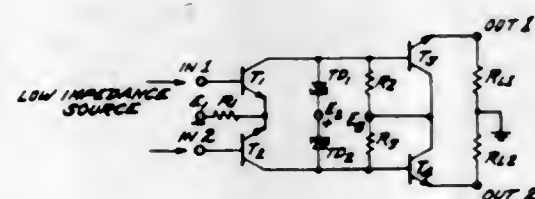
A system for distinguishing a command signal from interfering heterodyning signals by dual level detection and pulse analysis. The detector includes an input transformer with each terminal of the secondary connected to a pair of diodes which are one each connected to a pair of transistors biased at different levels and with one transistor having degenerative feedback.

3,385,979

### MULTILOGIC DIGITAL AMPLIFIER CIRCUITS WITH TUNNEL-DIODE COUPLED EMITTER FOLLOWERS

Yohan Cho, Harvard, and Norman S. Zimbel, Newton, Mass., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 30, 1965, Ser. No. 510,715  
2 Claims. (Cl. 307-286)



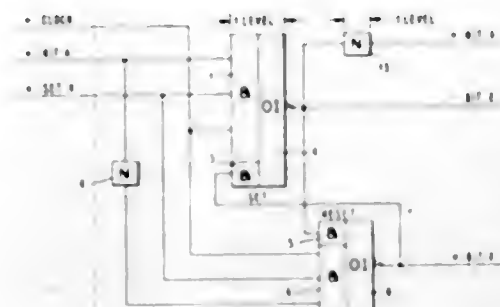
A multiple-function logic amplifier circuit for digital computers including a pair of tunnel-diode coupled emitter followers driven by an emitter coupled amplifier.

### 3,385,980 LATCHING CIRCUIT HAVING MINIMAL OPERATIONAL DELAY

Alan R. Geller, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 445,309, Apr. 5, 1965. This application Oct. 27, 1967, Ser. No. 678,705

3 Claims. (Cl. 307-289)



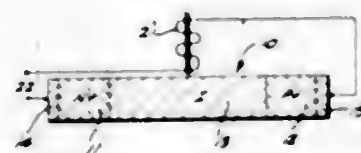
In a large-scale data processing system having multi-stage registers, there is disclosed a typical stage comprising a plurality of logical circuits.

3,385,981

### DOUBLE INJECTION TWO CARRIER DEVICES AND METHOD OF OPERATION

James W. Mayer, Pacific Palisades, Ogden J. Marsh, Woodland Hills, Robert E. Baron, Los Angeles, and Gerald S. Picus, Woodland Hills, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed May 3, 1965, Ser. No. 452,939  
6 Claims. (Cl. 307-299)



Forward biased devices having an intrinsic region subject to double injection mode operation in pulse mode operation below double injection current as a magnetic field controller and as a photoconductor device.

3,385,982

### HIGH POWER SOLID STATE PULSE GENERATOR WITH VERY SHORT RISE TIME

Heinz Raillard, Liverpool, and Hans R. Schindler, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York

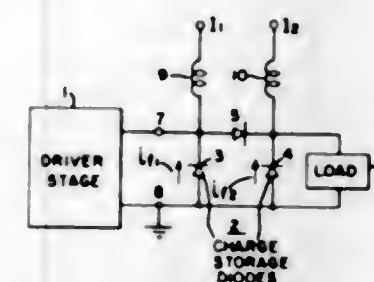
Filed Sept. 3, 1963, Ser. No. 306,187  
8 Claims. (Cl. 307-319)

1. An electrical circuit for generating energy in the form of an output step wave of very short rise-time comprising:

- a first semiconductor diode exhibiting characteristics of charge storage and abrupt switching from its low impedance to its high impedance state and constructed to have a given minority carrier lifetime,
- a second semiconductor diode exhibiting characteristics of charge storage and abrupt switching from its low impedance to its high impedance state and constructed to have a minority carrier lifetime appreciably shorter than said given lifetime,
- circuit means for coupling said first and second diodes in parallel paths in a cascaded relationship,
- output means connected in shunt with said second diode,

(e) biasing circuitry for conducting forward bias currents through said diodes so as to store minority carriers therein and providing a storage time for said first diode appreciably greater than the storage time for said second diode, said diodes being in a low impedance state and supporting easy current flow in the backward direction during their respective storage times,

(f) energization means for applying input energy to said first diode in the form of a step wave of a polarity to direct current through said first diode in the backward direction, the rise-time of the applied



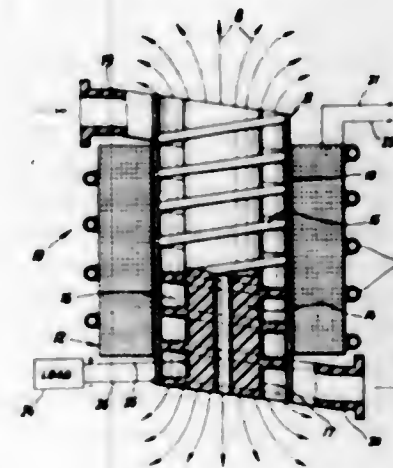
step wave being on the order of said first diode storage time and appreciably less than said given minority carrier lifetime, switching of the first diode to a high impedance state upon termination of the storage time thereof providing generation and application to the second diode of a step wave having a rise-time on the order of said second diode storage time and appreciably less than said second diode minority carrier lifetime whereby switching of said second diode to a high impedance state upon termination of the storage time thereof provides generation of said output step wave of very short rise-time.

3,385,983

### MAGNETOHYDRODYNAMIC ENERGY CONVERTER

Thomas Bohn, Jülich, Hans-Arno Claassen, Aachen, and Karl Alfred Stradal, Jülich, Germany, assignors to Kernforschungsanlage Jülich des Landes Nordrhein-Westfalen-e.V., a corporation of Germany

Filed Apr. 15, 1965, Ser. No. 448,305  
Claims priority, application Germany, Apr. 16, 1964, K 52,699  
7 Claims. (Cl. 310-11)

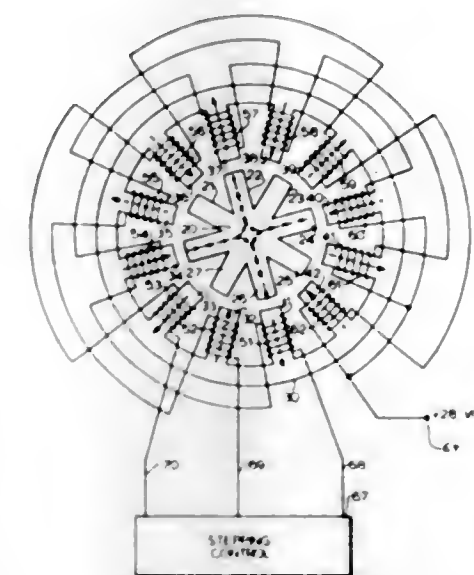


Magnetohydrodynamic energy converter wherein an ionized gas is passed through a helical channel within a magnetic field oriented in the direction of the channel axis, the channel being bounded by inner and outer conductive walls across which a load is connected to abstract electrical energy from charged particles of the gas stream.

### 3,385,984 VARIABLE RELUCTANCE STEPPER MOTOR DAMPER

Charles P. O'Regan, Bronx, N.Y., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Mar. 29, 1965, Ser. No. 443,278  
7 Claims. (Cl. 310-49)



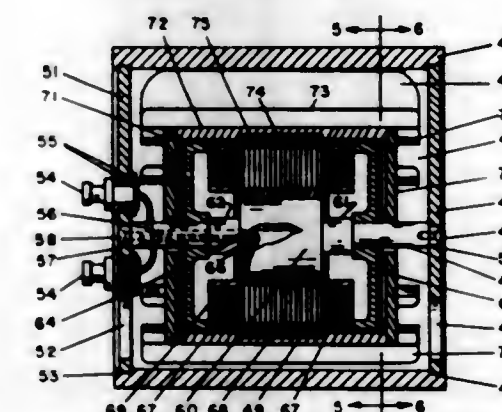
The invention relates to damping stepper motors. Damping is provided by magnetic drag between the rotor and the stator. A magnetic field, in addition to the magnetic field which actually causes the stepping, is generated between the rotor and the stator to provide the desired damping. In one aspect the magnetic field providing the damping is generated by additional stator windings. In another aspect, it is provided by applying a bias current to the stator windings used in the stepping. In a third aspect, the magnetic properties of the rotor are used to provide the magnetic damping. In a fourth aspect, the sequence of energization of the stator windings is used to provide the desired damping.

3,385,985

### AIR BEARING BLOWER

Richard B. Henderson, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Oct. 18, 1965, Ser. No. 497,013  
14 Claims. (Cl. 310-90)



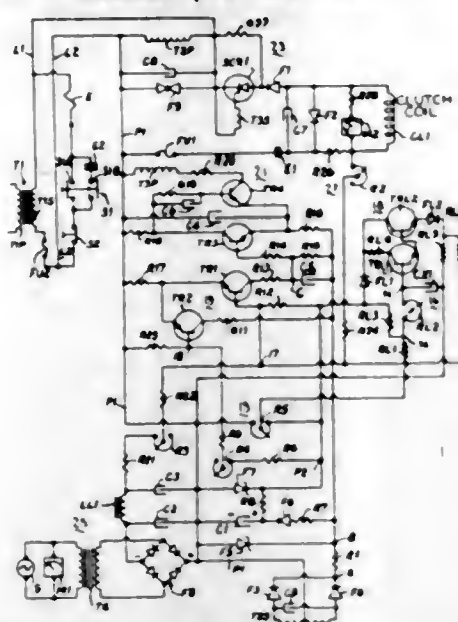
This invention relates generally to hydrodynamically lubricated bearings, and more particularly to an air bearing wherein both radial and thrust loads are supported by a continuous film of air so as to facilitate high speed operation of a small compact blower.



3,385,986

**CONTROLLED-VELOCITY DRIVE**

Aubrey H. Smith, Kenosha, Wis., assignor to Eaton Yale & Towne, Inc., Cleveland, Ohio, a corporation of Ohio  
Continuation of application Ser. No. 374,784, June 12, 1964. This application Apr. 26, 1967, Ser. No. 642,991  
7 Claims. (Cl. 310-95)



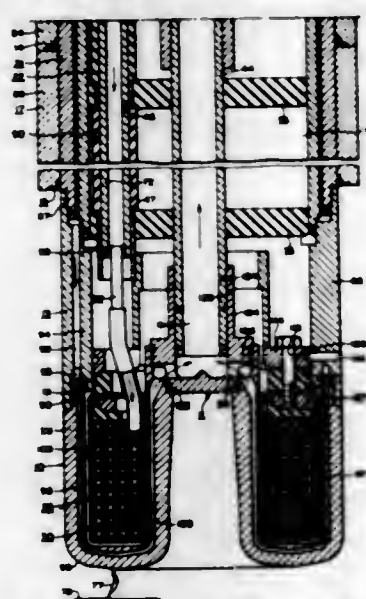
A solid-state speed control is disclosed in which the energization of the field winding of an eddy-current coupling is varied in response to the relative amplitudes of a reference signal and a feedback signal which varies as a function of the coupling output speed. The reference signal is provided by an adjustable source, which supplies a voltage analog of a preselected speed, and a low pass filter which damps changes in the voltages supplied by the source thereby to limit the rate of change of the output speed.

3,385,987

**ELECTRODE FOR AN ARC FURNACE HAVING A FLUID COOLED ARCING SURFACE AND A CONTINUOUSLY MOVING ARC THEREON**

Charles B. Wolf, Irwin, George A. Kemeny, Export, and Serafino M. De Corso, Media, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 24, 1966, Ser. No. 588,837  
14 Claims. (Cl. 313-32)



An electrode having an annular or ring-shaped fluid cooled tip forming an arcing surface has a tip supporting structure including means for bringing cooling fluid to the tip and means for conducting fluid from the tip, the last-named fluid being hot relative to the first-named fluid, the last-named means including a tube slidable within a tube support secured to the tip whereby forces resulting from differential thermal expansion within the electrode are not applied to the tip. The central aperture

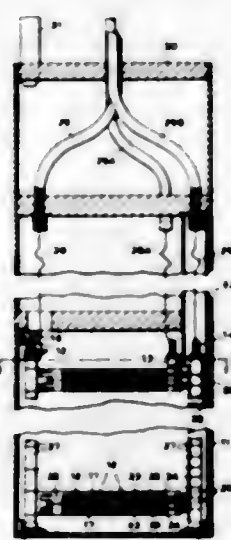
of the annular tip is closed by a solid metallic hub. A field coil is disposed within the hollow annular tip and energized to set up a magnetic field at the arcing surface which causes the arc to substantially continuously rotate in an annular path around the ring-shaped tip. The supporting structure is at least partially composed of conductive material for bringing current to the tip to produce the arc. Novel means is provided for mounting the housing enclosing the field coil in predetermined desired position within the tip. An expendable ring threaded at one end thereof to the outside annular edge of the tip is threaded at the other end thereof to the outer tube of the supporting structure and is easily removable and replaceable. A heat shield composed of a refractory material encloses at least a substantial portion of the supporting structure. The aforementioned outer metallic member of the supporting structure, tubular in shape, is removable from the electrode structure in case of damage thereto without necessitating the complete disassembly of the electrode structure.

3,385,988

**MULTI-PLATE IONISATION CHAMBER WITH GAMMA-COMPENSATION AND GUARD-RING ELECTRODES**

Kyung Ho Hym, Whetstone, England, assignor to The English Electric Company Limited, London, England, a British company

Filed Aug. 10, 1964, Ser. No. 388,598  
Claims priority, application Great Britain, Aug. 23, 1963, 33,410/63  
3 Claims. (Cl. 313-61)



1. In an ionisation chamber comprising an enclosed vessel, a plurality of polarising plate electrodes arranged parallel to and alternately with a plurality of collector plate electrodes connected electrically together, a neutron-sensitive coating on one of each collector plate electrodes an ionisable gas in said vessel, means for connecting the polarising plate electrodes to a voltage source and means for collecting from the collector plate electrodes a current caused to flow therein in the presence and in response to the intensity of nuclear radiation; a co-planar electrically-conducting peripheral plate member encircling each collector plate electrode and insulating between each said peripheral plate member and the corresponding collector plate electrode.

3,385,989

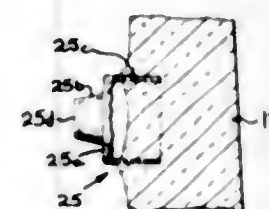
**LOAD-BEARING MOUNTING ELEMENTS FOR ATTACHMENT TO GLASS SURFACES**

Roland L. Vogelpohl, Gahanna, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Sept. 29, 1966, Ser. No. 582,888  
10 Claims. (Cl. 313-85)

This invention relates to load-supporting cup-shaped

metallic stud elements having substantially uniform wall thickness adapted to permanent attachment to glass sur-



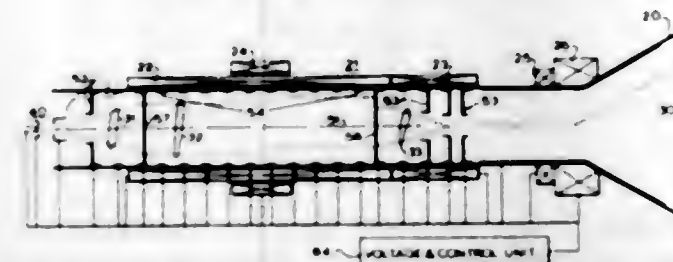
faces such as the interior of a cathode-ray tube face plate member for fabricating a color TV picture tube envelope.

3,385,990

**DEFLECTION THROUGH SELECTED MASK APERTURES OF CATHODE RAYS IN PRE-DETERMINED CHARACTER SHAPES**

Joseph T. McNamery, 8548 Boulder Drive, La Mesa, Calif. 92041

Filed Sept. 1, 1967, Ser. No. 665,065  
5 Claims. (Cl. 313-85)



The present invention utilizes novel means in a cathode ray tube for presenting information in the form of characters, such as letters, numerals, symbols, sketches of pictorial information, etc., that may be used for viewing or for record making purposes. These means include the use of a pair of aperture masks supported in the path of a source of electrons in the evacuated portion of the tube or chamber. One mask contains a plurality of arrays of character shaped arrangements of apertures and the other having a plurality of apertures uniformly arranged therein and optically related, respectively, to predetermined portions of the character shaped arrangements of apertures in the one mask.

The character shaped arrays of apertures occupy the same general area of the one mask which, when exposed to the beam of electrons, will provide a plurality of arrays of individual secondary beams that overlap one another in the same general area. An aperture of each such array, therefore, falls within one of a plurality of sub-areas within the general area, and each aperture of the other mask is related to one of these sub-areas and which is used as a beam selecting aperture insofar as its related sub-area and apertures therein are concerned.

The two masks are supported in a spaced apart relationship in the path of electrons and the apertures of one mask are optically related to those in the other mask by means of electron beam collimating and beam displacement control optics, whereby, electrons will enter the apertures of the first mask, travel to the second mask, and emerge from apertures in the second mask in character shaped arrangements along parallel lines. In the process of selecting different shaped arrangements thereof, between the two masks, the electrons are deflected from an initial parallel path to a predetermined secondary path by the beam displacement control means.

Immediately following the masks in the tube there is a focusing lens system for controlling imaging and size conditions of the shaped arrays of electron beams at the surface of a target area in the tube. This lens is then followed by beam deflection means for positioning these arrays on the target. The deflection means includes a minor beam deflection yoke and a major deflection yoke. Currents

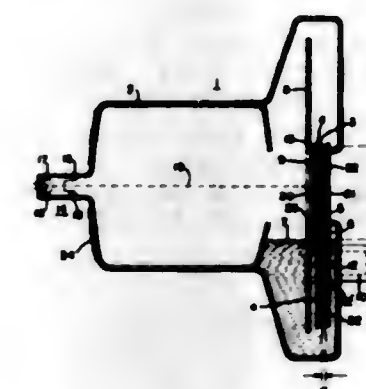
coupled to the minor yoke will effect a relatively small spiralling, or raster-scanning, of the many small cross section beams included in a shaped arrangement thereof so as to enlarge the target area that might otherwise be impinged by the beams. In doing so a fractional tone arrangement will be modified to appear as a more solid tone arrangement. Currents coupled to the major yoke will control the positioning of the shaped arrangements on the target.

3,385,991

**CATHODE RAY TUBE WITH LIGHT-MODULATED FLUID FILLING SPACE BETWEEN ROTATABLE DISC AND OUTPUT WINDOW**

Howard E. Towison, Baldwinsville, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 5, 1965, Ser. No. 430,700  
6 Claims. (Cl. 313-91)



1. A light valve apparatus for positioning between a light source and a screen for the projection of an image on the screen, said apparatus comprising:

- (A) an evacuated envelope including a light transmitting output window therein,
- (B) a reservoir of light modulating fluid positioned within said envelope,
- (C) a rotatable disc positioned within said envelope in spaced relationship to said output window and arranged for rotation through said reservoir to produce a layer of light modulating fluid upon a surface of said disc,
- (D) cathode means positioned in said envelope and arranged to emit a beam of electrons impingement upon said layer of light modulating fluid to form a diffraction grating thereon for selectively controlling the passage of light from the source through the output window to the screen in accordance with the image being projected, and
- (E) means for conducting said light modulating fluid to the region between said output window and said rotatable disc to substantially fill said region with said light modulating fluid.

3,385,992

**ELECTROLUMINESCENT DISPLAY PANEL WITH ROD-LIKE ELECTRODES EMBEDDED IN PHOSPHOR**

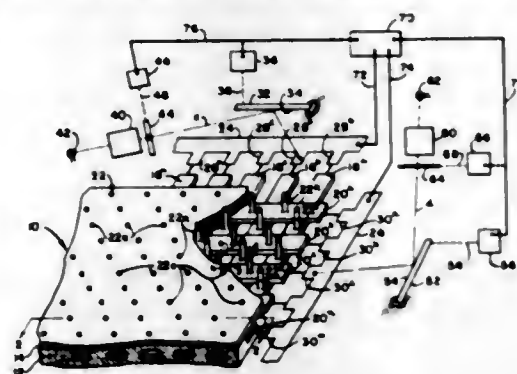
Aleksander Z. Chaberski, Buffalo, N.Y., assignor of fifty percent to Carl Di Pietro, East Aurora, N.Y.

Filed Feb. 17, 1967, Ser. No. 616,967  
5 Claims. (Cl. 313-108)

A rectangular dielectric substrate, a sheet of electroluminescent phosphor overlying the substrate, a plurality of transversely extending conductors having a plurality of rod-shaped electrodes embedded in the phosphor, a plurality of longitudinally extending conductors having a plurality of rod-shaped electrodes embedded in the phosphor, a set of horizontal photosensitive elements each



one of which being connected to a separate one of the transverse conductors, a set of vertical photosensitive elements each one of which being connected to a separate



one of the longitudinal conductors, and vibrating mirror scanners associated with each set of photosensitive elements.

3,385,993

### FILAMENT SUPPORT FOR TUBULAR INCANDESCENT LAMPS

Henry B. Kimball, Mountain Lakes, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 16, 1965, Ser. No. 479,998  
7 Claims. (Cl. 313-271)



1. An elongated coiled filament for an incandescent lamp having a tubular envelope, which filament comprises:

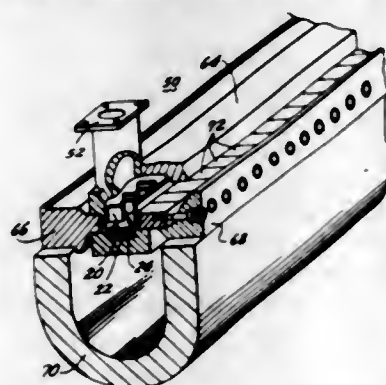
- a plurality of spaced turns of refractory metal wire that are of substantially uniform diameter and comprise the body portion of said filament, and
- a retroverted turn that is formed from said wire and is located intermediate the ends of the coiled filament, said retroverted turn having a diameter larger than the turns comprising said body portion and thereby constituting an integral arcuate support that is adapted to engage the inner surface of the tubular envelope when said filament is inserted into said envelope.

3,385,994

### FORWARD WAVE AMPLIFIER HAVING DISPERSIVE SLOW WAVE STRUCTURE AND MEANS TO VARY THE ELECTRON BEAM VELOCITY

Joseph F. Hull, Redwood City, Calif., assignor to Litton Precision Products, Inc., a corporation of Delaware  
Continuation of application Ser. No. 319,750, Oct. 29, 1963. This application Oct. 13, 1964, Ser. No. 403,589

13 Claims. (Cl. 315-3.5)



A forward wave traveling wave tube is disclosed in which the slow wave structure is deliberately made dispersive. The velocity of the electron beam is varied along

different longitudinal sections of the interaction region so that in different portions of the interaction region the beam has substantially the same velocity as the phase velocity of different frequency components of an electromagnetic wave which might be traveling on the slow wave structure. By selectively controlling the velocity of the beam in different portions of the interaction region the gain of the tube over its entire operating bandwidth can be controlled.

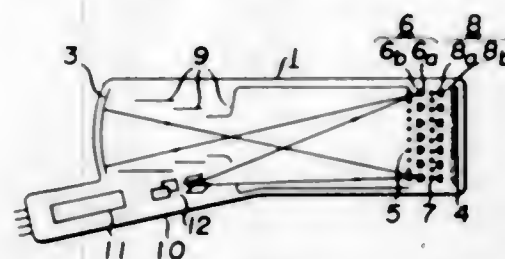
3,385,995

### ELECTRON TUBE DEVICES FOR IMAGE TRANSMISSION AND RECEPTION

Shoichi Miyashiro, Yokohama-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed May 23, 1966, Ser. No. 552,205  
Claims priority, application Japan, May 25, 1965, 40/30,418

10 Claims. (Cl. 315-12)



An optical image projected upon the photoelectric surface and an electrostatic charge image corresponding to an electric image signal applied to the electron gun are respectively stored on two storage targets, and after preserving these stored images for any desired interval of time, they can be reproduced by electrons, respectively emitted from the electron gun and the photoelectric surface to reproduce the image or the image current.

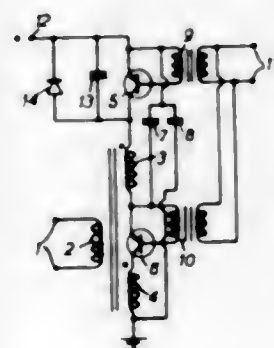
3,385,996

### SCANNING CIRCUIT ARRANGEMENTS FOR MAGNETICALLY DEFLECTED TELEVISION AND OTHER CATHODE RAY TUBES

Charles Raymond William Richardson, Great Baddow, Essex, England, assignor to The Marconi Company Limited, London, England, a British company

Filed Apr. 26, 1965, Ser. No. 450,608  
Claims priority, application Great Britain, Apr. 28, 1964, 17,654/64

5 Claims. (Cl. 315-19)



A scanning circuit arrangement for supplying deflecting current to magnetic deflecting windings of a magnetically deflectable cathode ray tube is disclosed herein in which the ray is to be deflected in scanning excursions with fly-backs between them. The scanning circuit arrangement comprises a transformer and a switch for connecting the transformer across the supply points during scanning excursions. The transformer has a winding including two portions which are connected by a further switch. The two portions of the winding are automatically connected

in series across the supply points during scanning excursions and are disconnected from each other, and from the supply points, during flyback periods so as to be in effective parallel during such periods so as to share the peak voltage between the two switches.

3,385,997

### THERMOELECTRIC JUNCTION FOR AN INDIRECTLY HEATED CATHODE

Diether Vitzthum, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed June 22, 1966, Ser. No. 559,518  
Claims priority, application Germany, June 30, 1965, S 97,897

6 Claims. (Cl. 315-55)



An indirectly heated cathode having a thermoelectric junction formed by a cathode body of one metal and a cathode support of a second metal, individual lead-out lines for the cathode body and the cathode support of the same metal as the cathode body and the cathode support, respectively.

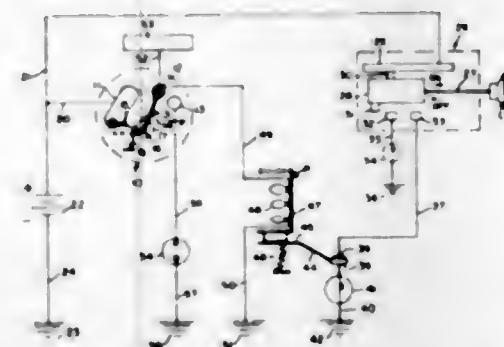
3,385,998

### BATTERY POWER PROTECTION SYSTEM FOR AUTOMOBILES AND THE LIKE

Howard M. Gold, 1115 100th St., Bay Harbor Island, Miami Beach, Fla. 33154

Continuation-in-part of application Ser. No. 483,614, Aug. 30, 1965. This application Dec. 29, 1965, Ser. No. 517,310

2 Claims. (Cl. 315-80)



An ignition system for motor vehicles having a conventional ignition switch consisting of a main, on and starter terminals and pivot means selectively connecting the terminals, a light switch, a battery connected to the main terminal and the light switch, headlights and wire means connecting the light switch and the headlights, a pair of normally open contacts mounted on the wire means, relay means connected to the on terminal, and means connected to the relay means closing the open contacts upon actuating the pivot means to engage the on terminal, energize the relay and close the open contacts to energize the headlights and when the pivot means is at the off position or engaging the starter terminal, the headlights are incapable of being energized.

850 O.G.-45

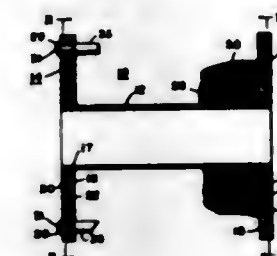
3,385,999

### DISCHARGE LAMP TRANSFORMER COIL FORM HAVING WINDING ON INSULATED FLANGE THEREOF

Archie R. Cornell, Avon Lake, and Burton A. Wyman, Cleveland, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 153,955, Nov. 21, 1961. This application Sept. 14, 1965, Ser. No. 487,227

13 Claims. (Cl. 315-97)



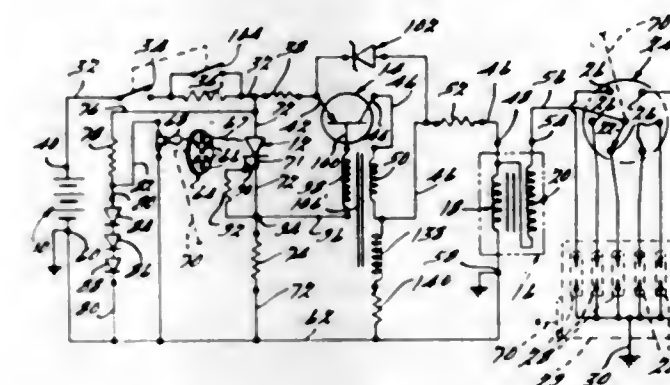
A coil form for operating a gaseous discharge device which has spaced cathodes requiring cathode heating voltages thereacross, and which coil form includes a core having at least one primary winding thereon and an insulating flange secured to each end of the core. Each insulating flange contains heater coil windings thereon which may be in the form of printed circuit windings and which are connected to the cathodes of the discharge device. The heater windings are disposed in a magnetically coupled relationship with the primary winding and in conjunction serve to provide the cathode heater voltages.

3,386,000

### IGNITION SYSTEM

James B. Farr, Madison Heights, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed May 13, 1964, Ser. No. 366,993  
9 Claims. (Cl. 315-209)



1. An ignition system for an internal combustion engine having a spark discharge device, comprising a source of electrical potential, an ignition coil assembly having a primary winding and a secondary winding, means connecting said secondary winding with said spark discharge device, a transistor having emitter, base and collector electrodes, means connecting said emitter and collector electrodes in circuit between said source of electrical potential and said primary winding of said coil assembly, means normally maintaining said transistor in a conductive state so as to permit a charging current flow to said coil assembly primary winding, means including a light-triggered silicon controlled rectifier device in shunt relationship to a circuit containing said emitter and base electrodes, and means operative in timed relationship to operation of said engine for directing a beam of light



against said silicon controlled rectifier device in order to cause said silicon controlled rectifier device to become conductive thereby diminishing the flow of current from said source through said emitter-collector circuit by shunting at least a portion of such current flow available from said source around said emitter-base circuit and thereby causing a sparking event at said spark discharge device.

3,386,001

## CONDUCTIVE FLOOR COVERING

David K. Slosberg, Yardley, Pa., and Julian G. Clement and Walter Mutchler, Jr., Sherbrooke, Quebec, Canada, assignors to America Biltrite Rubber Co., Inc., Chelsea, Mass., a corporation of Delaware  
Filed Oct. 26, 1965, Ser. No. 505,285  
5 Claims. (Cl. 317-2)

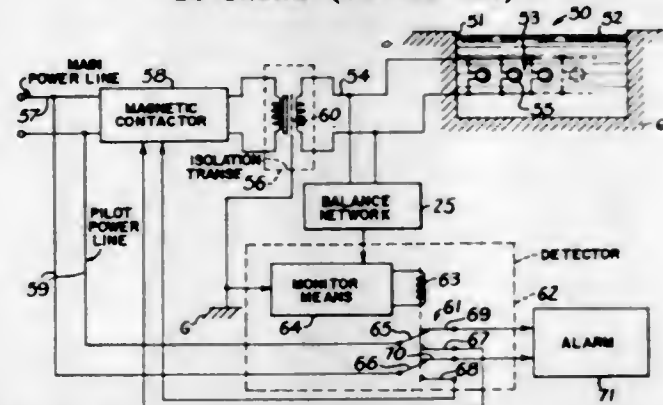


The invention is a conductive plastic sheet having the appearance of terrazzo, in which the sheet is made of granules of vinyl resin fused together, the boundaries between the particles consisting of a thin layer of conductive plastic resin, with the result that the surface of the sheet shows only very thin veins extending through the sheet, these veins being interconnected. Thus, a substantially continuous, electrically-conductive network extends throughout the sheet.

3,386,002

## GROUND FAULT DETECTOR

Martyn Russell, Elgin, Ill., assignor to Water Conditioning Products Company, St. Charles, Ill., a corporation of Illinois  
Filed Aug. 2, 1965, Ser. No. 476,456  
12 Claims. (Cl. 317-10)



Means for protecting against dangerous electrical shocks due to current leaking from a power line through a conducting medium by detecting and responding to such leakage by disconnecting power from the power line rapidly enough to prevent injury to human life, said means in one embodiment being capable of testing the ability of component parts to respond to dangerous conditions such that the failure of these components to pass the test causes power to be disconnected from the power line.

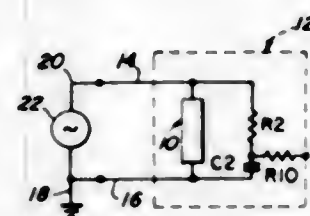
3,386,003

## GROUND PROTECTIVE CIRCUIT

Leslie W. Partridge, Janesville, Wis., assignor to The Burdick Corporation, Milton, Wis., a corporation of Delaware  
Filed July 18, 1966, Ser. No. 565,902  
6 Claims. (Cl. 317-17)

1. A circuit for minimizing the possibility of shock to users of apparatus comprising an electrical load device and a chassis and energized from an alternating current

source having one terminal grounded, the chassis being ungrounded, a series connected first resistor and capacitor connected across the load device with the capacitor connected to the grounded side of the load device, and a second resistor of high resistance or a high impedance capacitance connected from the junction of the capacitor and first resistor to the chassis, said first resistor and

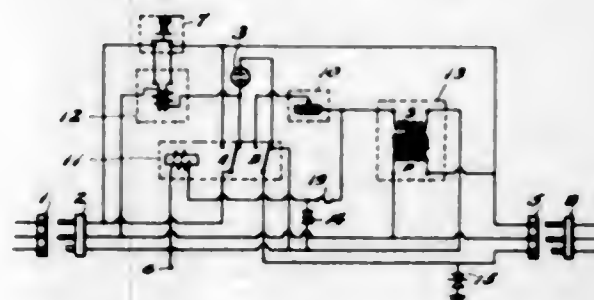


capacitor having values such that the voltage drop across the capacitor is substantially equal in amplitude and of opposite phase to the voltage due to leakage capacity between the load device and the chassis, whereby the said voltage drop and voltage due to leakage will substantially cancel each other and the junction will be at approximately zero voltage relative to ground.

3,386,004

## LOW VOLTAGE SAFETY CIRCUIT FOR ELECTRIC POWER UNITS

Edward W. Dwyer, Riviera Beach, Fla., assignor to Sentry, Inc., West Palm Beach, Fla.  
Filed Aug. 9, 1965, Ser. No. 478,109  
14 Claims. (Cl. 317-18)



A low voltage circuit to sense the contact of a handtool to a ground object for the protection of the tool and operator. A solid state semi-conductor interposed between the low voltage circuit and the third wire tool housing grounds the circuit when voltage occurs in excess of preset levels, regardless of whether the voltage source is from within or from without of the tool. Electrical and thermal switches are interposed in the circuit for instantaneous reaction, as well as visible polarity indicating means.

3,386,005

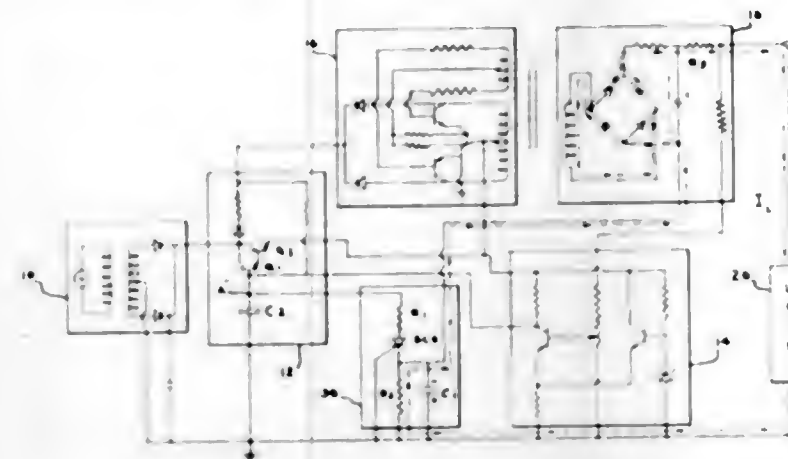
## HIGH-SPEED SELF-RESTORING SOLID STATE OVERCURRENT PROTECTION CIRCUIT

John Thomas Roland, Mannheim, George Gilman Richards, Jr., Middletown, and Richard Farmer Wells, Elizabethtown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Aug. 6, 1965, Ser. No. 477,717  
10 Claims. (Cl. 317-22)

An SCR is connected in a power supply circuit to operate as a switch cutting on responsive to overload conditions and maintained off during normal circuit conditions to prevent overcurrents from damaging solid state components in the power supply circuit. An embodiment for a positive power supply features a connection of the electrodes of the SCR with the gate electrode grounded and with the cathode electrode in series with a resistor and ground, which resistor is placed in series with the load current of the power supply. A negative version of the protective circuit features a grounding of the cathode

of the SCR and a connection of the gate electrode to the resistor which carries load current. The anode in both versions is connected to a point which must be maintained at a given voltage to maintain power supply operation. Conduction of the SCR draws potential present at this



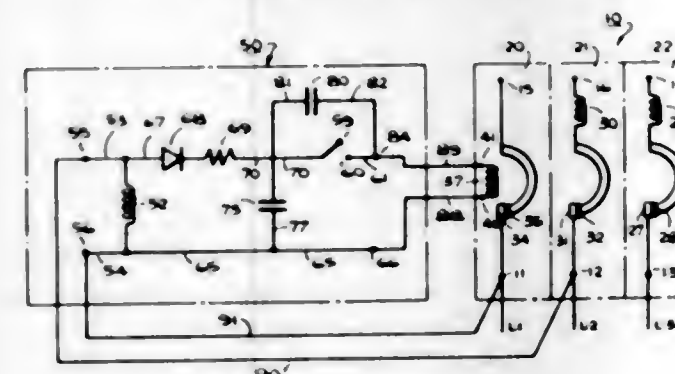
point to ground, cutting off the power supply for as long as an overload condition exists. The various connections to the SCR are direct to provide a fast on response of the switch to overload conditions and an automatic cut off of the switch once overload conditions cease.

3,386,006

## POWER FAILURE CONTROL CIRCUIT SENSITIVE TO POWER RESTORATION FOR A CIRCUIT BREAKER

John N. Runge, Cincinnati, Ohio, assignor to Heinemann Electric Company, Trenton, N.J., a corporation of New Jersey

Filed Sept. 24, 1965, Ser. No. 489,834  
6 Claims. (Cl. 317-31)



A control circuit is provided for a circuit breaker having a coil which is energized to trip the circuit breaker, the control circuit having a condenser which discharges upon abnormal electrical conditions to energize the coil and trip the circuit breaker. A second condenser is provided in the control circuit, in series with the coil, and the charging of the second condenser also energizes the coil sufficiently to trip the circuit breaker.

3,386,007

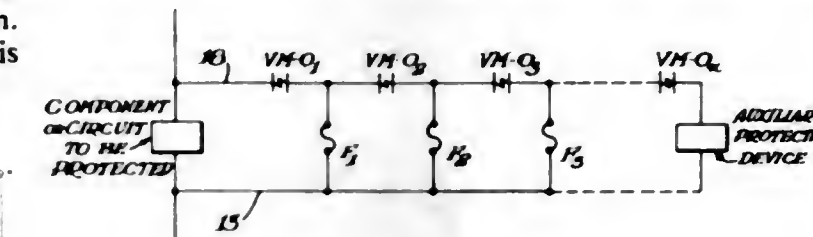
## MULTI-SHOT VOLTAGE SENSITIVE SWITCH FOR PROTECTING COMPONENTS OR CIRCUITS SUBJECT TO VARIABLE VOLTAGE CONDITIONS

Michael W. Hutchinson, North Adams, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed July 22, 1965, Ser. No. 473,927  
5 Claims. (Cl. 317-40)

A plural response voltage sensitive protection device having a series of valve metal substrates having an oxide layer on at least one surface; a nonfusible lead contacting the last valve metal-oxide member; the other mem-

bers having a fusible lead contacted thereto; another nonfusible lead contacting the first valve metal-oxide

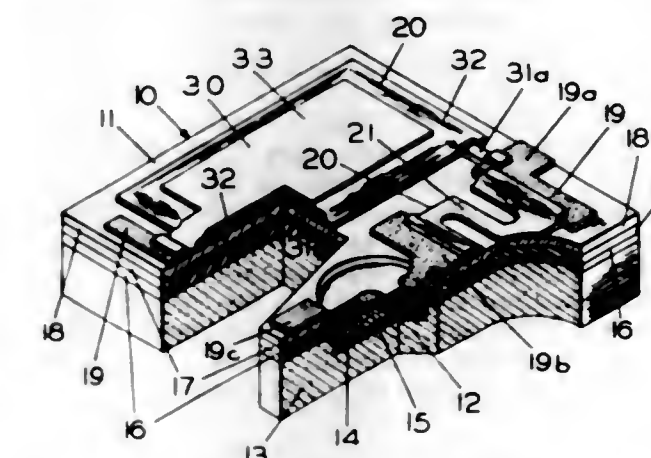


member; and each valve metal-oxide member being in electrical contact with an adjacent member.

3,386,008

## INTEGRATED CIRCUIT

Edwin H. Laver, Jr., Elkhart, Ind., and William F. J. Hare, Thornhill, Ontario, Canada, assignors to CTS Corporation, Elkhart, Ind., a corporation of Indiana  
Filed Aug. 31, 1964, Ser. No. 394,101  
4 Claims. (Cl. 317-101)



1. An integrated circuit comprising a semiconductor body of the first conductivity type (P), an inner semiconductor layer of a second conductivity type (N) on the semiconductor body, an outer semiconductor layer of the first conductivity type (P) on the inner semiconductor layer, a barrier layer of an oxide of the semiconductor body fused to a portion of the surface of the semiconductor body, a glass film bonded to the barrier layer, and a glass matrix resistance element having a thickness of between 0.0001 to 0.0005 inch and a sheet resistance of 100 to at least as high as 300,000 ohms per square fused onto the glass, the device being electrically connected to one of the semiconductor layers.

3,386,009

## INTERCONNECTION STRUCTURE FOR INTEGRATED CIRCUITS AND THE LIKE

Dimitry G. Grabbe, Sea Cliff, N.Y., assignor to Photocircuits Corporation, Glen Cove, N.Y., a corporation of New York

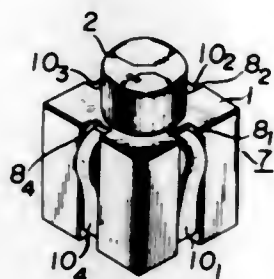
Filed Jan. 19, 1965, Ser. No. 426,506  
8 Claims. (Cl. 317-101)



An interconnection structure for a plurality of solid state members including conductive pins extending through an insulating support. Integrated circuit terminal pins are connected to the external conductive pins as well as between individual integrated circuits by means of a multi-layer printed circuit network deposited directly upon the flush surface end of the pin.

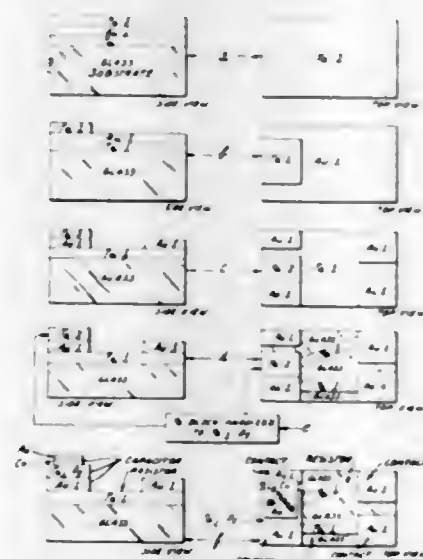


**3,386,010**  
**BLOCK CIRCUIT UNIT**  
 Takáši Nojiri, 135 Oaza Haguro Aza Koyasu,  
 Inuyama-shi, Japan  
 Filed Apr. 12, 1966, Ser. No. 542,080  
 3 Claims. (Cl. 317-101)



A box structure, preferably a cube, contains circuit elements; the cube is formed with recesses at four circumferential sides, having spring strips located therein and connected to the internal circuit elements, the connection being indicated on the top of the cube so that circuits can be built up by pressing cubes together, the spring strips resiliently deforming to make a good contact and the top indicating the assembled circuit.

**3,386,011**  
**THIN-FILM RC CIRCUITS ON SINGLE SUBSTRATE**  
 Francis L. Murray, Jr., Riverside, Calif., and Thomas V. Sikina, Baltimore, Md., assignors to Philco-Ford Corporation, a corporation of Delaware  
 Original application Oct. 23, 1962, Ser. No. 232,539, now Patent No. 3,256,588, dated June 21, 1966. Divided and this application Apr. 28, 1966, Ser. No. 546,084  
 8 Claims. (Cl. 317-101)

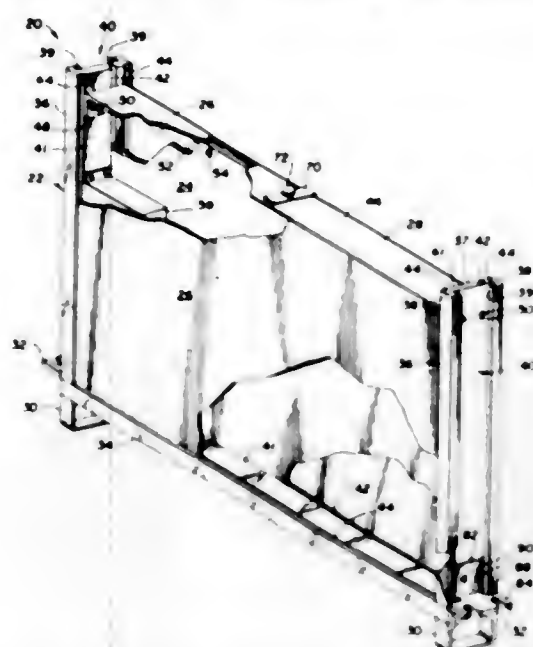


Thin-film RC circuits on single substrate employing elongated film resistor with widened end portions and capacitor on widened end portion comprising metal bottom electrode, insulating layer, and metal top electrode, with bottom electrode also serving as one contact of resistor.

**3,386,012**  
**CHASSIS ASSEMBLY FOR ELECTRONIC DEVICES**  
 Kenneth V. Seelig, Valley Stream, N.Y., assignor to Riker Video Industries, Inc., Hauppauge, N.Y., a corporation of New York  
 Filed Mar. 9, 1967, Ser. No. 621,887  
 9 Claims. (Cl. 317-101)

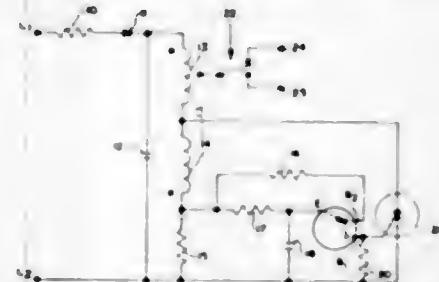
A lightweight, portable chassis for housing one or more mounting boards carrying various electronic devices cooperating to provide one or more electronic functions. The present chassis comprises aluminum extrusion elements assembled together to form a generally U-shaped

frame presenting a plurality of cooperating grooves which receive and retain cover members and one or more mounting boards. Elements for retaining the mounting boards



and covers are provided as well as handles and mounting brackets for respectively carrying the chassis and securing the chassis to a support structure.

**3,386,013**  
**SOLID STATE TIMER FOR A TWO COIL RELAY**  
 James A. Hirsch, Indianapolis, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware  
 Filed Sept. 30, 1965, Ser. No. 491,632  
 8 Claims. (Cl. 317-142)

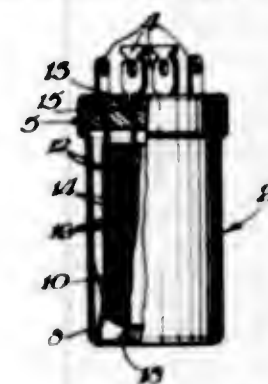


1. An electronic timer comprising: a source of direct current voltage; a relay means for operating elements of an appliance being controlled by said timer, said relay means having a first coil and a second coil identically wound and coupled in series so that current flow through both of said coils produces a net magneto-motive force of essentially zero; an electronic switching means; a circuit means for connecting said electronic switching means from a midpoint between said first and said second coils and a first side of said direct current voltage source; a means for energizing said electronic switching means after a predetermined time period connected thereto; and said second coil being effectively shorted out by said electronic switching means to permit current flow through said first coil, thereby energizing said relay.

**3,386,014**  
**DECOUPLING AND LOCATING ANCHOR FOR ELECTROLYTIC CAPACITOR**  
 Francis J. P. J. Burger, Toronto, Ontario, Canada, and Franz S. Dunkl, Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts  
 Filed Oct. 22, 1965, Ser. No. 502,263  
 3 Claims. (Cl. 317-230)

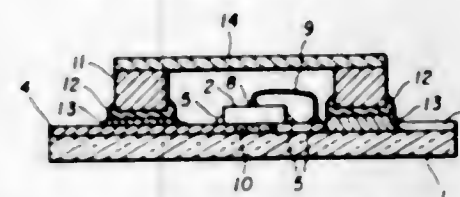
Conductive anchoring means in the bottom of a conductive can serves the dual functions of centering a con-

ductively-wound multisection electrolytic capacitor element and also forcing the extended edges of the common cath-



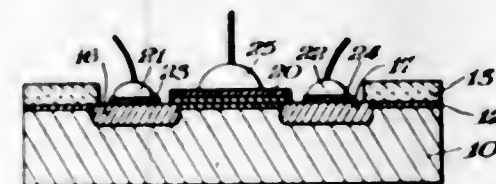
ode of the element into intimate electrical contact with themselves and the can.

**3,386,015**  
**SEMICONDUCTOR ELEMENT HAVING AN ORGANIC SILICONE BASE CEMENT**  
 Thomas H. Ramsey, Jr., Garland, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware  
 Filed Oct. 21, 1965, Ser. No. 500,139  
 10 Claims. (Cl. 317-234)



A semiconductor element having a cement including a solidified organic silicone base material and a finely divided ceramic filler material bonding a single crystal semiconductor wafer to a ceramic wafer in order to improve handling and treating of the semiconductor wafer in the fabrication of devices such as semiconductor networks.

**3,386,016**  
**FIELD EFFECT TRANSISTOR WITH AN INDUCED P-TYPE CHANNEL BY MEANS OF HIGH WORK FUNCTION METAL OR OXIDE**  
 Joseph Lindmayer, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts  
 Filed Aug. 2, 1965, Ser. No. 476,546  
 9 Claims. (Cl. 317-235)

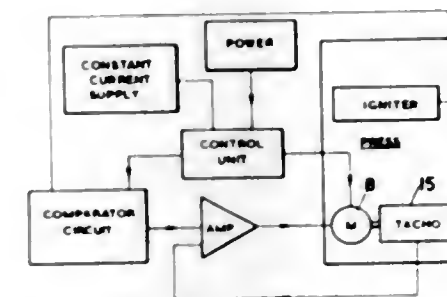


Source and drain regions of one conductivity type are connected within a semiconductive body of the other conductivity type by a P-type channel which is induced therein by high work function material overlying said body.

**3,386,017**  
**PRESSES FOR COMPACTING ELECTRICALLY CONDUCTIVE COMPOSITIONS**  
 Francis Edward Ball, London, and John William Martin, Dartford, England, assignors to National Research Development Corporation, London, England  
 Filed June 12, 1964, Ser. No. 374,651  
 Claims priority, application Great Britain, June 13, 1963, 23,693  
 7 Claims. (Cl. 318-18)

A press for pressing compacts of electrically conductive compositions includes a servosystem for controlling

the press ram in accordance with the electrical resistance of the compact. The servosystem includes a comparator for comparing a reference resistance with the varying resistance of the compact during pressing. The com-



parator output controls a motor which powers drive means for the ram such that the ram speed decreases as the resistance of the compact approaches the reference resistance.

**3,386,018**  
**TAPE TRANSPORTS INCLUDING ZERO BEAT RESPONSE IN STEPPING MOTOR SYSTEMS**  
 William Reid Smith-Vaniz, Darien, Conn., assignor to Wiltek, Inc., a corporation of Connecticut  
 Continuation-in-part of application Ser. No. 352,909, Mar. 18, 1964. This application Aug. 18, 1964, Ser. No. 390,333  
 18 Claims. (Cl. 318-138)



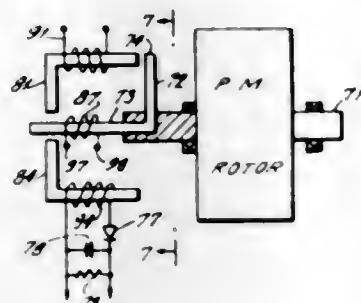
The tape transport includes a motor driving a sprocket which engages sprocketed magnetic tape. A drive circuit energizes polyphase windings to selectively establish a series of magnetic detent positions attracting a permanent magnet rotor. Step commands condition the drive circuit to establish an adjacent detent position to which the rotor is attracted. The rotor overshoots and comes to the next adjacent detent position with zero velocity. The next adjacent detent position is then automatically established to hold the rotor thereat, thereby incrementing the tape without oscillation.

**3,386,019**  
**BRUSHLESS DIRECT CURRENT MOTOR**  
 Roy K. Hill, Bristol, Tenn., assignor to Sperry Rand Corporation, Sperry Farragut Company Division, Bristol, Tenn., a corporation of Delaware  
 Original application Oct. 8, 1962, Ser. No. 228,849. Divided and this application Apr. 19, 1966, Ser. No. 598,526  
 2 Claims. (Cl. 318-138)

A D.C. powered motor is provided with a brushless commutating means including a rotatable L-shaped magnetic member having one leg extending along the axis of rotation for the magnetic member. Such leg also extends through the center of a single coil having an A.C. signal



impressed thereon so that for all angular positions of the magnetic member coupling between such member and the coil is uniform. The other leg of the magnetic member sweeps in front of a circular array of pole faces to induce switching signals in individual pickup coils associated with the individual pole faces. The aforesaid pole faces are



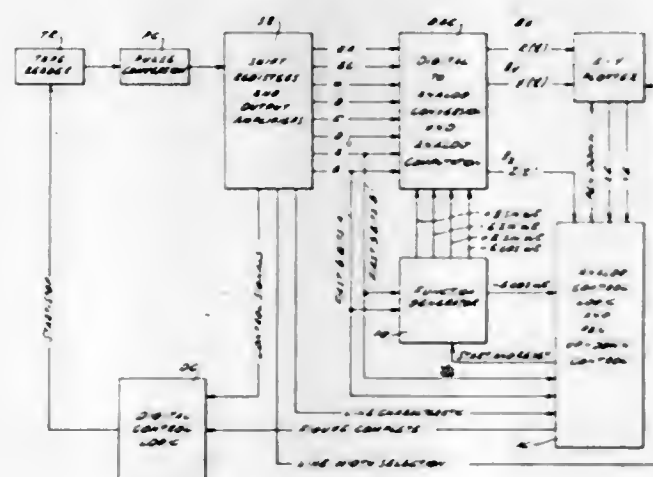
disposed at the ends of stationary pole pieces each having an individual one of the pickup coils coupled thereto. Other ends of the stationary pole pieces are positioned in uniform magnetic coupling relation to the first recited leg of the rotatable magnetic member for all positions of the latter.

3,386,020

# PROGRAMMED DIGITAL TO ANALOG FUNCTION GENERATOR FOR A MOTOR CONTROLLED X-Y PLOTTER

Paul Brock and Peter J. Foy, Encino, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Continuation of application Ser. No. 163,263, Dec. 29, 1961. This application Aug. 2, 1965, Ser. No. 477,668 3 Claims. (Cl. 318-162)



1. An electrical system of control, comprising: a pair of motors;
- a device having a pair of input members connected to said motors, respectively, and having a movable output member coupled to and driven by both input members;
- a work member on said output member operable between operative and inoperative conditions;
- an oscillator having an output circuit for producing a fixed amplitude sine voltage;
- first circuit means including an amplitude modulator coupling said output circuit of said oscillator to one of said motors;
- second circuit means including an amplitude modulator coupling said output circuit of said oscillator to the other of said motors;
- circuit means coupled to said oscillator and said work member for starting said oscillator and rendering said work member operative;
- and a stop signal circuit synchronized with said oscillator and coupled to said work member for rendering said work member inoperative.

A speed control for a direct current motor which compares a pulse wave of repetition frequency  $f_o$  proportional to the motor speed with a reference pulse wave of repetition frequency  $f_c$  and provides a direct voltage  $e$ , for controlling the motor speed through control of its field energization, that has a steady maximum value when  $f_o < f_c$ , a steady minimum value when  $f_o > f_c$  and, after either of these values of  $e$  has brought  $f_o$  into substantial equality with  $f_c$ , oscillates between the two values to form a rectangular wave of direct voltage that is automatically varied in duty cycle to provide the average value of  $e$  required to maintain  $f_o$  in exact equality with  $f_c$ .

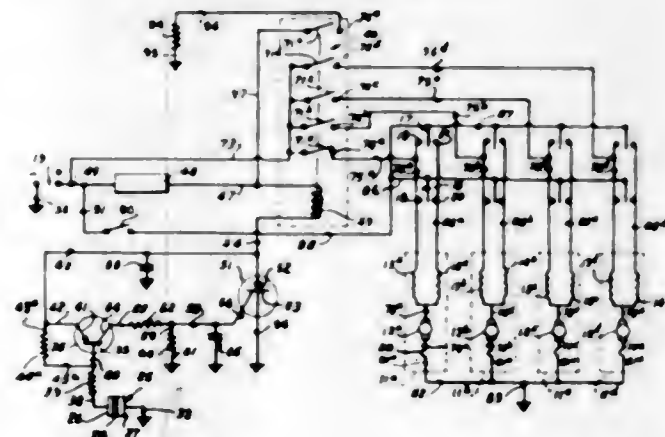
3,386,022

# CONTROL CIRCUIT FOR MOVING CLOSURES TO CLOSED POSITION UPON THE OCCURRENCE OF PRECIPITATION

William G. Redmond, Jr., 4236 Bobbitt Drive, Dallas, Tex. 75229

Continuation-in-part of application Ser. No. 307,548, Sept. 9, 1963. This application Feb. 27, 1967, Ser. No. 618,811

27 Claims. (Cl. 318-483)



A control circuit having a sensing means for sensing the occurrence of precipitation and energizing the drive means of closures, such as windows or tops of automobiles, or windows, doors or vents of buildings, to cause any such closures in open position to be moved to their closed positions.

3,386,023

# ELECTRIC SHAVER

Ivar Jenson, South Duxbury, Mass., and Leon M. Rozyk, Berwyn, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Original application July 15, 1963, Ser. No. 295,028, now Patent No. 3,311,763, dated Mar. 28, 1967. Divided and this application Nov. 21, 1966, Ser. No. 595,658

3 Claims. (Cl. 320-2)

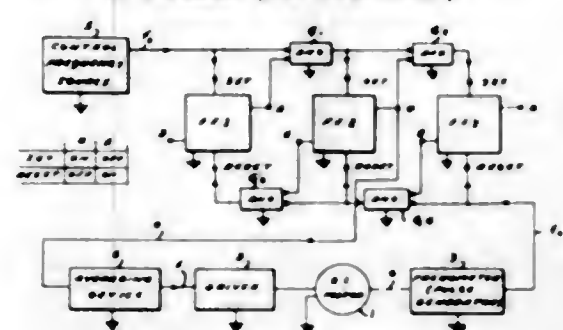
Rechargeable battery operated shaver with built-in charging means wherein the cutting mechanism and bat-

## 3,386,021 DIRECT CURRENT MOTOR SPEED CONTROL SYSTEM

Israel L. Fischer, Harrington Park, N.J., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Aug. 28, 1964, Ser. No. 392,977

2 Claims. (Cl. 318-329)



tery unit are spaced apart a minimum distance substantially equal to the diameter of the armature of the motor interposed between them. The terminals which permit the charging unit to be connected to an external source of



power are rendered inaccessible by a door member connected to the switch which controls energization of the motor from the battery. Thus the battery cannot be recharged when the shaver motor is energized.

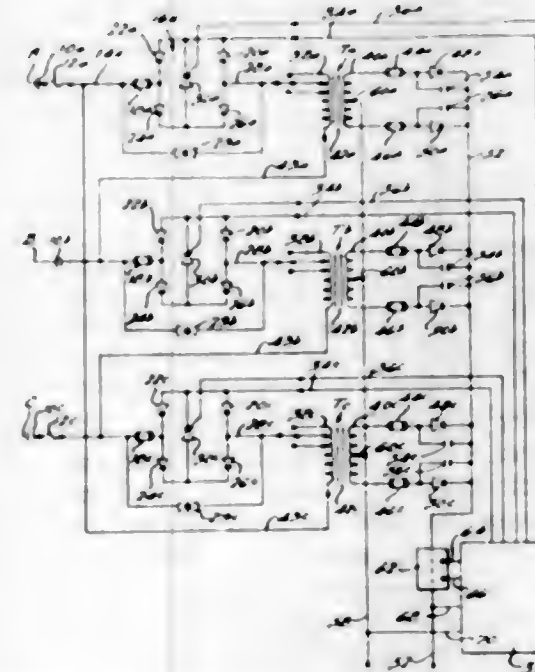
3,386,024

## APPARATUS FOR PROVIDING A DIRECT POTENTIAL OUTPUT FROM A MULTIPHASE ALTERNATING POTENTIAL INPUT

Michael A. Koltunak, Warren, and Charles E. Fenoglio, Detroit, Mich., assignors to The Udyllite Corporation, Warren, Mich., a corporation of Delaware

Filed Jan. 15, 1965, Ser. No. 425,906

1 Claim. (Cl. 321-5)



Multiphase rectifying apparatus with a control circuit for each phase and with electrical magnetic isolation to prevent undesirable coupling effects to the control circuit.

3,386,025

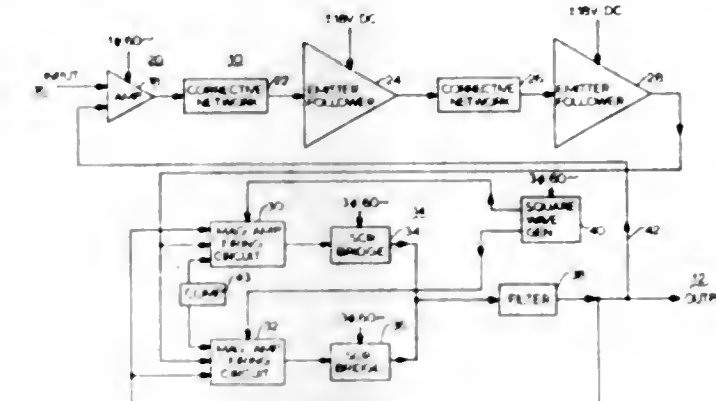
## REVERSIBLE POLARITY AC TO DC POWER SUPPLY

Joseph Grillo, New Milford, and John A. Herbst, Boonton, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Feb. 1, 1966, Ser. No. 524,221

7 Claims. (Cl. 321-5)

A reversible AC to DC converter capable of supplying a reversible polarity DC output from a three-phase AC input from two silicon controlled rectifier bridges. Each bridge has three branches with a silicon controlled rectifier in each branch, the branches being respectively coupled to a three-phase input. The silicon controlled rectifiers are fired by magnetic amplifiers and square wave gen-



erators. The magnetic amplifiers have control windings which are responsive to the input stage. Thus, the input stage receives the input which determines the polarity of

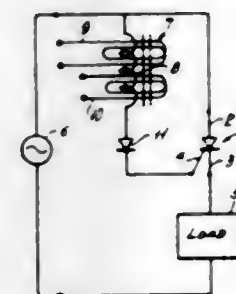
3,386,026

## SCR CONVERSION SYSTEM WITH MAGNETIC AMPLIFIER GATE CONTROL

Arthur Z. Gutterman, Stamford, Conn., assignor to Fairfield Engineering Corporation, Springdale, Conn.

Filed July 30, 1958, Ser. No. 751,981

7 Claims. (Cl. 321-8)



1. A power control circuit, comprising a normally blocked rectifier having successive zones of p-n-p-n conductivities, an input electrode connected to an end p zone, an output electrode connected to the opposite end n zone, a control electrode connected to the intermediate p zone, said rectifier being rendered conducting by the application of current of given amplitude and direction to said control electrode, a load coupled to said output electrode, a source of power coupled across said rectifier and said load, and a selectively operable magnetic amplifier coupled to said control electrode and capable of producing current of said given amplitude, whereby said rectifier under control of said magnetic amplifier may selectively control the application of power to said load.

3,386,027

## HIGH VOLTAGE CONVERTER APPARATUS HAVING A PLURALITY OF SERIALLY CONNECTED CONTROLLABLE SEMICONDUCTOR DEVICES

Lee A. Kilgore, Franklin Township, Export, and Harvey E. Spindle, Wilkins Township, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

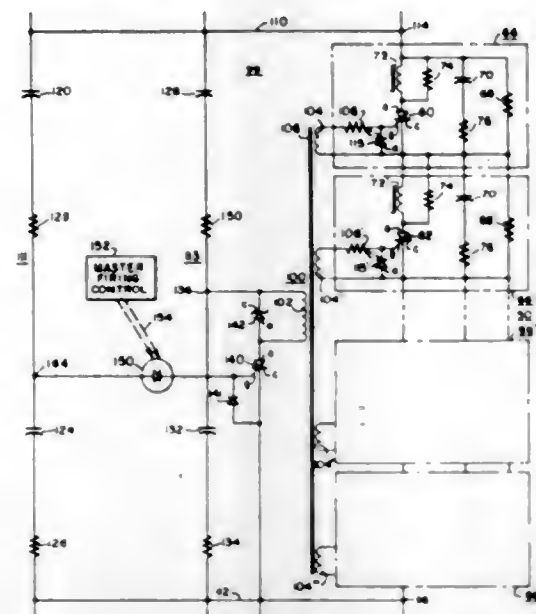
Filed Sept. 8, 1965, Ser. No. 485,743

15 Claims. (Cl. 321-11)

High voltage converter apparatus of the type having a plurality of serially connected, controllable semiconductor devices. The converter apparatus includes means for providing a substantially uniform voltage distribution across the devices, and for maintaining the uniform

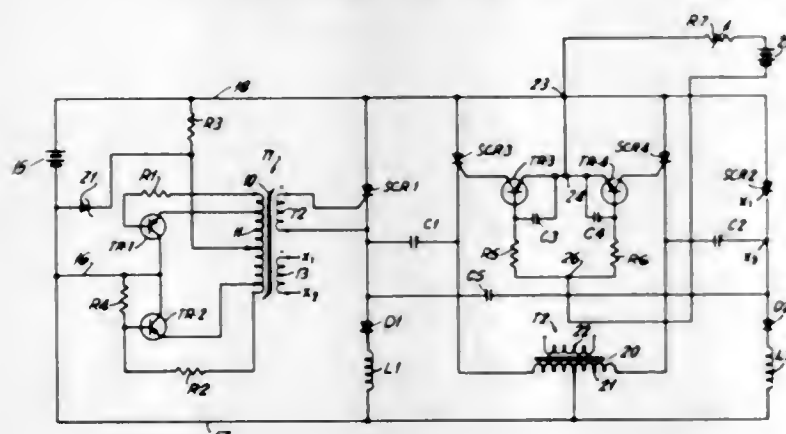


distribution while the devices are being switched. The converter apparatus also includes firing means for switch-



ing the devices, using electromagnetic radiation to trigger the firing means.

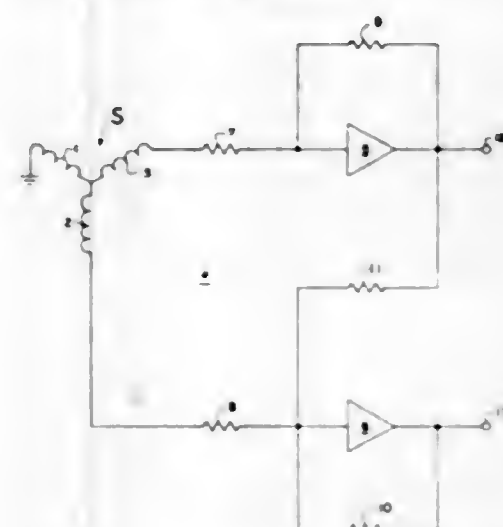
**3,386,028**  
**INVERTER HAVING REGULATED OUTPUT VOLTAGE AT A CONSTANT FREQUENCY**  
Raymond H. Legatti, Clearwater, Fla., assignor to Electromagnetic Industries, Inc., Sayville, N.Y.  
Filed July 5, 1966, Ser. No. 562,546  
11 Claims. (Cl. 321-18)



1. An inverter having a regulated output voltage at a constant frequency, said inverter comprising, in combination, an inverter input circuit including an inverter transformer having a core of square loop paramagnetic material; means applying a D.C. potential to said inverter circuit; voltage regulating means connected across said inverter input circuit and maintaining the input voltage to said inverter transformer at a constant value, whereby the output frequency of said inverter transformer is maintained at a constant frequency; a pair of first solid state rectifiers having respective control input circuits connected across the output of said inverter transformer in opposed polarity relation, whereby the first solid state rectifiers are triggered conductively alternatively at said constant output frequency; an output transformer; a pair of second solid state rectifiers having outputs connected in opposed polarity relation across the primary winding of said output transformer; means applying a forward D.C. bias potential across the outputs of all of said solid state rectifiers; a pair of commutating condensers each connecting one electrode of a first solid state rectifier to the corresponding electrode of a second solid state rectifier, whereby said second solid state rectifiers are blocked alternately, at said constant output frequency, by the associated first solid state rectifiers when the latter conduct; each second solid state rectifier, when

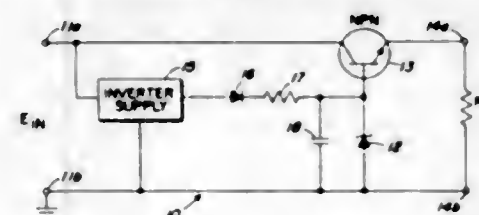
conducting, blocking the associated first solid state rectifier; voltage-responsive triggering means connected to the input circuits of said second solid state rectifiers and operable to provide a triggering pulse to said second solid state rectifier for a portion of a half cycle corresponding to the voltage applied to said triggering circuit means; and means, including a source of unidirectional potential, operable to apply a predetermined voltage to said triggering circuit means to maintain the output A.C. potential of the secondary winding of said output transformer at a preselected value, said second solid state rectifiers being commutated solely by the associated first solid state rectifiers.

**3,386,029**  
**PHASE CONVERTER UTILIZING AMPLIFIERS AND FEEDBACK MEANS**  
John D. Brinkman, Pine Brook, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware  
Filed June 28, 1966, Ser. No. 561,154  
4 Claims. (Cl. 321-54)



1. An electrical circuit comprising a pair of summing amplifiers each including a feedback coupling from the output to the input thereof, cross coupling between the output of one of said amplifiers to the input of the other amplifier, the feedback coupling of said other of said amplifiers being  $\sqrt{3}/2$  times the feedback coupling of said one amplifier, the cross coupling being one-half that of the feedback coupling of said one amplifier, and impedance means in the input to each of said amplifiers being substantially equal to each other, whereby said circuit is effective to translate input electrical signals represented by the expressions  $E \sin \theta \sin \omega t$  and  $E \sin (\theta + 60^\circ) \sin \omega t$  wherein  $E$  is the signal amplitude,  $\theta$  is a variable angle,  $\omega$  represents the carrier frequency and  $t$  is elapsed time, potentials proportional to  $E \sin \theta \sin \omega t$  and  $E \cos \theta \sin \omega t$ , respectively, at the output thereof.

**3,386,030**  
**VOLTAGE REGULATOR**  
Hugo M. Kann, Marlon, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa  
Filed Oct. 21, 1964, Ser. No. 405,428  
8 Claims. (Cl. 323-4)



A voltage regulator circuit with a Zener diode voltage level control for an NPN transistor having a collector

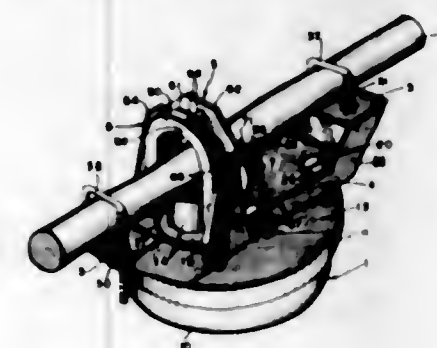
connection to a main DC voltage supply, a base connection through the Zener diode to the other side of the main DC voltage supply, an emitter load connection, and an additional base current supply capable of maintaining the transistor in a fully saturated state when the main DC voltage supply falls to relatively low levels such that the Zener diode is no longer voltage biased to conduction. Sufficient impedance is included in the additional base current supply, that impresses a higher potential at the base of the transistor than is impressed with the main voltage source alone, to insure that transistor base current never exceeds safe values.

**3,386,031**  
**HELICOPTER ROTOR BLADE TRACKERS**  
Edward T. Able, Lyman L. Blackwell, and Donald R. Steele, Denver, Colo., assignors to B. K. Sweeney Manufacturing Co., Denver, Colo.  
Filed June 1, 1965, Ser. No. 460,199  
6 Claims. (Cl. 324-61)



A capacitance element positioned adjacent the plane of rotation of the blades of a helicopter rotor to modulate the frequency of an inductance-capacitance oscillator, the output of which controls an oscilloscopic display showing an independent signal for each passing blade for comparison to determine misalignment.

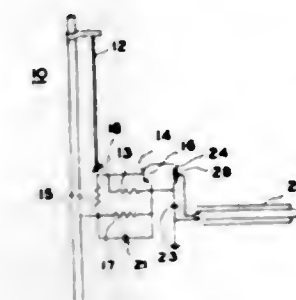
**3,386,032**  
**REMOVABLE CORE STRUCTURES FOR ELECTRICAL DEVICES**  
Lewis A. Medlar, Lansdale, Pa., assignor to B. Franklin Lewis (trading as Lewis Electrical Equipment Co., Philadelphia, Pa.), Elmer Adkins, Asbury Park, N.J., and Lewis A. Medlar, Lansdale, Pa., copartners  
Continuation of application Ser. No. 204,979, June 25, 1962. This application Apr. 28, 1966, Ser. No. 546,106  
8 Claims. (Cl. 324-127)



1. In apparatus for attaching a magnetic flux responsive electrical device to a relatively straight electric current carrying conductor, the combination of securing means forming a part of the electrical device for maintaining the device in a certain fixed position with respect to the conductor; a rigid magnetic core structure rectilinearly separable from said securing means and the electrical device for providing a low reluctance path for magnetic flux surrounding the current carrying conductor so that a substantial quantity of magnetic flux passes through the electrical device when said core structure is properly positioned;

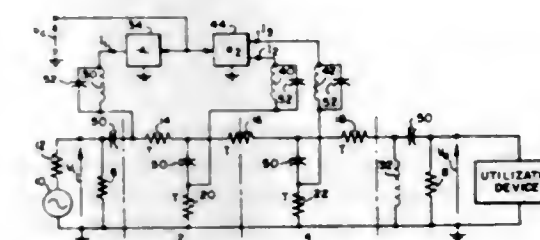
guide means affixed to the electrical device constructed to rectilinearly guide said core into said proper position; and fastening means for removably securing said core structure in said guide means at said proper position.

**3,386,033**  
**AMPLIFIER USING ANTENNA AS A CIRCUIT ELEMENT**  
John R. Copeland and William J. Robertson, Columbus, Ohio, assignors to The Ohio State University Research Foundation  
Filed Feb. 11, 1965, Ser. No. 431,892  
12 Claims. (Cl. 325-373)



1. An integrated antenna circuit comprising an antenna, a feed section for said antenna having one end coupled directly to said antenna, an amplifier circuit positioned with respect to said antenna at the point of signal origin, said amplifier comprising a transistor circuit including a base, an emitter, and an input-output circuit therefor, means for coupling the other end of said feed section directly to said base, and means for connecting said input-output circuit to said emitter.

**3,386,034**  
**RADIO FREQUENCY SIGNAL LEVEL CONTROL CIRCUIT**  
Geoffrey S. Entwistle, Severna Park, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania  
Filed Nov. 12, 1964, Ser. No. 410,564  
1 Claim. (Cl. 325-415)



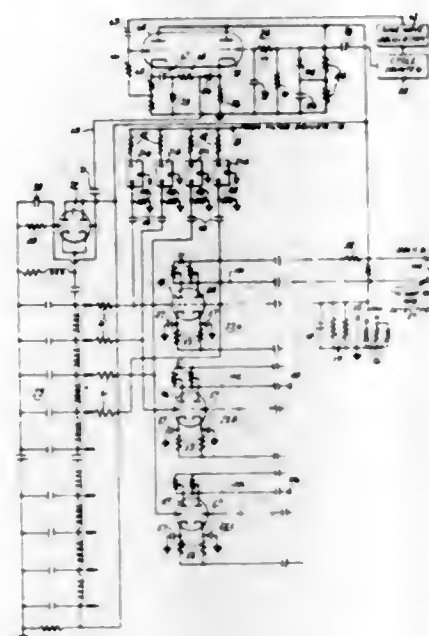
A signal level control circuit for RF frequency signals by varying the magnitude of temperature responsive resistors in accordance with a control signal. The temperature responsive resistors are connected in the series and parallel circuit combinations between the input means and output means. First and second control circuits provide current to the temperature responsive resistors for varying their temperature and hence the magnitude of their resistance in the signal level control circuit.

**3,386,035**  
**SCANNING SIGNAL GENERATOR USING DELAY LINE**  
David E. Wood, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
Original application May 24, 1962, Ser. No. 197,364, now Patent No. 3,243,703, dated Mar. 29, 1966. Divided and this application Nov. 12, 1965, Ser. No. 507,449  
1 Claim. (Cl. 328-30)

1. A scanning signal source comprising a tapped delay line having a plurality of tap-off points along its length,



a source of oscillatory signals effectively coupled to said delay line, an  $n$ th cycle counter coupled to said source of oscillatory signals, and an  $n$ th cycle emphasizing circuit coupled to said delay line and to said source of oscillatory

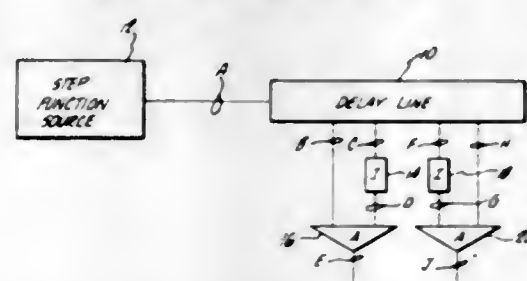


signals and controlled by said  $n$ th cycle counter for emphasizing every  $n$ th cycle of said oscillatory signal supplied to the delay line where  $n$  is any number greater than one and not exceeding the frequency of the source of oscillatory signals.

3,386,036

**DELAY LINE TIMING PULSE GENERATOR**

Charles P. Gerrard and Joseph Reese Brown, Jr., Pasadena, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan  
Filed Oct. 23, 1965, Ser. No. 503,333  
4 Claims. (Cl. 328—56)



1. A timing circuit for generating a series of timing pulses comprising a tapped electrical delay line, means for abruptly changing the voltage level at the input to the delay line between a first and second level, at least one AND gate having a pair of inputs, one input being directly connected to one tap on the delay line, and an inverter connecting the other input to another tap on the delay line.

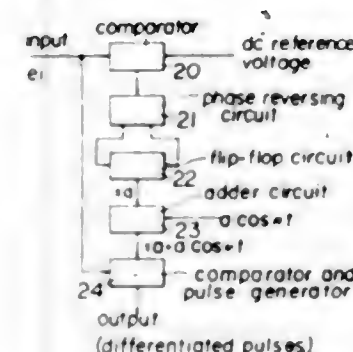
3,386,037

**PHASE ANGLE TRIGGERING CONTROL FOR AN SCR, FOR EXAMPLE**

Hayatosi Yamada, Ohta-ku, Tokyo, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan  
Filed Sept. 9, 1964, Ser. No. 395,223  
Claims priority, application Japan, Sept. 12, 1963, 38/48,075  
5 Claims. (Cl. 328—134)

To provide pulses triggering phase sensitive rectifiers, such as SCR's, and the like from a DC input so that the output of the rectifiers will be directly proportional to input, input signals are compared with a reference to provide a modified, constant output, added in an adder to cosine wave and compared again with the input to obtain output pulses having a phase position which, when

the rectifier is triggered, will provide a rectified output directly proportional to input potential, the double com-

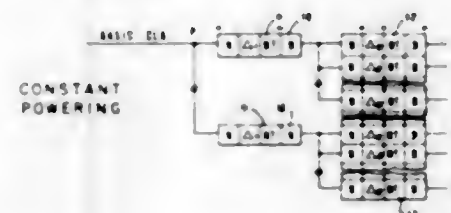


parison and addition of a cosine wave in the circuit eliminating non-linearities.

3,386,038

**BALANCED CLOCK**

Thore Jan Johansen, Wappingers Falls, and Edward J. Ossolinski and Gordon L. Smith, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Filed Apr. 5, 1965, Ser. No. 445,671  
2 Claims. (Cl. 328—162)

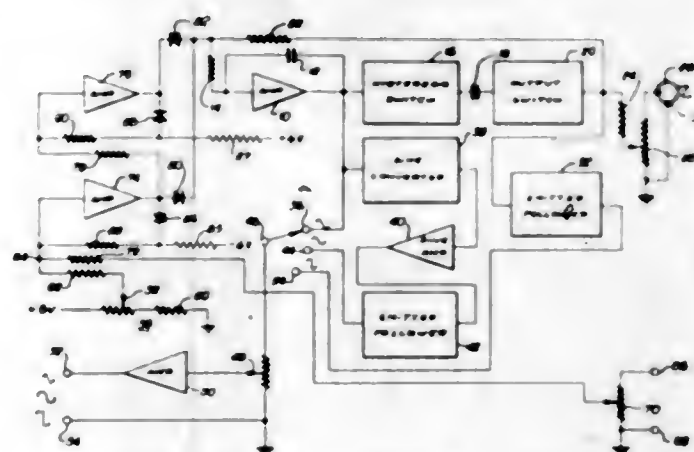


A clock signal powering and distribution network for a data processing system employing components having different response times to "turn on" and "turn off" control signals. The utilization of a pair of similar signal level inverters at each level of signal delay and distribution enables the "turn on," "turn off" response difference of one of the pair to compensate for the response difference of the other whereby signals can be powered and distributed without significant distortion.

3,386,039

**VARIABLE VOLTAGE-CONTROLLED FREQUENCY GENERATOR**

Joel A. Nalve, La Jolla, Calif., assignors to Wavetek, San Diego, Calif., a corporation of California  
Filed May 19, 1965, Ser. No. 457,012  
14 Claims. (Cl. 328—181)



This invention relates to a variable voltage-controlled frequency generator of the type which uses a linear integrator and a switching circuit connected in series with a feedback loop between the switching circuit and the integrator to produce a triangular waveform from the linear integrator and a square waveform from the switching cir-

cuit and with a sine converter coupled from the linear integrator to produce a sine wave from the triangular wave. The invention includes controlling the repetition rate of the sine wave in accordance with the characteristics of an external signal having one terminal coupled to a reference potential such as ground and wherein the input to the linear integrator is symmetrically controlled in accordance with the characteristics of the grounded external signal. The invention also includes the use of semiconductor clamping means so as to clamp the input to the linear integrator in accordance with the characteristics of the external signal. The clamping means may include a pair of operational amplifiers in series with a pair of oppositely disposed semiconductor devices interconnected between the outputs of the operational amplifiers and the input to the linear integrator.

3,386,040

**PARTICLE ACCELERATOR INCLUDING MEANS FOR TRANSFERRING PARTICLES BETWEEN ACCELERATOR AND STORAGE RING**

Alfred W. Maschke, Rocky Point, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission  
Filed Aug. 5, 1965, Ser. No. 477,625  
5 Claims. (Cl. 328—235)



Apparatus and method for producing a high energy high intensity charged particle beam in which charged particles are longitudinally compacted by injection into the betatron phase space of a cyclic alternating gradient magnetic particle confining ring. In one embodiment, alternating gradient synchrotron cyclic accelerator and storage rings are provided with provision for the extraction and injection of the particles back and forth therebetween whereby a plurality of relatively low energy large diameter beams that are reduced in diameter by acceleration to an intermediate energy in the accelerating ring can sequentially be extracted from the accelerating ring and sequentially longitudinally compacted in the betatron phase space of the storage ring to produce a high intensity beam that can be extracted from the storage ring and injected into the accelerating ring for acceleration therein to high energies.

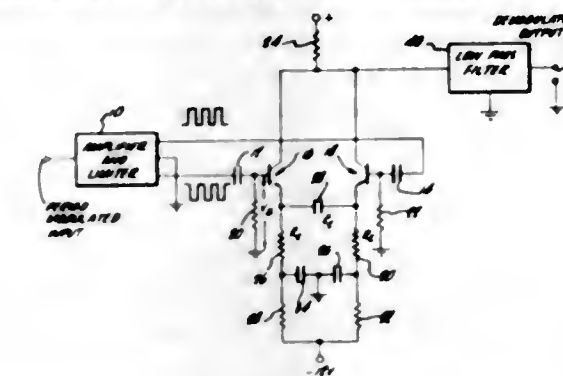
3,386,041

**DEMODULATOR CIRCUIT FOR PERIOD MODULATED SIGNALS**

Norton W. Bell, Pasadena, Calif., assignor, by means assignments, to Bell & Howell Company, Chicago, Ill., a corporation of Illinois  
Filed July 26, 1965, Ser. No. 474,903  
5 Claims. (Cl. 329—102)

5. A demodulator comprising first and second transistors each having base, emitter and collector electrodes, means connecting the collector electrodes to one end of a potential source, resistor means connecting the emitter of the first transistor and the emitter of the second transistor to the other end of the potential source, a reactive impedance connected between the two emitter electrodes, a low-pass filter coupled to the collector electrodes for

deriving a demodulated output signal through the filter, and means for applying a pair of time modulated square

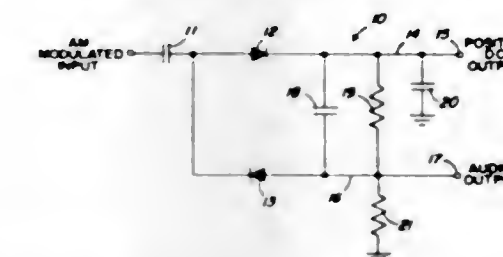


wave input signals of opposite phase to the base electrodes of two transistors.

3,386,042

**DIODE DETECTOR HAVING INDIVIDUAL AUDIO AND RECTIFIED D-C DOUBLED OUTPUTS**

Ernest J. Moes, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa  
Filed Dec. 28, 1964, Ser. No. 421,330  
6 Claims. (Cl. 329—204)

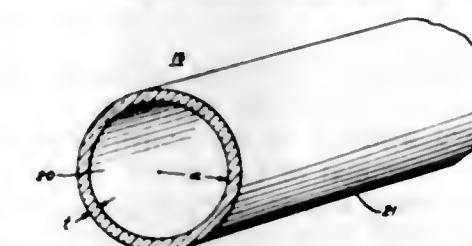


An amplitude modulation (AM) detector with fast D.C. rise time and relatively slow decay time capable of handling high percentage modulation even up in the 90% to 100% modulation range, and with substantially no distortion appearing in the audio output. The detector includes two diodes one connected anode and the other connected cathode directly by a common junction connection to an RF or IF signal passing coupling capacitor for receiving an AM input signal. The opposite electrodes of the two diodes are connected to, respectively, a voltage doubled positive D.C. output line and an audio output line. An RF bypass capacitor and resistor are connected, in parallel, between the two output lines, an audio bypass capacitor is connected between the audio output line and ground, and a resistor is connected between the audio output line and ground.

3,386,043

**DIELECTRIC WAVEGUIDE, MASER AMPLIFIER AND OSCILLATOR**

Enrique A. J. Marcattili, Fair Haven, N.J., and Robert A. Schmeltzer, Torrance, Calif., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 360,488, Apr. 17, 1964. This application July 31, 1964, Ser. No. 387,554  
15 Claims. (Cl. 330—4.3)



A dielectric waveguide for guiding electromagnetic wave energy whose wavelength is small compared to the



cross-sectional dimensions of the waveguide is described. The waveguide comprises an inner, low-loss dielectric material whose cross-sectional dimensions are greater than ten times the wavelength of the propagating energy, surrounded by an outer, dielectric material of higher dielectric constant. The outer dielectric can be either a metallic or a nonmetallic material.

3,386,044

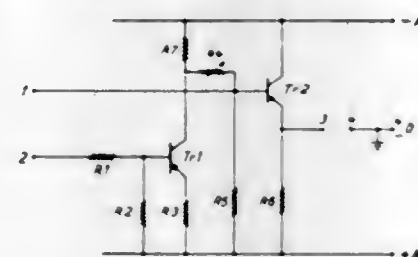
# OUTPUT AMPLIFIER STAGE FOR CONVERTING SYMMETRICAL SIGNALS TO UNSYMMETRICAL SIGNALS WITH RESPECT TO A REFERENCE POTENTIAL

Heinrich Rudolf Sturm, Stockholm, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed June 9, 1965, Ser. No. 462,522

Claims priority, application Sweden, July 27, 1964, 9,105/64

4 Claims. (Cl. 330-14)



An output amplifier stage converts symmetrical or balanced signals received at two input signal terminals to an unsymmetric or unbalanced signal with respect to ground. The stage comprises a phase inverting amplifier and an impedance transforming amplifier. The input of each of the amplifiers is connected to one of the two input signal terminals respectively. In addition, the output of the phase inverting amplifier is connected to the input of the impedance transforming amplifier. An output signal terminal of the stage is connected to the output of the impedance transforming amplifier to deliver an output signal which is unsymmetric with respect to a given potential present on a second output signal terminal of the stage.

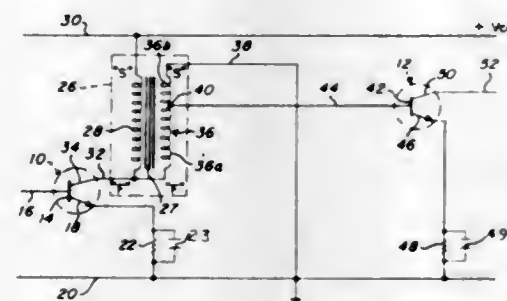
3,386,045

# INTERSTAGE COUPLING TRANSFORMERS FOR SEMI-CONDUCTOR DEVICES

Milton H. Crothers, Urbana, Ill., assignor of one-half to William R. Jacox, Dayton, Ohio

Filed Aug. 10, 1964, Ser. No. 388,355

4 Claims. (Cl. 330-21)



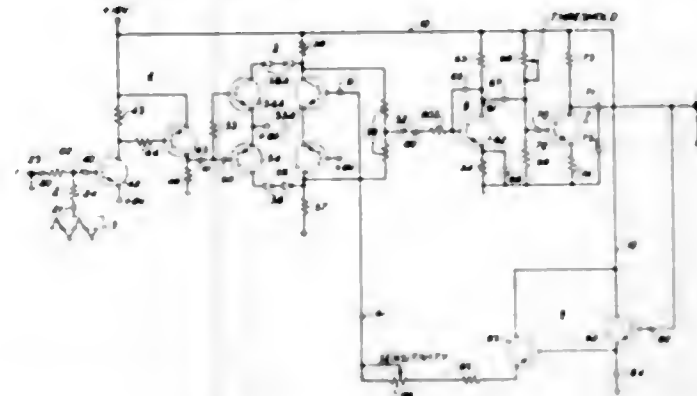
An improved transformer coupling network for coupling two stages of semi-conductor devices such as transistors. The primary winding of the transformer is connected between one terminal of the source potential and the output electrode and the secondary winding of the transformer is connected between said output electrode and a reference potential. A tap on the secondary winding is connected to the input circuit of the following stage.

# 3,386,046 AUTOMATIC GAIN CONTROL CIRCUIT

Robert E. Myer, Denville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 14, 1965, Ser. No. 495,944

8 Claims. (Cl. 330-29)



An automatic gain control circuit which converts an amplitude variable signal into a time variable signal where it is automatically regulated in amplitude by simple limiting or clipping techniques under control of the circuit output. The circuit output is obtained by integrating the amplitude regulated time variable signal to restore it to an amplitude variable signal of controlled level.

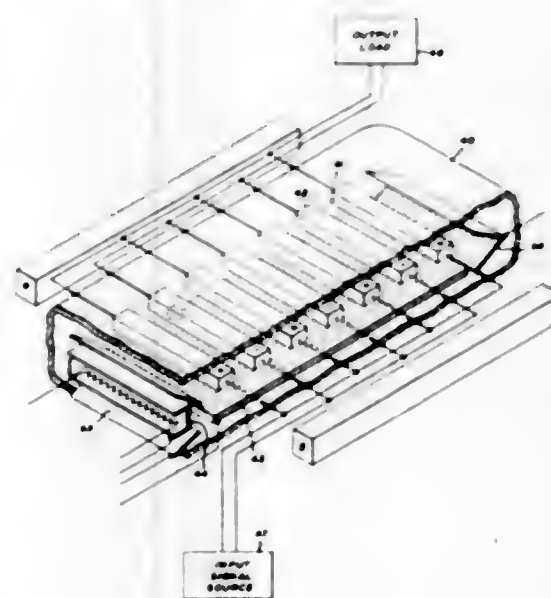
3,386,047

# TRANSVERSE WAVE AMPLIFIER

Donald A. Wilbur, Scotia, N.Y., and Philip N. Hess, Los Altos, Calif., assignors to General Electric Company, a corporation of New York

Original application Sept. 10, 1962, Ser. No. 222,510, now Patent No. 3,304,463, dated Feb. 14, 1967. Divided and this application Oct. 10, 1966, Ser. No. 600,681

4 Claims. (Cl. 330-43)



1. A transverse wave amplifier comprising a pair of spaced anode and cathode elements defining an interaction space, means for establishing an electric field across said interaction space, said anode comprising a planar array of spaced parallel elongated segments, said cathode element being coextensive in length and width with said anode elements and constituting therewith a transmission line effective for supporting and propagating an electromagnetic wave parallel to the direction of said anode segments and transverse said electric field, means for directing a beam of electrons transverse the direction of said anode segments and said electric field in said interaction space, means for collecting said electrons, and electromagnetic wave input means for impressing alternate positive and negative potentials on immediately adjacent ones of

said anode segments connected at one end of each of said anode segments and output means connected to each of the opposite ends of said anode segments, whereby an electromagnetic wave signal introduced at said input means is amplified by propagation along said line in the direction of said output means and is extractable at said output means.

3,386,048

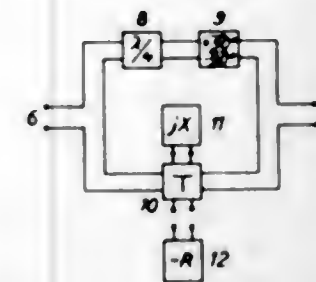
# AMPLIFIER COMPRISING NEGATIVE RESISTANCE ELEMENTS

Tore Torstensson Fjällbrant, Staborg, Fjaras, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Mar. 22, 1966, Ser. No. 536,367

Claims priority, application Sweden, Mar. 31, 1965, 4,129/65

4 Claims. (Cl. 330-61)



1. An amplifier comprising input terminals and output terminals and a negative resistance element, intended to give a resulting amplification mainly independent upon variations in the negative resistance element, said amplifier comprising two signal ways connected between said input and output terminals, one of said signal ways comprising a quarter-wave circuit connected in series with a non-reciprocal phase-shifter, the other of said signal ways comprising a differential branch, a magic T, in one branch of said differential branch a reactance element being connected, in the other branch of said differential branch said negative resistance element being connected.

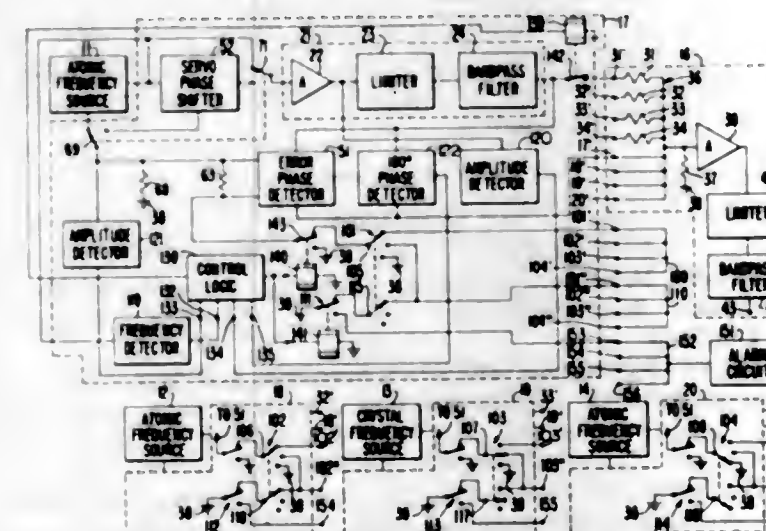
3,386,049

# FREQUENCY CORRECTION CIRCUIT FOR AN AVERAGING FREQUENCY COMBINER

Robert J. Rorden, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Original application Dec. 21, 1966, Ser. No. 603,564. Divided and this application Mar. 1, 1967, Ser. No. 619,795

10 Claims. (Cl. 331-2)



The signals generated by a plurality of frequency sources are coupled to a common buss. The instantaneous amplitudes of the signals are summed at the common buss to provide a signal whose phase is the average of the phases of the summed signals. The phase averaged signal

is amplified, limited and passed through a bandpass filter to provide a signal whose frequency is the average of those of the frequency sources. The phase averaged signal also is coupled to a phase detector associated with each of the frequency sources. Each phase detector compares the phase of the signal generated by the associated frequency source with the phase averaged signal. The phase detector provides a D.C. error signal of a polarity indicating whether the source signal leads or lags the phase averaged signal in phase and of a magnitude proportional to the number of degrees of phase lag or lead. Selected D.C. error signals are coupled to a common error signal averaging buss to provide an average D.C. error signal. The selected D.C. error signals are compared to the average D.C. error signal to provide master error signals representative of the difference between the average D.C. error signal and the compared D.C. error signals. The master error signals and unselected D.C. error signals are coupled to adjust the frequencies of the source signals to the average of their frequencies.

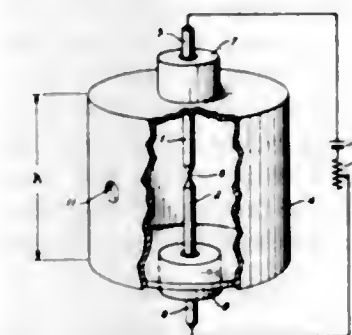
3,386,050

# SUPERCONDUCTING TUNNELING DEVICES WITH IMPROVED IMPEDANCE MATCHING TO RESONANT CAVITIES

Aly H. Dayem, New Providence, and Charles C. Grimes, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed June 29, 1966, Ser. No. 561,517

13 Claims. (Cl. 331-101)



Two-particle superconducting tunnel structures such as those operating in accordance with the Josephson principle show improved oscillator efficiency when placed at a low impedance portion of a resonant cavity so that the R.F. currents of the cavity travel through the tunnel structure.

3,386,051

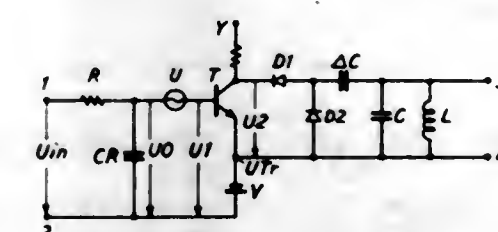
# MEANS FOR GRADUALLY SWITCHING CAPACITOR INTO AND OUT OF VARIABLE FREQUENCY OSCILLATOR

Walter Herbert Erwin Widi, Bandhagen, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Nov. 30, 1966, Ser. No. 598,041

Claims priority, application Sweden, Dec. 22, 1965, 16,670/65

9 Claims. (Cl. 331-117)



An apparatus for changing the frequency of oscillation of a parallel L, C tank circuit which apparatus includes a capacitor having one terminal connected to one terminal of the tank circuit and a switching device for controllably

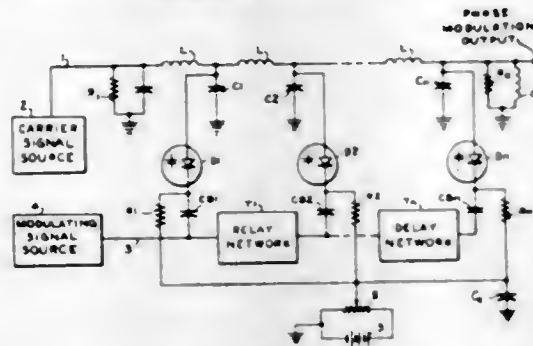


connecting the other terminal of the capacitor to the other terminal of the tank circuit. The switching device includes a switching transistor whose base terminal receives an integrated DC switching voltage upon which is superimposed a high frequency AC voltage. The transistor conducts only when the sum of DC switching voltage and the AC voltage exceed the emitter-base bias of the transistor.

### 3,386,052 WIDE BAND DISTRIBUTED PHASE MODULATOR

Leslie D. Thomas, Baltimore, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 5, 1964, Ser. No. 409,242  
4 Claims. (Cl. 332-18)

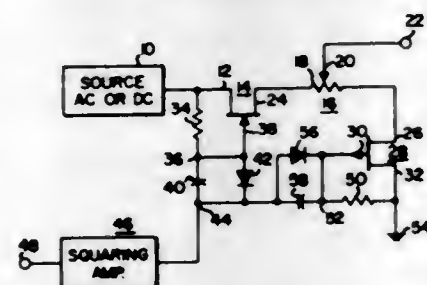


A carrier signal propagating through a cascaded plurality of phase modulator stages is phase modulated by a modulating signal applied at each phase modulator stage at a time equal to the propagation time the carrier signal takes to reach that particular stage. The modulating signal is delayed for a time equivalent to the time it takes for the carrier signal to arrive at a particular stage in order to avoid the ill effects of the modulations produced by each stage being incoherent. Such incoherence can otherwise occur when the delay time in the carrier line is not negligible compared with the period of the modulation as the modulating signal passes the line.

### 3,386,053 SIGNAL CONVERTER CIRCUITS HAVING CONSTANT INPUT AND OUTPUT IMPEDANCES

Lloyd W. Priddy, Mahomet, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Apr. 26, 1965, Ser. No. 450,930  
11 Claims. (Cl. 332-31)



Signal converting circuitry for modulating-demodulating input signals while maintaining constant input and output impedances.

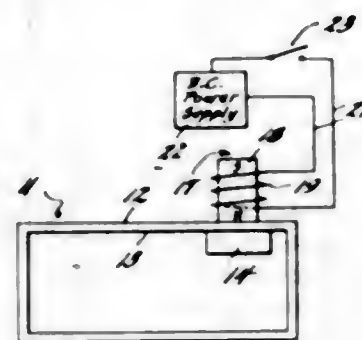
### 3,386,054 METHOD AND APPARATUS FOR TUNING WAVEGUIDES

Russell W. Spikula, Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 11, 1965, Ser. No. 494,314  
14 Claims. (Cl. 333-21)

One, or a plurality of paramagnetic slugs are inserted and magnetically positioned inside a waveguide to tune

the waveguide by attenuating undesired reflections and reducing the standing wave ratio. The magnetic positioning of the slug inside the waveguide represents the optimum locations for discrete compensating depressions without

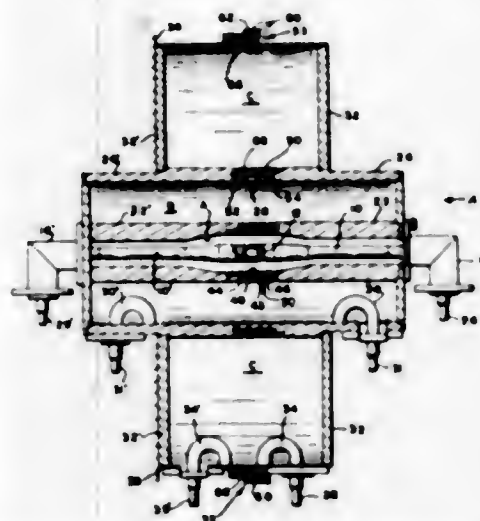


repetitive drilling and tapping of the waveguide. Alternatively, a pair of crescent-shaped paramagnetic slugs are placed and magnetically positioned in a circular waveguide to alter the polarization of a polarized wave being propagated in the waveguide.

### 3,386,055 THREE-WAY ROTARY JOINT FOR WAVEGUIDES

Romulus Fratila, Springfield, and Charles V. Gardner, Gainesville, Va., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Jan. 18, 1966, Ser. No. 521,463  
1 Claim. (Cl. 333-98)



Three drum-like concentrically arranged elements form three concentric waveguide cavities, each with input and output to a transmission line. Each drum comprises two sections joined midway the ends of each for rotation of one end section of each drum with respect to the section to which it is attached.

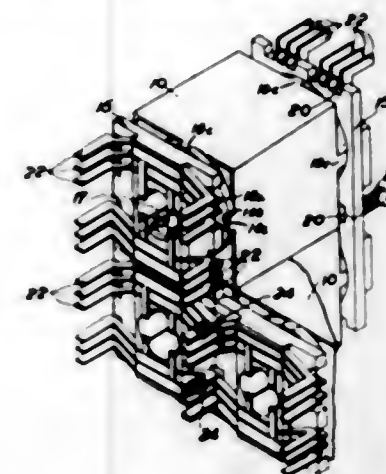
### 3,386,056 ELECTRICAL SWITCH MODULE

Emanuel Frydman, London, England, assignor to Telephone Manufacturing Company Limited, London England

Filed Aug. 26, 1966, Ser. No. 575,389  
Claims priority, application Great Britain, Sept. 13, 1965, 38,943/65  
6 Claims. (Cl. 335-112)

An electrical switch module for electrical and mechanical connection to other modules contains a plurality of individual switches in the form of reed type relays incased within glass tubes located within an operating coil which is housed in a rectangular casing. Support bases at the opposite ends of the casing carry a plurality of conductors connected to the relays, these conductors extending transversely to, and which terminate beyond oppo-

site sides of, the casing in tags so that the tags on one switch module can be mechanically and electrically connected to corresponding and overlapping tags on an adjacent module by wire wrapping. The conductor-supporting

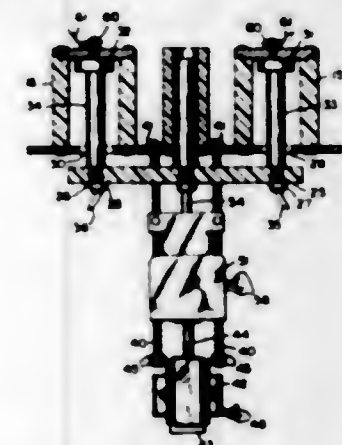


bases are carried by end plates for the module casing which can be selectively oriented by 90° so as to enable the transversely extending conductors at opposite ends of the casing to be mutually perpendicular or parallel.

### 3,386,057 THREE-POSITION ELECTROMAGNETICALLY OPERATED SWITCH

Edward Blank, Sharon, Mass., assignor to Tobe Deutschmann Laboratories, Inc., Canton, Mass., a corporation of Massachusetts

Filed Feb. 5, 1965, Ser. No. 430,552  
13 Claims. (Cl. 335-177)



1. In combination with an electrical relay construction comprising an electrical contact constructed and arranged to selectively move into a first, second and third position, the improvement comprising:

- a floating support mounting said contact,
- a first actuating means operatively aligned with said support for causing a first movement thereof,
- a second actuating means operatively aligned with said first actuating means for moving both said support and said first actuating means when said first actuating means is actuated.

### 3,386,058 INDUCTIVE ASSEMBLY WITH SUPPORTING MEANS

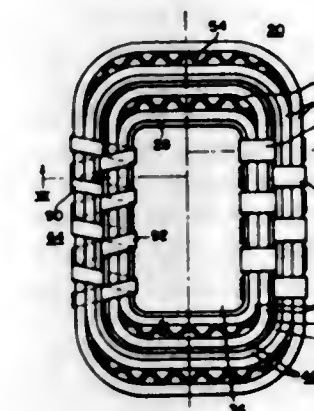
George P. Michel, Sharpville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 21, 1966, Ser. No. 595,725  
12 Claims. (Cl. 336-60)

- 1. An electrical winding assembly comprising:
- a plurality of electrical coil assemblies, each of said plurality of electrical coil assemblies having first and second ends and an opening end, said plurality of electrical coil assemblies extending between its

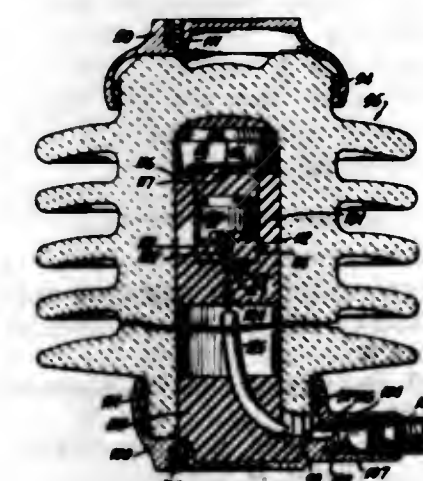
being disposed in adjacent, concentric, spaced relation, forming an electrical winding assembly having first and second ends, first and second major opposed external surfaces, and channels formed between each adjacent pair of electrical coil assemblies.

at least one strip of electrical insulating material, said at least one strip of electrical insulating material interleaving said plurality of electrical coil assemblies, adhesive means, said adhesive means bonding at least a portion of said at least one strip of electrical insulating material to said electrical winding assembly,



said at least one strip of electrical insulating material interleaving said plurality of electrical coil assemblies in a first basic pattern which starts adjacent one of the major external surfaces near one end of the winding assembly, crosses this major external surface to the other end of the winding assembly, loop back and forth between the winding ends through successively adjacent channels formed between said spaced electrical coil assemblies, arriving at the other major external surface at one of the ends of the winding assembly, and crossing this major external surface to the other end of the winding, the portion of said at least one strip of electrical insulating material being placed in tension by forces which tend to axially separate said plurality of electrical coil assemblies.

3,386,059  
POWER LINE COUPLING DEVICE  
Laurence B. Stein, Jr., Hingham, Mass., and Charles Wasserman, Baltimore, Md., assignors to Sigma Instruments, Inc., a corporation of Massachusetts  
Continuation-in-part of application Ser. No. 301,516, Aug. 12, 1963, which is a continuation-in-part of application Ser. No. 338,096, Jan. 16, 1964. This application Oct. 21, 1965, Ser. No. 500,109  
9 Claims. (Cl. 336-84)



A coupling device for inductive coupling to a high voltage power line conductor, and serving as a fixed insulating

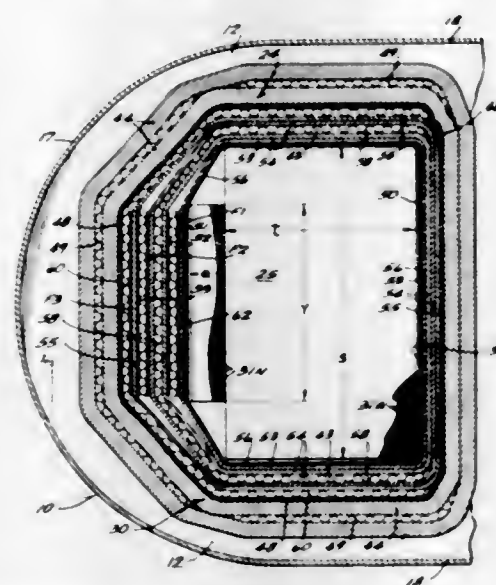


support for the conductor, is disclosed as including a high voltage hollow insulator having a closed outer end and an open inner end, with the exterior of the outer end having means for receiving a current conductor and enabling the insulator to be located in predetermined angular orientation with respect to the longitudinal extent of the supported conductor. One or more coils are mounted within the insulator adjacent the closed outer end thereof, with the axes of the coils in predetermined orientation with respect to the conductor, and with the coil or coils spaced inwardly from the conductor. A closure of highly electrically conductive and non-magnetic metal encloses the coil or coils within the insulator, and the coil leads are brought out through the enclosure to terminals thereon. A metal base covers the open end of the insulator and output leads extend from the coil terminals in insulated relation through the base, the base being sealed on the open inner end of the insulator. The base may have a nipple extending therefrom and supporting one element of a known type of electrical connector, for connection to a mating element of such known type of an electrical connector.

The metal enclosure for the coils is preferably supported on a hollow tube extending longitudinally of the insulator, and the insulator may be filled with insulating compound or may have a dielectric gas, under high pressure, supplied to the interior thereof, or both expedients may be used.

**3,386,060**  
**POWER DISTRIBUTION TRANSFORMER HAVING CONDUCTIVE STRIP WINDING**  
Hubert Reber, Zanesville, Ohio, assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Jan. 26, 1966, Ser. No. 523,126  
5 Claims. (Cl. 336—90)



A transformer including a magnetic core and having strip wound coils with secondary leads brought out of the coils adjacent the side of the core directly opposite the window of the core. The secondary leads extend vertically upward from the coils and are of strip material bifurcated at their upper ends with the ends of the furcations bent to form eye terminals.

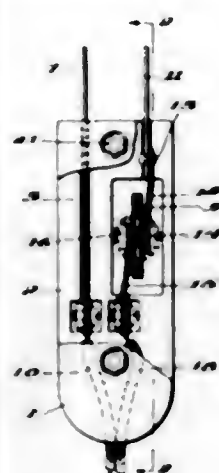
**3,386,061**  
**ELECTRICAL CONNECTOR MEANS WITH AUTOMATIC THERMAL RESPONSIVE OVERLOAD CIRCUIT BREAKER**

Kenneth M. Delafrange, 96 Washington Ave., Westwood, N.J. 07675

Filed July 5, 1966, Ser. No. 562,835  
1 Claim. (Cl. 337—1)

An electrical connector and circuit breaker operable in connecting extension circuits from an outlet in a main circuit and in protecting against current overloads in the

circuits above a predetermined current carrying range for which the circuit breaker is designed, the structure embodying in use a normally closed thermal responsive circuit breaker for automatically opening the circuit on

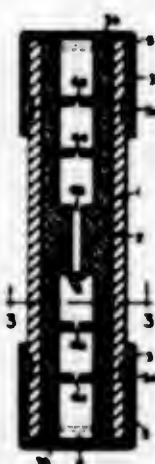


overload with means preventing arcing and reclosing of the circuit breaker, this means being manually operable to reset the breaker, and, when reset to open the breaker at the will of a user.

**3,386,062**  
**ELECTRIC CARTRIDGE FUSE FOR INTERRUPTING PROTRACTED OVERLOAD CURRENTS AND MAJOR FAULT CURRENTS**

Frederick J. Kozacka, South Hampton, N.H., and Philip C. Jacobs, Jr., Newtonville, Mass., assignors to The Chase-Shawmut Company, Newburyport, Mass.

Filed Apr. 3, 1967, Ser. No. 628,041  
3 Claims. (Cl. 337—160)



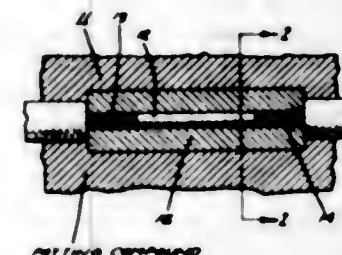
A cartridge fuse generates arc voltages which rise relatively rapidly after having been subjected to relatively small protracted overloads; when subjected to major fault currents, the fuse generates arc voltages which are relatively stable, i.e. which last relatively long, or do not decay rapidly, and which have spikes which are relatively low. This is achieved by imparting a particular geometry to the fuse link of the fuse.

**3,386,063**  
**TEMPERATURE RESPONSIVE FUSES AND APPARATUS EMBODYING SUCH FUSES**

Walter C. Mansfield, Jr., Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York  
Original application Oct. 3, 1960, Ser. No. 59,867, now Patent No. 3,201,646, dated Aug. 17, 1965. Divided and this application Oct. 7, 1964, Ser. No. 402,165  
9 Claims. (Cl. 337—191)

A temperature responsive fuse having a fuse body and fusible link for operation within a thermally conductive material to interrupt an electrical circuit. The fuse body

is formed of a material, such as wax, which is solid at normal temperatures but which will melt before the fusible link melts to provide a liquid medium into which the melted link can collapse. An environment of oxide



dispersing means is provided around the fusible link, for example as a thin sheath coating on the link, to ensure opening of the circuit when the fuse is subjected to a preselected activating temperature range.

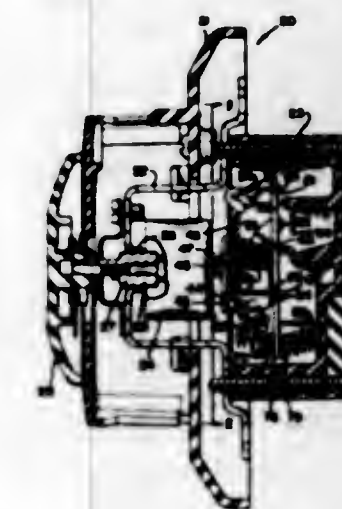
# ERRATUM

For Class 337—252 see:  
Patent No. 3,385,939

**3,386,064**  
**ELECTRICAL SWITCHING DEVICE AND PARTS THEREFOR OR THE LIKE**

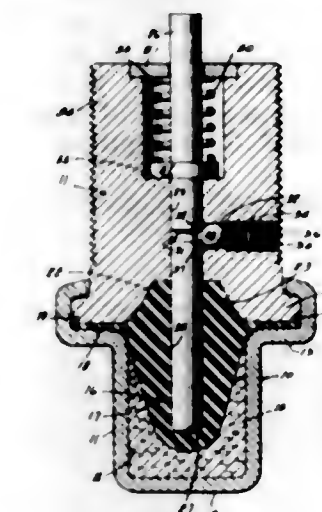
William J. Russell, Malvern, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Apr. 13, 1965, Ser. No. 447,710  
14 Claims. (Cl. 337—313)



1. In combination, frame means, a fixed contact carried by said frame means, a movable contact for cooperating with said fixed contact, said contacts being disposed in engagement with each other to provide an electrical circuit between said engaged contacts, an arm carrying said movable contact, a lever pivoted to said frame means intermediate the ends of said lever, one end of said lever being connected to said arm, and spring means disposed between the other end of said lever and said arm, said lever when pivoted in one direction causing said spring means to move said arm and movable contact directly out of engagement and away from said fixed contact only when no weld exists between said engaged contacts, said lever when pivoted in said one direction sliding said arm and movable contact relative to said fixed contact while said contacts are in engagement only when a weld exists between said engaged contacts whereby the sliding action breaks the weld and said spring means can, thereafter, move said arm and movable contact directly out of engagement and away from said fixed contact.

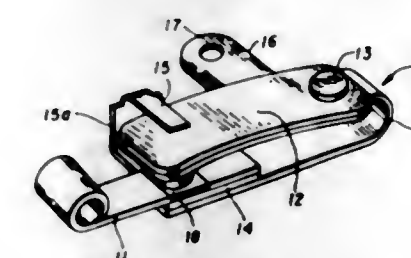
**3,386,065**  
**SNAP ACTING THERMAL ELEMENT**  
Joseph M. Algino, Niles, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois  
Filed Mar. 15, 1967, Ser. No. 623,440  
12 Claims. (Cl. 337—315)



A thermal power unit having a base cup and a guide member secured to the base cup to form a cavity therebetween and having a thermally expansible substance within the cavity and a resilient squeeze type boot displaced between the thermally expansible substance and the guide portion. The boot has an opening for receiving a power piston and the expansion of the thermally expansible substance compresses the boot to cause the power piston to extend therefrom. A detent groove is formed about the power member piston in the vicinity of the guide member and a resilient catch means is biased into engagement with the detent groove to convert the otherwise smooth extension of the piston into a snap action motion.

**3,386,066**  
**SWITCH HAVING SIMPLIFIED STRUCTURAL FEATURES**  
Richard T. Audette, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,823  
1 Claim. (Cl. 337—365)



1. A thermostatic switch comprising in combination a metallic support member, generally U-shaped with a free end portion forming the support member provided with an elevated mounting and calibrating platform capable of being bent to adjust for snap action operation, a contact member bonded to and insulated from the support member by an adhesive coated resinous insulating material, the contact member having an inlay portion of silver alloy conductive material, bimetallic snap-acting thermostatic element having two opposite ends, one end cantilever mounted on the elevated platform, a single contact attached to the other end of the element movement for into and out of engagement with the inlay portion on the contact member, and a stop bracket having a portion overlaying said thermostatic element to adjust the reset temperature of the element and to limit its upward motion of said heat.



## ERRATUM

For Class 337—403 see:  
Patent No. 3,385,940

3,386,067

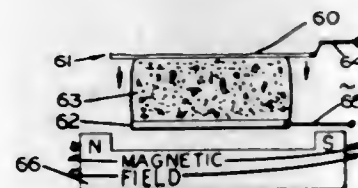
PRESSURE-SENSITIVE ELECTRICAL SWITCH  
AND APPLICATION THEREFOR

Raphael J. Costanzo, 119 Park Ave.,

Bridgeport, Conn. 06604

Division and continuation-in-part of application Ser. No. 511,573, Oct. 21, 1965. This application Apr. 24, 1967, Ser. No. 633,174

2 Claims. (Cl. 338—100)



The invention is directed to a pressure-sensitive electrical switch for controlling current flow through a circuit, and it is particularly advantageous for controlling SCR circuits. The pressure variable switch comprises a resilient porous-like or cellular material impregnated with a powdered electrical conducting substance sandwiched between a pair of contacts. When the impregnated cellular material is connected into a circuit, it will function as a variable pressure resistor switch whereby the resistance through the switch will vary the current flow in the circuit in accordance with the applied pressure.

3,386,068

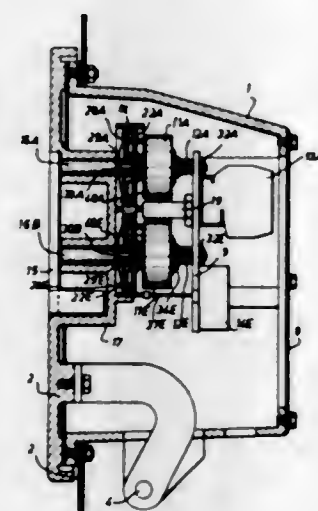
PROGRAMME CONTROL APPARATUS FOR  
ANALOGUE VALUES

Raymond Louis Fillette, Rueil-Malmaison, and Robert Henri Lauga, Colombes, France, assignors to La Telemecanique Electrique, Nanterre, Hauts-de-Seine, France, a joint-stock company of France

Filed Jan. 23, 1967, Ser. No. 610,998

Claims priority, application France, Jan. 24, 1967, 47,019

6 Claims. (Cl. 338—128)



An electrical control apparatus with variable programmes of analogue quantities intended to control for example a plurality of electric motors, each at a predetermined speed. The apparatus comprises a group of rotating potentiometers, the bodies of which are elastically mounted on a fixed support while their insulating sliders are mounted on removable programme cards which are placed as desired in the cover of the apparatus facing

the fixed support, means being provided for precisely adjusting the position of the sliders to the desired adjustment value.

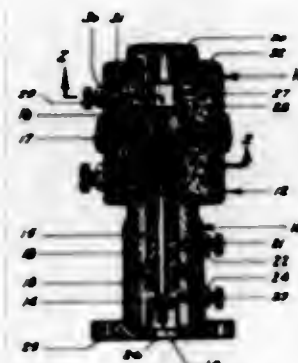
3,386,069

## ELECTRICAL CONNECTORS

Ernst A. Eriksson, 41 Preston Road, Lexington, Mass. 02173

Filed Sept. 9, 1965, Ser. No. 486,060

6 Claims. (Cl. 339—7)



An electrical connector having a pair of electrical contacts, one being rotatable and having a surface matching a path of revolution concentric with the axis of rotation thereof, and a resilient pack of filamentary conducting material in electrical connection with said contacts, said pack having its surface, in contact with the surface of said one contact, matching the surface of said one contact.

3,386,070

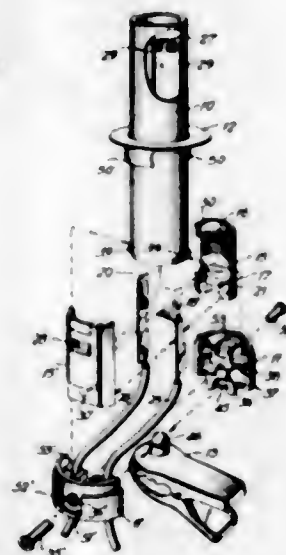
## ELECTRIC LAMPS

Karl Gustav Ludvig Jansson, Stockholm, and Bo Goran Hulten, Alvsjo, Sweden, assignors to Lumalamp Aktiebolag, Stockholm, Sweden, a corporation of Sweden

Filed Nov. 26, 1965, Ser. No. 509,860

Claims priority, application Sweden, Dec. 11, 1964, 15,044/64

10 Claims. (Cl. 339—25)



A decorative electric lamp is provided which provides an integrated clamping arrangement for attachment to Christmas trees and the like and which includes socket and base portions formed of only two readily and inexpensively molded interfitting pieces which have formed in them interlocking elements for holding the various individual pieces together so that only a single rivet or screw and bolt is necessary for holding the entire lamp assembly together, and means for holding the electric lead in a gripping stress-relieving fashion.

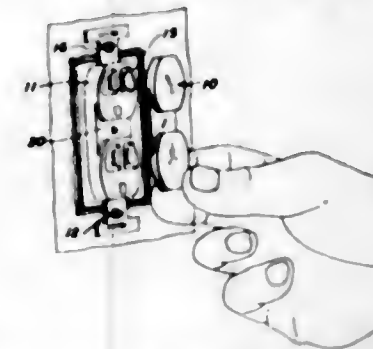
3,386,071

## PAINT GUARD

Marion Jimmie Allen, 2319 S. Commerce St., Stockton, Calif. 95206

Filed Apr. 1, 1966, Ser. No. 539,510

1 Claim. (Cl. 339—36)



A protective cover for use as a paint shield for an electrical outlet having a pair of socket members. A pair of cover members of elastomeric material are formed with recesses congruent with the shape of the sockets and are integrally joined by an imperforate planar section. A lip is formed on the inner wall of each cover member to grip the socket for retaining the cover in position over the outlet.

3,386,072

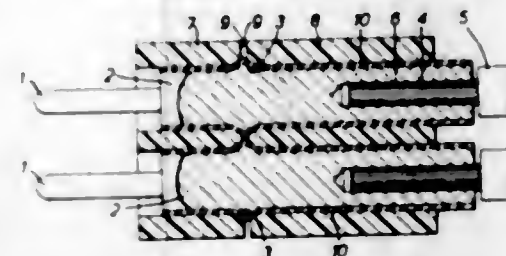
## ELECTRIC CONNECTORS

Walter Chandler, Theydon Bois, England, assignor to The Plessey Company Limited, Ilford, England, a British company

Filed Nov. 24, 1965, Ser. No. 509,513

Claims priority, application Great Britain, Nov. 30, 1964, 48,502/64

4 Claims. (Cl. 339—194)



In a subminiature multi-pin connector in which enlarged parts of the contact are retained between two abutting body portions, each pin and socket contact has deposited thereon an insulating coating which extends across the butting surfaces and thus prevents electrical creepage between the contacts along the butting surfaces.

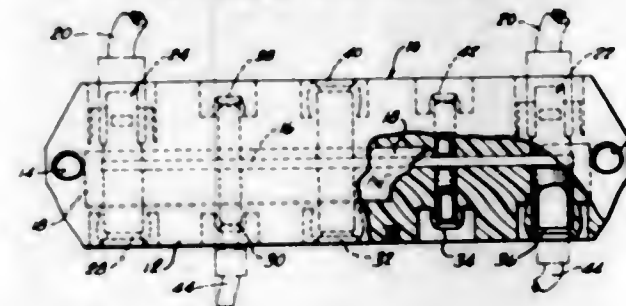
3,386,073

## ELECTRICAL JUNCTION BLOCK

Dennis G. Pierce, Milwaukee, Wis., assignor to Harnischfeger Corporation, West Milwaukee, Wis., a corporation of Wisconsin

Filed July 25, 1966, Ser. No. 568,705

5 Claims. (Cl. 339—214)



An electrical junction block in which the connectors for the input conductor wires are located at each end of the insulated bar forming the block, with the connectors for the output conductor wires located at spaced intervals along the bar and between the input connectors.

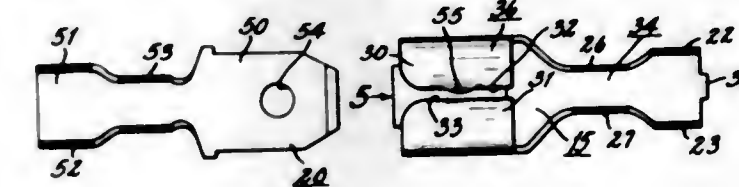
3,386,074

## ELECTRICAL CONNECTOR

Robert C. Wooster, Cortland, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 28, 1954, Ser. No. 426,118

9 Claims. (Cl. 339—258)



I. In an electrical connector, a terminal clip including opposed side wall portions, an integral web connecting said side wall portions, a major transversely centrally located portion of said web being flat for defining a contact surface for the clip, and inwardly directed flanges extending from said side wall portions and overhanging said web, the side portions of said web between the flat central portion and said side wall portions extending downwardly and joining said side wall portions below, relative to said flanges, the plane of said flat central portion.

3,386,075

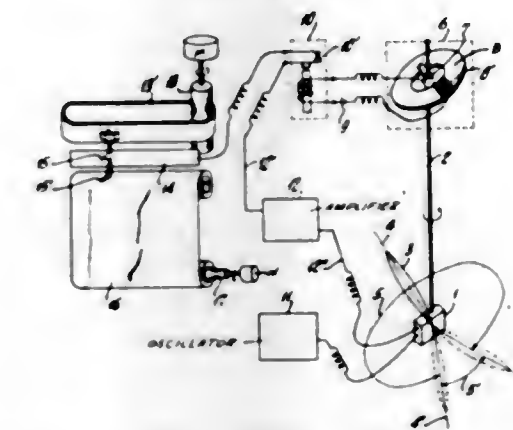
## SUPERSONIC WAVE RECORDING DEVICE

Isokazu Tanaka, Tokyo-to, Tomio Hotta, Kawaguchi-shi, and Arao Takao, Tokyo-to, Japan, assignors to Kabushiki Kaisha Koden Seisakusho, Shinagawa-ku, Tokyo-to, Japan, a company of Japan

Filed Nov. 21, 1966, Ser. No. 595,960

Claims priority, application Japan, Nov. 26, 1965, 40/72,200

2 Claims. (Cl. 340—3)



This invention relates to a supersonic device for the transmission and reception of supersonic pulses particularly useful for detecting configuration of the sea bottom, location of shoals and schools of fish and the like and embodies means for disconnecting the recorder from the receiver during a predetermined scanning angle.

3,386,076

SYSTEM FOR SEPARATING THE IN-PHASE WAVES  
FROM THE OUT-OF-PHASE WAVES DETECTED  
BY PLURAL GEOPHONES

Vining T. Reynolds, 1302 S. Post Oak Lane, Houston, Tex. 77027

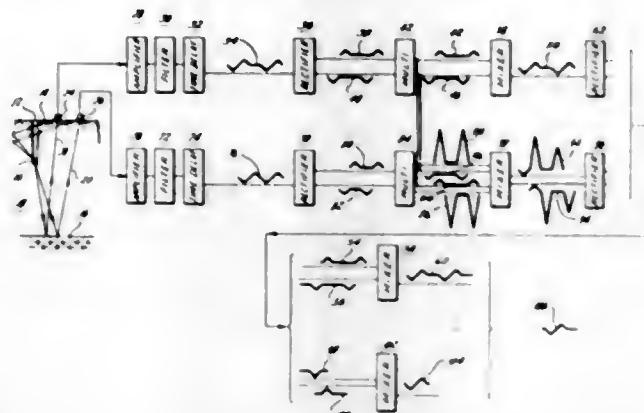
Continuation-in-part of application Ser. No. 434,460, Feb. 23, 1965. This application May 6, 1966, Ser. No. 554,624

9 Claims. (Cl. 340—15.5)

The signal detected by one of a plurality of spaced geophones is separated into two separate signals consisting, respectively, of the negative and positive components of the original signal. The two resulting sig-



nals are inverted and mixed with another of the detected signals to produce a resultant signal which represents during any sample period unless the largest pulse present during such sample period is larger by a desired threshold



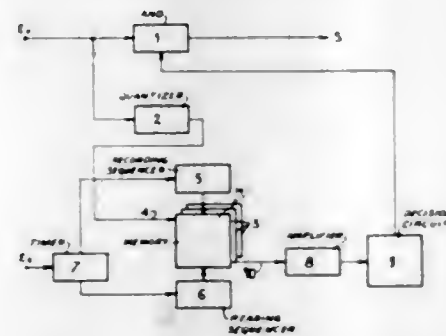
only those portions of the two signals which were either in-phase or out-of-phase.

3,386,077

**DIGITAL SIGNAL PROCESSING SYSTEM**  
Fred Molho, Paris, France, assignor to Societe Nouvelle d'Electronique et de la Radio-Industrie, Paris, France, a corporation of France

Filed June 22, 1964, Ser. No. 376,883  
Claims priority, application France, July 1, 1963, 939,938

10 Claims. (Cl. 340-146.1)



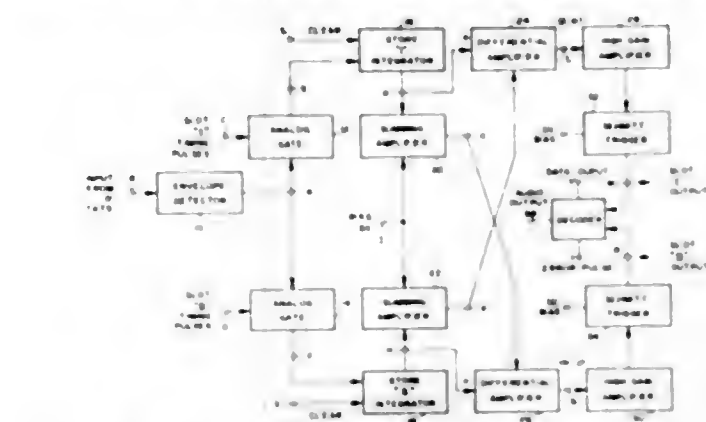
In a radar installation or the like, incoming multi-digit signals are registered in a memory having as many stages as there are digital positions in a signal. In order to discriminate against parasitic signals, correspondingly positioned digits of an incoming signal and a preceding signal already registered in the memory are compared; to compensate, however, for unavoidable delays in the registration of each incoming digit, the digits of the preceding signal are read out from memory stages that are staggered with reference to the stages in which the incoming digits are concurrently inscribed, the offset between the inscribed and the read-out stages being equal to  $M < N$  where  $N$  is the total number of stages. Advantageously,  $M$  is chosen to provide a read-out delay equaling the time lag introduced by the recording equipment in the inscribing operation; in certain instances, however, the delay may be chosen to exceed the time lag.

3,386,078

**SELF-AUTHENTICATING PULSE DETECTOR**  
Spyros G. Varsos, Orange County, Fla., assignor to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed Sept. 21, 1964, Ser. No. 397,965  
15 Claims. (Cl. 340-146.1)

This invention relates to a pulse detector employing selective logic for demodulating pulse modulated information, and more particularly to a novel, self-authenticating pulse detector whereby no signal pulse selection occurs

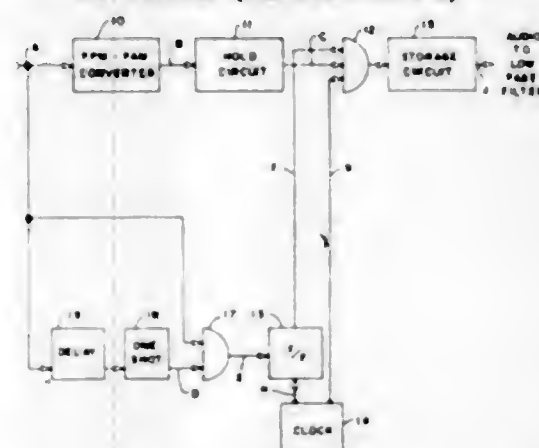


value than the next largest pulse present during the same sample period.

3,386,079

**ERROR REDUCING DEVICE**  
Macdonald J. Wiggins, Orange County, Fla., assignor to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed Oct. 1, 1964, Ser. No. 400,697  
10 Claims. (Cl. 340-146.1)

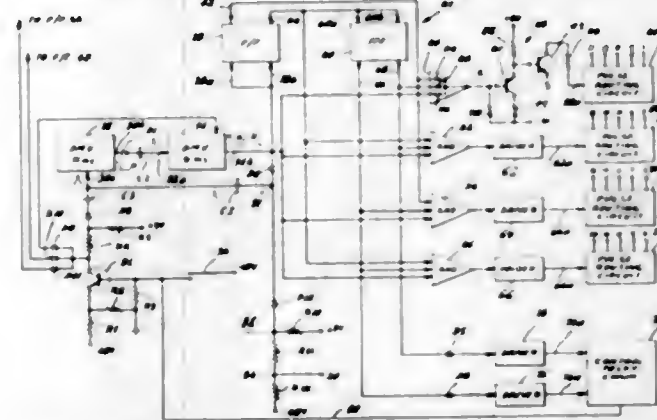


This invention relates to a device usable in conjunction with pulse type communication systems for minimizing interference due to the presence of false pulses. Such false pulses may originate as a result of crosstalk, for example, and when they occur during the modulation frame periods in a conventional pulse position modulation system, they are unfortunately passed by the decoder and bring about extraneous noise.

3,386,080

**PULSE DISTRIBUTING SCANNER**  
Stanley J. Brym, East Norwalk, Conn., assignor, by direct and mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed June 11, 1964, Ser. No. 374,498  
16 Claims. (Cl. 340-147)



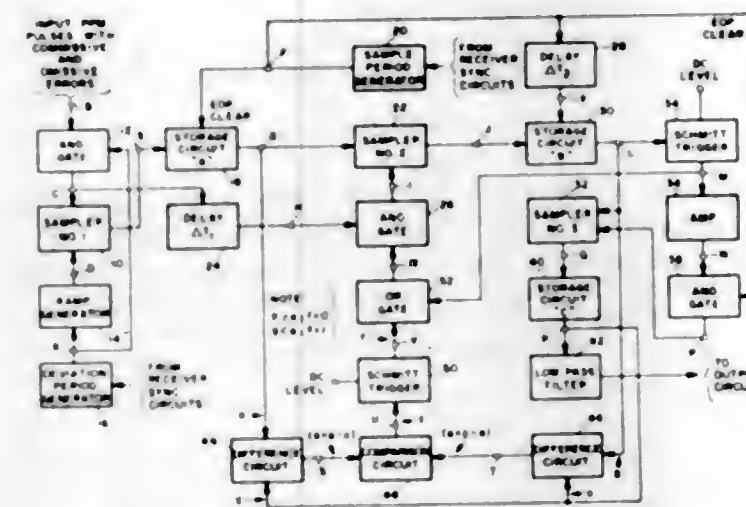
A combination electromechanical and electronic pulse distributing scanner for supplying pulses sequentially to a substantial number of output lines. The distribution of

pulses to the output lines is determined by an electronic counting circuit which sequentially pulses a number of lines fewer in number relative to the output lines. The pulsed lines are routed to selected output lines by means of the electromechanical distributor functioning as a pulse divider.

3,386,081

**PULSE SAMPLING AND COMPARISON SYSTEM SUITABLE FOR USE WITH P.P.M. SIGNALS**  
Spyros G. Varsos, Orange County, Fla., assignor to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed Feb. 28, 1964, Ser. No. 348,210  
13 Claims. (Cl. 340-172)



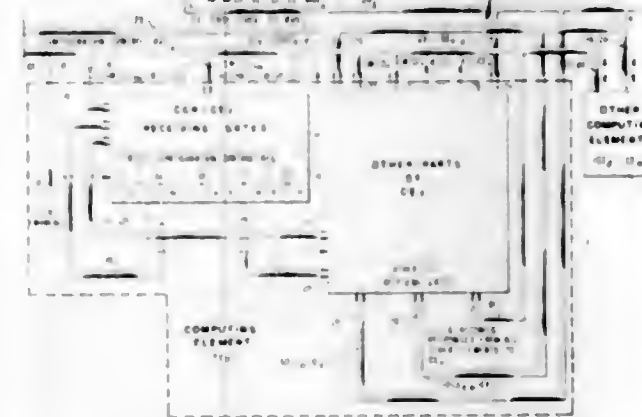
My invention relates to a pulse selecting technique for use with a pulse position modulated communication device, in accordance with which technique, a selection is made from a plurality of pulses that may occur in a time frame, that pulse which is closest to the position of the pulse selected as the intelligence pulse during the preceding time frame.

3,386,082

**CONFIGURATION CONTROL IN MULTIPROCESSORS**

Thomas S. Stafford, Wappingers Falls, Donald C. Burnstine, Hyde Park, Gerard T. Paul, Poughkeepsie, and John R. Rogaski, Woodstock, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 2, 1965, Ser. No. 460,776  
17 Claims. (Cl. 340-172.5)



The present multiprocessor apparatus includes, in effect, a distributed interconnection system such that failure of a portion of the interconnection system does not completely disable the apparatus. Each element—of a plu-

ality of computing elements, a plurality of storage elements, and a plurality of other information processing elements of the total multiprocessor apparatus—is equipped with an individual Configuration Control Register for selectively controlling the flow of information between the respective element and other elements of the apparatus. For controlling the interconnection system represented by the Configuration Control Registers, with the redundancy necessary for reliable "fail-safe" operation of the system, each of a plurality of computing elements is provided with means for independently developing, selecting and conditioning signals and with means for broadcasting these signals to all elements of the apparatus, including the originating element. The selecting signals are utilized at the receiving elements to selectively limit application of the conditioning signals only to Configuration Control Registers of elements designated by the selecting signals, such elements having been predetermined by the originating computing element. The conditioning signals serve to condition the Control Registers of the selected elements to desired states of information flow control also predetermined by the originating computing element.

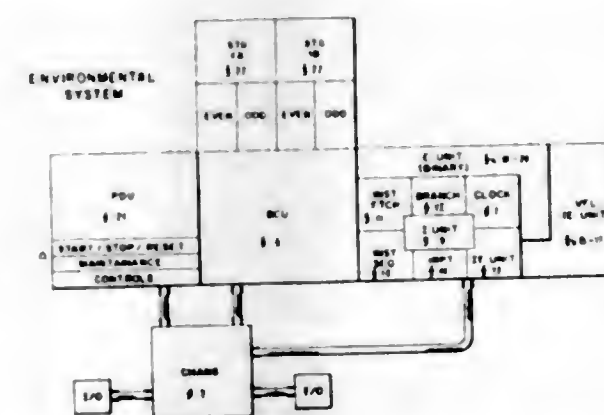
3,386,083

**INTERRUPTIONS IN A LARGE SCALE DATA PROCESSING SYSTEM**

Alan R. Geller, Leo J. Hasbrouck, and Gordon L. Smith, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 445,313, Apr. 5, 1965. This application Jan. 13, 1967, Ser. No. 609,241

16 Claims. (Cl. 340-172.5)



The specification discloses an illustrative embodiment for the invention comprising a large scale data processing system of the type which is composed of a plurality of quasi-independent units. The environmental data processing system includes a central processing unit or portion, which is herein referred to as a CPU, a plurality of storage units, a plurality of input/output control devices referred to herein as channels, as well as control and maintenance facilities which are found in a power distribution unit, herein referred to as a PDU. The CPU of the environmental system includes a control or instruction unit hereinafter referred to as an I unit, and an arithmetic and logic or execution unit, hereinafter referred to as an E unit. The I unit includes controls for instruction fetching, branching, interruption handling, communication with the input/output channels, and other related functions. The E unit of the environmental system can perform algebraic and logical operations, moving, shifting, and other functions. An interruption entrance apparatus is characterized by a plurality of interruption entrance means which cause the initiation of an interruption sequence, there also being provided means to enter the interruption sequence without invoking the use of the en-



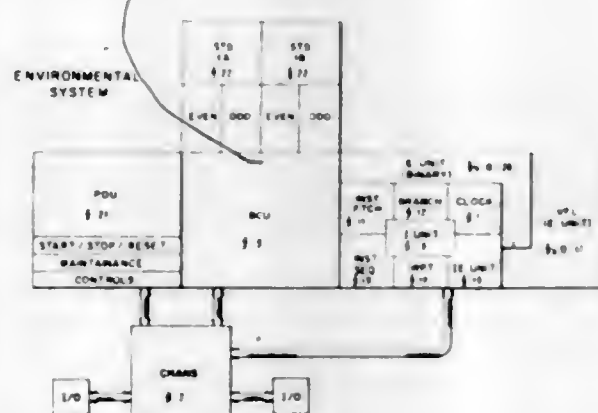
trance means. Different classes of interruptions are prioritized independently, and the priorities of interruptions of different classes are handled in common. Interruptions of an asynchronous nature can cause the setting of the interruption sequence at times which relate to the execution of programs as well as at times which relate to the end of a previous interruption sequence. A program status word register, a portion of which is set to reflect the nature of the interruption, is itself utilized to manifest the identity of particular types of interruptions of one class.

3,386,084

### REMOTE ADDRESSING IN A DATA PROCESSING SYSTEM

Robert A. Nelson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York  
Continuation-in-part of application Ser. No. 445,305, Apr. 5, 1965. This application Jan. 13, 1967, Ser. No. 609,242

7 Claims. (Cl. 340—172.5)



The specification discloses an illustrative embodiment for the invention comprising a large scale data processing system of the type which is composed of a plurality of quasi-independent units. The environmental data processing system includes a central processing unit or portion, which is herein referred to as a CPU, a plurality of storage units, a plurality of input/output control devices referred to herein as channels, as well as control and maintenance facilities which are found in a power distribution unit, herein referred to as a PDU. The CPU of the environmental system includes a control or instruction unit hereinafter referred to as an I unit, and an arithmetic and logic or execution unit, hereinafter referred to as an E unit. The I unit includes controls for instruction fetching, branching, interruption handling, communication with the input/output channels, and other related functions. The E unit of the environmental system can perform algebraic and logical operations, moving, shifting, and other functions. The addressing apparatus includes a multi-level addressing apparatus which permits utilization of a base address, together with an intermediate address factor which delineates the general advancement of an instruction or a program through a series of iterations. Additional addressing information is also added whereby a particular circumstance in the starting address, exhaustion of registers, the particular point in the steps of the iteration, and other factors may be infused.

3,386,085

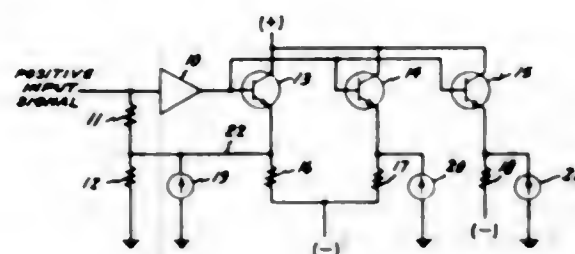
### TELEMETERING PROTECTION CIRCUIT

Robert L. Watters, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
Filed Oct. 22, 1965, Ser. No. 502,110

6 Claims. (Cl. 340—185)

1. A telemetering system comprising: a plurality of transistors, each transistor having a base, a collector and an emitter; means biasing the collectors of said transistors

to a predetermined potential of one polarity; means coupling the bases of said transistors to a common source of input voltage to be monitored; circuit means coupling the emitter of each transistor respectively to a predetermined



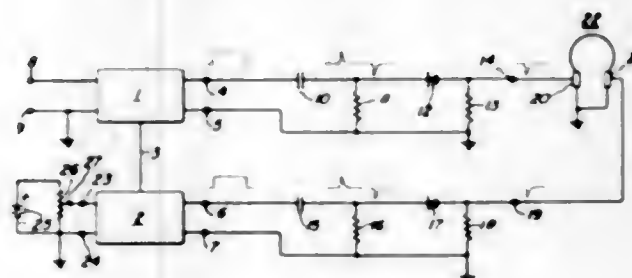
potential of opposite polarity; and indicating means coupling the emitter of each transistor respectively to ground so that voltage across each said indicating means is maintained at said opposite polarity with respect to ground.

3,386,086

### METHOD AND APPARATUS FOR BINAURALLY INDICATING ELECTRIC SIGNAL MAGNITUDE

Robert L. Watters, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York  
Filed Oct. 16, 1964, Ser. No. 404,287

8 Claims. (Cl. 340—242)



Voltage sensing is accomplished by supplying pulses generated at a fixed audio frequency rate to one ear and supplying pulses generated at an audio frequency rate varied in accordance with a sensed voltage magnitude to the other ear. The time spacing between pulses creates the sensation that the pulses are originating from a particular direction, which changes as the time spacing changes, so that very slow changes in sensed voltage magnitude are readily detected.

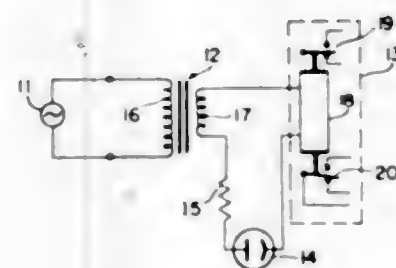
3,386,087

### FAIL-SAFE CHECKING SYSTEM

William G. Rowell, Milton, Mass., assignor to Technical Marketing Associates, Inc., Concord, Mass., a corporation of Massachusetts

Filed Sept. 30, 1964, Ser. No. 400,420

4 Claims. (Cl. 340—253)



A fail-safe, self-checking condition monitoring system for continuously checking the integrity of the components in said system. One embodiment makes use of the inherent fluctuations of the alternating current power source to derive a repetitive checking signal, the loss of which

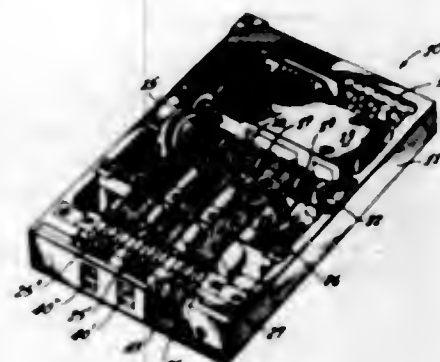
indicates an emergency condition. Other embodiments use other means for obtaining the repetitive checking signal. Changes in the predetermined period of the checking signal may also be used to indicate an emergency in various embodiments.

3,386,088

### DISPLAY DEVICE

Spencer G. Johnston, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif.  
Filed Dec. 1, 1964, Ser. No. 415,091

7 Claims. (Cl. 340—324)



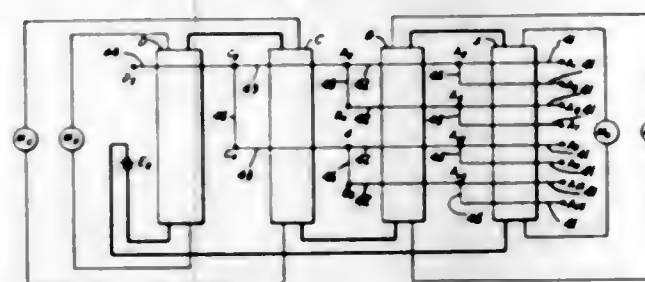
A display device having a plurality of continuous display tapes, each containing display symbols and a machine code corresponding to each display symbol and a clock bit for indicating the centering of a display symbol in a viewing position; decoding means non-contiguously sense the code to generate a clock signal when a symbol is centered and a plurality of identification signals to indicate which symbol is displayed; logic means respond to said clock signal, said identification signals, and electrical signals stored in a machine register for producing a select command signal which energizes a motor to drive a shaft common to all tapes while releasing a hold solenoid which allows one tape drive sprocket at a time to turn with the shaft and rotate its associated display tape until a parity condition exists.

3,386,089

### APPARATUS FOR CONVERTING INFORMATION TO BINARY DIGITAL FORM

William H. Melklejohn, Scotia, N.Y., assignor to General Electric Company, a corporation of New York  
Filed June 1, 1964, Ser. No. 371,457

7 Claims. (Cl. 340—347)



An array of superconductive gates defining the digits of a binary number by their state of conduction and controlled by a plurality of conductive members associated with the superconductive gates in such a pattern that changing digital information in the conductive member correspondingly changes the binary number represented by the superconductive gates. The conductive members are coupled to the selective ones of the gates and paired in polarity opposition such that increasing digital information in the conductive members produces an increase in the normal order of a binary number.

3,386,090

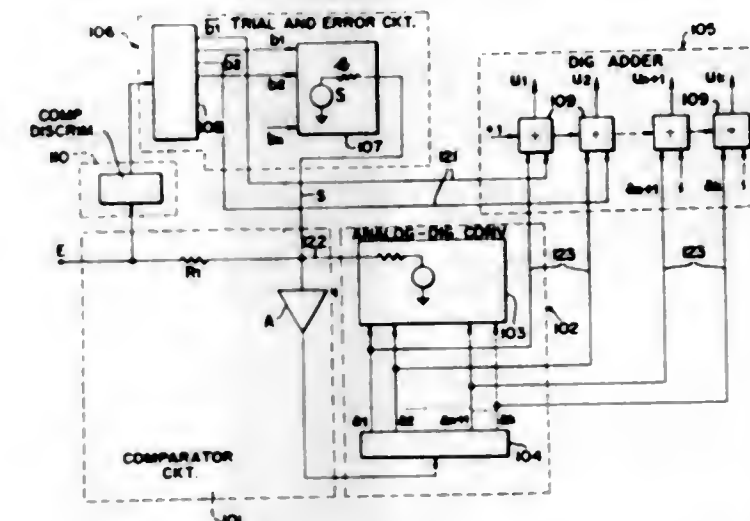
### METHOD OF IMPROVING THE DIFFERENTIAL LINEARITY OF ANALOG-DIGITAL CONVERTERS AND APPARATUS EQUIPMENT FOR IT

Emilio Gatti, Lesmo, and Vito Svelto and Carlo Cottini, Milan, Italy, assignors to Cise—Centro Informazioni Studi Esperienze, Segrate, Milan, Italy, a company of Italy  
Filed June 11, 1964, Ser. No. 374,476

Claims priority, application Italy, July 1, 1963,

Patent 699,271

1 Claim. (Cl. 340—347)



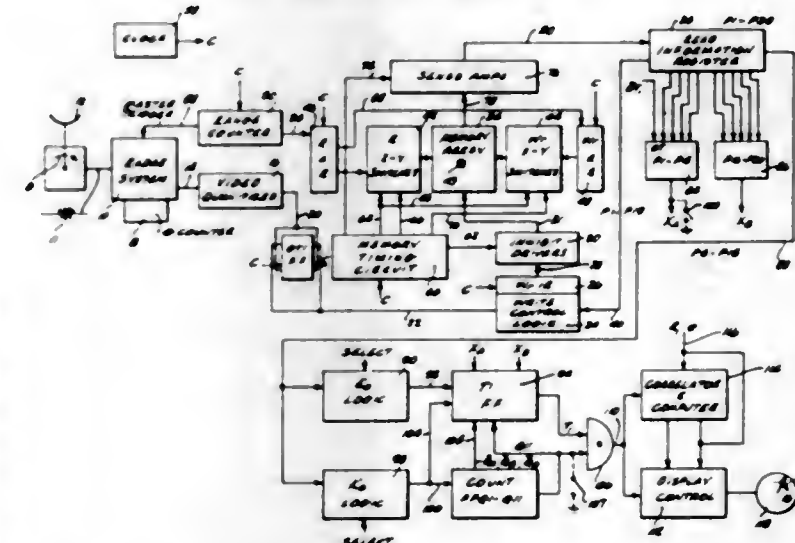
Apparatus for improving differential linearity in analog-to-digital conversion of a succession of signal pulses by a quantized trial-and-error. The apparatus comprises an analog-to-digital converter adapted to receive the aforesaid succession of pulses, a comparator, and a comparator discriminator adapted to receive the aforesaid succession of pulses, a digital adder, and a circuit having a voltage output which changes in amplitude by a preselected value for each input pulse and a digital output, which is a measure of the voltage output, the comparator discriminator including an output coupled to the aforesaid circuit, the voltage output being coupled to the comparator and the digital output being coupled to the digital adder to which the output of the analog-to-digital converter is coupled. The output of the digital adder constitutes a digital measure of the input signal.

3,386,091

### STATISTICAL ZERO TARGET RECOGNITION SYSTEM

Richard D. Wilmet, Fullerton, and Donald A. Muchlinski, Anaheim, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware  
Filed Jan. 29, 1965, Ser. No. 429,050

13 Claims. (Cl. 343—5)



The target recognition system described in this disclosure uses a statistical zero method which requires that a

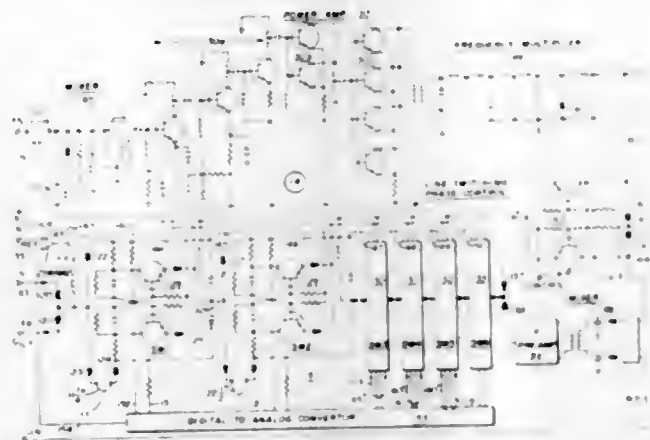


region surrounding a target be clear of any other video returns except those generated by noise before indicating a valid target. The system using a sliding window technique with all quantized video except the new data stored in a sweep map memory containing all of the video data in range over a selected azimuth size. At each range interval, a minimum hit criteria and a minimum zero criteria are used to determine the presence of a target or the presence of a clear area. Also, at each range interval, a minimum zero criteria is used to determine the presence of clear areas on either side in azimuth of the sliding window.

3,386,092

### MODULAR INTEGRATED ELECTRONICS RADAR

Tom M. Hylin, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware  
Continuation-in-part of applications Ser. No. 397,519, Sept. 18, 1964, and Ser. No. 606,427, Dec. 30, 1966.  
This application Apr. 10, 1967, Ser. No. 629,761  
23 Claims. (Cl. 343-5)

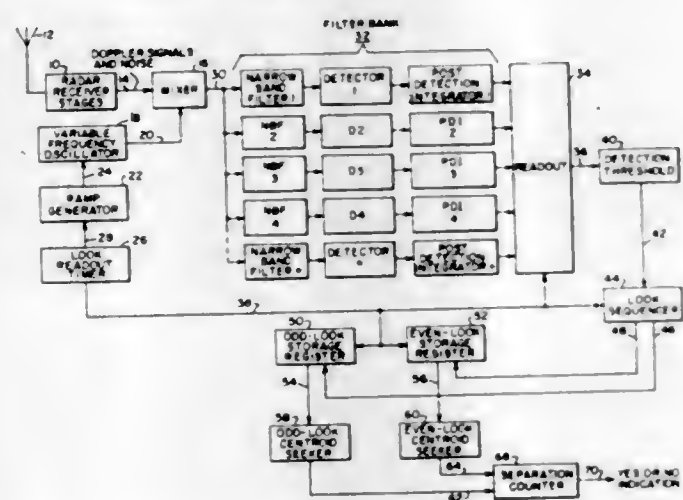


A phased array radar system including a plurality of transmit-receive modules, each including a radiation element and capable of providing power amplification, phase shifting, mixing, frequency multiplication of a transmitted and/or received signal in the module. Various components or parts of the module are described including a solid state mixer, frequency multiplier, phase shifters, power amplifier, transmit-receive switch, as well as a scan control system in conjunction with the phase shifter.

3,386,093

### TARGET-SENSING APPARATUS

David H. Mooney, Jr., Severna Park, Md., and John M. Porter, Annandale, Va., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania  
Filed June 9, 1967, Ser. No. 644,974  
8 Claims. (Cl. 343-7.7)



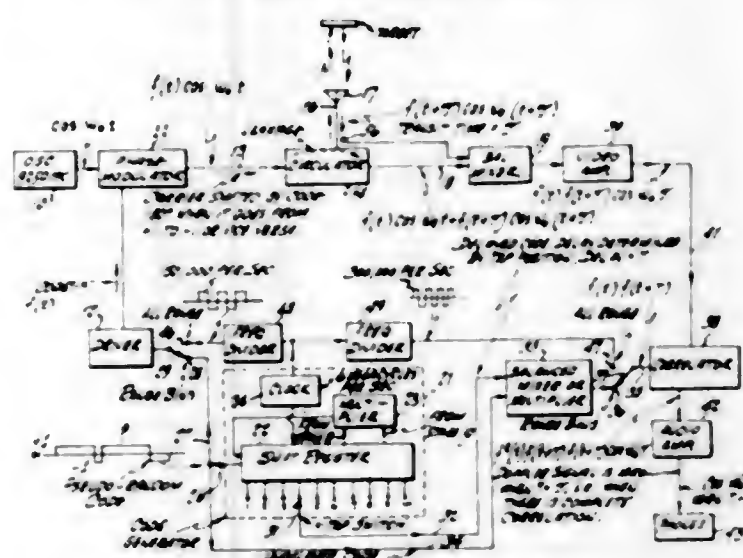
The present disclosure relates to target sensing apparatus for sensing a target having a selected acceleration and discriminating against targets having a non-selected acceleration.

Doppler signals generated in response to the acceleration of the target are compared with reference signals which vary in frequency at a rate indicative of the acceleration of a target desired to be sensed. The compared signals are passed through a filter bank including a plurality of filters, each of the filters having a predetermined bandwidth. The filters are scanned during a first and second look-time interval, and information indicative of which filters translate signals during each of the time periods is stored. The stored information is then compared and an indication given when a predetermined relationship exists therebetween denoting that the desired target has been sensed.

3,386,094

### AMPLITUDE MODULATION CANCELLATION FOR PHASE MODULATED CORRELATION SYSTEM

Dale L. Kratzer, Treves, Pa., and George J. Armbruster, Cherry Hill, N.J., assignors to Radio Corporation of America, a corporation of Delaware  
Filed Oct. 24, 1966, Ser. No. 588,831  
5 Claims. (Cl. 343-17.5)

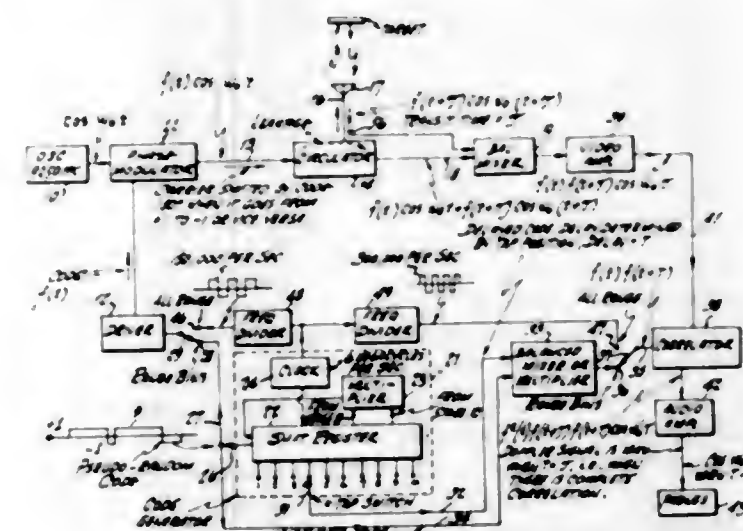


A Doppler type correlation radar system wherein a continuous wave carrier is phase modulated by a desired code and in which undesired incidental modulation, particularly incidental amplitude modulation, is cancelled.

3,386,095

### DOPPLER TYPE CORRELATION SYSTEM

George H. Stevens, Riverton, N.J., assignor to Radio Corporation of America, a corporation of Delaware  
Filed Oct. 24, 1966, Ser. No. 589,089  
4 Claims. (Cl. 343-17.5)

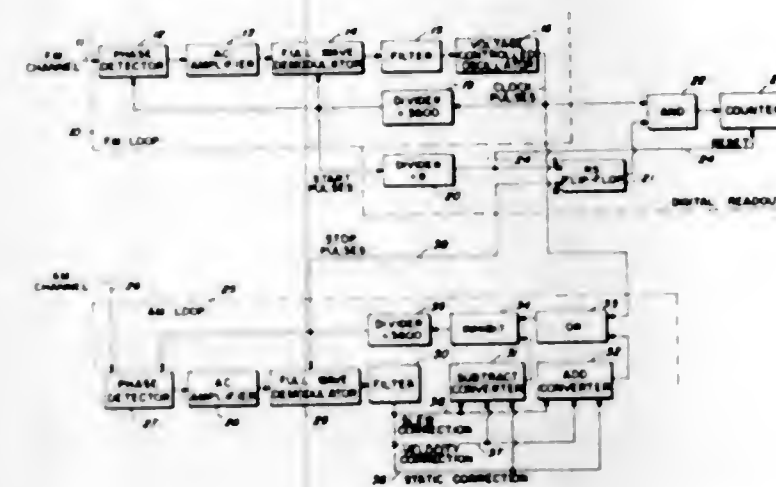


A continuous wave Doppler radar system which is modulated by a pseudo-random code derives the Doppler

characteristics of a particular target by correlation of the return signal with a delayed portion of the transmitted signal and which unambiguously determines range.

3,386,096

**DIGITAL INSTRUMENTATION FOR OMNIRANGE**  
Michael W. Lundgreen, Cedar Rapids, John B. Majerus, Marion, and Melvin H. Rhodes, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa  
Filed Apr. 14, 1967, Ser. No. 630,866  
10 Claims. (Cl. 343-106)

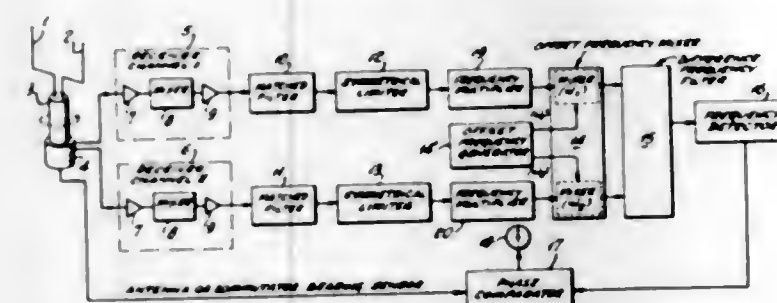


This invention describes a circuit which provides aircraft bearing in digital output form from a VOR receiver. The circuitry called Digital Instrumentation for Omnirange interfaces at a point in the VOR receiver where filtered 30 Hz. FM channel and AM channel phase bearing signals are available. The difference in phase of the 30 Hz. signals is an indication of the aircraft bearing. The system utilizes two phase lock loops to generate signals that are input to a counter whereby digital readout in parallel form is provided as an indication of the phase difference between the FM channel and the AM channel and therefore is a direct indication of aircraft bearing. The interaction of the two phase lock loops results in a filtering of the digital output so that jitter in the least significant digit is less than the resolution of the system.

3,386,097

### SIGNAL-ENHANCEMENT MEANS FOR DOPPLER-TYPE RADIO DIRECTION FINDERS

Frederick G. Richter, Huntington, and Thomas V. Guerriere, Lake Grove, N.Y., assignors to Servo Corporation of America, Hicksville, N.Y., a corporation of New York  
Filed Mar. 10, 1967, Ser. No. 622,311  
9 Claims. (Cl. 343-113)



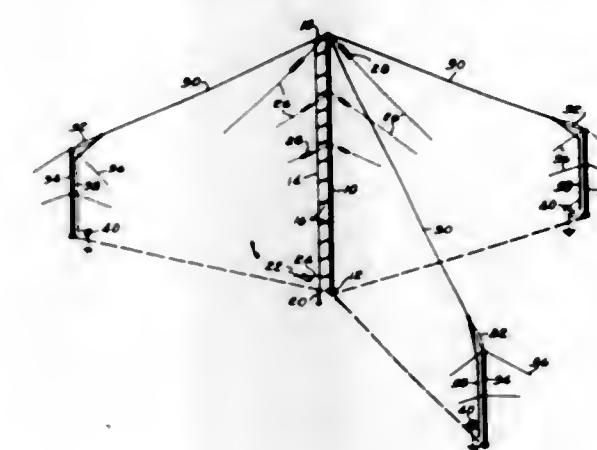
In a dual-channel mode of operation of a Doppler-type radio direction finder, opposed-phase use is made of the Doppler-frequency modulation imposed on the incoming signal (in the respective channels) and in-phase use is

made of the intelligence or spurious source modulations of the incoming signal. The signals from each channel are processed in an offset-frequency mixer to produce a difference output signal carrier frequency characterized by a Doppler frequency modulation enhanced by a factor of two (2). The extraneous modulation components in frequency and phase advantageously are cancelled. By frequency-multiplying the signals before performing the frequency-differencing function, further enhancement of the Doppler component is achieved.

3,386,098

### ELECTRICALLY SHORT TOWER ANTENNA WITH CONTROLLED BASE IMPEDANCE

John H. Mullaney, Potomac, Md., assignor to Multronics, Inc., Rockville, Md., a corporation of Maryland  
Filed Oct. 23, 1965, Ser. No. 502,852  
7 Claims. (Cl. 343-752)



1. An antenna comprising a folded unipole having a vertical radiator of a length equal to a small fraction of the operating wavelength and a feed fold parallel thereto and spaced therefrom a small fraction of the radiator length, said radiator and fold being connected together at their ends remote from a ground plane from which the radiator rises; top loading conductors extending cone-wise, from the connected ends of said radiator and fold, towards the ground plane, and a series capacitor connected from the distal end of each of said top loading conductors to ground; said components being so related that at the operating frequency the positive reactance component due to said folded unipole referred to its feed point is substantially equal in magnitude but of opposite sign relative to the combined negative reactance component due to said top loading conductors and said capacitors.

3,386,099

### MULTIPLE LUNEBERG LENS ANTENNA

Carlton H. Walter and Roger C. Rudduck, Columbus, Ohio, assignors to The Ohio State University Research Foundation  
Filed Feb. 11, 1965, Ser. No. 431,902  
11 Claims. (Cl. 343-754)

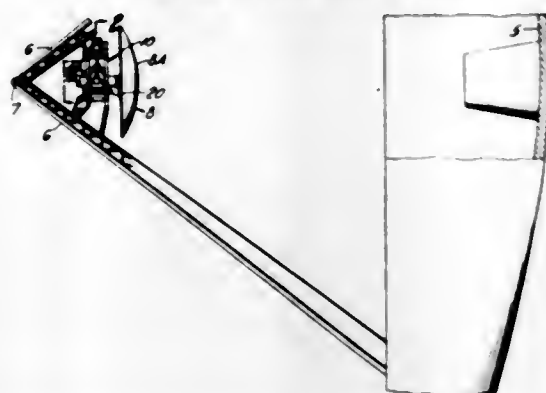


The invention is for a surface wave Luneberg lens antenna structure having a plurality of lenses positioned on a ground plane either in a side by side relationship or stacked one upon the other. Energy is then fed to the array.



### 3,386,100 ADJUSTABLE SUBREFLECTOR WITH POWER OPERATORS

Zoltan J. Jaszberenyi, San Diego, Calif., assignor to Whittaker Corporation, Los Angeles, Calif., a corporation of California  
Filed Jan. 18, 1965, Ser. No. 426,087  
8 Claims. (Cl. 343-761)



A subreflector is mounted on a large parabolic type antenna reflector for independent movement and adjustment in any one of three mutually perpendicular directions. A frame is supported by the large reflector. A first carriage is slidably mounted on the frame, a second carriage is slidably mounted on the first carriage. A third carriage in the form of a drum is slidably mounted on the second carriage. The subreflector is mounted on this third carriage. Three linear actuators, one for each of the carriages, are operated independently of each other to obtain this independent movement and adjustment.

### 3,386,101 MAGNETIC CHARACTER PRINTING HEAD

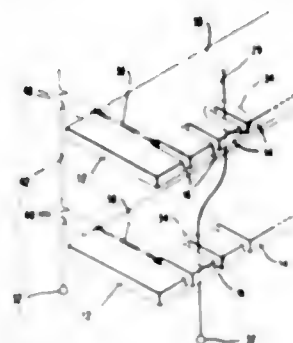
John C. Sims, Jr., Sudbury, Mass., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 15, 1965, Ser. No. 487,418  
7 Claims. (Cl. 346-74)

1. A magnetic transducer for instantaneously recording magnetic images or characters on a magnetic surface, comprising:

- (A) a plurality of comb-like elements of high magnetic permeability, each having alternate tines and notches along one edge;
- (B) means for holding said comb-like elements in stacked relation, one over the other with the tines and notches facing in the same direction;
- (C) electrically conductive means threaded through certain of the notches in the shape of a character or image to be recorded; and

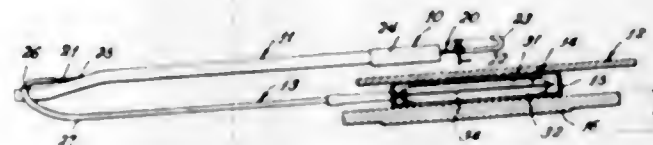
(D) means for connecting the said electrically conductive means to a pulse of electrical energy thereby momentarily to induce a flow of magnetic flux across the ends of each notch traversed by said pulsed elec-



trically conductive means, whereby the character or image formed by the electrically conductive means may be magnetically recorded on a closely spaced magnetic surface.

### 3,386,102 INK SUPPLY SYSTEM FOR RECORDING APPARATUS

Peter Scheuzger, Highland Park, and Marshall S. Joseph, Chicago, Ill., assignors to Victor Comptometer Corporation, Chicago, Ill., a corporation of Illinois  
Filed Sept. 28, 1966, Ser. No. 582,729  
10 Claims. (Cl. 346-140)



An ink supply system for graphic recorders utilizing high speed capillary recording pens wherein liquid ink is supplied to the pen from a remote sealed reservoir via a combined pressure-capillary conduit system which provides pressure actuated flow of ink from the reservoir to a remote location whereat ink is conducted to the recording pen by capillary flow.

## DESIGNS

MAY 28, 1968

211,151  
COMBINATION TOOTHBRUSH, CLOSURE CAP  
AND DENTIFRICE CONTAINER  
Arthur A. Gleichert, Birmingham, Ala., assignor of one-half to Robert J. Bales, Fairhope, Ala.  
Filed Dec. 19, 1966, Ser. No. 5,093  
Term of patent 14 years  
(Cl. D4-18)



211,152  
JAR  
Brooks D. Fuerst, Toledo, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio  
Filed May 12, 1967, Ser. No. 7,091  
Term of patent 14 years  
(Cl. D9-1)



211,153  
DISPENSING CONTAINER FOR LIQUIDS  
OR THE LIKE  
Joseph Charles Pizzurro, Scarsdale, N.Y., assignor to Precision Valve Corporation, Yonkers, N.Y., a corporation of New York  
Filed July 25, 1967, Ser. No. 7,968  
Term of patent 14 years  
(Cl. D9-44)



211,154  
DISPENSING CONTAINER FOR LIQUIDS  
OR THE LIKE  
Joseph Charles Pizzurro, Scarsdale, N.Y., assignor to Precision Valve Corporation, Yonkers, N.Y., a corporation of New York  
Filed July 25, 1967, Ser. No. 7,967  
Term of patent 14 years  
(Cl. D9-53)



211,155  
BOTTLE  
Arthur N. Knowles, London, Ontario, Canada, assignor to London Winery Limited, London, Ontario, Canada  
Filed Feb. 6, 1967, Ser. No. 5,705  
Term of patent 14 years  
(Cl. D9-109)



211,156  
JAR  
James Henry Wilson, Brockway, Pa., assignor to Afico S.A., Lausanne, Switzerland, a Swiss company  
Filed Mar. 10, 1967, Ser. No. 6,163  
Term of patent 14 years  
(Cl. D9-115)





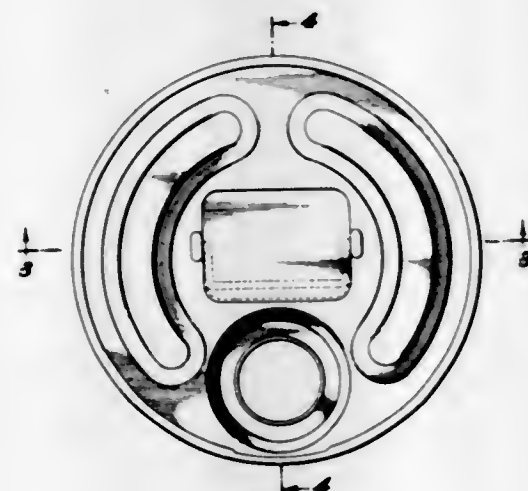
**211,157  
BOTTLE**

Richard L. Platte, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Sallen, Mich.  
Filed Aug. 3, 1966, Ser. No. 3,330  
Term of patent 14 years  
(Cl. D9—129)



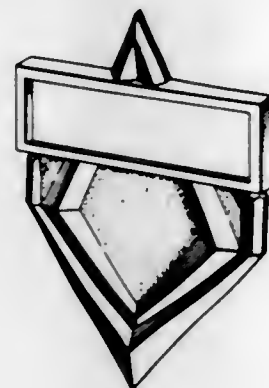
**211,158  
CONTAINER CLOSURE**

George Yates, Jr., Glendale, Calif., assignor to Bennett-Industries, Inc., Peotone, Ill., a corporation of Delaware  
Filed May 29, 1967, Ser. No. 7,299  
Term of patent 14 years  
(Cl. D9—264)



**211,159  
DOOR KNOCKER**

Edward J. Kunkel, Richmond, Calif., assignor to International Corporate Services, Richmond, Calif., a corporation of California  
Filed Jan. 10, 1968, Ser. No. 10,116  
Term of patent 14 years  
(Cl. D10—7)



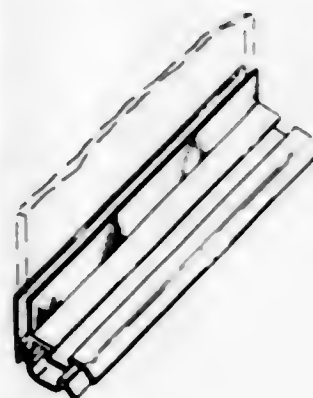
**211,160  
BUILDING**

Jack W. Beck, Blue Springs, Mo., assignor to American Fiberglass, Inc., Mission, Kans., a corporation of Kansas  
Filed Sept. 8, 1967, Ser. No. 8,524  
Term of patent 14 years  
(Cl. D13—1)



**211,161  
SHOWER DOOR DRIP ASSEMBLY**

Ralph T. Casebolt, 380 Elysian Field Drive, Oakland, Calif. 94605  
Filed June 22, 1967, Ser. No. 7,552  
Term of patent 7 years  
(Cl. D13—6)



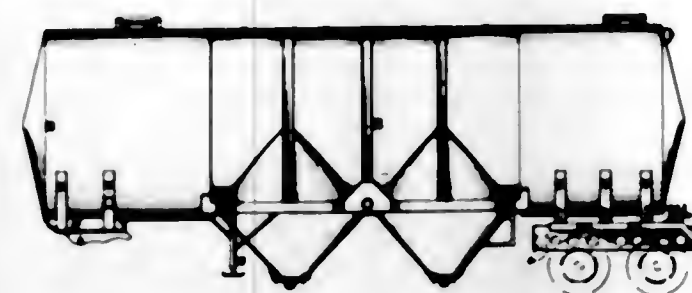
**211,162  
SPIRAL STAIRCASE**

Helge Ragner Albrektson, 1554 Eastern Ave., Covington, Ky. 41018  
Filed Apr. 15, 1966, Ser. No. 1,902  
Term of patent 14 years  
(Cl. D13—7)



**211,163  
TANK TRAILER**

Charles E. Mendez, Tampa, Fla., assignor to Redwing Carriers, Inc., Tampa, Fla., a corporation of Florida  
Filed Dec. 15, 1966, Ser. No. 5,060  
Term of patent 14 years  
(Cl. D14—3)



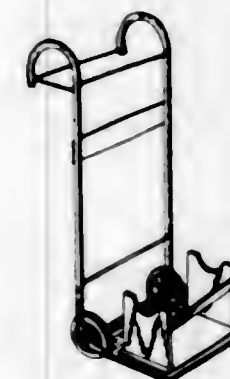
**211,164  
HAND TRUCK**

Jesus Huante, 4816 Oak St., Pico Rivera, Calif. 90660  
Filed Dec. 29, 1966, Ser. No. 5,221  
Term of patent 7 years  
(Cl. D14—3)



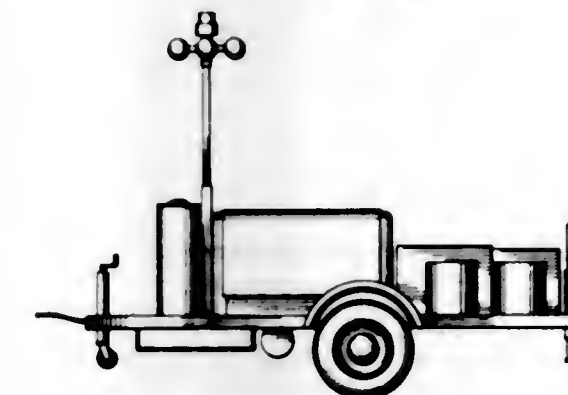
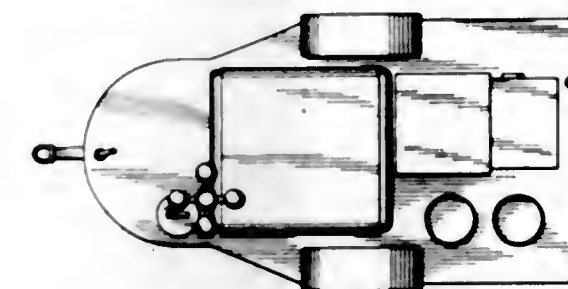
**211,165  
COMBINED CLEANING EQUIPMENT CART AND STEP STOOL**

Georgia Kreider, 608 Devonshire Drive, Sturgis, Mich. 49091  
Filed Apr. 10, 1967, Ser. No. 6,603  
Term of patent 14 years  
(Cl. D14—3)



**211,166  
EQUIPMENT TRAILER FOR SERVICING PUBLIC UTILITY INSTALLATIONS**

Thurman A. Peluse, 3706 S. Hibiscus Way, Denver, Colo. 80237  
Filed May 4, 1967, Ser. No. 6,948  
Term of patent 14 years  
(Cl. D14—3)



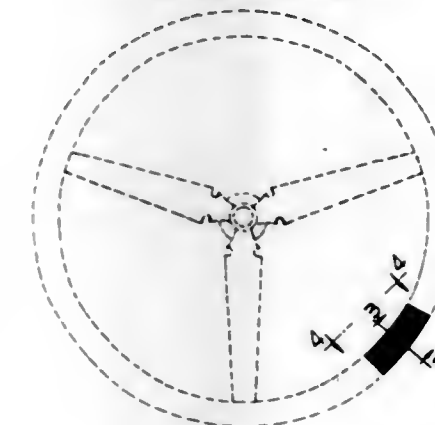
**211,167  
CAMPING TRAILER**

David B. Smith, Worthington, and James P. Soroos, Columbus, Ohio, and Patrick J. Regan, Wichita, Kans., assignors to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas  
Filed Oct. 26, 1967, Ser. No. 9,182  
Term of patent 14 years  
(Cl. D14—3)



**211,168  
STEERING WHEEL**

Clifford G. Schroeder, 4685 Harris Road, Brecksville, Ohio 44141  
Filed Apr. 4, 1966, Ser. No. 1,758  
Term of patent 14 years  
(Cl. D14—30)

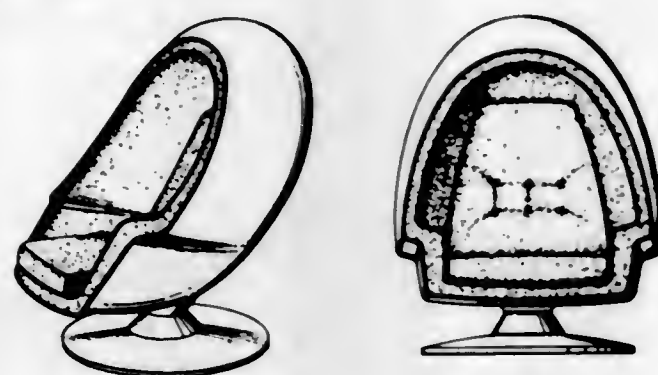




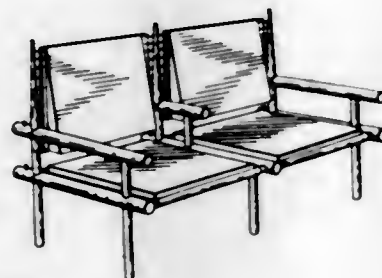
211,169  
**COMBINED HAMPER AND SEAT**  
Dorothy C. Dwyer, 1550 Mulberry St.,  
Elgin, Ill. 60120  
Filed Aug. 8, 1966, Ser. No. 3,376  
Term of patent 3½ years  
(Cl. D15—1)



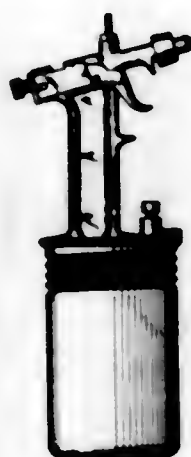
211,170  
**LOUNGE CHAIR**  
Anthony J. Carsello, 1728 S. La Cienega,  
Los Angeles, Calif. 90035  
Filed Mar. 16, 1967, Ser. No. 6,260  
Term of patent 14 years  
(Cl. D15—11)



211,171  
**MULTIPLE SEATING UNIT**  
Jean-Marc Blier, 777 Beaumont St. E.,  
St. Bruno, Quebec, Canada  
Filed Apr. 17, 1967, Ser. No. 6,723  
Claims priority, application Canada Oct. 27, 1966  
Term of patent 14 years  
(Cl. D15—11)



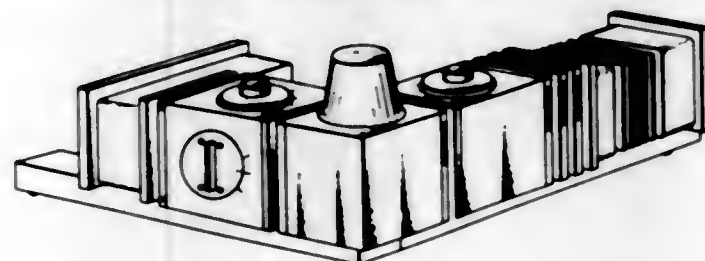
211,172  
**SPRAY GUN**  
Harold D. Johnson, 127 Nichols Drive,  
Sycamore, Ill. 60178  
Filed Oct. 10, 1967, Ser. No. 8,944  
Term of patent 14 years  
(Cl. D23—18)



211,173  
**AIR CONDUCTING FURNACE CABINET DOOR**  
Bernard L. Duchinsky, Belleville, Ill., assignor to Inter-  
national Oil Burner Company, a corporation of  
Missouri  
Filed Sept. 21, 1966, Ser. No. 3,951  
Term of patent 14 years  
(Cl. D23—128)



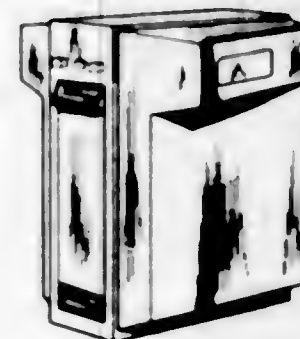
211,174  
**NANOSECOND SPECTRAL SOURCE SYSTEM**  
J. Perry Smith, Hawthorne, and Ulf R. Helgeson, Sher-  
man Oaks, Calif., assignors to TRW Inc., Redondo  
Beach, Calif., a corporation of Ohio  
Filed Jan. 24, 1966, Ser. No. 753  
Term of patent 14 years  
(Cl. D26—1)



211,175  
**COAXIAL CONNECTOR**  
John Cappon, Willowdale, Ontario, Canada, assignor to  
Benco Television Associates (Division of Radfon (Can-  
ada) Limited)  
Filed Aug. 1, 1967, Ser. No. 8,116  
Term of patent 14 years  
(Cl. D26—1)



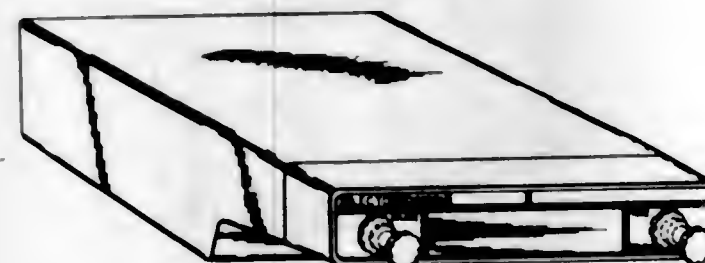
211,176  
**COMBINED CARD READER AND DATA  
DISPLAY APPARATUS**  
Collan B. Kneale, Ray B. Wheeler, and Frank Wilkey,  
Jr., Rochester, Minn., assignors to International Busi-  
ness Machines Corporation, Armonk, N.Y., a corpora-  
tion of New York  
Filed Aug. 9, 1967, Ser. No. 8,174  
Term of patent 14 years  
(Cl. D26—5)



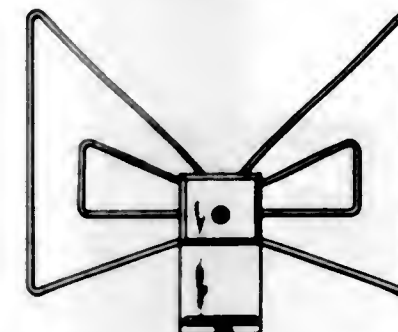
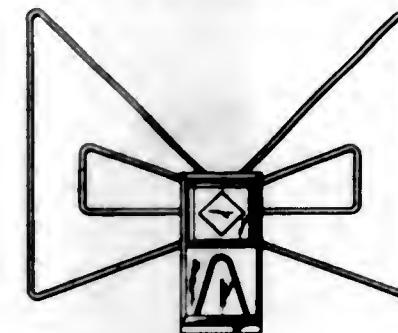
211,177  
**TRANSMISSION LINE SUPPORT ARM**  
Lee J. Dake, Elmhurst, Ill., assignor to Jodym Mfg. and  
Supply Co., Chicago, Ill., a corporation of Illinois  
Filed Jan. 20, 1967, Ser. No. 5,504  
Term of patent 14 years  
(Cl. D26—12)



211,178  
**CARTRIDGE-TYPE TAPE RECORDER**  
James H. Tolar, Mayfield Heights, Ohio, assignor to  
Tenna Corporation, a corporation of Ohio  
Filed Dec. 21, 1966, Ser. No. 5,141  
Term of patent 7 years  
(Cl. D26—14)



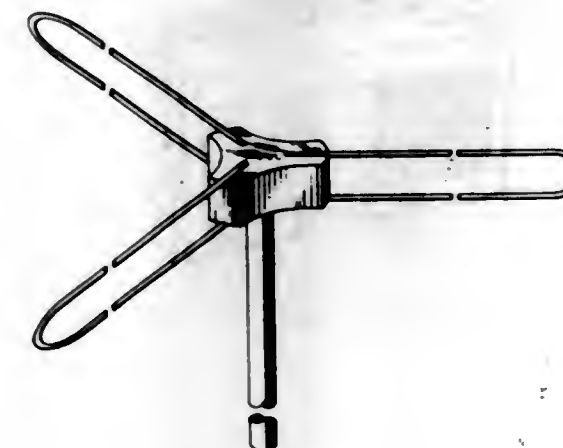
211,179  
**PEDESTAL ANTENNA**  
Raymond A. Rosenberry, 1501 Superior Bldg., Cleveland,  
Ohio 44113, and Wilbur W. Wilhelm, 9208 Behrwald  
Ave., Brooklyn, Ohio 44142  
Filed Mar. 8, 1967, Ser. No. 6,126  
Term of patent 14 years  
(Cl. D26—14)



211,180  
**LOUDSPEAKER UNIT**  
Melvin H. Boldt, Glenview, Ill., assignor to Zenith Radio  
Corporation, Chicago, Ill., a corporation of Delaware  
Filed May 10, 1967, Ser. No. 7,065  
Term of patent 14 years  
(Cl. D26—14)

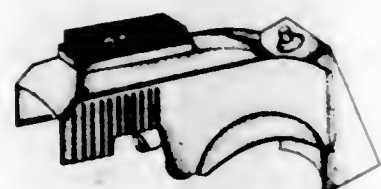
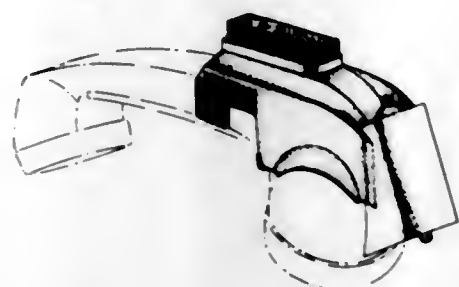


211,181  
**TELEVISION ANTENNA**  
Jackie W. Weston, 112 Fir St.,  
Hendersonville, N.C. 28739  
Filed May 8, 1967, Ser. No. 7,100  
Term of patent 14 years  
(Cl. D26—14)

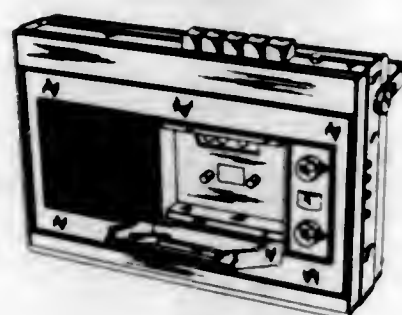
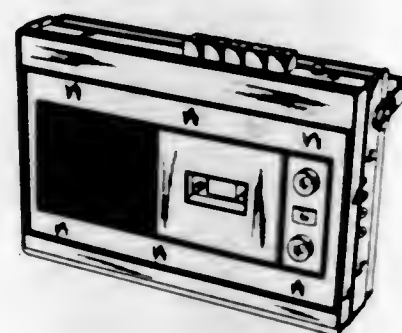




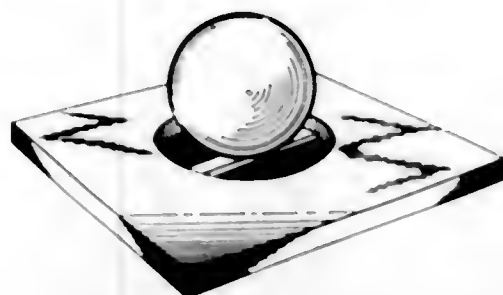
**211,182**  
**LIGHT AND SHOULDER REST COMBINATION FOR A TELEPHONE HANDSET**  
 Anthony Zacharia, Los Angeles County, Calif.  
 (5935 Colfax Ave., North Hollywood, Calif. 91601)  
 Filed Oct. 25, 1967, Ser. No. 9,164  
 Term of patent 14 years  
 (Cl. D26-14)



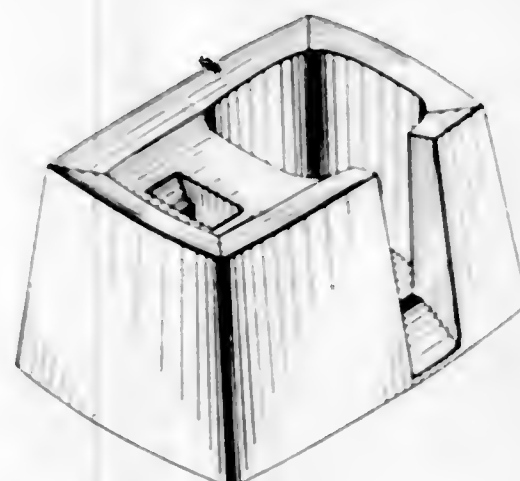
**211,183**  
**TAPE RECORDER**  
 Takeo Sho, Kanagawa-ken, and Motoya Shirokawa,  
 Tokyo, Japan, assignors to Tobishi Electronic In-  
 dustries, Ltd., Tokyo, Japan  
 Filed Nov. 8, 1967, Ser. No. 9,322  
 Term of patent 14 years  
 (Cl. D26-14)



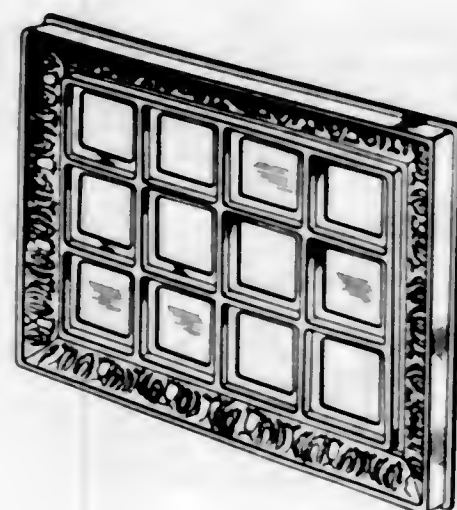
**211,184**  
**COMBINED BAFFLE AND GRILLE FOR A LOUDSPEAKER**  
 Aston L. Moore, 220 Hammond Place,  
 South Bend, Ind. 46601  
 Filed Dec. 4, 1967, Ser. No. 9,630  
 Term of patent 14 years  
 (Cl. D26-14)



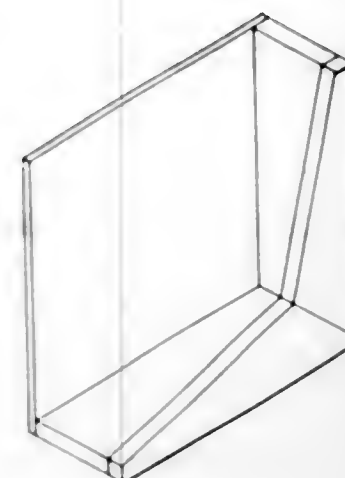
**211,185**  
**COMBINED HOLDER AND CHARGING UNIT FOR ELECTRIC KNIFE OR THE LIKE**  
 Austin E. Cox, Medina, Ohio, assignor to Dominion Electric Corporation, a corporation of Ohio  
 Filed Dec. 19, 1966, Ser. No. 5,100  
 Term of patent 14 years  
 (Cl. D26-15)



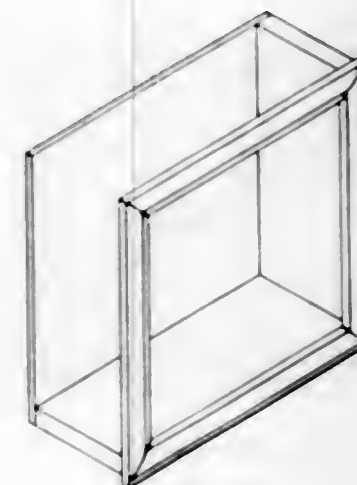
**211,186**  
**PICTURE FRAME**  
 Douglas J. Smith, 57 Heritage Court, Hillsdale, N.J. 07642, and Richard S. Saulsbury, 104-20 Queens Blvd., Forest Hills, N.Y. 11375  
 Continuation-in-part of design application Ser. No. 3,654, Aug. 30, 1966. This application Aug. 21, 1967, Ser. No. 8,334  
 Term of patent 14 years  
 (Cl. D29-20)



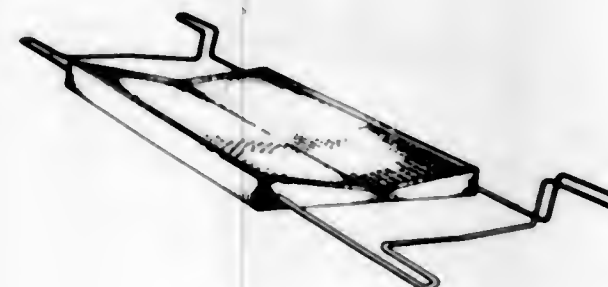
**211,187**  
**PHONOGRAPH RECORD HOLDER**  
 Leo U. Florane, Jr., 2037 Florida Ave.,  
 Kenner, La. 70062  
 Filed Sept. 9, 1966, Ser. No. 3,796  
 Term of patent 14 years  
 (Cl. D33-3)



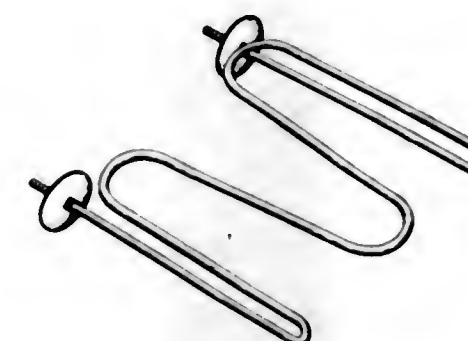
**211,188**  
**PHONOGRAPH RECORD HOLDER**  
 Leo U. Florane, Jr., 2037 Florida Ave.,  
 Kenner, La. 70062  
 Filed Sept. 9, 1966, Ser. No. 3,797  
 Term of patent 14 years  
 (Cl. D33-3)



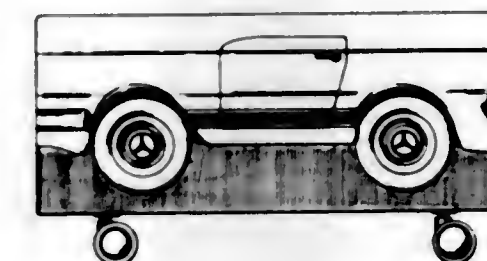
**211,189**  
**BATHTUB READING RACK**  
 Stanley G. Barker, 607 Madison St., Joliet, Ill. 60435  
 Filed Feb. 14, 1967, Ser. No. 5,810  
 Term of patent 14 years  
 (Cl. D33-3)



**211,190**  
**BOOT RACK**  
 George K. Desmond, 619 N. River,  
 Independence, Mo. 64050  
 Filed Mar. 23, 1967, Ser. No. 6,346  
 Term of patent 7 years  
 (Cl. D33-3)



**211,191**  
**HASSOCK**  
 Marvin Herman, East Meadow, N.Y., assignor, by mesne assignments, to Cone Mills Corporation, Greensboro, N.C., a corporation of North Carolina  
 Filed Mar. 15, 1967, Ser. No. 6,223  
 Term of patent 14 years  
 (Cl. D33-8)

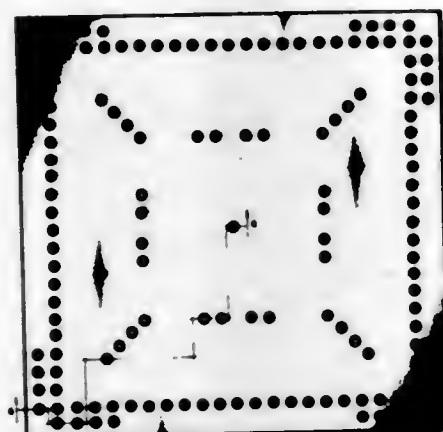


**211,192**  
**DOLL**  
 Martha C. Sager, 4420 Q St. N.W.,  
 Washington, D.C. 20007  
 Filed May 1, 1967, Ser. No. 6,888  
 Term of patent 14 years  
 (Cl. D34-4)





**211,193**  
**GAME BOARD**  
Carroll B. Mallonee, Star Rte. 1, Box 107,  
Lacomb, Oreg. 97354  
Filed Mar. 13, 1967, Ser. No. 6,195  
Term of patent 14 years  
(Cl. D34—5)



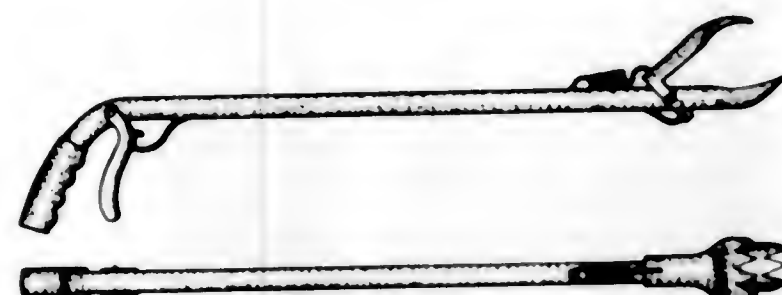
**211,194**  
**HOOP STICK**  
Guy P. Whitmore, 16207 Pomona Drive,  
Detroit, Mich. 48240  
Filed Aug. 14, 1967, Ser. No. 8,264  
Term of patent 3½ years  
(Cl. D34—5)



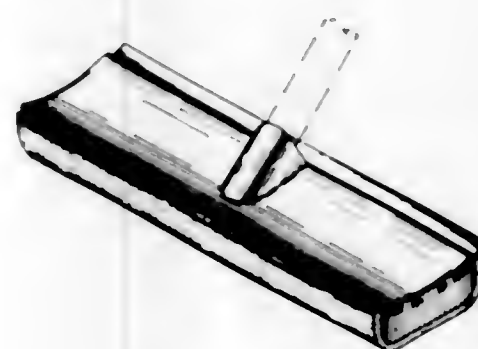
**211,195**  
**SIMULATED HEADLIGHT FOR TOY VEHICLES OR THE LIKE**  
Harry Golden, New York, N.Y., assignor to Ideas for Auto and Bike Specialties, Inc., New York, N.Y., a corporation of New York  
Filed May 6, 1966, Ser. No. 2,202  
Term of patent 14 years  
(Cl. D34—15)



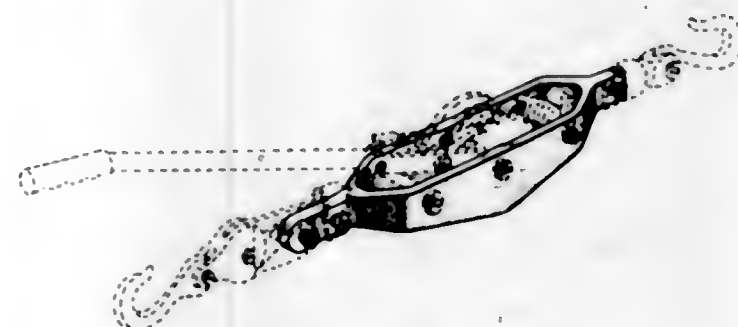
**211,196**  
**WEED DIGGER**  
Alton R. Hollis, Rte. 1, Hillsborough, N.C. 27278  
Filed June 5, 1967, Ser. No. 7,370  
Term of patent 14 years  
(Cl. D35—2)



**211,197**  
**WAXING MOP OR THE LIKE**  
John R. Malmo, Memphis, Tenn., assignor to Gem Incorporated, Byhalia, Miss., a corporation of Mississippi  
Filed May 17, 1967, Ser. No. 7,156  
Term of patent 14 years  
(Cl. D37—4)



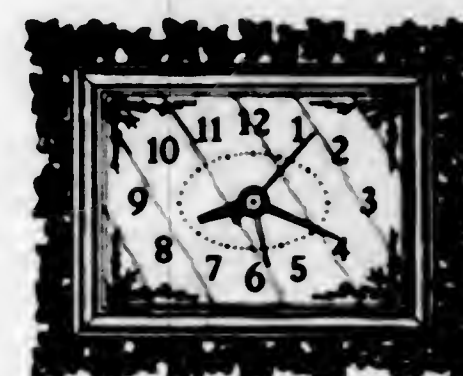
**211,198**  
**HOUSING FOR PULLING MECHANISM**  
Joseph B. Ulicky, 414 Little Ave., Dayton, Ohio 45409  
Filed July 24, 1967, Ser. No. 7,961  
Term of patent 14 years  
(Cl. D41—1)



**211,199**  
**HOO**  
Allan G. Serie, 2586 Juliet Place, Union, N.J. 07083  
Filed Nov. 16, 1967, Ser. No. 9,436  
Term of patent 14 years  
(Cl. D41—1)



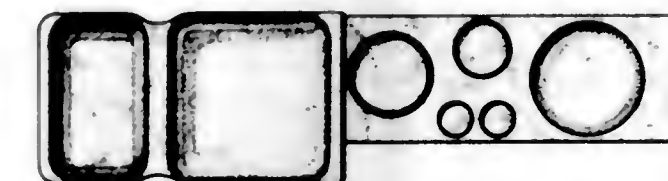
**211,200**  
**CLOCK**  
Harry L. Layton, Syracuse, N.Y., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois  
Filed June 7, 1967, Ser. No. 7,394  
Term of patent 14 years  
(Cl. D42—7)



**211,201**  
**FOOD MIXER**  
Edward A. Irelan, Lombard, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois  
Filed Oct. 26, 1967, Ser. No. 9,174  
Term of patent 14 years  
(Cl. D44—1)



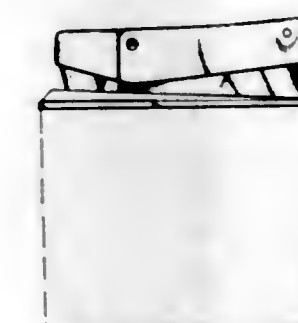
**211,202**  
**TRAY INSERT**  
Willis A. Stageberg, 3141 Rhode Island Ave. S., Minneapolis, Minn. 55426  
Filed July 27, 1967, Ser. No. 8,020  
Term of patent 14 years  
(Cl. D44—10)



**211,203**  
**CAN HOLDER**  
George E. Anderson, Jr., 3216 Fontana Drive 27406, and Phillip E. Burt, 4300 Friendly Road 27410, both of Greensboro, N.C.  
Filed Apr. 18, 1967, Ser. No. 6,745  
Term of patent 14 years  
(Cl. D44—21)



**211,204**  
**CIGARETTE LIGHTER**  
Michael P. Arnone, Rivervale, N.J., assignor to Jacques Kreiser Manufacturing Corporation, North Bergen, N.J., a corporation of New Jersey  
Filed Oct. 23, 1967, Ser. No. 9,126  
Term of patent 14 years  
(Cl. D48—27)





211,205

**FORK OR SIMILAR ARTICLE OF FLATWARE**  
Milton Goushorek, Meriden, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut

Filed Aug. 25, 1967, Ser. No. 8,389  
Term of patent 14 years  
(Cl. D54-12)



211,206

**PORTABLE THERMOPLASTIC DISPENSER**  
Herbert Johnson, Beverly, and Abdullah A. Khambaty, Magnolia, Mass., and Rudolph M. Babel, Pawtucket, R.I., assignors to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey

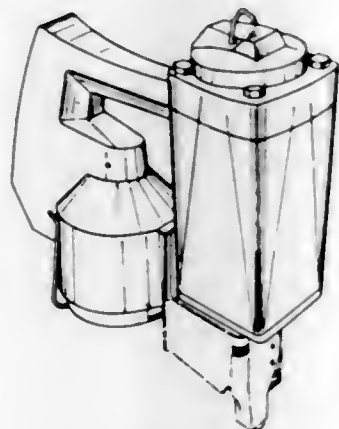
Filed Apr. 7, 1967, Ser. No. 6,564  
Term of patent 14 years  
(Cl. D54-13)



211,207

**NAILING MACHINE OR SIMILAR ARTICLE**  
Izaak Walton Bader, Brooklyn, N.Y., assignor to Swingline Inc., Long Island City, N.Y., a corporation of New York

Filed June 29, 1967, Ser. No. 7,641  
Term of patent 14 years  
(Cl. D54-14)

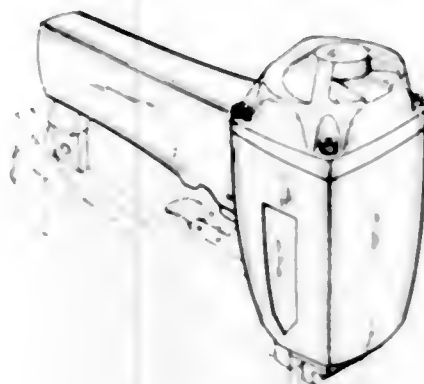


211,208

**INDUSTRIAL STAPLING MACHINE OR SIMILAR ARTICLE**

Izaak Walton Bader, Brooklyn, N.Y., assignor to Spotnails, Inc., Long Island City, N.Y., a corporation of New York

Filed July 10, 1967, Ser. No. 7,748  
Term of patent 14 years  
(Cl. D54-14)

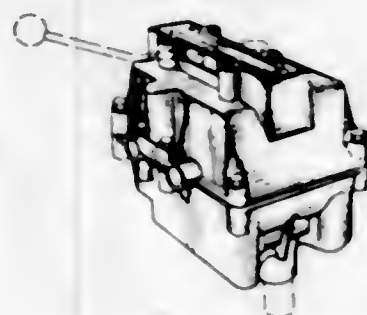


211,209

**TRANSMISSION**

Hans Hauser, Fredericktown, Ohio, assignor to The J. B. Foote Foundry Co., Fredericktown, Ohio, a corporation of Ohio

Filed May 17, 1967, Ser. No. 7,163  
Term of patent 14 years  
(Cl. D55-1)

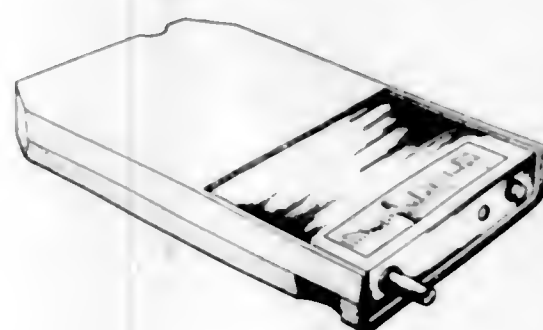


211,210

**HOUSING FOR A RADIO TUNER OR SIMILAR ARTICLE**

Gerald J. Golden, 11143 Montana, Los Angeles, Calif. 90049; James E. Walker, 2102 W. 157th St., Gardena, Calif. 90249; and Tom T. Tsuji, 2307 E. 2nd St., Los Angeles, Calif. 90033

Filed Apr. 17, 1967, Ser. No. 6,727  
Term of patent 14 years  
(Cl. D56-4)

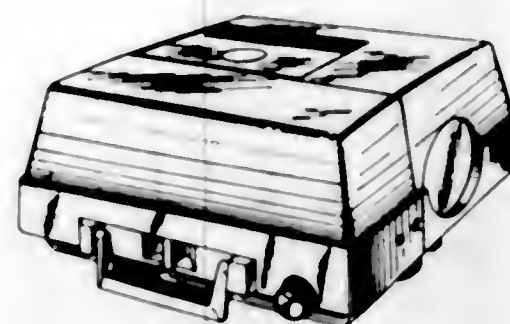


211,211

**SLIDE PROJECTOR HOUSING**

Thomas M. Steinbach, Park Ridge, and Robert M. Simonelli, Des Plaines, Ill., assignors, by mesne assignments, to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 1, 1965, Ser. No. 87,974  
Term of patent 14 years  
(Cl. D61-1)

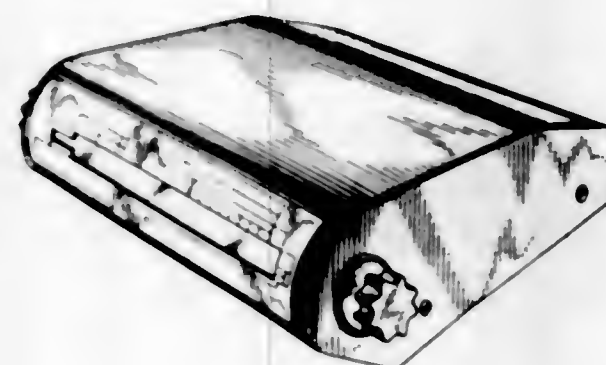


211,212

**PAYROLL COMPUTER OR THE LIKE**

Walter Schaffer, 202-19 45th Drive, Bayside, N.Y. 11361

Filed July 14, 1967, Ser. No. 7,807  
Term of patent 14 years  
(Cl. D64-11)

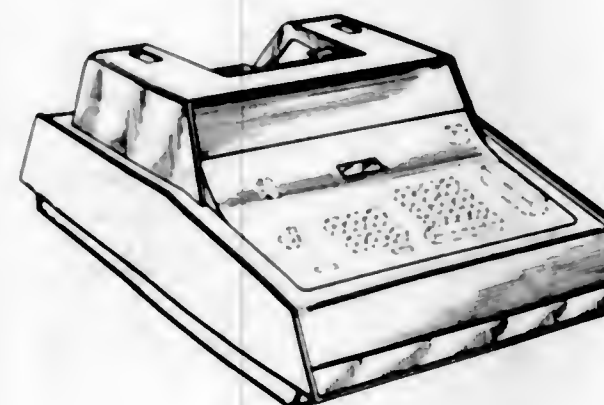


211,213

**CASING FOR A CALCULATOR OR THE LIKE**

Myron Beltier, Orange, N.J., assignor to Litton Business Systems, Inc., Orange, N.J., a corporation of New York

Filed Sept. 19, 1967, Ser. No. 8,652  
Term of patent 14 years  
(Cl. D64-11)



211,214

**ROOF OR THE LIKE**

Henrik H. Bull, San Francisco, Calif., assignor to California Redwood Association, San Francisco, Calif.

Filed Dec. 27, 1966, Ser. No. 5,177  
Term of patent 14 years  
(Cl. D68-1)

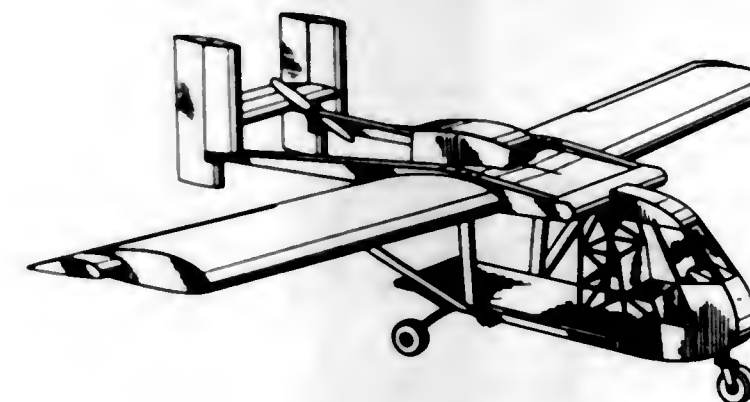


211,215

**STOL UTILITY AIRCRAFT**

Peter F. Girard, La Mesa, Calif., assignor to The Ryan Aeronautical Co., San Diego, Calif.

Filed Dec. 16, 1966, Ser. No. 5,070  
Term of patent 14 years  
(Cl. D71-1)

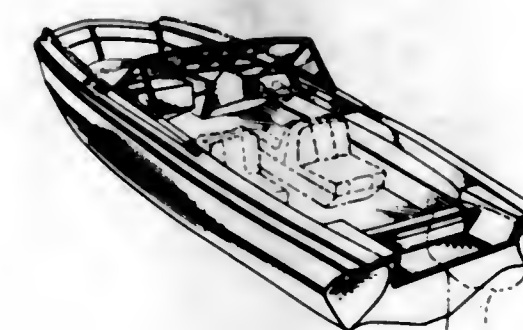
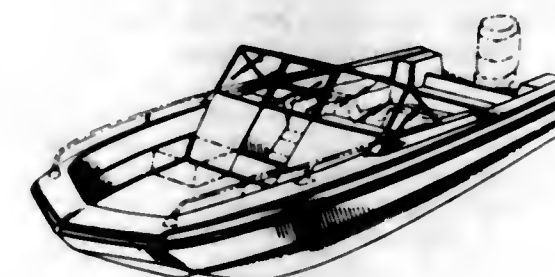


211,216

**BOAT**

Warwick M. Whitley, 200 E. Lola, Austin, Tex. 78756

Filed Jan. 11, 1967, Ser. No. 5,377  
Term of patent 14 years  
(Cl. D71-1)





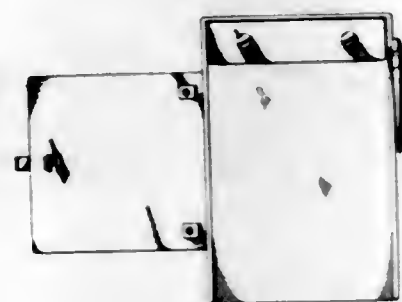
211,217

**WATER SAFETY FLOTATION DEVICE**  
David W. Bales, 122 Market, Washington, Mo. 63090  
Filed Jan. 16, 1967, Ser. No. 5,430  
Term of patent 3½ years  
(Cl. D71-1)



211,218

**COMBINED TELEPHONE AND MEMO PAD HOLDER**  
Evylin G. Gafford, 1828 Chicago Ave.,  
Minneapolis, Minn. 55404  
Filed Dec. 12, 1966, Ser. No. 4,998  
Term of patent 14 years  
(Cl. D74-1)



211,219

**WORSHIPPING HEADSTONE**  
Raymon D. Estandian, 482 Sanchez St.,  
San Francisco, Calif. 94114  
Filed Mar. 27, 1967, Ser. No. 6,401  
Term of patent 3½ years  
(Cl. D79-2)



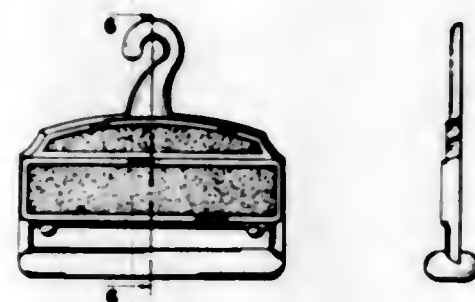
211,220

**INFLATABLE WIG STAND**  
Paul Belokin, Jr., Berwyn, Ill., assignor to The Tel-E-Medic Company, Chicago, Ill., a firm composed of Norman Schwartz, M.D., and Natalie Pels Schwartz  
Filed Apr. 24, 1967, Ser. No. 6,795  
Term of patent 14 years  
(Cl. D80-8)



211,221

**NECKTIE HOLDER**  
John Najarian, Creamkill, N.J.  
(267 5th Ave., New York, N.Y. 10016)  
Filed June 30, 1967, Ser. No. 7,662  
Term of patent 14 years  
(Cl. D80-8)



211,222

**DISPLAY STAND**  
Joseph J. Trogan, 904 S. Michigan Ave.,  
Saginaw County, Mich. 48602  
Original design application Oct. 23, 1965, Ser. No. 87,844,  
now Patent No. 207,284, dated Mar. 28, 1967. Divided  
and this application Dec. 15, 1966, Ser. No. 5,054  
Term of patent 14 years  
(Cl. D80-9)



211,223

**BABYFOOD HEATER**  
Robert Ochs, Herrenberg, Germany, assignor to ABC-Elektrogerate Vetz KG, Kirchheim, Germany  
Filed July 26, 1967, Ser. No. 8,001  
Term of patent 14 years  
Claims priority, application Germany Feb. 24, 1967  
(Cl. D81-10)

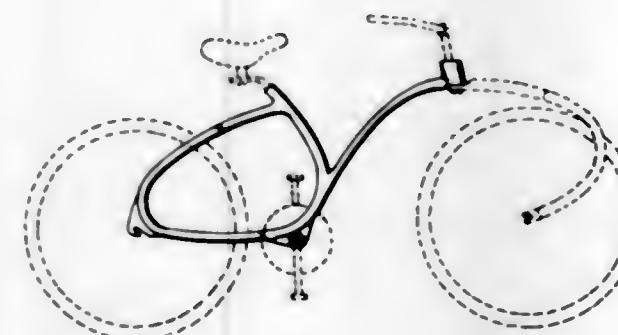
211,224  
COMB

Jerome L. Amer, 2604 SW. 65th St., and Edward N. Campbell, 4068 61st St., both of Oklahoma City, Okla. 73159  
Filed July 5, 1967, Ser. No. 7,711  
Term of patent 14 years  
(Cl. D86-8)



211,225

**BICYCLE FRAME**  
Charles F. Voytech, 208 S. La Salle St.,  
Chicago, Ill. 60604  
Filed Feb. 16, 1967, Ser. No. 5,840  
Term of patent 14 years  
(Cl. D90-8)



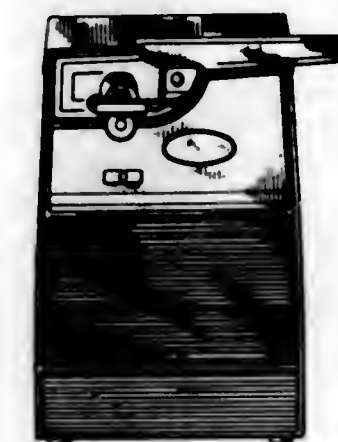
211,226

**FLEXIBLE DRINKING STRAW**  
William Nardone, Revere, Mass., assignor to Sweetheart Plastics, Inc., Wilmington, Mass., a corporation of Maryland  
Filed June 29, 1967, Ser. No. 7,638  
Term of patent 14 years  
(Cl. D94-3)



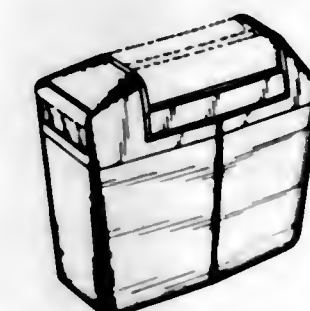
211,227

**COMBINED CAN OPENER AND ICE CRUSHER**  
Don W. Cartner, Raytown, and Henry J. Talge, Kansas City, Mo., assignors to Dazey Products Company, Jackson, Mo., a corporation of Missouri  
Filed Mar. 31, 1967, Ser. No. 6,460  
Term of patent 14 years  
(Cl. D95-2)



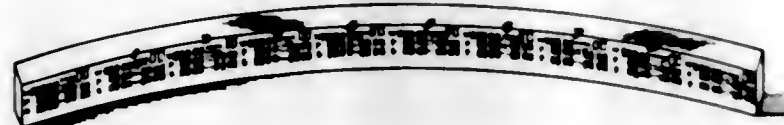
211,228

**ELECTRIC SHAVER**  
Gotz Florian Strzelczyk, Mulheim (Main), Germany, assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois  
Filed Mar. 17, 1967, Ser. No. 6,272  
Term of patent 14 years  
(Cl. D95-3)

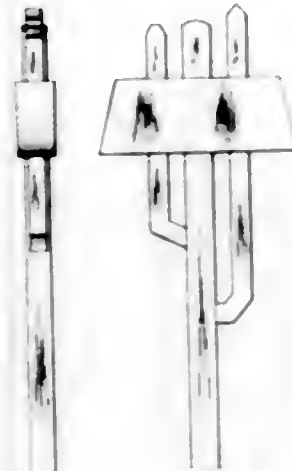




**211,229**  
**INFORMATION DISPLAY BOARD**  
**FOR RACE TRACKS**  
 Nicholas A. Grande, Rockville Centre, N.Y., assignor to Westbury Electronics Corporation, Westbury, N.Y., a corporation of New York  
 Filed Sept. 15, 1966, Ser. No. 3,884  
 Term of patent 3½ years  
 (Cl. D96—12)



**211,230**  
**SIGN**  
 Paul S. Olvera, 2714 Witters St., Saginaw, Mich. 48602  
 Filed Apr. 17, 1967, Ser. No. 6,725  
 Term of patent 14 years  
 (Cl. D96—12)



## LIST OF PLANT PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF MAY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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 Schmidt, Harvey, to G. R. McFeely. Almond tree. 2,813, 5-28-68, Cl. 30.  
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 American Fiberglass, Inc.: See—  
 Beck, Jack W. 211,160.  
 Anderson, George E., Jr., and P. E. Hurt. Can holder. 211,203, 5-28-68, Cl. D44—21.  
 Arnone, Michael P., to Jacques Kreisler Mfg. Corp. Cigarette lighter. 211,204, 5-28-68, Cl. D48—27.  
 Asner, Jerome L., and E. N. Campbell. Comb. 211,224, 5-28-68, Cl. D86—8.  
 Bader, Isaak W., to Swingline Inc. Nailing machine or similar article. 211,207, 5-28-68, Cl. D54—14.  
 Bader, Isaak W., to Spotnails, Inc. Industrial stapling machine or similar article. 211,208, 5-28-68, Cl. D54—14.  
 Bales, David W., to Kellwood Co. Water safety flotation device. 211,217, 5-28-68, Cl. D71—1.  
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 Barker, Stanley G. Bathtub reading rack. 211,189, 5-28-68, Cl. D33—3.  
 Beck, Jack W., to American Fiberglass, Inc. Building. 211,160, 5-28-68, Cl. D13—1.  
 Bettler, Myron, to Litton Business Systems, Inc. Casing for a calculator or the like. 211,213, 5-28-68, Cl. D64—11.  
 Belokin, Paul, Jr., to The Tel-E-Medic Co. Inflatable wig stand. 211,220, 5-28-68, Cl. D80—8.  
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 Bennett Industries, Inc.: See—  
 Yates, George J., Jr. 211,158.  
 Blier, Jean-Marc. Multiple seating unit. 211,171, 5-28-68, Cl. D15—11.  
 Boldt, Melvin H., to Zenith Radio Corp. Loud speaker unit. 211,180, 5-28-68, Cl. D26—14.  
 Bull, Henrik H., to California Redwood Association. Roof or the like. 211,214, 5-28-68, Cl. D68—1.  
 Burt, Phillip E.: See—  
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 Campbell, Edward N.: See—  
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 Cappon, John, to Henco Television Associates (Division of Redifon Canada Ltd.). Coaxial connector. 211,175, 5-28-68, Cl. D26—1.  
 Carallo, Anthony J. Lounge chair. 211,170, 5-28-68, Cl. D15—11.  
 Cartner, Don W., and H. J. Talge, to Dazey Products Co. Combined can opener and ice crusher. 211,227, 5-28-68, Cl. D95—2.  
 Casebolt, Ralph T. Shower door drip assembly. 211,161, 5-28-68, Cl. D13—6.  
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 Smith, David B., Soros, and Regan. 211,167.  
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 Cox, Austin E., to Dominion Electric Corp. Combined holder and charging unit for electric knife or the like. 211,185, 5-28-68, Cl. D26—15.  
 Dake, Lee J., to Joslyn Mfg. and Supply Co. Transmission line support arm. 211,177, 5-28-68, Cl. D26—12.  
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 Duchinsky, Bernard L., to International Oil Burner Co. Air conducting furnace cabinet door. 211,173, 5-28-68, Cl. D23—128.  
 Dwyer, Dorothy C. Combined hamper and seat. 211,169, 5-28-68, Cl. D15—1.  
 Estandian, Raymond D. Worshipping headstone. 211,219, 5-28-68, Cl. D79—2.  
 Florane, Leo U., Jr. Phonograph record holder. 211,187, 5-28-68, Cl. D33—3.  
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 Foote, J. B., Foundry Co., The: See—  
 Hauser, Hans. 211,209.  
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 Gafford, Evelyn G. Combined telephone and memo pad holder. 211,218, 5-28-68, Cl. D74—1.  
 Gem Inc.: See—  
 Malm, John R. 211,197.  
 General Aniline & Film Corp.: See—  
 Steinbach, Thomas M., and Simonelli. 211,211.  
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 Gleichert, Arthur A., ½ to R. J. Bales. Combination toothbrush, closure cap and dentifrice container. 211,151, 5-28-68, Cl. D4—18.  
 Golden, Gerald J., J. E. Walker, and T. T. Tsuji. Housing for a radio tuner or similar article. 211,210, 5-28-68, Cl. D56—4.  
 Golden, Harry, to Ideas for Auto and Bike Specialties, Inc. Simulated headlight for toy vehicles or the like. 211,195, 5-28-68, Cl. D34—15.  
 Gonsiorek, Milton, to The International Silver Co. Fork or similar article of flatware. 211,205, 5-28-68, Cl. D54—12.  
 Grande, Nicholas A., to Westbury Electronics Corp. Information display board for race tracks. 211,229, 5-28-68, Cl. D96—12.  
 Hauser, Hans, to The J. B. Foote Foundry Co. Transmission. 211,209, 5-28-68, Cl. D55—1.  
 Helgeson, Ulf R.: See—  
 Smith, J. Perry, and Helgeson. 211,174.  
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 International Oil Burner Co.: See—  
 Duchinsky, Bernard L. 211,173.  
 International Silver Co., The: See—  
 Gonsiorek, Milton. 211,205.  
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 Johnson, Harold D. Spray gun. 211,172, 5-28-68, Cl. D23—18.  
 Johnson, Herbert, A. A. Khambaty, and M. B. Rudolph, to United Shoe Machinery Corp. Portable thermoplastic dispenser. 211,206, 5-28-68, Cl. D54—13.  
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 Johnson, Herbert, Khambaty, and Rudolph. 211,206.  
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 Knowles, Arthur N., to London Winery Ltd. Bottle. 211,155, 5-28-68, Cl. D9—109.  
 Kreider, Georgia. Combined cleaning equipment cart and step stool. 211,165, 5-28-68, Cl. D14—3.  
 Kreisler, Jacques, Mfg. Corp.: See—  
 Arnone, Michael P. 211,204.  
 Kunkel, Edward J., to International Corporate Services. Door knocker. 211,159, 5-28-68, Cl. D10—7.  
 Layton, Harry L., to Sunbeam Corp. Clock. 211,200, 5-28-68, Cl. D42—7.  
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 Bettler, Myron. 211,213.  
 London Winery Ltd.: See—  
 Knowles, Arthur N. 211,155.  
 Mallonee, Carroll B. Game board. 211,193, 5-28-68, Cl. D34—5.  
 Malm, John R., to Gem Inc. Waxing mop or the like. 211,197, 5-28-68, Cl. D37—4.



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 Moore, Aston L. Combined baffle and grille for a loudspeaker. 211,184, 5-28-68, Cl. D26-14.  
 Najarian, John. Necktie holder. 211,221, 5-28-68, Cl. D80-8.  
 Nardone, William, to Sweetheart Plastics, Inc. Flexible drinking straw. 211,226, 5-28-68, Cl. D84-3.  
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 Olvera, Paul S. Sign. 211,230, 5-28-68, Cl. D96-12.  
 Owens-Illinois, Inc.: See—  
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 Pizzurro, Joseph C., to Precision Valve Corp. Dispensing container for liquids or the like. 211,153, 5-28-68, Cl. D9-44.  
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 Walker, James E.: See—  
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Knox, Lloyd C., and J. W. Woods, to Halliburton Co. Self-fill and flow control safety valve. 3,385,370, 5-28-68, Cl. 166-225.

Knox, Lloyd C., to Halliburton Co. Flow control float collar. 3,385,372, 5-28-68, Cl. 166-225.

Knüll, Enrico, and J. Rumpf, to J. R. Geigy, A.G. Triazines having herbicidal and fungicidal properties. 3,385,854, 5-28-68, Cl. 260-249.9.

Koblish, Theodore R., and L. J. Lauck, to United Aircraft Corp. Combustion chamber with floating swirler rings. 3,385,055, 5-28-68, Cl. 60-39.69.

Koch, Jacob: See—

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Kocher, Ernst-Ulrich, K. Wagner, and W. Von Der Emden, to Farbenfabriken Bayer Aktiengesellschaft. N-sulfonyl-1-oxa-3-aza-cycloalkane and copolymers thereof with trioxane. 3,385,828, 5-21-68, Cl. 260-67.5.

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Gilchrist, Henry R., and Kochis. 3,384,996.

Kock, Erhard, to The De Vilbiss Co. Cleaning device for liquid pressure regulating apparatus. 3,385,522, 5-28-68, Cl. 239-104.

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Koerner, Jürgen: See—

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Kolastinski, Richard, to Diamond Crystal Salt Co. Lateral flow rock salt dissolver and method. 3,385,674, 5-28-68, Cl. 23-312.

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Honig, Hans L., Kolb, and Theuer. 3,385,839.

Koltunak, Michael A., and C. E. Fenoglio, to The Udyllite Corp. Apparatus for providing a direct potential output from a multiphase alternating potential input. 3,386,024, 5-28-68, Cl. 321-5.

Komline-Sanderion Engineering Corp.: See—

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Tanaka, Tomiyuki, Suzuki, and Kosugi. 3,385,926.

Kotikov, Nicholas. Launcher for flare and smoke signals. 3,385,163, 5-28-68, Cl. 89-1.

Kozacka, Frederick J., and P. C. Jacobs, Jr., to The Chase-Shawmut Co. Electric cartridge fuse for interrupting protracted overload currents and major fault currents. 3,386,062, 5-28-68, Cl. 337-160.

Krakower, Gerald W., to E. R. Squibb & Sons, Inc. Process for the preparation of 16 $\beta$ -acyloxy-3,11-di keto 4a,8,14-trimethyl-18-nor-5a,8a,9 $\beta$ 13a,14 $\beta$ -cholestra-17(20)24-dien-21-ate. 3,385,869, 5-28-68, Cl. 260-397.1.

Kratzer, Dale L., and G. J. Armbruster, to Radio Corp. of America. Amplitude modulation cancellation for phase modulated correlation system. 3,386,094, 5-28-68, Cl. 343-17.5.

Krehel, Charles A.: See—

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Kroffke, Kenneth K., to Almatic Valve, Inc. Pneumatic reciprocating valve. 3,385,166, 5-28-68, Cl. 91-306.

Krubiner, Alan M., and E. P. Oliveto, to Hoffmann-La Roche Inc. Process for the preparation of 17 $\beta$ -pregnanones from 17-oxo-steroids. 3,385,849, 5-28-68, Cl. 260-239.55.

Krueger, Alfred P., to Minnesota Mining and Mfg. Co. Tape dispenser. 3,385,150, 5-28-68, Cl. 83-241.

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Kucera, Clement M., and P. W. Schumacher, Jr., to Reed Roller Bit Co. Drill bit. 3,385,385, 5-28-68, Cl. 175-374.

Kuchek, Henry A., to The Dow Chemical Co. Clad porous metal articles. 3,385,449, 5-28-68, Cl. 210-484.

Kugler, Emanuel. Flexible bag. 3,385,428, 5-28-68, Cl. 204-57.

Kugler, Fritz, O. Ernst, W. Seiz, and P. Ruf, to Ciba Ltd. Curable mixtures comprising cycloaliphatic polyepoxy compounds, curing agents, and metal accelerators. 3,385,835, 5-28-68, Cl. 260-78.4.

Kujawlak, Mikotaj, and Z. Takomy. Cut-off tool holder and blade. 3,384,945, 5-28-68, Cl. 29-96.

Kumasawa, Takehiko: See—

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L.C.S. Industries, Inc.: See—

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La Cellophane S.A.: See—

Mauffre, Marcel, and Carrier. 3,385,507.

Lafon, Jean-Claude, to Centre National de la Recherche Scientifique. Hearing aids. 3,385,937, 5-28-68, Cl. 179-107.

Lahale, Joseph M. R. Automatic front seat locks. 3,385,628, 5-28-68, Cl. 296-63.

Lalpe, Paul, and J.-C. Guillaume, to Centre National de la Recherche Scientifique. System for evaporating and cooling a liquid injected in vacuo. 3,384,979, 5-28-68, Cl. 34-92.

Lajole, Peter A.: See—

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Lancaster, Earl B., H. F. Conway, L. A. Weinecke, and E. L. Griffin, Jr., to United States of America, Agriculture. Process for production of an alkali starch xanthate solution. 3,385,719, 5-28-68, Cl. 106-213.

Land, Martin, to Rolls-Royce Ltd. Flame tube. 3,385,054, 5-28-68, Cl. 60-39.65.

Landis Tool Co.: See—

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Price, Ralph E., and Gebel. 3,385,170.

Lange, Horst, to Patent-Treuhand-Gesellschaft für Elektrische Glühlampen m.b.H. Alkali metal vapor lamp. 3,385,463, 5-28-68, Cl. 220-2.3.

Lapis Engineering Co. Ltd.: See—

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Laplin, Kenneth R., and J. A. Maurer, to The Weber Dental Mfg. Co. Dental bowl husher construction. 3,384,907, 5-28-68, Cl. 4-204.

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Larchian, George A., to North American Rockwell Corp. Composite dual dielectric for isolation in integrated circuits and method of making. 3,385,729, 5-28-68, Cl. 117-200.

Larsen, Bendt W.: See—

Enemark, Arne F., Valbjorn, and Larsen. 3,385,542.

Larson, Richard C. Automatic temperature responsive control. 3,385,520, 5-28-68, Cl. 236-1.

La Salle, Robert M., Jr.: See—

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La Telemecanique Electrique: See—

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Lau Blower Co., The: See—

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Lauck, Lawrence J.: See—

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Lauck, Peter, III, to R. H. Myers. Electric blanket. 3,385,958, 5-28-68, Cl. 219-501.

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Lavander, Edward J., to Xerox Corp. Toner package. 3,385,500, 5-28-68, Cl. 229-7.

Lawson, John D., deceased, by S. F. Lawson, Administratrix, and L. P. Parsons. Apparatus and method for detecting, comparing and recording heart valve muscular activities. 3,385,289, 5-28-68, Cl. 128-2.06.

Lawson, Maurice O., G. E. Scheitlin, and C. G. Machalicky, said Scheitlin and said Machalicky, assors to Arvin Industries, Inc. Gas heater. 3,385,287, 5-28-68, Cl. 126-247.

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Lawson, John D., and S. F. and Parsons. 3,385,289.

Lawson, Thomas G.: See—

Fineman, Harold, Lawson, and Bowmer. 3,385,168.

Lawver, James E., J. H. Shollie, and J. F. French, to International Minerals & Chemical Corp. Electrostatic separation apparatus. 3,385,435, 5-28-68, Cl. 209-129.

Layer, Edwin H., Jr., and W. F. J. Hare, to CTS Corp. Integrated circuit. 3,386,008, 5-28-68, Cl. 317-101.

Lazarus, Herbert C., to Ford Motor Co. Hydrokinetic torque converter mechanism with multiple section reactor blades. 3,385,060, 5-28-68, Cl. 60-54.

Leach, Sam L. Method for coating sheet material. 3,385,721, 5-28-68, Cl. 117-10.

Ledema, Frank. Safety rotational starting appliance. 3,385,277, 5-28-68, Cl. 123-185.

Ledig, Kurt W.: See—

Wendt, Gerhard R., and Ledig. 3,385,870.

Leeuwrik, Frederik H., to Werner Babilien. Pastry-making process. 3,385,236, 5-28-68, Cl. 107-54.

Legal, Casimer C., Jr.: See—

Turner, Gordon J., and Legal. 3,385,659.

Legatti, Raymond H., to Electromagnetic Industries, Inc. Inverter having regulated output voltage at a constant frequency. 3,386,028, 5-28-68, Cl. 321-18.

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Kaplan, Paul, and Lehman. 3,385,374.

Lehmann, Otto: See—

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Leigh Products, Inc.: See—

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Leitman, Albert: See—

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Lemberger, John E. Headlight adjusting apparatus. 3,385,961, 5-28-68, Cl. 240-7.1.

Lemelson, Jerome H. Packaging machinery and method. 3,385,025, 5-28-68, Cl. 53-30.

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Schreck, John T., Jr., and Lemons. 3,385,489.

Lennox Industries, Inc.: See—

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Leonard, Richard L., and P. Liang, to Ford Motor Co. Hyperlinear hydrostatic power transmission system having both linear and hyperbolic characteristics. 3,385,059, 5-28-68, Cl. 60-53.

LeRoy, Pierre L., to New Research and Development Laboratories, Inc. Wound clip. 3,385,299, 5-28-68, Cl. 128-337.

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Les, Robert F.: See—

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Les Usines de Melle (Societe Anonyme): See—

Mercier, Jules. 3,385,896.

Letvin, Samuel, to Fabricating Engineering Co., Inc. Process for scrubbing a gas stream containing particulate material. 3,385,030, 5-28-68, Cl. 55-90.

Levine, Seymour D., to E. R. Squibb, Sons, Inc. A-nor-D-homosteroids. 3,385,883, 5-28-68, Cl. 260-488.

Levinson, Arthur A., L. C. Radtke, and K. B. Bass, to H. B. Taylor Co. Stabilization of flavoring, odorant and perfume compositions. 3,385,718, 5-28-68, Cl. 99-140.

Lewis, B. Franklin: See—

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Lewis, Frank D., Sr., to Lockheed Aircraft Corp. Linear and angular responsive accelerometer anti-skid device. 3,385,307, 5-28-68, Cl. 137-38.

Lewis, James C., to United States of America, Agriculture. Lead chelates for biological separations. 3,385,766, 5-28-68, Cl. 193-96.

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Leonard, Richard L., and Liang. 3,385,059.

Lias, Edward J. Pendulum toy. 3,384,966, 5-28-68, Cl. 33-27.

Libby, McNeill & Libby: See—

Casale, Jorge O. 3,385,075.

Lichten, Robert L., and C. M. Seibel, to Bell Aerospace Corp. Motor-wing load transfer device. 3,385,537, 5-28-68, Cl. 244-6.

Lindenberg, Hans-Georg, to Varta Aktiengesellschaft. Plug for galvanic elements, and particularly for storage batteries. 3,385,467, 5-28-68, Cl. 220-44.

Lindmayer, Joseph, to Sprague Electric Co. Field effect transistor with an induced F-type channel by means of high work function metal or oxide. 3,386,016, 5-28-68, Cl. 317-235.

Lipor, Edward R. Electrode type bottle warmer having time controlled operation. 3,385,950, 5-28-68, Cl. 219-295.

Litton Business Systems, Inc.: See—

Dodsworth, James W. 3,385,535.

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Hull, Joseph F. 3,385,994.

Litton Systems, Inc.: See—

Johnston, Spencer G. 3,386,088.

Rosenbeck, Bernard M. 3,385,928.

Lloyd, Eugene A., to Nippos Corp. Unitary grill package. 3,385,282, 5-28-68, Cl. 126-25.

Lloyd, Frank, to The English Electric Co. Ltd. Cable stripping. 3,385,139, 5-28-68, Cl. 81-9.51.

Lock Thread Corp.: See—

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Lockheed Aircraft Corp.: See—

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Lodge, Alvin: See—

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Loe, Wallace D. 3,385,475.

Loe, Wallace D., to Loe Industries. Container puncturing assembly associated with a pump and check-valve means. 3,385,475, 5-28-68, Cl. 222-83.5.

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Thompson, Edwin A., and Loftis. 3,385,424.

Lohaus, Gerhard, and R. Graf, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing organic compounds containing one or a plurality of nitrile groups. 3,385,866, 5-28-68, Cl. 260-326.5.

Lohman, Harry C., to The Trane Co. Humidifier. 3,385,574, 5-28-68, Cl. 261-92.

Lohr, Alfred, H. Hemmann, and K. Tropp, to Burger Eisenwerke Aktiengesellschaft. Kettle for the cooking and/or steaming of comestibles. 3,385,288, 5-28-68, Cl. 126-379.

Loomis Hydraulic Testing Co., Inc.: See—

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Loston, Zallo. Cleaning implement for vacuum cleaning attachments. 3,384,921, 5-28-68, Cl. 15-402.

Lovegreen, Harold A., to Christy Concrete Products, Inc. Frangible concrete receptacle. 3,385,012, 5-28-68, Cl. 52-21.

Lowen, Jack, to Sprague Electric Co. Method and reagent for surface polishing. 3,385,682, 5-28-68, Cl. 51-293.

Lawry, Alan B., to The Gillette Co. Display case. 3,385,422, 5-28-68, Cl. 206-45.11.

Lucas, Pierre M., J. F. Duquesne, J. J. Nuttal, and J.-P. L. Berger. Error detecting circuits for telephone register and sender apparatus. 3,385,931, 5-28-68, Cl. 179-18.

Lucien, Rene, and E. Tetart, to Societe Anonyme dite: Messier. Force-limiting shock absorber. 3,385,403, 5-28-68, Cl. 188-88.

Luckenbaugh, Raymond W., to E. I. du Pont de Nemours and Co. Synergistic herbicidal mixtures. 3,385,690, 5-28-68, Cl. 71-93.

Luckenbaugh, Raymond W., to E. I. du Pont de Nemours and Co. Method for controlling growth of seedling weed grasses. 3,385,693, 5-28-68, Cl. 71-120.

Ludwig, Heinz: See—

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Lueders, Will H., to Landis Tool Co. Spindle bearings. 3,385,009, 5-28-68, Cl. 51-168.

Luker, Norman E.: See—

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Janason, Karl G. L., and Hulthen. 3,386,070.

Lundgreen, Michael W., J. B. Majerus, and M. H. Rhodes, to Collins Radio Co. Digital instrumentation for omnirange. 3,386,096, 5-28-68, Cl. 343-106.

Luoma, Aarne A., and A. F. Hanschke, to Worthington Corp. Gas desuperheating apparatus. 3,385,572, 5-28-68, Cl. 261-23.

Luttgens, Gunter: See—

Heyl, Gerhard, Luttgens, Reich, Schmits, and Ludwig. 3,385,264.

Lyall, Charles E., to Culligan, Inc. Compact water softener. 3,385,441, 5-28-68, Cl. 210-134.

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Lysholm, Alf. Formation of the circuit in hydrodynamic torque converters. 3,385,061, 5-28-68, Cl. 60-54.

Macalus, Frank J.: See—

Jacke, Stanley E., Harris, and Macalus. 3,385,262.

MacDonald, Robert D., to Cardinal of Adrian, Inc. Stimulated candle and wick holder. 3,385,084, 5-28-68, Cl. 431-310.



MacFarlane, Richard R., and C. R. Whitney, to The Carpenter Steel Co. Nickel base alloy. 3,385,998, 5-28-68, Cl. 75-171.

Machalicky, Charles G.: See—

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Mackie, James & Sons Ltd.: See—

Mackie, John K. P. 3,385,533.

Mackie, John K. P., to James Mackie & Sons Ltd. Winding mechanisms. 3,385,533, 5-28-68, Cl. 242-54.4.

Mackiewicz, Czeslaw, and J. Pistey, to Harvey Hubbell, Inc. Electric illuminating light dimmer control unit. 3,385,944, 5-28-68, Cl. 200-187.

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MacLeod, David E., to Carrier Corp. Control arrangement for an air conditioning system. 3,385,349, 5-28-68, Cl. 165-21.

Macomber, Inc.: See—

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Madsen, Peter A. Signalling device for mobile tank vehicle. 3,385,257, 5-28-68, Cl. 116-109.

Magne, Frank C., E. L. Skau, and R. R. Mod, to United States of America, Agriculture. Vinyl chloride polymers plasticized with morpholides. 3,385,813, 5-28-68, Cl. 260-30.4.

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Thomas, Peter S., and Maguire. 3,385,727.

Magyar, John, and R. H. Spencer, to Clairtone Sound Corp. Support for a high fidelity stereophonic system. 3,385,929, 5-28-68, Cl. 179-1.

Mahan, John E., S. D. Turk, and R. P. Williams, to Phillips Petroleum Co. Catalyst containing iron oxide, chromium oxide and a potassium compound. 3,385,798, 5-28-68, Cl. 252-470.

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Meler, Alfred, and Maier. 3,385,175.

Maier, Rudolf: See—

Meler, Alfred, and Maier. 3,385,175.

Majerus, John B.: See—

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Malcom, Robert, Jr., to Cesco Safety Products, Inc. Eye protective spectacles. 3,384,903, 5-28-68, Cl. 2-14.

Maliff, John D., to The Gillette Co. Closure device. 3,385,425, 5-28-68, Cl. 208-45.31.

Mallin, Sidney. Reusable container. 3,385,461, 5-28-68, Cl. 215-1.

Mallory, P. R., & Co. Inc.: See—

Bement, Lyle W. 3,385,972.

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Munson, Arden L., and Hirsch. 3,385,957.

Malmgren, Bo, and H. Pehrson, to Aktiebolaget Svenska Flakfabriken. Conveying web or sheet material. 3,385,490, 5-28-68, Cl. 226-7.

Maltese, Roy D. Plasterers' darby. 3,384,917, 5-28-68, Cl. 15-235.4.

Mandler, Rudolf, to Interdia G.m.b.H. Method for the production of compact injection molding tools. 3,385,088, 5-28-68, Cl. 72-46.

Mandrel Industries, Inc.: See—

Nelson, John R. 3,385,434.

Manning, George E., to Mobil Oil Corp. Automatically engaged viscous liquid shear clutch. 3,385,408, 5-28-68, Cl. 192-58.

Mansfield, Walter C., Jr., to General Electric Co. Temperature responsive fuses and apparatus embodying such fuses. 3,386,063, 5-28-68, Cl. 337-191.

Marbury, Ralph E., to Westinghouse Electric Corp. Combined protective gap device and by-pass switch for series capacitor installations. 3,385,941, 5-28-68, Cl. 200-148.

Marcattili, Enrique A. J., and R. A. Schmelzer, to Bell Telephone Laboratories, Inc. Dielectric waveguide, maser amplifier and oscillator. 3,386,043, 5-28-68, Cl. 330-4.3.

Marconi Co. Ltd.: See—

Richardson, Charles R. W. 3,385,996.

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Anderson, Gordon C., Barker, and Tarbox. 3,385,044.

Margerson, Richard B., and J. A. Nelson, to Ciba Corp. Process for preparing lower alkyl 2-pyridinium aldol salts. 3,385,860, 5-28-68, Cl. 260-296.

Marks, David T.: See—

Reiners, Neville H., Marks, and Smith. 3,385,276.

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Strange, Lloyd K., and Marrs. 3,385,362.

Marsh, Ogden J.: See—

Mayer, James W., Marsh, Baron, and Picus. 3,385,981.

Marsing, Helmut, to Siemens Aktiengesellschaft. Cryostat. 3,385,072, 5-28-68, Cl. 62-45.

Marsteller, Kenneth E., to Philco-Ford Corp. Air conditioner. 3,385,077, 5-28-68, Cl. 62-180.

Martin, Elmore L., to E. I. du Pont de Nemours and Co. Method for preparing chloropivalic acid. 3,385,888, 5-28-68, Cl. 260-539.

Martin, John C., to Bunn-O-Matic Corp. Cold water pour in beverage maker. 3,385,201, 5-28-68, Cl. 99-282.

Martin, John W.: See—

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Martin, Leonard G. Dental device. 3,385,291, 5-28-68, Cl. 128-62.

Martin-Marietta Corp.: See—

Pickar, Paul B. 3,385,723.

Varsos, Spyros G. 3,386,078.

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Wiggins, Macdonald J. 3,386,079.

Martinek, Robert G.: See—

Eickelberg, Henry L., and Martinek. 3,385,582.

Martiner, Karl J.: See—

Dantino, Angelo F., and Martiner. 3,385,453.

Marty, Pierre R. L.: See—

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Maschke, Alfred W., to United States of America, Atomic Energy Commission. Particle accelerator including means for transferring particles between accelerator and storage ring. 3,386,040, 5-28-68, Cl. 328-235.

Mason, Ralph B.: See—

Hamner, Glen P., Carr, Arey, and Mason. 3,385,781.

Massey-Ferguson G.m.b.H.: See—

Wensel, Alfred J., and Hantel. 3,385,609.

Massey-Shaw, Frederick: See—

Straniti, Salvatore, and Massey-Shaw. 3,385,853.

Masure, Jean L., and P. R. L. Marty, to International Standard Electric Corp. Selection system for electrical circuits having memory block means. 3,385,932, 5-28-68, Cl. 179-18.

Mathews, George P., and W. J. Williams, to Rockwell-Standard Corp. Seal device. 3,385,118, 5-28-68, Cl. 74-18.2.

Mathews, John H.: See—

Selke, William A., and Mathews. 3,385,752.

Mathew, Raymond, to CSF—Compagnie Generale de Telegraphie Sans Fil. System for transforming a rotational movement into an alternating torsional movement. 3,385,253, 5-28-68, Cl. 115-5.

Maufrre, Marcel, and C. Carrier, to La Cellophane S.A. Valved container or bag and the like. 3,385,607, 5-28-68, Cl. 229-62.5.

Maul, Lloyd L.: See—

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Thomas, John F., and D. J. Vish. Fly line and method and means for joining a leader thereto. 3,385,619, 5-28-68, Cl. 289-12.

Thomas, Leo J., Jr., and F. A. Richey, to Eastman Kodak Co. Non-evaporative drying method. 3,384,971, 5-28-68, Cl. 34-9.

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Thompson, Edwin A., and J. M. Loftis, to Robertshaw Controls Co. Carton and insert. 3,385,424, 5-28-68, Cl. 206-45.19.

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Trauffer, Daniel. Resiliently compressible packing joints. 3,385,604, 5-28-68, Cl. 277-26.

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| 2 : 3,385,230 | 3,385,458     | 3,386,088     | 3,385,841      | 3,385,203      | 3,385,093      |
| 3 : 3,385,608 | 3,385,465     | 3,386,091     | 3,385,874      | 3,385,208      | 3,385,134      |
| 4 : 3,385,401 | 3,385,468     | 3,386,100     | 3,385,882      | 3,385,221      | 3,385,154      |
| 3,385,436     | 3,385,475     | 3,386,954     | 3,385,884      | 3,385,233      | 3,385,216      |
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| 6 : 3,384,904 | 3,385,492     | 3,386,031     | 3,385,916      | 3,385,238      | 3,385,276      |
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| 3,384,914     | 3,385,538     | 3,385,049     | 3,385,036      | 3,385,249      | 3,385,504      |
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| 3,384,921     | 3,385,555     | 3,385,055     | 3,385,316      | 3,385,281      | 3,385,791      |
| 3,384,955     | 3,385,561     | 3,385,056     | 3,384,939      | 3,385,329      | 3,385,880      |
| 3,384,956     | 3,385,565     | 3,385,115     | 3,385,016      | 3,385,334      | 3,385,934      |
| 3,384,963     | 3,385,568     | 3,385,136     | 3,385,406      | 3,385,341      | 3,385,941      |
| 3,384,964     | 3,385,571     | 3,385,150     | 3,385,439      | 3,385,343      | 3,385,957      |
| 3,384,981     | 3,385,599     | 3,385,150     | 3,385,440      | 3,385,394      | 3,385,972      |
| 3,384,986     | 3,385,607     | 3,385,228     | 3,385,443      | 3,385,409      | 3,386,008      |
| 3,384,988     | 3,385,647     | 3,385,261     | 3,385,447      | 3,385,441      | 3,386,013      |
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| 3,385,034     | 3,385,664     | 3,385,292     | 3,385,548      | 3,385,524      | 3,385,132      |
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| 3,385,039     | 3,385,729     | 3,385,407     | 3,385,602      | 3,385,569      | 3,386,030      |
| 3,385,063     | 3,385,729     | 3,385,416     | 3,385,632      | 3,385,662      | 3,386,042      |
| 3,385,068     | 3,385,758     | 3,385,451     | 3,385,723      | 3,385,675      | 3,386,096      |
| 3,385,087     | 3,385,763     | 3,385,469     | 3,385,998      | 3,385,687      | 3,386,999      |
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| 3,385,131     | 3,385,777     | 3,385,585     | 3,386,078      | 3,385,701      | 3,385,112      |
| 3,385,159     | 3,385,782     | 3,385,697     | 3,386,079      | 3,385,713      | 3,385,123      |
| 3,385,171     | 3,385,871     | 3,385,716     | 3,386,081      | 3,385,717      | 3,385,486      |
| 3,385,182     | 3,385,872     | 3,385,816     | 3,384,912      | 3,385,719      | 3,385,566      |
| 3,385,183     | 3,385,879     | 3,385,823     | 3,385,307      | 3,385,730      | 3,385,575      |
| 3,385,198     | 3,385,891     | 3,385,865     | 3,385,476      | 3,385,741      | 3,385,688      |
| 3,385,242     | 3,385,902     | 3,385,895     | 3,385,595      | 3,385,783      | 3,385,709      |
| 3,385,279     | 3,385,903     | 3,385,944     | 3,385,600      | 3,385,784      | 3,385,789      |
| 3,385,285     | 3,385,908     | 3,385,954     | 3,385,626      | 3,385,785      | 3,385,813      |
| 3,385,295     | 3,385,919     | 3,385,969     | 3,385,651      | 3,385,793      | 3,385,941      |
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| 3,385,309     | 3,385,927     | 3,386,026     | 3,384,919      | 3,385,809      | 3,384,962      |
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|    | 3,385,518 |    | 3,385,801 |    | 3,385,158 |    | 3,385,649 |    | 3,385,076 |    | 3,385,363 |
|    | 3,385,633 |    | 3,385,900 |    | 3,385,161 |    | 3,385,728 |    | 3,385,077 |    | 3,385,364 |
|    | 3,385,646 | 31 | 3,385,554 |    | 3,385,174 |    | 3,385,750 |    | 3,385,111 |    | 3,385,365 |
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|    | 3,385,732 |    | 3,385,726 |    | 3,385,197 |    | 3,386,054 |    | 3,385,163 |    | 3,385,369 |
|    | 3,385,736 | 33 | 3,385,729 |    | 3,385,214 | 39 | 3,384,906 |    | 3,385,170 |    | 3,385,371 |
|    | 3,385,751 |    | 3,385,610 |    | 3,385,246 |    | 3,384,907 |    | 3,385,184 |    | 3,385,373 |
|    | 3,385,752 |    | 3,385,753 |    | 3,385,254 |    | 3,384,950 |    | 3,385,194 |    | 3,385,382 |
|    | 3,385,769 |    | 3,385,985 |    | 3,385,282 |    | 3,384,957 |    | 3,385,257 |    | 3,385,384 |
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|    | 3,385,939 |    | 3,384,938 |    | 3,385,321 |    | 3,385,024 |    | 3,385,271 |    | 3,385,431 |
|    | 3,385,979 |    | 3,384,942 |    | 3,385,328 |    | 3,385,027 |    | 3,385,286 |    | 3,385,434 |
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|    | 3,386,059 |    | 3,385,079 |    | 3,385,350 |    | 3,385,166 |    | 3,385,386 |    | 3,385,683 |
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|    | 3,386,087 |    | 3,385,169 |    | 3,385,374 |    | 3,385,240 |    | 3,385,454 |    | 3,385,796 |
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| 26 | 3,384,917 |    | 3,385,218 |    | 3,385,414 |    | 3,385,268 |    | 3,385,497 |    | 3,386,022 |
|    | 3,384,969 |    | 3,385,223 |    | 3,385,428 |    | 3,385,273 |    | 3,385,510 |    | 3,386,076 |
|    | 3,384,977 |    | 3,385,247 |    | 3,385,452 |    | 3,385,280 |    | 3,385,562 |    | 3,386,092 |
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|    | 3,385,109 |    | 3,385,485 |    | 3,385,530 |    | 3,385,399 |    | 3,385,642 |    | 3,386,429 |
|    | 3,385,144 |    | 3,385,498 |    | 3,385,557 |    | 3,385,402 |    | 3,385,655 |    | 3,386,576 |
|    | 3,385,147 |    | 3,385,505 |    | 3,385,572 |    | 3,385,408 |    | 3,385,667 |    | 3,386,735 |
|    | 3,385,172 |    | 3,385,531 |    | 3,385,579 |    | 3,385,432 |    | 3,385,672 |    | 3,386,754 |
|    | 3,385,181 |    | 3,385,535 |    | 3,385,583 |    | 3,385,437 |    | 3,385,676 |    | 3,386,853 |
|    | 3,385,195 |    | 3,385,559 |    | 3,385,611 |    | 3,385,459 |    | 3,385,698 |    | 3,386,922 |
|    | 3,385,207 |    | 3,385,573 |    | 3,385,625 |    | 3,385,503 |    | 3,385,718 |    | 3,386,955 |
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|    | 3,385,274 |    | 3,385,670 |    | 3,385,712 |    | 3,385,529 |    | 3,385,787 |    | 3,386,315 |
|    | 3,385,275 |    | 3,385,680 |    | 3,385,714 |    | 3,385,536 |    | 3,385,804 |    | 3,386,456 |
|    | 3,385,277 |    | 3,385,731 |    | 3,385,715 |    | 3,385,544 |    | 3,385,867 |    | 3,386,593 |
|    | 3,385,305 |    | 3,385,770 |    | 3,385,725 |    | 3,385,545 |    | 3,385,870 |    | 3,386,622 |
|    | 3,385,318 |    | 3,385,780 |    | 3,385,733 |    | 3,385,549 |    | 3,385,892 | 54 | 3,385,652 |
|    | 3,385,340 |    | 3,385,792 |    | 3,385,765 |    | 3,385,605 |    | 3,385,893 |    | 3,386,663 |
|    | 3,385,348 |    | 3,385,802 |    | 3,385,778 |    | 3,385,606 |    | 3,385,897 |    | 3,386,806 |
|    | 3,385,419 |    | 3,385,810 |    | 3,385,807 |    | 3,385,615 |    | 3,385,898 |    | 3,386,971 |
|    | 3,385,449 |    | 3,385,834 |    | 3,385,812 |    | 3,385,617 |    | 3,385,909 | 55 | 3,384,905 |
|    | 3,385,457 |    | 3,385,849 |    | 3,385,818 |    | 3,385,668 |    | 3,385,920 |    | 3,386,020 |
|    | 3,385,488 |    | 3,385,850 |    | 3,385,819 |    | 3,385,711 |    | 3,385,973 |    | 3,386,052 |
|    | 3,385,517 |    | 3,385,856 |    | 3,385,821 |    | 3,385,749 |    | 3,385,987 |    | 3,386,080 |
|    | 3,385,546 |    | 3,385,857 |    | 3,385,822 |    | 3,385,795 |    | 3,386,001 |    | 3,386,106 |
|    | 3,385,547 |    | 3,385,860 |    | 3,385,876 |    | 3,385,901 |    | 3,386,005 |    | 3,386,129 |
|    | 3,385,556 |    | 3,385,869 |    | 3,385,877 |    | 3,385,930 |    | 3,386,027 |    | 3,386,151 |
|    | 3,385,560 |    | 3,385,875 |    | 3,385,878 |    | 3,385,962 |    | 3,386,032 |    | 3,386,178 |
|    | 3,385,620 |    | 3,385,883 |    | 3,385,899 |    | 3,385,963 |    | 3,386,058 |    | 3,386,209 |
|    | 3,385,623 |    | 3,385,894 |    | 3,385,913 |    | 3,385,974 |    | 3,386,064 |    | 3,386,258 |
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|    | 3,385,691 |    | 3,385,966 |    | 3,385,925 |    | 3,386,060 |    | 3,385,843 |    | 3,386,527 |
|    | 3,385,727 |    | 3,385,993 |    | 3,385,928 |    | 3,386,074 |    | 3,385,858 |    | 3,386,574 |
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|    | 3,385,739 |    | 3,386,025 |    | 3,385,965 | 40 | 3,384,974 |    | 3,385,071 |    | 3,386,942 |
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## Design Patents

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| 211,174     | 211,177      | 26 : 211,157 | 33 : 211,186 | 42 : 211,212 | 45 : 211,209 |
| 211,182     | 211,180      | 27 : 211,165 | 34 : 211,199 | 43 : 211,229 | 46 : 211,224 |
| 211,210     | 211,189      | 28 : 211,194 | 35 : 211,204 | 44 : 211,181 | 47 : 211,193 |
| 211,214     | 211,201      | 29 : 211,222 | 36 : 211,213 | 45 : 211,196 | 48 : 211,156 |
| 211,215     | 211,211      | 30 : 211,230 | 37 : 211,221 | 46 : 211,203 | 49 : 211,197 |
| 211,219     | 211,220      | 31 : 211,176 | 38 : 211,153 | 47 : 211,152 | 50 : 211,216 |
| 8 : 211,166 | 211,225      |              |              |              |              |

## Plant Patents

|           |           |            |  |  |
|-----------|-----------|------------|--|--|
| 6 : 2,812 | 6 : 2,813 | 26 : 2,811 |  |  |
|-----------|-----------|------------|--|--|

# U.S. DEPARTMENT OF COMMERCE

## OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

May 28, 1968

Volume 850

Number 4

## TRADEMARKS

### NOTICES

## Service by Publication

An interference identified below having been declared between Lobica-Debrulle, Inc. and Nouvel Omnium de Spécialités & Produits Chimiques, Société Anonyme, and the decision in said proceeding having been sent by mail to the last known address of Lobica-Debrulle, Inc., and returned by the Post Office as undeliverable, notice is hereby given that registration was refused to Lobica-Debrulle, Inc. April 16, 1968.

Lobica-Debrulle, Inc., New York, N.Y., Ser. No. 260,440, Interference No. 6524.

EDWIN L. REYNOLDS,  
First Assistant Commissioner of Patents.

## Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

**Reg. No. 207,915 (LACRITE)**, The Patterson-Sargent Company, Dry and ready-mixed paints, paint and varnish driers, paint enamels, wood stains, varnish stains, wall paint, prepared laces, fillers for painters' use, varnishes, automobile enamels, baking enamels, and engine enamels. Filed Jan. 12, 1968, D.C., E.D. Mo. (St. Louis), Doc. 68c17(2), *Jay V. Zimmerman Co. v. Missouri Petroleum Products Company*.

**Reg. No. 293,400 (ADAPTOLETTE)**, Lane Bryant, Inc., Hosiery, shoes of leather and fabric, rubbers, underwear, corsets, brassieres, dresses, coats, suits, hats, caps, raincoats, bathing suits, bathrobes, negligees; gloves of leather, rubber,

and fabric, pajamas, said underwear, dresses, coats, suits, hats, and caps being for the use of women and children; **Reg. No. 293,873 (ADAPTO)**, same, filed Dec. 11, 1967, D.C., S.D.N.Y., Doc. 67-C-4854, *Lane Bryant, Inc. v. Esquisite Form Industries, Inc.*

**Reg. No. 293,873**. (See Reg. No. 293,400.)

**Reg. No. 381,468 (AMEROCK)**, American Cabinet Hardware Corporation, Drawer and door pulls, knobs and hinges; **Reg. No. 381,714**, same, Door catches; **Reg. No. 524,364**, same, Cabinet hardware—namely, door and drawer pulls and knobs, door catches and hinges, window sash locks and finger grips, filed Apr. 12, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c572, *Amerock Corporation v. Bolen International, Inc. and Bolen Enterprises*. By agreement order complaint dismissed without prejudice and counterclaim dismissed with prejudice, Mar. 1, 1968.

**Reg. No. 381,714**. (See Reg. No. 381,468.)

**Reg. No. 500,970 (SPEIDEL)**, Spidel Corporation, Jewelry, not including watches—namely, bracelets, neck chains, watch chains, key chains, ornamental chains by the foot, necklaces, ornamental pins, ornamental clips, earrings, anklets, lockets, charms, ornamental crosses, eyeglass chains, tie holders, cuff links, shirt studs, collar holders, jewelry findings and the following items made in whole of, in part of, or plated with precious metal, namely, key rings, dress ornaments, pocket knives, money clips and bib holders, filed Apr. 14, 1967, D.C., S.D.N.Y., Doc. 67-C-1496, *Textron Inc. v. Spid-Dell Watch*

### CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 17,367  
Date of oldest new application..... May 10, 1967  
Date of oldest amended application (filing date)..... Aug. 20, 1964

| C. M. WENDT, Director, Trademark Examining Operation  |  | Oldest Application |          |
|---|--|--------------------|----------|
| TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION  |  | New                | Amended  |
| (I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B..... |  | 5-10-67            | 10-20-66 |
| (II) F. H. WETHERBEE, Classes 1, 6, 13, 18, 43, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....                                    |  | 6-21-67            | 8-20-64  |
| (III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36.....   |  | 6-1-67             | 9-27-66  |
| (IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 26, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....    |  | 5-15-67            | 1-5-65   |
| Renewals (All Classes).....   |  |                    |          |
| Sec. 12(c) Publications (All Classes).....  |  |                    |          |

Applications filed during the month of March 1968—2,462

Registrations Issued ..... 397—No. 849,637 to No. 850,033  
Renewals Issued ..... 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.



& Jewelry Co., Inc. et al. Interlocutory judgment, Reg. No. 509,070 is valid and plaintiff is owner of said registration, Feb. 19, 1968.

Reg. No. 524,364. (See Reg. No. 381,468.)

Reg. No. 551,291 (MILIUM), The Vadium Corporation, Textile fabrics of cotton, rayon, nylon, and mixtures thereof having heat reflective and/or heat retentive properties; Reg. No. 629,297, same, Deering, Milliken & Co., Inc., Applying a metal-insulating coating to textile fabrics of others, filed Feb. 16, 1968, D.C., S.D.N.Y., Doc. 68-C-668, *Deering Milliken, Inc. v. Acker & Joblow, Inc.*

Reg. No. 629,297. (See Reg. No. 551,291.)

Reg. No. 645,455 (CASUAL CORNER), Casual Corner, Inc., Women's apparel—namely, dresses, shorts, slacks, sport jackets, coats, suits, sweaters, blouses, shirts, bathing suits, bathing caps, bathing shoes, shirts, beach robes, beach jackets, and beach bags, filed June 29, 1967, D.C.N.J. (Newark), Doc. 693-67, *Casual Corner Associates, Inc. v. Gertrude Leidner*. Consent judgment for permanent injunction, Jan. 18, 1968.

Reg. No. 681,947 (ULTRA SHEEN), Johnson Products Co., Inc., Creme hair oil, creme shampoo, hair and scalp condi-

tioner, pin curl setting cream, and creme press for straightening hair, filed Feb. 1, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c192, *Johnson Products Co., Inc. v. Beauty-Rama Corporation*.

Reg. No. 685,464 (680), Eutectic Welding Alloys Corp., Metallic welding electrode for dissimilar alloy steels, filed Dec. 22, 1967, D.C., N.D. Calif. (San Francisco), Doc. 48428, *Eutectic Welding Alloys Corp. v. Universal Alloys Inc.* Consent judgment of permanent injunction enjoining defendants, Feb. 15, 1968.

Reg. No. 707,631 ("SEE-ALL" TELE-TECTOR), Norman Industries, Inc., Dummy cameras for mounting on a wall or ceiling in a store for the purpose of deterring shoplifting and reducing pilferage losses, filed Jan. 10, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c46, *Norman Industries, Inc. v. So-Kure Controls, Inc., et al.*

Reg. No. 632,307 (AMINO-PON "K-11"), Redken Laboratories, Inc., Hair shampoo concentrate, filed Oct. 24, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-1558-CC, *Redken Laboratories, Inc. v. Nu Tress Laboratories, Inc.*

## MARKS PUBLISHED FOR OPPOSITION

### SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 230,434. Raleigh Industries, Ltd., Nottingham, England. SN 258,371. FS Services, Inc., Bloomington, Ill. Filed Nov. 10, 1966.

**CARLTON**

Owner of U.S. Reg. No. 765,857.

#### Class 19—Vehicles

For Motor Bicycles, Motorized Cycles, Mopeds, Motor Scooters, Bicycles, and Tricycles for Adults, and Parts Thereof (Int. Cl. 12).

#### Class 22—Games, Toys, and Sporting Goods

For Toy Bicycles, Scooters and Tricycles, and Parts Thereof (Int. Cl. 28).

First use 1946; in commerce 1946.

SN 242,380. National Rosin Oil Products, Inc., Savannah, Ga. Filed Mar. 31, 1966.

**DLC**

#### Class 1—Raw or Partly Prepared Materials

For Dry Liquid Concentrate Chemical Compounds—Namely, Synthetic Resins; Elastomers; and Latex (Int. Cls. 1 and 17). First use Jan. 21, 1965.

#### Class 6—Chemicals and Chemical Compositions

For Dry Liquid Concentrate Chemical Compounds—Namely, Phthalate, Phosphate, and Ricinoleate Esters; Naphthenic Process Oils; Aromatic Process Oils, Essential Oils, Petroleum, Epoxidized Vegetable Oils; Anti-Oxidants; Stearic Acid; and Peptizers (Int. Cls. 1, 3, and 4). First use Dec. 16, 1964.

#### Class 15—Oils and Greases

For Dry Liquid Concentrate Chemical Compounds—Namely, Paraffinic Process Oils; and Mineral Oils (Int. Cl. 4). First use July 23, 1965.

SN 243,924. Strato Tool Corporation, Hanover, N.J. Filed Apr. 20, 1966.

**STRATO-TIE**

#### Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Clip Fasteners (Int. Cl. 6).

#### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Automatic Clip-Type Closure Fastening Machine for Sealing Packages (Int. Cl. 7).

First use Feb. 23, 1965.



Owner of Reg. Nos. 636,120, 663,313, and others.

#### Class 100—Miscellaneous

For Conducting Research Concerning Farm Materials, Supplies and Operation and Distributing Results Thereof to Farmers, and Advising Farmers as to Use of Farm Materials, Supplies and Operation (Int. Cl. 42).

#### Class 101—Advertising and Business

For Wholesale and Retail Distribution of Materials and Supplies to Farmers (Int. Cl. 35).

First use during August 1955.

SN 259,524. Davmor Industries, Inc., Miami, Fla. Filed Nov. 28, 1966.

**DAVMOR**

#### Class 2—Receptacles

For Garbage Cans (Int. Cl. 21).

#### Class 31—Filters and Refrigerators

For Walk-In Coolers and Refrigerated Soft Drink Dispensers (Int. Cl. 11).

#### Class 32—Furniture and Upholstery

For Food Holding Shelves and Tables (Int. Cl. 20).

#### Class 34—Heating, Lighting, and Ventilating Apparatus

For Steel Restaurant Equipment—Namely, Broilers (Int. Cl. 11).

First use during September 1965.

SN 260,696. Gojer, Inc., Akron, Ohio, Filed Dec. 14, 1966.



Owner of Reg. Nos. 426,363 and 727,108.

#### Class 15—Oils and Greases

For Anti-Seize and Sealing Compound in the Form of a Colloidal, Homogeneous, Paste-Like Mixture for Protecting and Lubricating Threaded and Other Mechanical Parts, Including Automotive, Industrial, Marine, Plumbing, and Appliance Fittings (Int. Cl. 4).

First use Nov. 1, 1962.

#### Class 52—Detergents and Soaps

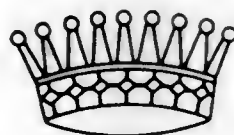
For Cream-Type Hand Cleaner, Hand Cleaner Sold in Dispenser Cans, Lotion-Type Skin Cleaner, Liquid Protective Skin Coater, and Powdered and Liquid Laundry Detergents (Int. Cl. 3).

First use Dec. 1, 1960.



SN 261,260. Countess Mara, Inc., New York, N.Y. Filed Dec. 22, 1966.

SN 263,984. The Magnavox Company, Fort Wayne, Ind. Filed Feb. 6, 1967.



Owner of Reg. Nos. 370,030, 633,241, and others.

**Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks**

For Tie Racks and Cravat Cases (Int. Cl. 20).  
First use Oct. 1, 1955.

**Class 28—Jewelry and Precious-Metal Ware**

For Cuff Links, Tie Clasps, and Tie Tacks (Int. Cl. 14).  
First use May 1, 1959.

**Class 39—Clothing**

For Neckties, Bowties, Men's Dress Shirts, Men's Casual Shirts, Men's Knitted Shirts, Men's Socks, Suspenders, Gloves, Scarves, Handkerchiefs, Robes, Sweaters, Pajamas, Sport Jackets, Slacks, and Ascots (Int. Cl. 25).  
First use Nov. 25, 1937.

**Class 51—Cosmetics and Toilet Preparations**

For Cologne, Shaving Lotion, and Personal Deodorant (Int. Cls. 3 and 5).  
First use Oct. 1, 1955.

**Class 52—Detergents and Soaps**

For Toilet Soap (Int. Cl. 3).  
First use Oct. 1, 1955.

SN 261,346. Schwabacher & Co., San Francisco, Calif. Filed S.R. Dec. 23, 1966; Am. P.R. Mar. 21, 1968.



**Class 100—Miscellaneous**

For Advice and Consultation Services as Financial Advisers (Int. Cl. 42).

**Class 102—Insurance and Financial**

For Financial Services as Underwriters, Distributors, Dealers, and Brokers of All Types of Securities (Int. Cl. 36).  
First use on or about Feb. 15, 1965.

SN 261,950. Sumitomo Metal Industries, Ltd., Higashi-ku, Osaka, Japan. Filed Jan. 4, 1967.

**SMI**

**Class 19—Vehicles**

For Parts and Accessories for Railway Freight and Passenger Cars—Namely, Railway Trucks, Wheels, Axles, and Wheel-Axle Units (Int. Cl. 12).

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Parts and Accessories for Railway Locomotives—Namely, Railway Trucks, Wheels, Axles, and Wheel-Axle Units (Int. Cl. 12).

First use at least as early as Dec. 31, 1950; in commerce at least as early as Dec. 31, 1950.



**Class 21—Electrical Apparatus, Machines, and Supplies**

For AM and FM Radio Receivers; Television Receivers; Portable and Console Combinations of AM and FM Radio Receivers (Int. Cl. 9).

**Class 36—Musical Instruments and Supplies**

For Phonographs and Organs (Int. Cls. 9 and 15).  
First use in 1953.

SN 265,725. Monsanto Company, St. Louis, Mo. Filed Mar. 1, 1967.

**SANTOSAFE**

Owner of Reg. Nos. 348,222 and 804,114.

**Class 6—Chemicals and Chemical Compositions**

For Hydraulic Fluid (Int. Cl. 1).

**Class 15—Oils and Greases**

For Petroleum Base Hydraulic Fluid and Lubricant (Int. Cl. 4).  
First use Oct. 14, 1966.

SN 265,823. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Mar. 2, 1967.

**RUCOFLEX**

Owner of Reg. Nos. 520,693, 825,941, and others.

**Class 1—Raw or Partly Prepared Materials**

For Polyester Resins in Liquid Form (Int. Cl. 1).

**Class 6—Chemicals and Chemical Compositions**

For Plasticizers (Int. Cl. 1).  
First use Jan. 31, 1967.

SN 266,705. The Voltax Company, Inc., Bridgeport, Conn. Filed Mar. 15, 1967.



The drawing is lined for the color blue, but no claim to color is made. Owner of Reg. No. 226,506.

**Class 5—Adhesives**

For Adhesives—Namely, Acrylics; Liquid Rubbers; Vinyls and Epoxies (Int. Cl. 1).

**Class 12—Construction Materials**

For Caulking Compounds (Int. Cl. 17).

**Class 16—Protective and Decorative Coatings**

For Paints, Lacquers, Varnishes, and Enamels for Interior and Exterior Use, and Liquid Roof Coating for Protective and Decorative Purposes for Application to Wood, Concrete, Metal, Composition Board, Asphalt, Shingle-Type Roofing, and the Like (Int. Cl. 2).

First use October 1922.

SN 268,839. Jackson & Perkins Company, Medford, Oreg. Filed Apr. 11, 1967.



The drawing is lined for the color green, but no particular color is claimed.

**Class 1—Raw or Partly Prepared Materials**

For Plants—Namely, Roses, Lilacs, Amaryllis, Chrysanthemums and Dianthus, Strawberries, Clematis, and Bulbs (Int. Cl. 31).  
First use 1939.

**Class 6—Chemicals and Chemical Compositions**

For Insecticides, Herbicides, and Fungicides (Int. Cl. 5).  
First use 1948.

**Class 10—Fertilizers**

For Fertilizers—Namely, Rose Food (Int. Cl. 1).  
First use 1948.

SN 270,453. Phy-Ed Apparel Service, Inc., Oak Brook, Ill. Filed May 2, 1967.

**PHY-ED**

**Class 39—Clothing**

For Athletic Shirts (Int. Cl. 25).  
First use Aug. 26, 1966.

**Class 51—Cosmetics and Toilet Preparations**

For Personal Deodorant, Skin Cream Softener, and Foot Freshener (Int. Cls. 3 and 5).  
First use September 1965.

SN 272,326. Clairol Incorporated, New York, N.Y. Filed May 25, 1967.

**LEMON SQUEEZE**

Applicant disclaims the right to the exclusive use of the word "Lemon" apart from the mark as shown.

**Class 51—Cosmetics and Toilet Preparations**

For Hair Lightener and Hair Creme Rinse (Int. Cl. 3).

**Class 52—Detergents and Soaps**

For Hair Shampoo (Int. Cl. 3).  
First use Apr. 20, 1967.

SN 272,883. The Standard Oil Company, Cleveland, Ohio. Filed June 2, 1967.

**STOP 35**

The word "Stop" is disclaimed apart from the mark as shown.

**Class 100—Miscellaneous**

For Restaurant and Lodging Services Primarily for the Trucking Industry (Int. Cl. 42).

**Class 103—Construction and Repair**

For Automotive Repair and Fuel Services Primarily for the Trucking Industry (Int. Cl. 37).

First use Jan. 31, 1967.

SN 273,776. Hipotronics, Inc., Brewster, N.Y. Filed June 13, 1967.

**HIPOTRONICS**

**Class 21—Electrical Apparatus, Machines, and Supplies**

For High Voltage Power Supplies and Power Packs, D.C. Wire Sparkers, and Parts Thereof (Int. Cl. 9).

**Class 26—Measuring and Scientific Appliances**

For High Voltage Test Equipment—Namely, Megohmmeters, D.C. Insulation Testers, Dielectric and Corona Test Equipment, Load Cycle Testers, High Voltage Fault Locating Bridges and Impulse-Type Fault Locators, Pulse Pick-Up Devices for Fault Locating, Automatic Cable Testers, A.C. Dielectric Test Equipment for Testing the Dielectric on Wires and Cables, Electrical Wire Insulation Pin Hole Counters, Multiple Wire Insulation Testers, Non-Destructive Insulation Testers, Discontinuity Enamel Wire Defect Testers, A.C./D.C. Testers and Megohmmeters, A.C. Insulation Testers, and Parts Thereof (Int. Cl. 9).  
First use Jan. 22, 1962.

SN 274,378. The Torrington Company, Torrington, Conn. Filed June 21, 1967.

**TORQUE-HED**

**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

For Screw Fasteners (Int. Cl. 6).

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Drivers for Rotating Screw Fasteners (Int. Cl. 7).  
First use June 14, 1967.

SN 274,379. The Torrington Company, Torrington, Conn. Filed June 21, 1967.

**TORQUE-HED**

**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

For Screw Fasteners (Int. Cl. 6).

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Drivers for Rotating Screw Fasteners (Int. Cl. 7).  
First use June 14, 1967.

SN 274,560. Rex Chainbelt Inc., Milwaukee, Wis., assignee of Camloc Fastener Corporation, Paramus, N.J. Filed June 23, 1967.

Owner of Reg. Nos. 393,936, 731,729, and others.



**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

For Rotatable Stud Separable Fasteners, Quarter Turn Fasteners, Push Button Fasteners, Tension Latches, Pawl Latches, Container Latches, Quick Operating Clamps, Electronic Chassis Latches, and Spring Pins (Int. Cl. 6).

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Pliers, Drills, Drill Jacks, Hole Saws, Log Washer Tools, Dimpling Tools, Snap Ring Tools, Flaring Tools, Counter-Sinks and Counter-Bores (Int. Cls. 7 and 8).

First use Aug. 19, 1938.

SN 275,193. Hastings & Co., Inc., Philadelphia, Pa. Filed July 3, 1967.

**HASTINGS**

Owner of Reg. No. 373,510.

**Class 1—Raw or Partly Prepared Materials**

For Coated Plastic Films for Use in the Industrial Arts (Int. Cl. 17).

First use prior to Jan. 1, 1950.

**Class 14—Metals and Metal Castings and Forgings**

For Gold Leaf (Int. Cl. 2).  
First use prior to Jan. 1, 1939.

SN 279,247. Westwood Chemical Co., Inc., Baltimore, Md. Filed Aug. 29, 1967.

**RAGE**

Owner of Reg. No. 732,253.

**Class 4—Abrasives and Polishing Materials**

For Spray Furniture Polish and Wax (Int. Cl. 3).  
First use Apr. 13, 1967.

**Class 6—Chemicals and Chemical Compositions**

For Spray Starch and Spray Room Deodorants (Int. Cls. 3 and 5).  
First use Feb. 7, 1964.

**Class 52—Detergents and Soaps**

For Spray Window and All-Purpose Cleaner (Int. Cl. 3).  
First use Feb. 7, 1964.

**SECTION 2**

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.103.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

**Class 1—Raw or Partly Prepared Materials**

SN 274,633. James C. Kille, Clinton, Tenn. Filed June 23, 1967.

**CV**

For Cattle (Int. Cl. 31).  
First use 1964.

SN 275,439. Flex-O-Glass, Inc., Chicago, Ill. Filed July 6, 1967.

**SUR-FLEX**

For Homogeneous and Reinforced Plastic Sheeting and Film (Int. Cl. 17).  
First use Mar. 21, 1967.

**Class 2—Receptacles**

SN 243,922. Mobil Oil Corporation, New York, N.Y., by change of name from Socony Mobil Oil Company, Inc., New York, N.Y. Filed Apr. 19, 1966.

**HEFTY**

For Plastic Bags (Int. Cl. 22).  
First use May 27, 1965.

SN 254,323. William Sats, Beverly Hills, Calif. Filed Sept. 12, 1966.

**KLIK-TOP**

For Can and Jar Type Containers and Closures Thereof (Int. Cl. 21).  
First use July 12, 1966.

SN 264,941. Langston Bag Company, Memphis, Tenn. Filed Feb. 17, 1967.



For Woven Plastic Bags (Int. Cl. 22).  
First use Jan. 16, 1967.

SN 270,929. Liqui-Box Corporation, Columbus, Ohio. Filed May 8, 1967.

**HANDI-TAP**

For Plastic Container (Int. Cl. 20).  
First use Apr. 28, 1967.

SN 271,643. Kenneth G. Sams, Waukegan, Ill. Filed May 16, 1967.



For Mailing Kits Comprised of Mailing Cartons With Labels and Sealing Tape (Int. Cl. 16).  
First use Oct. 1, 1966.

SN 272,583. Carnation Company, Los Angeles, Calif. Filed May 29, 1967.

**CARNATION**

Owner of Reg. Nos. 35,072, 788,232, and others.  
For Receptacles—Namely, Plastic and Tin Containers (Int. Cls. 6 and 20).  
First use at least as early as 1942.

SN 278,860. American Can Company, New York, N.Y. Filed Aug. 23, 1967.



Owner of Reg. Nos. 768,930 and 775,581.  
For Cups, Plates, Dishes, Bowls, Trays, Nestable Containers, Lids and Closures Made of Paper, Plastic, or Combinations Thereof (Int. Cls. 16, 20, and 21).  
First use October 1965.

SN 280,228. Hedwin Corporation, New York, N.Y. Filed Sept. 13, 1967.

**MINI-MAT**

For Coaster Mats of Plastic, Paper, and Laminated Combinations Thereof (Int. Cl. 21).  
First use Aug. 24, 1967.

SN 280,974. Scott Paper Company, Delaware County, Pa. Filed Sept. 22, 1967.

**SCOTT**

Owner of Reg. Nos. 599,929, 747,765, and others.  
For Dispensers for Napkins, Towels, Facial Tissue, Bathroom Tissue, Drinking Cups, Plastic Wrap, Wax Paper, Wipers, and Sanitary Napkins (Int. Cl. 21).  
First use on about Jan. 31, 1956.

SN 282,700. Peter Herrli, New York, N.Y. Filed Oct. 17, 1967.

**FLORIBEL**

For Flower Pots (Int. Cl. 21).  
First use Sept. 20, 1967.

SN 282,940. Tower Packaging Company, Wheeling, Ill. Filed Oct. 19, 1967.



For Plastic Bags (Int. Cl. 22).  
First use Nov. 2, 1962.

SN 283,985. William F. Cowles, Inc., Woburn, Mass. Filed Nov. 2, 1967.

**FRYTRAY**

For Container for Containing Foods To Be Eaten Therefrom (Int. Cl. 21).  
First use Oct. 16, 1967.

SN 284,465. General Aniline & Film Corporation, New York, N.Y. Filed Nov. 9, 1967.

**STUDIOPAK**

For Receptacles, Particularly Boxes, Packages, and Packing Containers (Int. Cl. 20).  
First use June 30, 1959.

SN 286,071. Nugget Distributors' Cooperative of America, Inc., d.b.a. Nugget Distributors, Inc., Stockton, Calif. Filed Dec. 4, 1967.



For Plastic Bags of Various Sizes; Plastic Liners for Garbage Containers; Insulated Plastic Drinking Cups; Insulated Plastic Containers of Various Sizes for Food Products; and Plastic Trays for Holding Sugar Packets (Int. Cls. 20 and 21).  
First use June 1, 1967.

**Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks**

SN 274,740. Harts Mountain Products Corp., New York, N.Y. Filed June 26, 1967.

**WONDER FLEA COLLAR**

The words "Flea Collar" are disclaimed apart from the mark.  
For Flea Killing Collars for Animal Pets (Int. Cl. 5).  
First use May 9, 1967.

SN 276,695. Shell Oil Company, New York, N.Y. Filed July 24, 1967.

**SHELL**

For Flea Collar for Dogs (Int. Cl. 5).  
First use June 1, 1967.

SN 279,381. Charles Doppelt & Co., Inc., Chicago, Ill. Filed Aug. 30, 1967.

**CLUTCH-ER-INO**

For Ladies' Purses (Int. Cl. 18).  
First use Aug. 15, 1967.

SN 279,957. Reliable Luggage, Inc., West Pittsburg, Pa. Filed Sept. 8, 1967.

**GRAND TOUR**

For Suitcases, Valises, and Travelling Bags (Int. Cl. 18).  
First use July 31, 1967.

SN 290,534. A. H. Robins Company, Incorporated, Richmond, Va. Filed Feb. 7, 1968.



For Dog Collars, Incorporating an Insecticide, Which Vaporizes and Kills Fleas and Ticks (Int. Cl. 5).  
First use Oct. 30, 1967.



## Class 4—Abrasives and Polishing Materials Class 6—Chemicals and Chemical Compositions

SN 253,626. Bison Corporation, Canton, Ohio. Filed Sept. 1, 1966.



For Buffing Compounds, Buffing Wheels, and Cob Meal Used for Cleaning and Burnishing and De-Burring the Surface of Metals (Int. Cls. 3 and 7).  
First use 1955.

SN 272,325. Jan-Mar Industries, Union, N.J. Filed May 12, 1967.



For Wood Instrument Polish (Int. Cl. 3).  
First use Dec. 16, 1965.

SN 274,819. Mirror Bright Polish Co., Pasadena, Calif. Filed

### BUFFMASTER

June 26, 1967.  
For Buffing Wheel Adapted for Use With Wax or Polish on Surfaces Such as an Automobile Body (Int. Cl. 7).  
First use Jan. 11, 1967.

SN 291,952. The Procter & Gamble Company, Cincinnati, Ohio. Filed Feb. 27, 1968.

### ECHO

Owner of Reg. No. 46,540.  
For Combined Cleaning and Polishing Preparation for Use on Floors (Int. Cl. 3).  
First use Jan. 5, 1968.

## Class 5—Adhesives

SN 267,460. Viking-Criterion Paper Corporation, Long Island City, N.Y. Filed Mar. 23, 1967.



For Paper Adhesive Tapes (Int. Cl. 16).  
First use January 1956.

SN 271,601. The Dexter Corporation, Windsor Locks, Conn. Filed May 16, 1967.

### MICOBOND

For Adhesives Based on Synthetic Resins—Namely, Aqueous and Solvent Solutions, Emulsions, Dispersions and Hot Melts of the Curing, Noncuring, Thermoplastic, and Thermosetting Type Industrial Adhesives Used for Laminating Cellulosic Materials, Metals, Metallic Foils, Paper, Plastics and Plastic Films (Int. Cl. 1).  
First use May 5, 1967.

SN 254,681. H-C Development Inc., Paterson, N.J. Filed Sept. 19, 1966.

### COPYTONE

For Electrophoretic and Xerographic Toners (Int. Cl. 1).  
First use Mar. 3, 1965.

SN 265,538. Merck & Co., Inc., Rahway, N.J. Filed Feb. 27, 1967.

### AGRITROL

For Chemical Preparation for Use in Preventing the Formation of Molds and Other Fungi on Ripe Fruits and Vegetables (Int. Cl. 5).  
First use Feb. 3, 1967.

SN 266,213. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Mar. 8, 1967.

### SEIBERLING

Owner of Reg. Nos. 172,503, 677,346, and others.  
For Rubber Solvents (Int. Cl. 1).  
First use Feb. 1, 1965.

SN 267,665. Re-Ox Corporation, Lyndhurst, Ohio. Filed Mar. 27, 1967.

### SILVER-IT

For Silver Plating Solution (Int. Cl. 1).  
First use Feb. 3, 1967.

SN 269,568. The Richardson Company, Melrose Park, Ill. Filed Apr. 19, 1967.



Owner of Reg. Nos. 765,724 and 765,725.  
For Industrial Chemicals—Namely, Specialty Organic and Inorganic Chemicals and Chemical Intermediates (Int. Cl. 1).  
First use Oct. 15, 1962.

SN 273,338. Universal Oil Products Company, Des Plaines, Ill. Filed June 8, 1967.

### PINOFIRAN

For Aroma Chemical (Int. Cl. 1).  
First use Apr. 7, 1967.

SN 273,339. Universal Oil Products Company, Des Plaines, Ill. Filed June 8, 1967.

### CETOFIRAN

For Aroma Chemical (Int. Cl. 1).  
First use Apr. 7, 1967.

SN 276,046. Smith Kline & French Laboratories, Philadelphia, Pa. Filed July 14, 1967.

### ESKATEST

For Diagnostic Tablet for the Laboratory Determination of Glucose (Int. Cl. 1).  
First use June 19, 1967.

SN 279,118. Thompson-Hayward Chemical Company, Kansas City, Kans. Filed Aug. 25, 1967.

### SUPER D

For Additive for Activating the Spreader-Sticking Action of Pesticide Sprays (Int. Cl. 1).  
First use as early as 1961.

SN 279,229. Swift & Company, Chicago, Ill. Filed Aug. 28, 1967.

### SOLAIR

For Air Entraining Agents (Int. Cl. 1).  
First use on or about Oct. 5, 1966.

SN 279,231. Tanatex Chemical Corporation, Lyndhurst, N.J. Filed Aug. 28, 1967.

### APELAN

For Chemical Preventing Felting in the Dyeing of Wool (Int. Cl. 1).  
First use Aug. 16, 1967.

SN 279,325. Plunkett Chemical Company, Chicago, Ill. Filed Aug. 29, 1967.

### PC-430

Owner of Reg. Nos. 746,351, 773,346, and others.  
For Acid Base Disinfectant Preparation Containing Hydrogen Chloride, and Having Incidental Deodorizing and Cleansing Properties (Int. Cl. 5).  
First use Feb. 19, 1963.

SN 279,326. Plunkett Chemical Company, Chicago, Ill. Filed Aug. 29, 1967.

### PC-150

Owner of Reg. No. 746,351.  
For Acid Base Disinfectant Having Deodorizing Properties and Having Incidental Cleansing Properties, and Adapted for Use in Disinfecting Toilet Bowls and Other Porcelain Fixtures (Int. Cl. 5).  
First use Oct. 25, 1961.

SN 279,383. Eastman Kodak Company, Rochester, N.Y. Filed Aug. 30, 1967.

### VERSATONE

Owner of Reg. No. 418,986.  
For Photographic Processing Chemicals (Int. Cl. 1).  
First use Aug. 22, 1967.

SN 279,609. American Cyanamid Company, Wayne, N.J. Filed Sept. 5, 1967.

### AMBITHION

For Insecticide (Int. Cl. 5).  
First use July 31, 1967.

SN 285,474. Tenneco Chemicals, Inc., New York, N.Y. Filed Nov. 22, 1967.

### FEN-ALL

For Chemical Ingredient Used in the Manufacture of Herbicides (Int. Cl. 1).  
First use on or about Nov. 14, 1967.

SN 289,055. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Jan. 18, 1968.

### DINOCON

For Chemicals for Use in Industrial Plating of Metals on Plastics (Int. Cl. 1).  
First use Dec. 8, 1967.

SN 291,561. Purex Corporation, Ltd., Lakewood, Calif. Filed Feb. 21, 1968.

### TUMBLEPUFFS

For Fabric Softeners Impregnated in Paper Sheets Used in a Laundering Process (Int. Cl. 3).  
First use Feb. 7, 1968.

SN 291,690. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Feb. 23, 1968.

### LAC-DEHYSTRATE

For Reagent System Consisting of Buffer, Substrate, Control Reagent, Color Reagent and Coenzyme NAD (Nicotinamide Adenine Dinucleotide) for Quantitative Colorimetric Lactic Dehydrogenase Assays (Int. Cl. 1).  
First use Jan. 25, 1967.

SN 292,057. Purex Corporation, Ltd., Lakewood, Calif. Filed Feb. 28, 1968.

### SWEETHEART

Owner of Reg. Nos. 94,235, 671,952, and others.  
For Liquid Fabric Softener (Int. Cl. 3).  
First use Feb. 12, 1968.

## Class 8—Smokers' Articles, Not Including Tobacco Products

SN 292,472. The Copley Hill Company Incorporated, Northfield, Ill. Filed Mar. 5, 1968.

### JERRICAN

For Cigarette Lighters (Int. Cl. 34).  
First use June 1945.

## Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 273,140. Washington Fireworks Co., Inc., Washington, D.C. Filed June 5, 1967.

### HOLIDAY

For Fireworks (Int. Cl. 13).  
First use May 25, 1967.



SN 277,342. Cartuchos Deportivos de Mexico, S.A., Cuernavaca-Tepostlan, Morelos, Mexico. Filed Aug. 2, 1967.

## NON-CORR

Owner of Mexican Reg. No. 123,108, dated Mar. 6, 1965.  
For Primers for Explosives and Firearms, and Ammunition for Firearms (Int. Cl. 13).

SN 283,170. Stoeger Arms Corporation, South Hackensack, N.J. Filed Oct. 23, 1967.

## MARTIAL

For Revolvers (Int. Cl. 13).  
First use Oct. 4, 1967.

SN 286,326. Clipper Pyrotechnic Corp., Lynwood, Calif. Filed Dec. 6, 1967.

## 49'R

For Fireworks (Int. Cl. 13).  
First use on or about Jan. 15, 1964.

SN 286,671. Hercules Incorporated, Wilmington, Del. Filed Dec. 11, 1967.

## PRIMATEX

For High Explosive (Int. Cl. 13).  
First use Apr. 22, 1967.

## Class 10 — Fertilizers

SN 266,962. Western Peat Moss Ltd., New Westminster, British Columbia, Canada. Filed Feb. 13, 1967.



The drawing is lined for the color yellow. Owner of U.S. Reg. Nos. 571,992, 578,468, and 802,028.  
For Peat Moss for Use as Mulch and Soil Conditioner (Int. Cl. 31).  
First use March 1961; in commerce March 1961.

SN 278,656. American Cyanamid Company, Wayne, N.J. Filed Aug. 21, 1967.

## AEROPRILLS

Owner of Reg. No. 435,325.  
For Ammonium Nitrate for Fertilizing Purposes (Int. Cl. 1).  
First use Jan. 17, 1947.

SN 279,769. George Sroda, d.b.a. Turkey Peat Co., Amherst Junction, Wis. Filed Sept. 5, 1967.

## POULTRY PEAT

For Peat Moss and Poultry Droppings, Mixed Together (Int. Cl. 31).  
First use Aug. 30, 1967.

SN 282,210. F. S. Royster Guano Co., Norfolk, Va. Filed Oct. 10, 1967.

## FLUID-FLO

For Fluid Fertilizer Mixtures (Int. Cl. 1).  
First use Oct. 2, 1967.

## Class 12 — Construction Materials

SN 242,434. Construction Techniques, Inc., Cleveland, Ohio. Filed Apr. 1, 1966.

## FABRIFORM

For Flexible Porous Woven Fabric Material Used To Enclose and Define a Space To Be Filled With a Water Slurry (Int. Cl. 19).  
First use Feb. 15, 1966.

SN 265,327. Palmer Products Incorporated, Worcester, Pa. Filed Feb. 23, 1967.

## POXIFLEX

For Resinous Underlayment Compositions for Sealing Leaks in Wooden Surfaces (Int. Cl. 17).  
First use September 1960.

SN 270,867. Allied Compositions Co., Inc., Maspeth, N.Y. Filed May 8, 1967.

## EPI-BOND

For Composition for Bonding New Concrete to Old Concrete (Int. Cl. 1).  
First use May 4, 1960.

SN 272,197. Lowe's Companies, Inc., North Wilkesboro, N.C. Filed May 23, 1967.

## PROFIT-PAK

For Poultry Houses (Int. Cl. 19).  
First use Feb. 21, 1967.

SN 275,261. W. R. Grace & Co., New York, N.Y. Filed July 3, 1967.

## MULTI-THERM

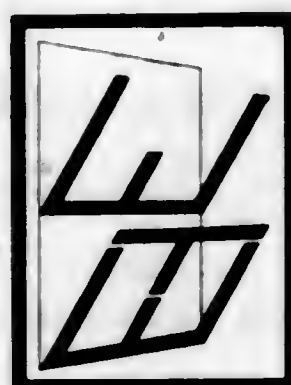
For Lightweight Insulating Panel (Int. Cl. 17).  
First use Apr. 4, 1967.

SN 276,095. The Bondo Corporation, Northford, Conn. Filed July 17, 1967.

## BODYMAN

For Kits Containing Plastic and Fiber Glass Fillers for Automobile Bodies and the Like (Int. Cl. 17).  
First use July 1, 1960.

SN 276,977. James C. Willborn and Sons, Inc., Chicago, Ill. Filed July 27, 1967.



For Removable Sash Windows and Parts Thereof (Int. Cl. 19).  
First use July 20, 1967.

SN 278,265. Reichhold Chemicals, Inc., White Plains, N.Y. SN 283,889. Roger J. Halle, Pound Ridge, N.Y. Filed Nov. 1, 1967.  
Filed July 19, 1967.

## REICOTE

For Building Panels (Int. Cl. 19).  
First use May 22, 1967.

SN 278,462. Brown Company, New York, N.Y. Filed Aug. 17, 1967.

## STRATFORD

For Prefinished Paneling (Int. Cl. 19).  
First use Nov. 16, 1965.

SN 278,542. Universal Industries, Inc., Baltimore, Md. Filed Aug. 17, 1967.

## PORT-A-PAD

For Modular Horse Paddocks (Int. Cl. 19).  
First use Aug. 4, 1967.

SN 280,495. Visador Company, Jasper, Tex. Filed Sept. 15, 1967.

## FROSTANE

For Adhesive Plastic Sheet Material Coated on One Side With Pressure Sensitive Adhesive, Silk Screen Processed in Colors and Used as a Decorative Material for Covering, Insulating, and Strengthening Glass (Int. Cl. 17).  
First use on or about June 6, 1963.

SN 280,955. Johns-Manville Corporation, New York, N.Y. Filed Sept. 22, 1967.

## FLAME-SAFE

Owner of Reg. Nos. 794,658 and 810,723.  
For Pipe Insulation (Int. Cl. 17).  
First use at least as early as Jan. 26, 1967.

SN 281,722. Roaring Spring Blank Book Co., Inc., Roaring Spring, Pa. Filed Oct. 3, 1967.

## SPRINGCORE

For Corrugated Paper Board Voids Used in Forming Prestressed Concrete (Int. Cl. 19).  
First use on or about Apr. 24, 1967.

SN 283,082. American Cyanamid Company, Wayne, N.J. Filed Oct. 23, 1967.

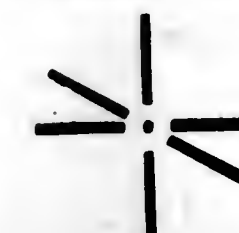


For Shower Walls (Int. Cl. 19).  
First use March 1967.

SN 283,370. United Gilsontite Laboratories, Scranton, Pa. Filed Oct. 25, 1967.



For Non-Hardening Composition for Cushioning and Sealing Glass Panels and the Like (Int. Cl. 2).  
First use January 1950.



For Elements for Building Construction—Namely, Beams, Columns, Struts, and Devices for Supporting and Connecting Such Parts (Int. Cl. 19).  
First use on or about Sept. 20, 1966.

SN 284,390. National Gypsum Company, Buffalo, N.Y. Filed Nov. 8, 1967.

## FIRE-THERM

For Chemically Treated Wood-Fiber Product for Use as Panel Core Material (Int. Cl. 19).  
First use Oct. 20, 1967.

SN 284,583. Bio-Organic Chemicals, Inc., Denver, Colo. Filed Nov. 13, 1967.

## CEMECHROME

For Colored Cement (Int. Cl. 19).  
First use Aug. 16, 1967.

SN 287,033. Mastic Corporation, South Bend, Ind. Filed Dec. 15, 1967.

## INSEL-VINYL

For Asphalt and Granular Coated Composition Board and Building Siding Material (Int. Cl. 19).  
First use Nov. 15, 1967.

SN 288,221. Mastic Corporation, South Bend, Ind. Filed Jan. 5, 1968.

## DURANYL

For Building Siding Material Formed of Plastic (Int. Cl. 19).  
First use Dec. 12, 1967.

SN 291,127. American Abrasive Metals Company, Irvington, N.J. Filed Feb. 15, 1968.

## EXACAST

For Non-Slip Elevator Sills (Int. Cl. 19).  
First use on or about Apr. 5, 1963.

SN 291,128. American Abrasive Metals Company, Irvington, N.J. Filed Feb. 15, 1968.

## AMCOLUN

For Non-Slip Safety Treads (Int. Cl. 6).  
First use on or about Sept. 13, 1963.

SN 292,451. Fred J. Coccagna, d.b.a. Industrial Floor Company, Philadelphia, Pa. Filed Mar. 5, 1968.

## POXEPLATE

For Resin Base Floor Resurfacing Compound (Int. Cl. 19).  
First use Mar. 9, 1964.



**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

SN 248,315. Dorman Products, Inc., Cincinnati, Ohio. Filed June 17, 1966.

**READY-PAK**

For Boxes of Small Parts Consisting of Fasteners Used in the Automotive Trade (Int. Cl. 6).  
First use mid-1935.

SN 256,737. Ideal Fastener Corporation, Long Beach, N.Y. Filed Oct. 19, 1966.



For Slide Fasteners (Int. Cl. 26).  
First use Apr. 8, 1965.

SN 259,965. Ric-Wil, Incorporated, Barberton, Ohio. Filed Dec. 2, 1966.

**GALVA-GARD**

For Prefabricated Conduit Consisting of Insulated Piping Supported Within an Outer Casing, and Conduit Accessories (Int. Cl. 6).  
First use Oct. 19, 1966.

SN 270,618. Societe d'Etudes Verriere Appliquees, Neuilly-sur-Seine (Hauts-de-Seine), France. Filed May 3, 1967.

**SEVAX**

Owner of French Reg. No. 470,835, dated Mar. 7, 1958 (Paris); Natl. Inst. No. 104,149.  
For Door Brakes (Int. Cl. 6).

SN 271,799. International Controls Corp., Fairfield, N.J. Filed May 18, 1967.



Owner of Reg. No. 812,849.  
For Pneumatic and Hydraulic Controls, Such as Valves, Pressure Switches, Regulators, for Use in Fuel Systems, Pneumatic Systems, and Hydraulic Systems Controlling the Flow of Fuels and Gases (Int. Cl. 6).  
First use Mar. 10, 1967.

SN 272,619. Martin Rubber Company, Overland Park, Kans. Filed May 29, 1967.

**SPRAYMATE**

For Shower Sprays (Int. Cl. 6).  
First use Mar. 1, 1967.

SN 274,850. Bergen Wire Rope Co., Lodi, N.J. Filed June 27, 1967.

**BER-LOK**

For Compression Fittings for Wire Rope (Int. Cl. 6).  
First use June 12, 1967.

SN 275,316. Stoneman Engineering & Manufacturing Co., Inglewood, Calif. Filed July 3, 1967.

**TRISOLATOR**

For Piping Isolators (Int. Cl. 6).  
First use October 1951.

SN 276,270. ZZ Corp, Torrance, Calif. Filed July 18, 1967.

**ZIP ZTRIP**

For Mechanical Strip Fastener Devices for Fastening Together Members Such as Panels, Partitions, Container Walls, etc. (Int. Cl. 6).  
First use Feb. 4, 1964.

SN 276,378. Firth Cleveland Fastenings Limited, Pontypridd, Glamorganshire, Wales. Filed May 8, 1967.

**SPIRE**

Owner of British Reg. No. 613,920, dated Jan. 27, 1941.  
For Nuts, Bolts, Washers, Clips, Hasps, Locking Stud Fasteners, Nut Retainers, Rod, Shaft and Stud, and Couplings for Attaching Handles and Knobs to Metal Structural Units, and Rotating Head Separable Cowlings Fasteners (Int. Cl. 6).

SN 276,868. Revere Copper and Brass Incorporated, New York, N.Y. Filed July 26, 1967.

**NEPTUNE**

For Cooking Utensils—Namely, Sauce Pans, Double Boilers, Skillets, Dutch Ovens, and Tea Kettles (Int. Cl. 21).  
First use Apr. 20, 1967.

SN 277,015. Brass-Craft Manufacturing Company, Detroit, Mich. Filed July 28, 1967.

**PLUMB SHOP**

For Toilet, Wash Basin and Sink Water Supply Tubes and Connection Fittings for Same, Shut-Off Valves, Toilet Tank Valves, Anti-Water Hammer Chambers, and Water Heater Connector Tubes (Int. Cl. 6).  
First use on or about Apr. 22, 1954.

SN 277,121. Allied Piping Products Company of Pennsylvania, Ambler, Pa. Filed July 31, 1967.

**BRANCHLET**

For Outlet Connection for a Header Pipe (Int. Cl. 6).  
First use June 14, 1967.

SN 277,223. Shur-Lok Corporation, Santa Ana, Calif. Filed July 31, 1967.

**STA-LOK**

For Fasteners—Namely, Bearing Nuts and Lock Washers (Int. Cl. 6).  
First use on or about Mar. 1, 1958.

SN 281,623. Quickie Manufacturing Corporation, Philadelphia, Pa. Filed Oct. 2, 1967.

**HANG-EEZ**

For Holders for Mops and Brooms (Int. Cl. 6).  
First use June 15, 1967.

**Class 14—Metals and Metal Castings and Forgings**

SN 167,367. The Carpenter Steel Company, Reading, Pa. Filed Apr. 23, 1963.

**CARPENTER FLEXCOTE**

For Coated Finished Wire or Rod To Be Further Fabricated (Int. Cl. 6).  
First use Oct. 11, 1962.

SN 246,549. Firth Sterling Corporation, Pittsburgh, Pa., assignee of Firth Sterling, Inc., Pittsburgh, Pa. Filed May 25, 1966.

**EDMalloy**

For Tungsten-Based Composite Materials for Use by Others in Making Electrodes for Electrical Discharge Machining, Electro-Chemical Machining, and Resistance Welding (Int. Cl. 6).  
First use Apr. 26, 1966.

SN 274,776. Roll-O-Sheets, Inc., St. Louis, Mo. Filed June 26, 1967.

**PERFA-FOIL**

Owner of Reg. Nos. 742,514 and 775,854.  
For Rolls of Perforated Aluminum Foil for Wrapping Purposes (Int. Cl. 6).  
First use Feb. 9, 1961.

SN 281,875. L. A. Draper & Son, Inc., Anniston, Ala. Filed Oct. 5, 1967.

**VARI-STAR**

For Metallic Deoxidizing Agent, Cast in Various Weights With Varying Center Sizes and Contours, Lending Itself to a Wide Variety of Steel Mill and Steel Foundry Applications as Related to the Deoxidizing of Molten Steel (Int. Cl. 6).  
First use Sept. 22, 1967.

SN 282,337. Allegheny Ludlum Steel Corporation, Pittsburgh, Pa. Filed Oct. 12, 1967.



Owner of Reg. No. 435,539.  
For Steels and Alloys in the Form of Sheet, Strip, Plate, Bar, Rod, Wire, Extrusion, Forging, Billet, Slab, Pipe, and Tube (Int. Cl. 6).  
First use on or about Nov. 15, 1946.

SN 284,073. The Anaconda Company, New York, N.Y. Filed Nov. 3, 1967.

**B&M**

For Copper Ingots, Ingot Bars, Wire Bars, Billets, Slabs, Cakes, and Other Cast Primary Copper Shapes (Int. Cl. 6).  
First use May 1908.

SN 284,448. Casting Materials Company, Inc., White Plains, N.Y. Filed Nov. 9, 1967.

**CAMACO**

For Alloys Used in the Treatment of Materials While in the Molten State (Int. Cl. 6).  
First use in or about January 1967.

**Class 15—Oils and Greases**

SN 267,286. The Frontier Refining Company, Denver, Colo. Filed Mar. 20, 1967.

**MAXIMUS**

For Motor Oils (Int. Cl. 4).  
First use May 13, 1966.

SN 272,835. Imperial Chemical Industries Limited, Millbank, London, England. Filed June 1, 1967.

**SILCOSTRIP**

Owner of British Reg. No. 891,029, dated Feb. 22, 1967.  
For Chemical Products for Use in Industry, Being Release Agents for Use in Foundries (Int. Cl. 1).

SN 280,567. Continental Oil Company, Ponca City, Okla. Filed Sept. 18, 1967.

**CONOCO**

Owner of Reg. Nos. 270,389, 804,481, and others.  
For Automotive Chemical Specialties—Namely, Fuel Line System Antifreeze Additive, Automatic Transmission Fluid, and Automatic Transmission Fluid Additive (Int. Cl. 1).  
First use Aug. 15, 1959.

SN 282,729. Shell Oil Company, New York, N.Y. Filed Oct. 17, 1967.

**TORNUS**

For Lubricating Oil (Int. Cl. 4).  
First use at least as early as Feb. 21, 1967.

SN 282,730. Shell Oil Company, New York, N.Y. Filed Oct. 17, 1967.

**TIARA**

For Lubricating Oil (Int. Cl. 4).  
First use at least as early as Mar. 8, 1967.

SN 282,979. Carolina Company, Inc., d.b.a. The Carolina Soap & Candle Makers, Southern Pines, N.C. Filed Oct. 20, 1967.

**ANGEL WINGS**

For Candles (Int. Cl. 4).  
First use on or about Oct. 17, 1962.

**Class 16—Protective and Decorative Coatings**

SN 259,259. Mobile Paint Mfg. Co., Inc., Mobile, Ala. Filed Nov. 22, 1966.



Owner of Reg. No. 390,054.  
For Paint Enamels and Ready Mixed Paints for Exterior and Interior Use (Int. Cl. 2).  
First use Oct. 12, 1931.



SN 266,798. Texize Chemicals, Inc., Greenville, S.C. Filed Mar. 15, 1967.

### FOCUS

For Non-Buff Floor Finish for Industrial Use (Int. Cl. 2).  
First use Feb. 20, 1967.

SN 270,073. Miller Protective Coatings, Inc., South Norwalk, Conn. Filed Apr. 26, 1967.

### MUVC

For Surface Protective Coatings (Int. Cl. 2).  
First use Apr. 17, 1964.

SN 274,885. National Chemical Corporation, West Newton, Mass. Filed June 27, 1967.

### BARRIER

Owner of Reg. No. 672,394.  
For Protective Coating for Concrete, Asphalt, Metal, and Other Hard Surfaces (Int. Cl. 2).  
First use May 22, 1958.

SN 275,780. J. J. Newberry Co., d.b.a. The Newberry Co., New York, N.Y. Filed July 11, 1967.

### BILTMORE

For Enamel Paints (Int. Cl. 2).  
First use June 26, 1967.

SN 275,904. American-Lincoln Corporation, Toledo, Ohio. Filed July 13, 1967.

### AMER FAB

For Surface Coating Material—Namely, Transparent Protective Floor Coating Material, Particularly for Industrial and Commercial Applications (Int. Cl. 2).  
First use Jan. 3, 1967.

SN 276,004. Conrad Sovig Co., Inc., San Francisco, Calif. Filed July 14, 1967.

### REFLECTEX

For Heat Reflective Coatings (Int. Cl. 2).  
First use Mar. 22, 1966.

SN 276,114. Epic Chemicals, Inc., Brooklyn, N.Y. Filed July 17, 1967.

### TOP-GLOSS

Owner of Reg. No. 711,653.  
For Liquid Floor Finish for Vinyl, Rubber, Asphalt, and Composition Floors (Int. Cl. 2).  
First use Sept. 15, 1959.

SN 276,239. Lehman Bros. Corp., Jersey City, N.J. Filed July 18, 1967.

### TROUBLE-SHOOTER

For Exterior Paints (Int. Cl. 2).  
First use January 1966.

SN 276,703. Shooting Equipment, Inc., Chicago, Ill. Filed July 24, 1967.

### SLIP-SHOT

For Paints (Int. Cl. 2).  
First use October 1963.

SN 276,756. Master Bronze Powder Company, Inc., Chicago Heights, Ill. Filed July 25, 1967.

### THE BEAUTIFUL WAY TO STOP RUST

For Paints, Lacquers, and Varnishes (Int. Cl. 2).  
First use December 1961.

SN 278,189. California Aerosol Company, Los Angeles, Calif. Filed Aug. 14, 1967.



### KIT KOTE

The drawing is lined for gold and blue. Owner of Reg. No. 716,354.  
For Paints (Int. Cl. 2).  
First use Mar. 3, 1967.

SN 286,885. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Dec. 14, 1967.

### AQUANEO

For Water-Reduced Paints (Int. Cl. 2).  
First use at least as early as Sept. 20, 1967.

### Class 17—Tobacco Products

SN 284,550. Philip Morris Incorporated, New York, N.Y. Filed Nov. 13, 1967.

### FLUTE

For Tobacco Products—Namely, Cigarettes and Mouthpieces Sold as a Component of Cigarettes (Int. Cl. 34).  
First use Oct. 17, 1967.

SN 291,015. Alfred Dunhill Limited, St. James's, London, England. Filed Feb. 14, 1968.

### HARVARD

For Cigarettes (Int. Cl. 34).  
First use Aug. 23, 1967; in commerce Aug. 23, 1967.

SN 292,338. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Mar. 4, 1968.

### BRAVURA

For Cigars (Int. Cl. 34).  
First use Jan. 5, 1968.

### Class 18—Medicines and Pharmaceutical Preparations

SN 296,259. Agway, Inc., Syracuse, N.Y. Filed Oct. 12, 1966.

### CAGE-PREP

For Medicated Pullet Feed (Int. Cl. 5).  
First use Sept. 27, 1966.

SN 259,790. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 1, 1966.



The words "Hospital Supply" are disclaimed apart from the mark as shown.  
For Aerosol Antiseptics and Anesthetics, Aerosol Benzoin Tincture, Skin Lotions and Creams for the Treatment of Skin and Massage, and Lubricating Jelly (Int. Cl. 5).  
First use on or before Sept. 1, 1964.

SN 266,305. Crinos Industria Farmacobiologica S.p.A., Villaguardia, Como, Italy. Filed Mar. 9, 1967.

### TRILERGAN

Priority claimed under Sec. 44(d) on Italian application filed Sept. 23, 1966; Reg. No. 206,792, dated Apr. 27, 1967.  
For Pharmaceutical Anti-Allergic and Anti-Histaminic Product (Int. Cl. 5).

SN 287,396. Abbott Laboratories, d.b.a. Ross Laboratories, North Chicago, Ill. Filed Dec. 22, 1967.

### RONDEC

For Cough-Cold Preparation (Int. Cl. 5).  
First use Nov. 22, 1967.

SN 291,675. Mead Johnson & Company, Evansville, Ind. Filed Feb. 23, 1968.

### OBATE

Owner of Reg. No. 593,821.  
For Appetite Suppressant (Int. Cl. 5).  
First use on or prior to Feb. 1, 1968.

### Class 19—Vehicles

SN 252,489. Outboard Marine Corporation, Waukegan, Ill. Filed Aug. 16, 1966.

### SUNSCREEN

For Boat Windshields (Int. Cl. 12).  
First use about Aug. 1, 1966.

SN 270,622. Court Thompson, Omaha, Nebr. Filed May 3, 1967.

### SAVASCRAPE

For Windshield Protective Device, Featuring Curtains To Be Spread Over the Windshield Thereby Preventing Accumulation of Snow and Ice (Int. Cl. 22).  
First use Apr. 22, 1967.

SN 271,291. Skyline Corporation, Elkhart, Ind. Filed May 11, 1967.



For Mobile Homes, Travel Trailers, and Pickup Campers and Tent Campers (Int. Cl. 12).  
First use Mar. 15, 1967.

SN 273,699. The Symington Wayne Corporation, Salisbury, Md. Filed June 12, 1967.

### SW 800

For Railway Car Couplers (Int. Cl. 12).  
First use on or about Mar. 23, 1967.

SN 275,925. Ford Motor Company, Dearborn, Mich. Filed July 13, 1967.

### MACH 1

For Automobiles (Int. Cl. 12).  
First use June 20, 1967.

SN 276,882. Tota-Ton, Inc., Sterling, Colo. Filed July 26, 1967.

### TOTA TON

For Hand Trucks (Int. Cl. 12).  
First use Sept. 25, 1960.

### Class 21—Electrical Apparatus, Machines, and Supplies

SN 217,224. United Silver and Cutlery Company, Los Angeles, Calif. Filed Apr. 23, 1965.



Owner of Reg. Nos. 606,999 and 732,935.  
For Electrical Appliances—Namely, Electrical Percolators, Soup Tureens, Buffet Servers, and Vegetable Dishes; and Battery Operated Electric Shoe Shiners, Knives, Letter Openers, Mixer-Blenders, and Road Emergency Flashers (Int. Cls. 7, 9, and 11).  
First use August 1961.

SN 248,717. The Magnavox Company, Fort Wayne, Ind. Filed June 22, 1966.

### CODAPHONE

For Electro-Mechanical Equipment, Components, and Accessories and Parts Therefor for Facsimile Devices Used in Remote Duplicating Equipment—Namely, Acoustical Couplers, Phone Couplers, Remote Copiers, and Facsimile Transceivers (Int. Cl. 9).  
First use May 10, 1966.

SN 254,276. Garner H. Grogan, Jr., d.b.a. Security Electric, Pontiac, Mich. Filed Sept. 12, 1966.

### TERM-I-LITE

For Monitoring Devices Which Provide an Indication of an Electrical Component Condition (Int. Cl. 9).  
First use July 18, 1966.

SN 259,830. Hudson National, Inc., New York, N.Y. Filed Dec. 1, 1966.



Owner of Reg. No. 734,452 and others.  
For Household Electric Appliances—Namely, High Intensity Lamps, Desk Lamps, and Non-Therapeutic Vaporizers, Vibrators, and Heating Pads (Int. Cls. 9, 10, and 11).  
First use Aug. 24, 1965.



SN 260,279. Semtech Corporation, Newbury Park, Calif. Filed Dec. 7, 1966.

## SEMPAC

For Semi-Conductor Devices—Namely, Silicon Semiconductor Rectifiers (Int. Cl. 9).  
First use on or about May 25, 1965.

SN 263,823. Fisher Radio Corporation, Long Island City, N.Y. Filed Feb. 2, 1967.

## MICROCEIVER

For Radio Receivers (Int. Cl. 9).  
First use Jan. 20, 1967.

SN 266,543. Jerrold Electronics Corporation, Philadelphia, Pa. Filed Mar. 13, 1967.

## PROGRAM COMMANDER

Applicant disclaims the word "Program."  
For Electronic Selection Equipment Capable of Selecting Television Channels for Distribution to CATV Subscribers (Int. Cl. 9).  
First use on or about Nov. 14, 1966.

SN 271,439. British Industries Corporation, Westbury, N.Y. Filed May 15, 1967.

## SYNCHRO-LAB

Owner of Reg. No. 740,643.  
For Motors for Use in Connection With Automatic Turntables and Record Changers (Int. Cl. 9).  
First use Apr. 13, 1967.

SN 273,295. Marks Polarized Corporation, Whitestone, N.Y. Filed June 7, 1967.

## VARAD

For Variable Density Light Controlling Apparatus Specifically Electro-Optic Panels (Int. Cl. 9).  
First use Sept. 14, 1960.

SN 274,247. Sigma-Netics, Inc., Mountain Lakes, N.J. Filed June 19, 1967.



For Pressure Switches (Int. Cl. 9).  
First use Apr. 1, 1967.

SN 276,112. Elox Inc., Troy, Mich., assignee of Elox Corporation, Troy, Mich. Filed July 17, 1967.

## ELO-PILOT

Owner of Reg. No. 804,582.  
For Electrical Discharge Machines (Int. Cl. 7).  
First use on or about Apr. 26, 1967.

SN 276,840. Katone Corporation, New York, N.Y. Filed July 26, 1967.



For Radios and Television Sets (Int. Cl. 9).  
First use Feb. 28, 1967.

SN 277,685. Monsanto Company, St. Louis, Mo. Filed Aug. 7, 1967.

## MON-X

For Crystals of Silicon for Use in the Electrical Field (Int. Cl. 9).  
First use May 29, 1967.

SN 277,702. The Okonite Company, Passaic, N.J. Filed Aug. 7, 1967.

## OKOGUARD

For Electrical Insulation (Int. Cl. 17).  
First use 1963.

SN 277,728. Superior Continental Corporation, Hickory, N.C., by change of name from Superior Cable Corporation, Hickory, N.C. Filed Aug. 7, 1967.

## ALUMAGARD

For Coaxial Cables (Int. Cl. 9).  
First use May 4, 1966.

SN 277,822. Columbia Wire Products Company, Chicago, Ill. Filed Aug. 8, 1967.

## ROTAXIAL

For Combination Coaxial and Rotator Cable for Use in Connection With Television Receivers (Int. Cl. 9).  
First use July 25, 1967.

SN 278,430. Solux Corporation, Woodside, N.Y. Filed Aug. 16, 1967.

## SOLUX

For Electric Lighting Fixtures (Int. Cl. 11).  
First use at least as early as June 1947.

SN 278,501. International Telephone and Telegraph Corporation, New York, N.Y. Filed Aug. 22, 1967.

## CENTI-LOC

For Electrical Connectors (Int. Cl. 9).  
First use Sept. 20, 1966.

SN 279,847. Heath, Inc., Richmond, Mich. Filed Sept. 5, 1967.



For Non-Destructive Sonic Wood Pole Testing Apparatus for Testing for the Presence of Decay in Utility Poles and the Like (Int. Cl. 9).  
First use Aug. 15, 1966.

SN 283,856. International Telephone and Telegraph Corporation, New York, N.Y., assignee of Jasper Blackburn Corporation, St. Louis, Mo. Filed Nov. 1, 1967.

## CONTAX

Owner of Reg. No. 615,229.  
For Paste for Increasing Conductivity of Electrical Connections and Protecting the Same From Moisture and Corrosion (Int. Cl. 9).  
First use on or about Apr. 1, 1954.

## Class 22—Games, Toys, and Sporting Goods

SN 272,259. Children's Bargain Town U.S.A., Inc., Niles, Ill. Filed May 24, 1967.



For Children's Toys—Namely, Dolls and Clothing Thereof; Doll Houses, Furnishings and Related Items; Stuffed Animals; Educational Toys; Model Cars, Trucks, Trains, and Accessories; Bicycles, Tricycles, and Accessories; and Card, Board, and Parlor Games (Int. Cl. 28).  
First use Jan. 28, 1958.

SN 275,403. Western Stamping Corporation, Jackson, Mich. Filed July 5, 1967.

## TOM THUMB

Owner of Reg. Nos. 433,181, 694,174, and others.  
For Toy Typewriters, Toy Miniature Cash Registers, Toy Banks, Toy Bank Vaults, and Toy Printing Devices (Int. Cl. 28).  
First use Oct. 19, 1945.

SN 279,814. Doughboy Industries, Inc., New Richmond, Wis. Filed Sept. 7, 1967.

## COLD CLAD

For Flexible Plastic Liner for Above-Ground, Knock Down Swimming Pools (Int. Cl. 28).  
First use Feb. 2, 1966.

SN 280,967. Plymouth Golf Ball Sales Company, Plymouth Meeting, Pa. Filed Sept. 22, 1967.

## UNI-BALL

For Golf Balls (Int. Cl. 28).  
First use Aug. 24, 1967.

SN 284,376. Lakeside Industries, Inc., Minneapolis, Minn. Filed Nov. 8, 1967.

## 3 BLIND MICE

For Apparatus for a Game Comprised of Dice Cubes and Playing Components for Testing the Players' Reflexes (Int. Cl. 28).  
First use on or about Sept. 21, 1967.

## Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 246,668. Electro Engineering Products Co., Inc., Chicago, Ill. Filed May 26, 1966.

## ELECTR-O

For Portable Electric Power Tools—Namely, Orbital Sanders, Bench Grinders, Hand Grinders, Power Drills, Power Saws, Sabre-Jig Saws, Power Chain Saws, Sander-Polishers, Paint Guns; and Drill Bits Containing Rubber Backing Pads for Sanding and Polishing, Sanding Discs, Drill Bits, Adapter Sets for Rubber Backing Pads, Grinding Wheels, Wire Wheels, Chuck Keys and Chuck Key Holders, Flexible Shafts, Polishing Bonnets, Buffing Wheels, Hole Saws, Paint Mixers, Bench Stands, Circular Saw Attachments, Drill Press Attachments, Power Screw Drivers, Saw Blades, Mitre Guides, Jig-Sabre Saw Attachments, Orbital Sander Attachments, Orbital Polisher Attachments, and Power Planer Attachments (Int. Cl. 7).  
First use at least as early as June 30, 1955.

SN 251,599. Pyro Foam Corp., Oakland, Calif., assignee of Bramley Barnes, Daly City, Calif. Filed Aug. 3, 1966.



The drawing is lined for the color red.  
For Fire Extinguishers (Int. Cl. 9).  
First use June 7, 1966.

SN 254,798. Partek Corporation, Houston, Tex. Filed Sept. 20, 1966.

## ABRAS-I-JECTOR

For Valves and Control and Regulating Devices Used in Conjunction With High Pressure Hydraulic Cleaning Equipment To Regulate the Introduction of Abrasives or Cleaning Agents into the Hydraulic Stream (Int. Cl. 7).  
First use July 19, 1965.

SN 255,363. Societe Grenobloise d'Etudes et d'Applications Hydrauliques (Sogreah), Grenoble (Isere), France. Filed Sept. 28, 1966.

## LAVOFLUX

Owner of French Reg. No. 10,721, dated Aug. 2, 1961 (Grenoble); Natl. Inst. No. 169,626.  
For Apparatus for Hydraulically Sorting or Classifying a Mixture of Particulate Material Containing Particles of Varying Sizes and Densities (Int. Cl. 7).

SN 259,585. Selma Trailer & Manufacturing Co., Selma, Calif. Filed Nov. 28, 1966.

## TREE MASTER

For Mobile Hoist Machinery Operable for Elevationally Orienting a Worker Support in Relation to a Piece of Work at a Height (Int. Cl. 7).  
First use July 22, 1965.

SN 262,346. The Powers Regulator Company, Skokie, Ill. Filed Jan. 11, 1967.



Applicant disclaims the word "Transittubes" apart from the mark as shown. Owner of Reg. No. 565,147.  
For Pneumatic Conveying Systems (Int. Cl. 7).  
First use Aug. 1, 1966.

SN 271,539. Speed Clean, Inc., Plymouth, Wis. Filed May 15, 1967.

## FLUFF'R

For Vacuum Cleaner and Blower Unit for Grooming Animals (Int. Cl. 7).  
First use on or about June 3, 1966.

SN 271,655. Stone Conveyor Co., Inc., Honeoye, N.Y. Filed May 16, 1967.

## DRAG-KLEEN

For Chain or Endless Belt Type Conveyors for Conveying Chemicals, Feed or Other Granular Bulk Materials (Int. Cl. 7).  
First use Apr. 15, 1966.



SN 273,815. Walker Manufacturing Company, Racine, Wis. Filed June 13, 1967.



For Exhaust System Parts—Namely, Exhaust Pipes and Tailpipes (Int. Cl. 7).  
First use Mar. 16, 1967.

SN 274,230. The National Ideal Company, Hicksville, Ohio. Filed June 19, 1967.

### PREMIER

Owner of Reg. Nos. 345,375 and 553,389.  
For Poultry and Livestock Equipment—Namely, Egg Cleaners; Egg Collection Systems Including Drive Units, Conveyors, and Collection Tables; Manure Removal Systems, Including Scrapers, Drive Units, and Conveyors; and Feed Scoops (Int. Cl. 7).  
First use during January 1945.

SN 274,759. Nu-Way Manufacturing Company, Inc., Barnard, Kans. Filed June 26, 1967.

### MAT-TRAC

For Agricultural Type Tractors (Int. Cl. 12).  
First use Mar. 1, 1967.

SN 274,895. Rota Forg Corporation, Chicago, Ill. Filed June 27, 1967.

### ROTA FORG

The term "Forg" is disclaimed apart from the mark as shown.  
For Rotary Forging Machines (Int. Cl. 7).  
First use June 16, 1967.

SN 276,176. Rex Chainbelt Inc., Milwaukee, Wis. Filed July 17, 1967.

### SPRINGFLEX

For Shaft Couplings (Int. Cl. 7).  
First use Jan. 14, 1966.

SN 276,367. Sundstrand Corporation, Rockford, Ill. Filed July 19, 1967.

### SUNDSTRAND JIGMATIC

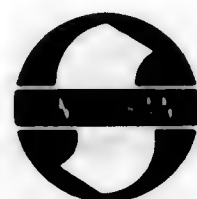
Owner of Reg. Nos. 525,878, 756,803, and others.  
For Machining Centers, and More Specifically, a Multi-Purpose Machine Tool Capable of Performing a Number of Machining Operations Such as Drilling, Reaming, Tapping, End Milling, Face Milling, and Finish Boring (Int. Cl. 7).  
First use July 31, 1960.

SN 276,976. Westinghouse Electric Corporation, Pittsburgh, Pa. Filed July 27, 1967.

### PURIPAK

For Shipboard Sewage Treatment and Disposal Plant (Int. Cl. 11).  
First use on or about June 9, 1967.

SN 277,083. Sundstrand Corporation, Rockford, Ill. Filed July 28, 1967.



Owner of Reg. Nos. 637,112 and 803,020.  
For Machining Centers, and More Specifically, a Multi-Purpose Machine Tool Capable of Performing a Number of Machining Operations Such as Drilling, Reaming, Tapping, End Milling, Face Milling, and Finish Boring, and for Hydraulic Pumps, Hydraulic Motors, and Hydraulic Transmissions (Int. Cl. 7).  
First use May 31, 1958, on machining centers.

SN 277,712. Frank V. Scigliano, Revere, Mass. Filed Aug. 7, 1967.

### SWIVEL-SWIRL

For Stirring Spoons (Int. Cl. 8).  
First use July 24, 1967.

SN 277,835. The Heil Co., Milwaukee, Wis. Filed Aug. 8, 1967.

### HEIL-PAC

Owner of Reg. Nos. 506,507, 818,585, and others.  
For Hydraulically Operated Refuse Packing Devices (Int. Cl. 7).  
First use July 21, 1967.

SN 278,769. Essington Manufacturing Co. Inc., Essington, Pa. Filed Aug. 22, 1967.

### MULTISERT

For Machine for Inserting and Securing Preformed Components in Circuit Boards, and Parts Thereof (Int. Cl. 7).  
First use on or about July 13, 1967.

SN 280,169. Kabushiki Kaisha Tanaka-Kameshichi-Kojo, Sanjo-shi, Niigata-ken, Japan. Filed Sept. 12, 1967.



For Sewing Machine Attachments (Int. Cl. 7).  
First use June 26, 1946; in commerce April 1951.

SN 282,105. S. S. Kresge Company, Detroit, Mich. Filed Oct. 9, 1967.



Owner of Reg. Nos. 743,912, 807,487, and others.  
For High Speed Drills (Int. Cl. 7).  
First use on or before June 9, 1967.

SN 289,534. Saf-T-Boom, Inc., Little Rock, Ark. Filed Jan. 24, 1968.

### SAF-T-BOOM

For Insulating Guards for the Booms of Cranes, etc. (Int. Cl. 7).  
First use May 3, 1958.

## Class 24 — Laundry Appliances and Machines

SN 283,270. E. L. Mustee & Sons, Inc., d.b.a. Modernaid Company, Cleveland, Ohio. Filed Oct. 24, 1967.

### MODERNAID

For Laundry Tubs (Int. Cl. 21).  
First use at least as early as April 1959.

## Class 25 — Locks and Safes

SN 276,588. Schwab Safe Co., Inc., Lafayette, Ind. Filed July 21, 1967.

### DATA SS GARD

For Safes (Int. Cl. 6).  
First use Oct. 17, 1966.

## Class 26 — Measuring and Scientific Appliances

SN 239,848. Xerox Corporation, Rochester, N.Y. Filed Feb. 28, 1966.

### 720

For Electrophotographic Copying Machines (Int. Cl. 9).  
First use Jan. 7, 1966.

SN 248,270. Unlvis, Inc., Fort Lauderdale, Fla. Filed June 16, 1966.



For Ophthalmic Lenses (Int. Cl. 9).  
First use May 20, 1966.

SN 248,923. Metrawatt Aktiengesellschaft, Nuremberg, Germany. Filed June 24, 1966.

### METRASTAR

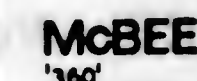
Owner of German Reg. No. 780,618, dated Dec. 2, 1963.  
For Illumination Meters and Photo-Electric Exposure Meters (Int. Cl. 9).

SN 252,869. Minolta Camera Kabushiki Kaisha, Minami-ku, Osaka, Japan. Filed Aug. 22, 1966.

### MINOLTA

Owner of Japanese Reg. No. 598,895, dated Oct. 11, 1962.  
For Photo Copiers, Viewers, and Parts Thereof (Int. Cl. 9).

SN 255,647. Litton Business Systems, Inc., New York, N.Y., by merger and change of name from Royal Typewriter Company, Inc., Greenwich, Conn. Filed Oct. 3, 1966.



For Data Processing Equipment—Namely, Punch Card Punching, Tabulating, Sensing, and Interpreting Equipment (Int. Cl. 9).  
First use not later than August 1966; February 1958 as to the term '360.'

SN 256,512. AB Autokemi, Stockholm, Sweden. Filed Oct. 17, 1966.

### MINICUBE

Priority claimed under Sec. 44(d) on Swedish application filed July 6, 1966; Reg. No. 120,084, dated June 22, 1967.  
For Hermetically Sealed Automatic Analyser for Carrying Out Chemical Reactions With Controlled Environmental Conditions for the Analysis of Fluids (Int. Cl. 9).

SN 264,101. Rahn Granite Surface Plate Co., Dayton, Ohio. Filed Feb. 6, 1967.

### REPEAT-O-METER

For Inspection Instruments for Checking Surface Plates and Other Objects Having Planar Surfaces (Int. Cl. 9).  
First use June 1961.

SN 270,928. Lektra Laboratories, Inc., College Point, N.Y. Filed May 8, 1967.

### DENSI-TIMER

For Photographic Equipment—Namely, Automatic Dark-room Exposure Controls (Int. Cl. 9).  
First use in about 1958.

SN 275,385. Litton Business Systems, Inc., Orange, N.J., by change of name from Monroe International, Inc., Orange, N.J. Filed July 5, 1967.

### ROYFAX

Owner of Reg. No. 715,026.  
For Copy Printer and Processor and Parts Thereof; Being Equipment Used for Copying on Paper (Int. Cl. 16).  
First use not later than Dec. 1, 1959.

SN 277,337. Astec, Incorporated, Orange, Conn. Filed Aug. 2, 1967.

### AUTOTITER

For Serial Dilution Apparatus for Sequential Dilution of Test Samples (Int. Cl. 9).  
First use Apr. 18, 1967.

SN 278,319. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Aug. 15, 1967.

### EKOLINE 12

For Ophthalmic Ultrasonoscope (Int. Cl. 9).  
First use Feb. 1, 1966.

SN 287,546. Hanimex Pty. Limited, Brookvale, New South Wales, Australia. Filed Dec. 26, 1967.



For Movie and Still Cameras and Projectors, Slide Viewers, Lenses and Lens Converters, Light Meters, Flash Units and Guns, Tripods, Splicers, Editors, Binoculars, and Movie Floodlights, and Parts of the Foregoing, and Projector Lamps, Undeveloped Film, Camera and Projector Cases, Slide Magazines, Slide Boxes and Slide Files (Int. Cl. 9).  
First use Sept. 18, 1967; in commerce Nov. 8, 1967.



SN 287,549. Hanimex Pty. Limited, Brookvale, New South Wales, Australia. Filed Dec. 26, 1967.

## HANIMEX

Owner of Australian Reg. No. 133,719, dated Apr. 3, 1959. For Movie and Still Cameras and Projectors, Slide Viewers, Lenses and Lens Converters, Light Meters, Flash Units and Guns, Tripods, Splicers, Editors, Binoculars, and Movie Floodlights, and Parts of the Foregoing, and Projector Lamps, Undeveloped Film, Camera and Projector Cases, Slide Magazines, Slide Boxes and Slide Files (Int. Cl. 9).

## Class 28 — Jewelry and Precious-Metal Ware

SN 271,278. Onelda Ltd., Onelda, N.Y. Filed May 11, 1967.

## CASA GRANDE

"Casa Grande" is a Spanish term meaning "large house." For Sterling Silver Flatware (Int. Cl. 8). First use Sept. 9, 1966.

SN 278,809. Marvella, Inc., New York, N.Y. Filed Aug. 22, 1967.

## PRIX DE PERLE

The exclusive right to use the word "Perle" is disclaimed apart from the mark as shown. The French phrase "Prix de Perle" may be translated as "prize of pearl." For Simulated Pearl Jewelry (Int. Cl. 14). First use July 28, 1967.

SN 282,890. Coro, Inc., New York, N.Y. Filed Oct. 19, 1967.

## PINCH-ME NOTS

For Earrings (Int. Cl. 14). First use July 25, 1967.

## Class 29 — Brooms, Brushes, and Dusters

SN 286,637. Johnson & Johnson, New Brunswick, N.J. Filed Mar. 14, 1967.

## PERFEX

For All Purpose, Non-Woven Fabric Cleaning Cloth Made of Textile Fibers Used for Business and Industrial Cleaning Purposes (Int. Cl. 21). First use Dec. 20, 1966.

## Class 31 — Filters and Refrigerators

SN 277,052. King Refrigerator Corporation, Glendale, N.Y. Filed July 28, 1967.

*King*

WORTH ITS WEIGHT IN GOLD

Owner of Reg. Nos. 436,068, 602,167, and others. For Electric Refrigerators (Int. Cl. 11). First use 1938.

## Class 32 — Furniture and Upholstery

SN 270,689. B. G. Mesberg Corp., New York, N.Y. Filed May 4, 1967.

## PLANNER GROUP

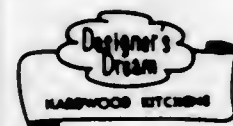
The word "Group" is disclaimed apart from the mark as shown. For Bedroom, Dining Room, Kitchen and Living Room Furniture—Namely, Beds, Benches, Bookcases, Breakfronts, Cabinets, Carts, Chairs, Chests, Commodes, Couches, Dressers, Head Boards, Love Seats, Tables, Settees, Sofas, Stands, Stools, and Wardrobe (Int. Cl. 20). First use on or about Jan. 2, 1951.

SN 279,871. The Stearns & Foster Co., Cincinnati, Ohio. Filed Sept. 7, 1967.

*Picture-Rest*

For Mattresses (Int. Cl. 20). First use 1953.

SN 280,832. Lyle Yoder, d.b.a. Yoder Cabinet Company, Napanee, Ind. Filed Sept. 20, 1967.



Applicant disclaims the words "Hardwood Kitchens" apart from the mark as shown. For Kitchen Cabinets (Int. Cl. 20). First use Jan. 4, 1958.

SN 280,962. Möbelfabriken Ernst Kaufmann KG, Neustadt, Aisch, Germany. Filed Sept. 22, 1967.

## EKAFORM

Owner of German Reg. No. 764,495, dated Aug. 16, 1962. For Furniture—Namely, Benches and Settees; Corner Benches and Corner Settees (Int. Cl. 20). First use February 1958; in commerce 1958.

SN 289,978. Dayco Corporation, Dayton, Ohio. Filed Jan. 31, 1968.

## LATOFOAM

For Foam Rubber Mattresses (Int. Cl. 20). First use on or about Nov. 17, 1967.

## Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 258,612. Teledyne, Inc., Hawthorne, Calif. Filed Nov. 14, 1966.

## PINCH ARC

The word "Arc" is disclaimed apart from the mark as shown. For Power Supply Units for Electric Arc Welders (Int. Cl. 9). First use May 1966.

SN 267,543. Nordson Corporation, Amherst, Ohio. Filed Mar. 24, 1967. SN 280,041. Louis Fishman & Co. Inc., Chicago, Ill. Filed Sept. 11, 1967.



For Paint Heaters and Parts Therefor (Int. Cl. 11). First use on or about Jan. 1, 1947.

SN 271,161. James N. Martin, Jr., d.b.a. Best Equipment & Supply Co., San Antonio, Tex. Filed Apr. 5, 1968.

## ROTO-FLEX

For Baking Ovens (Int. Cl. 11). First use at least as early as Oct. 21, 1966.

SN 271,298. Paul Voltaire, d.b.a. Paul Voltaire's Contemporary Shop, New Milford, Conn. Filed May 11, 1967.

## GLYMMY

For Candleholders (Int. Cl. 21). First use May 8, 1967.

SN 271,784. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed May 18, 1967.

## EXO-HEAT

For Soldering Tools and Associated Heating Cartridges or Heat Capsules, Sold as a Kit and as Separate Items (Int. Cl. 9). First use Apr. 27, 1967.

SN 276,535. The Coleman Company, Inc., Wichita, Kans. Filed July 21, 1967.

## POLAR PAL

Owner of Reg. Nos. 660,791, 819,903, and others. For Roof Top Air Conditioners for Recreational Vehicles (Int. Cl. 11). First use on or before Mar. 10, 1967.

## Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 269,331. The Mohawk Rubber Company, Akron, Ohio. Filed Apr. 17, 1967.

## MOHAWK MONTEGA

Owner of Reg. Nos. 121,805, 748,804, and others. For Automobile Tires (Int. Cl. 12). First use Mar. 10, 1967.

SN 280,040. Louis Fishman & Co. Inc., Chicago, Ill. Filed Sept. 11, 1967.

## SST

For Rubber Tires of the Pneumatic Type (Int. Cl. 12). First use Aug. 30, 1967.

## XPT

For Rubber Tires of the Pneumatic Type (Int. Cl. 12). First use Aug. 28, 1967.

## Class 36 — Musical Instruments and Supplies

SN 235,569. Linguaphone Institute Limited, London, England. Filed Dec. 30, 1965.

## LINGUATAPE

Owner of British Reg. No. 837,745, dated Aug. 7, 1962. For Pre-recorded Magnetic Tapes (Int. Cl. 9). First use March 1961; in commerce July 1963.

SN 263,566. Grundig Werke GmbH, Fuerth, Bavaria, Germany. Filed Jan. 30, 1967.

## EW 3

For Magnetic Tape Playback Reproducers (Int. Cl. 9). First use June 10, 1966; in commerce June 10, 1966.

SN 264,930. Bernardo Herger, Rio Piedras, Puerto Rico. Filed Feb. 17, 1967.

## VERNE

For Phonograph Records and Magnetic Tape (Int. Cl. 9). First use Aug. 16, 1957.

SN 269,105. Robins Industries Corp., Flushing, N.Y. Filed Apr. 13, 1967.

## BRAND FIVE

Applicant disclaims the word "Brand" apart from the mark as shown. For Magnetic Recording Tape (Int. Cl. 9). First use in or before December 1957.

SN 272,324. Synthetic Plastics Company, Newark, N.J. Filed May 19, 1967.

## MOUNTAIN DEW

For Phonograph Records of the Circular Disc Type (Int. Cl. 9). First use May 11, 1967.

SN 276,232. Decca Limited, London, England. Filed July 18, 1967.

## DERAM

Owner of U.S. Reg. No. 748,858. For Phonograph Records and Tape Recordings (Int. Cl. 9). First use during October 1966; in commerce Nov. 7, 1966.

SN 286,236. Ronald George Dandar, d.b.a. Jebbratonic Records, Erie, Pa. Filed Dec. 5, 1967.

## JEBBRATONIC

For Phonograph Records (Int. Cl. 9). First use Sept. 2, 1967.



**Class 37 — Paper and Stationery**

SN 259,792. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 1, 1966.



The words "Hospital Supply" are disclaimed apart from the mark as shown.

For Envelopes, Paper Sheeting in Roll Form, Birth Certificates, Paper Tissues and Towels, and Printed Cards With Spaces for Entry of Written Information (Int. Cl. 16).  
First use on or before Sept. 1, 1964.

SN 274,530. National Blank Book Company, Inc., Holyoke, Mass. Filed June 22, 1967.

**QUICKI-DEX**

For File Card Kit for Personal Use Comprising Cards, Index Cards, and Holder Case for Same (Int. Cl. 16).  
First use March 1967.

SN 274,531. National Blank Book Company, Inc., Holyoke, Mass. Filed June 22, 1967.

**RED SNAPPER**

For Post Binder Covers, Posts, and Post Locking Buttons for Assembly of Storage Binder Units for Machine Record Forms (Int. Cl. 16).  
First use in 1962.

SN 276,153. The Mead Corporation, Dayton, Ohio. Filed July 17, 1967.



For Bond Paper for Mimeograph Offset Duplicators (Int. Cl. 16).  
First use June 1, 1967.

SN 279,567. Reynolds Metals Company, Richmond, Va. Filed Sept. 1, 1967.

**CLEAR-SIX**

For Transparent Plastic Film Packaging (Int. Cl. 17).  
First use at least as early as August 1967.

SN 279,572. Shade Business Forms, Inc., Green Bay, Wis. Filed Sept. 1, 1967.

**SHADE**

For Business Forms (Int. Cl. 16).  
First use Nov. 2, 1965.

SN 279,839. Kimberly-Clark Corporation, Neenah, Wis. Filed Sept. 7, 1967.

**CALFSKIN**

For Printing Paper (Int. Cl. 16).  
First use Apr. 21, 1967.

SN 279,965. Sun-Maid Raisin Growers of California, Kingsburg, Calif. Filed Sept. 8, 1967.

**SUNLAND**

Owner of Reg. No. 222,766.  
For Raisin Tray Paper (Int. Cl. 16).  
First use June 2, 1926.

SN 280,074. Lindy Pen Company, Incorporated, North Hollywood, Calif. Filed Sept. 11, 1967.

**TINTINNABULATION**

For Ballpoint Pens (Int. Cl. 16).  
First use Apr. 24, 1967.

SN 282,581. Hammermill Paper Company, Erie, Pa. Filed Oct. 16, 1967.

**HAMMERMILL SAVINGS MIMEOGRAPH**

The words "Savings Mimeograph" are disclaimed.  
For Mimeograph Paper (Int. Cl. 16).  
First use May 19, 1967.

SN 282,582. Hammermill Paper Company, Erie, Pa. Filed Oct. 16, 1967.

**HAMMERMILL SAVINGS DUPLICATOR**

The words "Savings Duplicator" are disclaimed.  
For Duplicator Paper (Int. Cl. 16).  
First use May 19, 1967.

**Class 38 — Prints and Publications**

SN 254,369. Becton, Dickinson and Company, East Rutherford, N.J. Filed Sept. 13, 1966.

**THE H LINE**

For Periodic Magazine of Interest to Personnel Employed in or Connected With the Medical, Scientific and Laboratory Fields (Int. Cl. 16).  
First use on or before Feb. 21, 1966.

SN 257,502. Mepco, Inc. Morristown, N.J. Filed Oct. 28, 1966.

**CONCEPT**

For Pamphlet Commenting on Items of Interest to the Electronic Industry (Int. Cl. 16).  
First use March 1966.

SN 258,842. The Shippers Guide Company, New York, N.Y. Filed Nov. 16, 1966.

**NEW YORK MOTOR EXPRESS GUIDE**

For Carrier Routing Guide, Published Semi-Annually for Use by Shippers (Int. Cl. 16).  
First use 1927.

SN 259,757. Oregon Tax Research, Portland, Oreg. Filed Nov. 30, 1966.

**Your TAXES**

For Periodically Published Newsletter Concerning Items of Governmental Nature (Int. Cl. 16).  
First use at least as early as 1940.

SN 265,099. Personality Posters, Inc., New York, N.Y. Filed Feb. 20, 1967.

**POSTER-CARD**

For Photographs of Well-Known Personalities Suitable for Mailing (Int. Cl. 16).  
First use Oct. 31, 1966.

SN 267,991. Sports Picture Cards Enterprises, Inc., Plainview, N.Y. Filed Mar. 30, 1967.

**SPCE ORGANIZER-FOLIO**

The terms "Organiser" and "Folio" are disclaimed apart from the mark as shown.  
For Folios Sold in Stationery Stores for School Children for Use in Organising Their Papers for the Day's Work (Int. Cl. 16).  
First use Mar. 14, 1966.

SN 270,828. Wallace-Homestead Co., Des Moines, Iowa. Filed May 5, 1967.

**WALLACES FARMER**

For Farm Newspaper (Int. Cl. 16).  
First use Sept. 6, 1965.

SN 272,027. Demco, Incorporated, Oklahoma City, Okla. Filed May 22, 1967.

**GREENLINE**

For Newsletter Published Periodically (Int. Cl. 16).  
First use Apr. 15, 1967.

SN 272,028. Demco, Incorporated, Oklahoma City, Okla. Filed May 22, 1967.

**DEMCO'S GREENLINE**

For Newsletter Published Periodically (Int. Cl. 16).  
First use Apr. 15, 1967.

SN 272,482. The Fuller Brush Company, East Hartford, Conn. Filed May 26, 1967.

**THE FULLERETTE**

Owner of Reg. Nos. 143,340, 759,993, and others.  
For Newspaper Issued Periodically and Distributed to Applicant's Managers, Dealers, Customers, and Others (Int. Cl. 16).  
First use March 1966.

SN 273,786. Omaro Société Anonyme, Paris France. Filed June 13, 1967.



Owner of French Reg. No. 522,378, dated June 2, 1964 (Seine); Natl. Inst. No. 227,100.

For Charts and Tables Prepared According to Information Furnished by Science or Industry and Enabling To Obtain the Solution of Problems Otherwise Necessitating Long and Difficult Calculations (Int. Cl. 16).

**C&P NEWS**

For Company Newspaper (Int. Cl. 16).  
First use May 1, 1967.

SN 273,989. The Sacramento Union Corporation, Sacramento, Calif. Filed June 15, 1967.

**THE SACRAMENTO UNION**

For Daily Newspaper (Int. Cl. 16).  
First use about June 14, 1903.

SN 274,266. The Troy Record Company, Troy, N.Y. Filed June 19, 1967.

**THE TIMES RECORD**

For Daily Newspaper (Int. Cl. 16).  
First use Feb. 15, 1935.

SN 275,213. Amberley Greeting Card Co., Cincinnati, Ohio. Filed July 3, 1967.



For Greeting Cards (Int. Cl. 16).  
First use Feb. 1, 1966.

SN 275,307. Joe Slovacek, d.b.a. Doubl'-Take Greetings, Pasadena, Tex. Filed July 3, 1967.

**dubl'-take**

For Greeting Cards (Int. Cl. 16).  
First use on or about Apr. 8, 1967.

SN 275,389. Nightowl Publications, Inc., New York, N.Y. Filed July 5, 1967.



For Magazine (Int. Cl. 16).  
First use Dec. 29, 1966.

SN 278,016. Magazine Management Company, d.b.a. Marvel Comics Group, New York, N.Y. Filed Aug. 10, 1967.

**CAPTAIN AMERICA**

For Magazine Published Periodically, Particularly Comic Books and Magazines (Int. Cl. 16).  
First use on or about Dec. 20, 1940.

SN 280,099. Reynolds G. Scott, d.b.a. Rey Scott, Fort Lauderdale, Fla. Filed Sept. 11, 1967.

**REY SCOTT**

For Photographs, Photographic Postcards, and Photographic Greeting Cards (Int. Cl. 16).  
First use June 21, 1951.



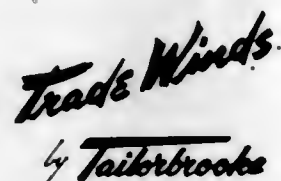
**Class 39—Clothing**

SN 237,725. Meyer-Mueller-Goodman Company, Inc., St. Louis, Mo. Filed Feb. 1, 1966.



Owner of Reg. No. 237,956.  
For Men's and Boys' Ties (Int. Cl. 25).  
First use Jan. 6, 1966.

SN 242,680. Tallorbrooke Clothes, Inc., Kearny, N.J. Filed Apr. 4, 1966.



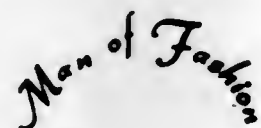
Owner of Reg. No. 778,803.  
For Ladies' Suits and Costumes (Int. Cl. 25).  
First use Jan. 20, 1966.

SN 246,579. Lord Ashley, Ltd., New York, N.Y. Filed May 25, 1966.

**SLIMS BY LORD ASHLEY**

"Lord Ashley" is fanciful and does not represent the name of any individual.  
For Men's Underwear (Int. Cl. 25).  
First use Apr. 29, 1966.

SN 255,713. Neuville & Co., Inc., New York, N.Y. Filed Oct. 4, 1966.



No claim is made to the word "Fashion" apart from the mark as shown.  
For Men's Hosiery (Int. Cl. 25).  
First use Sept. 20, 1966.

SN 261,531. Style Footwear Co., Inc., South Norwalk, Conn. Filed Dec. 27, 1966.



The word "Whites" is disclaimed apart from the mark as shown.  
For Women's Shoes (Int. Cl. 25).  
First use October 1961.

SN 262,631. Spartans Industries Inc., New York, N.Y. Filed Jan. 16, 1967.

**PENNY ROSS**

"Penny Ross" does not identify any particular living individual.  
For Ladies' Hosiery (Int. Cl. 25).  
First use Sept. 1, 1966.

SN 262,632. Spartans Industries Inc., New York, N.Y. Filed Jan. 16, 1967.

**PEGGY ROSS**

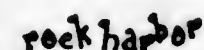
"Peggy Ross" is the name of a living individual whose consent is of record.  
For Ladies' Hosiery (Int. Cl. 25).  
First use Sept. 1, 1966.

SN 262,717. Stedman Manufacturing Company, Asheboro, N.C. Filed Jan. 17, 1967.

**CAMERON**

For Men's and Boys' Underwear (Int. Cl. 25).  
First use Oct. 17, 1961.

SN 263,702. Fred'k H. Sprague Co., Inc., Fitchburg, Mass. Filed Jan. 31, 1967.



For Women's Shorts, Slacks, Skirts, Suits, Dresses, and Jackets (Int. Cl. 25).  
First use Dec. 22, 1966.

SN 264,226. One-In-Hand, Inc., Clinton, Iowa. Filed Feb. 8, 1967.

**GRIPSLYDE**

For Articles of Neckwear—Namely, Neckties Equipped With a Device To Attach the Necktie to the Shirt Front of the Wearer (Int. Cl. 25).  
First use at least as early as Jan. 10, 1967.

SN 267,545. Jaime Pujol, Santurce, Puerto Rico. Filed Mar. 24, 1967.



For Women's Shoes (Int. Cl. 25).  
First use 1964.

SN 267,610. Caressa, Inc., Miami, Fla. Filed Mar. 27, 1967.

**CARESSA FLAPPERS**

Owner of Reg. Nos. 665,773, 832,969, and others.  
For Women's and Misses' Shoes (Int. Cl. 25).  
First use Mar. 18, 1967.

SN 270,754. Cape Ann Manufacturing Co., Gloucester, Mass. Filed May 5, 1967.



Owner of Reg. No. 430,665.  
For Jackets, Overcoats, Car Coats, Sweaters, Knit Shirts, Skiwear, Swimwear, and Rainwear for Men, Women, and Children (Int. Cl. 25).  
First use Sept. 1, 1941.

SN 272,769. Wembley, Inc., New Orleans, La. Filed May 31, 1967.

**ACHIEVER**

For Men's and Boys' Neckwear (Int. Cl. 25).  
First use Apr. 1, 1967.

SN 273,677. Hazel Ransom-Potts, d.b.a. Hazel-Sylvia, New York, N.Y. Filed June 12, 1967.

**APRO-HOOD**

For Combined Apron and Hat for Women and Misses (Int. Cl. 25).  
First use Mar. 2, 1965.

SN 276,188. Toby Lane, Inc., St. Louis, Mo. Filed July 17, 1967.

**TRELAINÉ**

For Ladies' and Misses' Dresses, Suits, and Coats (Int. Cl. 25).  
First use July 5, 1967.

SN 276,345. Jean Patou, Societe Anonyme, Paris, Seine, France. Filed July 19, 1967.

**JEAN PATOU**

The name "Jean Patou" is that of the founder of applicant's business, now deceased. Owner of U.S. Reg. No. 223,554.  
For Articles of Clothing—Namely, Coats, Overcoats, Suits, Frocks, Waistcoats, Trousers, Skirts, Bodices, Hats, Scarves, Ties, Gloves, Underwear, Socks, Stockings, Shirts, Bathing Suits, Corsets, Girdles, and Brassieres (Int. Cl. 25).  
First use June 5, 1914; in commerce July 22, 1919.

SN 276,358. Sea & Ski Corporation, San Francisco, Calif. Filed July 19, 1967.

**SEA & SKI**

Owner of Reg. Nos. 746,568, 827,197, and others.  
For Swim Caps and Beach Hats (Int. Cl. 25).  
First use June 27, 1967.

SN 276,415. Countess Mara, Inc., New York, N.Y. Filed July 20, 1967.



Owner of Reg. Nos. 568,155, 639,447, and others.  
For Neckties, Bowties, Men's Dress Shirts, Men's Casual Shirts, Men's Knitted Shirts, Men's Socks, Suspenders, Gloves, Scarves, Handkerchiefs, Robes, Sweaters, Pajamas, Sport Jackets, Slacks, and Ascots (Int. Cl. 25).  
First use Mar. 28, 1940.

SN 276,640. Canton Textile Mills, Inc., Canton, Ga. Filed July 24, 1967.

**SALTY DOG**

Owner of Reg. No. 824,493.  
For Shirts, Trousers, and Jackets for Men, Women, and Children (Int. Cl. 25).  
First use Jan. 15, 1966.

SN 277,035. Endicott Johnson Corporation, Endicott, N.Y. Filed July 28, 1967.

**BOAT-SUNS**

For Rubber and Canvas Shoes (Int. Cl. 25).  
First use June 26, 1967.

**SEADOGS**

For Shoes (Int. Cl. 25).  
First use July 11, 1967.

SN 277,231. The United States Shoe Corporation, Cincinnati, Ohio. Filed July 31, 1967.



Owner of Reg. Nos. 151,287 and 407,167.  
For Women's Shoes (Int. Cl. 25).  
First use at least as early as 1944.

SN 277,265. J. N. Clarke Limited, Dublin, Ireland. Filed Aug. 1, 1967.



"Jack Clarke" identifies John Newman Clarke whose consent is of record.  
For Ladies' Outerwear—Namely, Coats, Suits, Jackets, Gowns, Skirts, Slacks, Blouses, Dresses, and Frocks (Int. Cl. 25).  
First use July 1958; in commerce July 1958.

SN 278,667. Cheri Lamb Incorporated, Leawood, Kans. Filed Aug. 21, 1967.

**CHERI LAMB**

For Medical Examination and Hospital Gown (Int. Cl. 25).  
First use June 8, 1966.

SN 279,050. Claybar of California, Inc., Los Angeles, Calif. Filed Aug. 25, 1967.

**CLAYBAR**

For Men's and Boys' Sportswear—Namely, Men's and Boys' Knitted Sport Shirts, Woven Sport Shirts and Sweaters (Int. Cl. 25).  
First use May 9, 1951.

SN 279,214. Palm Beach Company, Portland, Maine. Filed Aug. 28, 1967.

**BOATER TWILL**

The word "Twill" is disclaimed apart from the mark as shown. Owner of Reg. No. 647,149.  
For Fabric Sold only in Finished Apparel—Namely, Men's and Boys' Suits, Slacks, Coats, Trousers, and Sportcoats (Int. Cl. 25).  
First use May 24, 1967.

SN 280,936. Drummond Knitwear Ltd., Maspeth, N.Y. Filed Sept. 22, 1967.

**L'ESCARGOT**

The English translation of the French words "L'Escargot" means "the snail."  
For Men's, Women's, Boys', Girls', and Children's Knitted Shirts and Sweaters, Jackets, Walking Shorts, Swimming Trunks and Bathing Suits (Int. Cl. 25).  
First use Jan. 5, 1949.



SN 280,942. Endicott Johnson Corporation, Endicott, N.Y. Filed Sept. 22, 1967.

*Comfortaire*

For Women's Shoes (Int. Cl. 25).  
First use May 23, 1966.

SN 283,357. Pendleton Woolen Mills, Portland, Oreg. Filed Oct. 25, 1967.

## BONNEVILLE

Owner of Reg. Nos. 434,538 and 439,148.  
For Men's, Women's, and Children's Shirts and Lounging Robes, and Mufflers (Int. Cl. 25).  
First use Mar. 9, 1946.

SN 283,804. Joyce, Inc., Cincinnati, Ohio. Filed Oct. 31, 1967.

## ALERT

For Women's Shoes (Int. Cl. 25).  
First use Mar. 1, 1942.

SN 285,168. Gay Toggs, Inc., Inwood, N.Y. Filed Nov. 20, 1967.

## COLLEJEANS

For Ladies' and Children's Dungarees and Pants and Boys' and Men's Dungarees and Pants (Int. Cl. 25).  
First use Nov. 6, 1967.

SN 287,183. Teenform, Inc., New York, N.Y. Filed Dec. 18, 1967.

## BLOSSOM OUT

For Brassieres (Int. Cl. 25).  
First use Dec. 11, 1967.

SN 287,700. North Land Mfg., Ltd., New York, N.Y. Filed Dec. 28, 1967.

*Storm Shield*

For Men's and Boys' Outer Jackets (Int. Cl. 25).  
First use Aug. 25, 1967.

SN 288,021. Littonian Shoe Co., Littlestown, Pa. Filed Jan. 3, 1968.



For Infant Shoes (Int. Cl. 25).  
First use Nov. 4, 1947.

SN 288,497. Don Sophisticates, Inc., New York, N.Y. Filed Jan. 10, 1968.

## DON JILLETTE

For Ladies' Dresses (Int. Cl. 25).  
First use Dec. 9, 1967.

SN 288,572. Cardinal Clothes, Inc., New York, N.Y. Filed Jan. 11, 1968.

## JARED-STEVEENS

The name "Jared-Steveens" is fanciful and is not the name of any known living individual.  
For Men's Suits, Sport Coats, and Tuxedos (Int. Cl. 25).  
First use on or about Dec. 1, 1952.

SN 289,415. New Process Company, Warren, Pa. Filed Jan. 23, 1968.

## NPC

Owner of Reg. Nos. 792,271 and 814,574.  
For Men's Dress Shirts and Knit and Flannel Sport Shirts, Women's Slacks, Suits, Nightgowns, and Shells—Namely, Knitted Fabric Tops (Int. Cl. 25).  
First use August 1965.

SN 290,626. The H. D. Lee Company, Incorporated, Shawnee Mission, Kans. Filed Feb. 8, 1968.

## LOO-PR&ST

Owner of Reg. Nos. 130,792, 792,605, and others.  
For Slacks, Trousers, Jeans, Jackets, Shirts, Work Uniforms, and One-Piece Work Suits (Int. Cl. 25).  
First use on or about Sept. 2, 1964.

SN 291,555. Maidenform, Inc., New York, N.Y. Filed Feb. 21, 1968.

## THE OUTSIDE-INS

For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 2, 1968.

SN 291,558. Maidenform, Inc., New York, N.Y. Filed Feb. 21, 1968.

## ARIETTE

Owner of Reg. No. 612,651.  
For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 2, 1968.

SN 291,672. Maidenform, Inc., New York, N.Y. Filed Feb. 23, 1968.

## THE TOTALLY TERRIFICS

For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Jan. 12, 1968.

SN 291,946. Maidenform, Inc., New York, N.Y. Filed Feb. 27, 1968.

## DEFINITION

For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 15, 1968.

SN 291,947. Maidenform, Inc., New York, N.Y. Filed Feb. 27, 1968.

## BEGUILEMENT

For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 15, 1968.

SN 291,948. Maidenform, Inc., New York, N.Y. Filed Feb. 27, 1968.

## STITCH'N TAME

Owner of Reg. Nos. 687,997, 819,561, and 831,496.  
For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 15, 1968.

SN 291,949. Maidenform, Inc., New York, N.Y. Filed Feb. 27, 1968.

## THE GLOW-TOGETHERS

For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 15, 1968.

SN 291,950. Maidenform, Inc., New York, N.Y. Filed Feb. 27, 1968.

## CAMOUFLAGE

For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 15, 1968.

SN 291,951. Maidenform, Inc., New York, N.Y. Filed Feb. 27, 1968.

## ONCE OVER LIGHTLY

Owner of Reg. No. 384,683.  
For Foundation Garments and Lingerie (Int. Cl. 25).  
First use Feb. 15, 1968.

SN 292,533. Eloesser-Heynemann Company, South San Francisco, Calif. Filed Mar. 6, 1968.



Owner of Reg. Nos. 88,743, 124,832, 766,432, and others.  
For Overalls, Jeans, Slacks, Trousers, Jackets, Outer Work Shirts, and One-Piece Work Suits (Int. Cl. 25).  
First use in or about 1912.

## Class 40—Fancy Goods, Furnishings, and Notions

SN 282,852. Yardley of London, Inc., Totowa, N.J. Filed Oct. 18, 1967.

## THE FLIC-ONS

For Eyelashes (Int. Cl. 26).  
First use June 27, 1967.

## Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 272,731. Kimberly-Clark Corporation, Neenah, Wis. Filed May 31, 1967.

## KIMLON

Owner of Reg. Nos. 672,908, 814,579, and others.  
For Non-Woven Fabrics and Bonded Web Fabrics, Suitable for Making Into Garments, Bed Linens, and the Like (Int. Cl. 24).  
First use May 23, 1967.

## FORTIMBEAU

For Textile Rugs and Carpeting (Int. Cl. 27).  
First use June 21, 1967.

SN 277,841. Morris Lindenberg, d.b.a. Linrose Fabrics Co., New York, N.Y. Filed Aug. 8, 1967.

## YEAROUND

For Lining for Women's and Misses' Coats, Sold by the Yard (Int. Cl. 24).  
First use June 1, 1961.

SN 280,273. J. P. Stevens & Co., Inc., New York, N.Y. Filed Sept. 13, 1967.

## GLASGARD

For Fabrics of Glass Fibers for Industrial Purposes (Int. Cl. 24).  
First use Sept. 6, 1967.

SN 282,043. Borg-Warner Corporation (Delaware corporation), Chicago, Ill., assignee of Borg-Warner Corporation (Illinois corporation), Chicago, Ill. Filed Oct. 9, 1967.

## TRUK-TEX

For Upholstery Fabric (Int. Cl. 24).  
First use on or prior to June 10, 1963.

SN 282,057. Chatham Manufacturing Company, Elkin, N.C. Filed Oct. 9, 1967.

## POLARIS

For Blankets (Int. Cl. 24).  
First use Jan. 18, 1960.

SN 282,282. Burlington Industries, Inc., Bridgeport, Pa. Filed Oct. 11, 1967.

## ISLAND PARK

For Textile Rugs and Carpets (Int. Cl. 27).  
First use June 22, 1965.

SN 282,283. Burlington Industries, Inc., Bridgeport, Pa. Filed Oct. 11, 1967.

## LAUREL RIDGE

For Textile Rugs and Carpets (Int. Cl. 27).  
First use Oct. 19, 1966.

SN 282,284. Burlington Industries, Inc., Bridgeport, Pa. Filed Oct. 11, 1967.

## OPENING NIGHT

For Textile Rugs and Carpets (Int. Cl. 27).  
First use June 18, 1965.

SN 282,285. Burlington Industries, Inc., Bridgeport, Pa. Filed Oct. 11, 1967.

## SUPER STAR

For Textile Rugs and Carpets (Int. Cl. 27).  
First use May 30, 1967.



SN 282,300. Sabre Carpets, Inc., Cartersville, Ga. Filed Oct. 11, 1967. SN 282,874. The American Thread Company, New York, N.Y. Filed Oct. 19, 1967.



For Carpets (Int. Cl. 27).  
First use Feb. 16, 1967.

SN 282,434. Burlington Industries, Inc., New York, N.Y. Filed Oct. 13, 1967.

#### ACROTHERM

For Fabrics in the Piece Suitable for Use in Draperies, Curtains, Upholstery, and Home Furnishings (Int. Cl. 24).  
First use Aug. 31, 1967.

SN 282,435. Burlington Industries, Inc., New York, N.Y. Filed Oct. 13, 1967.

#### THERMACOAT

For Fabrics in the Piece Suitable for Use in Draperies, Curtains, Upholstery, and Home Furnishings (Int. Cl. 24).  
First use Sept. 28, 1967.

SN 282,540. Cannon Mills Company, Kannapolis, N.C. Filed Oct. 16, 1967.

#### ROYAL HOUSEHOLD

Owner of Reg. No. 540,383.  
For Sheets and Pillow Cases (Int. Cl. 24).  
First use Aug. 3, 1967.

SN 283,098. Chatham Manufacturing Company, Elkin, N.C. Filed Oct. 23, 1967.

#### NORTHLON

For Blankets (Int. Cl. 24).  
First use Sept. 27, 1957.

SN 283,430. The Craft-Net Corporation, Winter Park, Fla. Filed Oct. 26, 1967.

#### CRAFT-NET

For Plastic Netting in Tubular Form (Int. Cl. 22).  
First use Jan. 10, 1967.

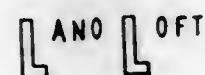
SN 283,674. Roger Laviale, Ltd., New York, N.Y. Filed Oct. 30, 1967.



For Textile Fabrics of Cashmere and Blends Thereof (Int. Cl. 24).  
First use July 7, 1967.

#### Class 43—Thread and Yarn

SN 279,644. Greenwood Mills, Inc., New York, N.Y. Filed Sept. 5, 1967.



The word "Loft" is disclaimed apart from the mark as shown.

For Industrial Yarn of Synthetic Fibers and/or a Blend of Natural and Synthetic Fibers (Int. Cl. 23).  
First use Aug. 11, 1967.

#### LIBERTY

Owner of Reg. No. 25,631.  
For Spool-Cotton (Int. Cl. 28).  
First use December 1950.

#### Class 44—Dental, Medical, and Surgical Appliances

SN 281,780. Deseret Pharmaceutical Company, Inc., Sandy, Utah. Filed Oct. 4, 1967.

#### CAVACATH

Owner of Reg. Nos. 672,902, 826,452, and others.  
For Intravenous Catheters and Catheter Placement Units (Int. Cl. 10).  
First use during April 1967.

SN 281,781. Deseret Pharmaceutical Company, Inc., Sandy, Utah. Filed Oct. 4, 1967.

#### ECONOCATH

Owner of Reg. Nos. 672,902, 826,452, and others.  
For Intravenous Catheters and Catheter Placement Units (Int. Cl. 10).  
First use during September 1967.

SN 281,782. Deseret Pharmaceutical Company, Inc., Sandy, Utah. Filed Oct. 4, 1967.

#### INSEMICATH

Owner of Reg. Nos. 672,902, 826,452, and others.  
For Intravenous Catheters and Catheter Placement Units (Int. Cl. 10).  
First use during September 1967.

SN 281,872. Deseret Pharmaceutical Company, Inc., Sandy, Utah. Filed Oct. 5, 1967.

#### INSERTICATH

Owner of Reg. Nos. 672,902, 826,452, and others.  
For Intravenous Catheters and Catheter Placement Units (Int. Cl. 10).  
First use during September 1967.

SN 281,968. Clay-Adams, Inc., New York, N.Y. Filed Oct. 6, 1967.

#### PAPCYTE

For Disposable Cytology Scrapers (Int. Cl. 10).  
First use on or about Apr. 13, 1967.

#### Class 45—Soft Drinks and Carbonated Waters

SN 261,332. The Southland Corporation, Dallas, Tex. Filed Dec. 22, 1966.

#### THE BOMB

For Fruit Flavored, Semi-Frozen Soft Drinks (Int. Cl. 32).  
First use at least as early as Dec. 16, 1966.

SN 275,824. Beatrice Foods Co., Chicago, Ill. Filed July 12, 1967. SN 243,037. Suchard Holding Societe Anonyme, Lausanne, Switzerland. Filed Apr. 8, 1966.

#### GRIN-ADE

For Non-Carbonated Fruit Drinks Containing Water (Int. Cl. 32).  
First use June 14, 1967.

#### CAFOLA

Owner of Swiss Reg. No. 187,928, dated Sept. 19, 1961.  
For Cocoa, Candies, Chocolate for Cooking Purposes and Bakery Products—Namely, Pastries (Int. Cl. 30).

SN 280,789. J. F. Lazier Manufacturing Co., St. Louis, Mo. Filed Sept. 20, 1967.

#### MOTHER GOOSE

For Flavoring Concentrates and Extracts and Flavoring Syrups Adapted for Use in Making Soft Drink Beverages (Int. Cl. 32).  
First use Dec. 2, 1924.

#### Class 46—Foods and Ingredients of Foods

SN 234,036. J. D. Jewell, Inc., Gainesville, Ga. Filed Dec. 6, 1965.



"Jessie Jewell" is the name of a living individual whose consent is of record. Owner of Reg. Nos. 571,204, 628,374, and 756,165.

For Frozen Chicken and Dumplings and Chicken and Noodles (Int. Cl. 29).  
First use Sept. 14, 1965.

SN 238,750. La Preferida, Inc., Chicago, Ill. Filed Feb. 14, 1966.

#### LA PREFERIDA

The English equivalent of "La Preferida" is "the preferred." Owner of Reg. No. 592,024.

For Foods, Food Adjuncts and Ingredients of Foods—Namely, Fresh, Frozen, Canned and Preserved Fruits and Vegetables; Fresh, Dry, Cured and Canned Meats; Meat Products, Namely, Chili Con Carne, Beef Stew, Ravioli, Beef Tripe Stew, Potted Meat, Bacon With Beans, Blood Pudding and Sausage in Sauce, Salted and Cured Pigs Feet, Fatback, Beans With Bacon, Spaghetti With Meat Balls; Fresh, Frozen, Dried and Canned Fish and Sea Foods, Namely, Salmon, Sardines, Shrimp, Crab Meat, Tuna, Oysters, Coddish, Pollock, Herring, Red Snapper, Cuttlefish, Octopus, Eels, Mussels, Cockles, Anchovies; Lard; Cooking, Flavoring and Salad Oils; Fresh, Frozen and Canned Fruit Juices and Nectars; Syrups for Food Purposes; Coffee; Tea; Rice; Crackers; Bread and Breadsticks; Canned Spaghetti Specialties, Namely, Spaghetti With Tomato Sauce; Spaghetti With Tomato Sauce and Cheese; Spices; Flavoring Agents, Namely, Chili Seasoning, Salt, Garlic Granules, Minced Onion, and Corn Husks in Which Foods Are Wrapped and Cooked; Sauces; Fresh, Frozen and Canned Tamales and Tortillas; Wheat, Rice and Corn Flour; Ground Oatmeal; Jellies and Marmalades; Fruit Pastes; Tomato Pastes; Vinegar; Dairy Products, Namely, Cheeses, Cheese Dips, Butter, Condensed and Powdered Milk; Candies; Confections, Namely, Turrone; Chocolate for Cooking and as Flavoring To Be Mixed With Milk or Water; Edible Seeds; Cereal Breakfast Foods; Cooking Wines; Herbs, Canned and Bottled Stuffed and Unstuffed Peppers; Desserts, Namely, Custards and Puddings (Int. Cls. 29, 30, 31, and 33).  
First use June 29, 1949.

SN 245,758. Quality Bakers of America Cooperative, Inc., New York, N.Y. Filed May 16, 1966. COLLECTIVE MARK.



The representation of a little girl is fanciful and does not relate to any known person. Owner of Reg. Nos. 783,290, 796,863, and 830,699.  
For Cookies and Cakes (Int. Cl. 30).  
First use June 1965; 1913 as to "Sun-Beam."

SN 247,116. Foster Beef Company, d.b.a. Foster's of Manchester, Manchester, N.H. Filed June 2, 1966.



For Cooked and Smoked Hams, Frankfurts, Pork Sausage, and Meat Loaves (Int. Cl. 29).  
First use Apr. 8, 1966.

SN 246,377. Utah Fruit Products Co., Provo, Utah. Filed June 17, 1966.

#### TASTE-A-TREAT

For Bottled Apple Juice and Apple Cider (Int. Cls. 32 and 33).  
First use 1946.

SN 254,388. Clyde A. Harbin, Whitehaven, Tenn. Filed Sept. 13, 1966.

#### THE MIXMAKER

For Ice Cream Mixes, Ice Milk Mixes, and Milkshake Mixes (Int. Cl. 30).  
First use Sept. 7, 1966.

SN 259,846. Plus Products, d.b.a. Nutritional Foods Co., Los Angeles, Calif. Filed Dec. 1, 1966.



The phrase "Nutritional Foods" is disclaimed apart from the mark as shown.  
For High Protein Milk Shake Mix (Int. Cl. 29).  
First use July 12, 1966.



SN 261,759. Schludenberg-Kurdie Company, Inc., Baltimore, Md. Filed Dec. 30, 1966.

## TIJUANA TID BITS

Applicant disclaims the words "Tid Bits" apart from the mark as shown.  
For Sausage and Prepared Meat Products (Int. Cl. 29).  
First use Sept. 19, 1966.

SN 262,878. National Biscuit Company, New York, N.Y. Filed Jan. 19, 1967.

## HOKEY POKUS

For Breakfast Cereal (Int. Cl. 30).  
First use Jan. 6, 1967.

SN 264,241. R.G.B. Laboratories, Inc., Kansas City, Mo. Filed Feb. 8, 1967.

## MATEY

For Vegetable Derived, Non-Dairy Sour Cream, Cocktail Food Dip and Dressing (Int. Cl. 29).  
First use Jan. 16, 1967.

SN 264,845. National Sea Products Limited, Halifax, Nova Scotia, Canada, by merger from National Sea Products Limited, Halifax, Nova Scotia, Canada. Filed Feb. 16, 1967.



Applicant disclaims the representation of a fish, the words "Sea Products," and the phrase "Symbol of Quality" apart from the mark as shown.

For Fresh, Salted, Smoked, Breaded, Cooked, Frozen and Canned Fish; Fresh, Breaded, Cooked, Frozen and Canned Shell Fish; Frozen Fish Sticks; Frozen Fish and Chips; Frozen Fish Cakes; Frozen Fish Chowder; Frozen Vegetables; Frozen Fruit and Frozen Berries (Int. Cl. 29).  
First use March 1960; in commerce March 1960.

SN 265,981. Canteen Corporation, Chicago, Ill. Filed Mar. 6, 1967.

## MARINE HOST

For Frozen Prepared Packaged Meals the Essential Ingredients of Which Are Meat, Potatoes, Vegetables, and Fish (Int. Cl. 29).  
First use on or about July 1, 1966.

SN 267,884. International Minerals & Chemical Corporation, Skokie, Ill. Filed Mar. 30, 1967.

## BIOFERM

For Flavor Enhancing and Flavor Contributing Compositions Comprising Yeast Extract or Monosodium Glutamate (Int. Cl. 30).  
First use July 1966.

SN 269,423. SCM Corporation, New York, N.Y., assignee of The Glidden Company, d.b.a. Durkee Famous Foods, Cleveland, Ohio. Filed Apr. 18, 1967.

## RICHTONE

For Spice Seasonings for Meats (Int. Cl. 30).  
First use Sept. 3, 1964.

SN 269,448. The Pillsbury Company, Minneapolis, Minn. Filed Apr. 18, 1967.

## GORILLA MILK

Applicant disclaims the word "Milk" apart from the mark as shown.  
For Mix for Preparing Nutritionally Complete Instant Breakfast Drink (Int. Cl. 30).  
First use Apr. 5, 1967.

SN 269,968. Bovril (Canada) Limited, Pointe Claire, Quebec, Canada. Filed Apr. 25, 1967.

## shake-o'-beef

Without waiver of common-law or other rights, no registration rights are claimed in the word "Beef" apart from the mark as shown.  
For Beef Flavored Seasoning (Int. Cl. 30).  
First use at least prior to Mar. 31, 1967; in commerce at least prior to Mar. 31, 1967.

SN 270,268. Pet Incorporated, St. Louis, Mo. Filed Apr. 28, 1967.

## SEGO

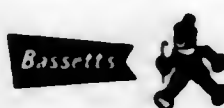
Owner of Reg. Nos. 84,441 and 288,598.  
For Evaporated Milk, Nonfat Dry Milk, Milk Shake Mix, Liquid Diet Food Suitable as a Nutritionally Complete Meal, Frozen Fruit Pies, Calorie-Free Food Sweetener and Low Calorie Apple Sauce (Int. Cls. 1, 5, and 29).  
First use Mar. 1, 1964.

SN 272,540. Cudaby Company, Phoenix, Ariz. Filed May 29, 1967.

## COWPOKES

For Wieners (Int. Cl. 29).  
First use Apr. 5, 1967.

SN 272,797. Geo. Bassett & Co. Limited, Sheffield, England. Filed June 1, 1967.



Owner of U.S. Reg. Nos. 565,586, 757,847, and others.  
For Candy (Int. Cl. 30).  
First use Nov. 30, 1960; in commerce on or about Nov. 30, 1960.

SN 273,293. Mar-Ko Company, Topeka, Kans. Filed June 7, 1967.

## INITOL

For Dietary Animal Food for Canidae, Felidae and Primates (Int. Cl. 31).  
First use on or about May 10, 1967.

SN 273,294. Mar-Ko Company, Topeka, Kans. Filed June 7, 1967.

## ANOREK

For Dietary Animal Food for Canidae, Felidae and Primates (Int. Cl. 31).  
First use on or about May 10, 1967.

SN 273,635. The Great Atlantic & Pacific Tea Company, Inc., New York, N.Y. Filed June 12, 1967.



The drawing is lined for red. Owner of Reg. Nos. 296,883, 755,179, and others.  
For Frozen Dressed Lake Smelts, Frozen Rock Lobster Tails, Fresh Crab Meat, Frozen Shrimp Cocktail, Frozen Clam Chowder, and Frozen Cream of Shrimp Soup (Int. Cl. 29).  
First use September 1956 on frozen dressed lake smelts.

SN 274,459. Pronto Food Corporation, Chicago, Ill. Filed June 21, 1967.



For Prepared Pizzas; Meat Sauces; and Cooked and Frozen Prepared Meats and Meat Products—Namely, Beefburgers, Meat Loaf, Meat Balls, Barbeque Beef, Short Ribs of Beef, Corned Beef, Smoked Beef, and Steaks (Int. Cls. 29 and 30).  
First use prior to 1963.

SN 274,507. F & F Laboratories, Inc., Chicago, Ill. Filed June 22, 1967.

## ALMOND HILL

Without waiver of its common-law rights, applicant makes no claim to the word "Almond" apart from the mark as shown. Owner of Reg. No. 544,897.  
For Almond Candy Bars (Int. Cl. 30).  
First use about March 1960.

SN 274,509. F & F Laboratories, Inc., Chicago, Ill. Filed June 22, 1967.

## WALNUT HILL

Without waiver of its common-law rights applicant makes no claim to the word "Walnut" apart from the mark as shown. Owner of Reg. No. 544,897.  
For Walnut Candy Bars (Int. Cl. 30).  
First use about Sept. 9, 1959.

SN 274,548. The E. M. Todd Company, Richmond, Va. Filed June 22, 1967.

## HERMITAGE

For Smoked Ham and Bacon (Int. Cl. 29).  
First use Feb. 1, 1920.

SN 274,593. Don's Chuck Wagon Products, Inc., East Detroit, Mich. Filed June 23, 1967.



For Onion Ring Mix (Int. Cl. 30).  
First use June 1, 1962.



For Cultured Sour Dressing (Int. Cl. 29).  
First use Sept. 17, 1965.

SN 278,911. John Sexton & Co., Chicago, Ill. Filed Aug. 23, 1967.



Owner of Reg. Nos. 564,571 and 734,276.  
For Dietetic Foods—Namely, Canned Fruits and Vegetables, Soups, Tomato Juice, Salmon, Tuna, and Chicken (Int. Cl. 5).  
First use June 20, 1960; May 23, 1960, as to "Sexton."

SN 279,015. Beatrice Foods Co., Chicago, Ill. Filed Aug. 22, 1967.

## HONEY-KINS

For Candy (Int. Cl. 30).  
First use Apr. 5, 1967.

SN 279,316. National Biscuit Company, New York, N.Y. Filed Aug. 29, 1967.

## CAMARO

For Candy (Int. Cl. 30).  
First use July 3, 1967.

SN 279,317. National Biscuit Company, New York, N.Y. Filed Aug. 29, 1967.

## ODYSSEY

For Candy (Int. Cl. 30).  
First use July 3, 1967.

SN 279,354. Aquarium Foods Ltd., New York, N.Y. Filed Aug. 30, 1967.



For Fish Food (Int. Cl. 31).  
First use April 1962.

SN 279,876. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Sept. 7, 1967.



For Chewing Gum and Chewing Gum Sold in Connection With Hobby Cards (Int. Cl. 30).  
First use June 8, 1967.



SN 279,940. Gerber Products Company, Fremont, Mich. Filed Sept. 8, 1967.

**SO BIGS**

For Sugar Coated Cereal (Int. Cl. 30).  
First use July 27, 1967.

SN 280,721. National Biscuit Company, New York, N.Y.  
Filed Sept. 19, 1967.



For Biscuits (Int. Cl. 30).  
First use May 29, 1967.

SN 281,296. L. and S. Packing Co., Inc., Flushing, N.Y.  
Filed Sept. 27, 1967.

**TABLE JOY**

Owner of Reg. No. 429,847.  
For Olive Oil, Bottled Peppers, Bottled Pimientos, Olives, Maraschino Cherries, Bottled Bell Peppers, Imported Holland Onions, Artichoke Hearts in Olive Oil, Italian Peperoncini, Midget Gerkins, Greek Peperoncini, Capers, and Marinated Artichoke Hearts (Int. Cls. 29 and 30).  
First use Apr. 15, 1946.

SN 282,175. Cape Fear Feed Products, Inc., Fayetteville, N.C. Filed Oct. 10, 1967.

**EVANIZED**

Owner of Reg. Nos. 796,510 and 796,512.  
For Poultry By-Product Meals Including Meat, Bone and Feather Meals, Used as an Additive in Animal (Including Dog and Cat) and Poultry Feeds (Int. Cl. 31).  
First use Sept. 18, 1967.

SN 283,225. Edwin W. A. Cheng, d.b.a. Exotic Foods Company, San Francisco, Calif. Filed Oct. 24, 1967.

**ISLAND MAID**

For Coconut Syrup (Int. Cl. 30).  
First use May 25, 1967.

SN 283,315. Armitage Brothers Limited, Nottingham, England. Filed Oct. 25, 1967.

**GOOD BOY**

Owner of British Reg. No. 896,850, dated July 6, 1966.  
For Foodstuffs for Dogs (Int. Cl. 31).

SN 283,439. Foremost-McKesson, Inc., San Francisco, Calif. Filed Oct. 26, 1967.

**CHESWICK**

For Cheese Spread (Int. Cl. 29).  
First use Oct. 1, 1937.

SN 283,714. Russell Stover Candies, Inc., Kansas City, Mo. Filed Oct. 30, 1967.

**ADELAIDES**

For Candy (Int. Cl. 30).  
First use during January 1966.

SN 283,782. Duffy-Mott Company, Inc., New York, N.Y. Filed Oct. 31, 1967.



Owner of Reg. Nos. 689,227 and 689,228.  
For Tomato Juice Cocktail (Int. Cl. 32).  
First use Oct. 23, 1966.

SN 283,920. National Dairy Products Corporation, Chicago, Ill. Filed Nov. 1, 1967.

**KAY**

Owner of Reg. Nos. 241,112, 657,541, and 744,134.  
For Cheese (Int. Cl. 29).  
First use at least as early as 1943.

SN 283,943. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Nov. 1, 1967.

**JACKPOT**

For Chewing Gum—Namely, Bubble Gum (Int. Cl. 30).  
First use Sept. 15, 1967.

SN 284,202. The J. L. Hudson Company, Detroit, Mich. Filed Nov. 6, 1967.

**COPY CAT**

For Candy Confection of Popcorn and Nuts (Int. Cl. 30).  
First use Oct. 1, 1966.

SN 284,229. North Star Dairy, St. Paul, Minn. Filed Nov. 6, 1967.

**STAR GOLD**

For Dehydrated Cheddar Cheese (Int. Cl. 29).  
First use on or about June 15, 1967.

SN 284,306. H. P. Hood & Sons, Inc., d.b.a. H. P. Hood & Sons, Boston, Mass. Filed Nov. 7, 1967.



Owner of Reg. Nos. 645,833, 672,595, and others.  
For Non-Dairy Coffee Whitener and for a Margarine Containing Peanut and Coconut Oils (Int. Cl. 29).  
First use 1957.

SN 284,509. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Nov. 9, 1967.

**STAR-DRI**

For Corn Syrup Solids for Food Purposes (Int. Cl. 30).  
First use Oct. 25, 1967.

SN 284,651. Golden Kernel, Inc., Easton, Pa. Filed Nov. 13, 1967.



Owner of Reg. No. 823,517.  
For Potato Chips, Corn Chips, Cheese Puffs, Pork Rinds, and Popcorn (Int. Cls. 29 and 30).  
First use Nov. 8, 1966.

SN 284,653. The Graham Co., Inc., New York, N.Y. Filed Nov. 13, 1967.

**BROADWAY**

Owner of Reg. No. 367,405.  
For Nuts in Shell (Int. Cl. 29).  
First use Sept. 1, 1935.

SN 285,377. Tak-A-Taco, Inc., Longview, Tex. Filed Nov. 22, 1967.



For Taco Hot Sauce, Taco Paste, and Taco Meatless Filling Containing Soy Sauce, Flour, Spices, etc. (Int. Cl. 30).  
First use Oct. 26, 1967.

SN 285,700. King Kullen Grocery Co., Inc., Westbury, N.Y. Filed Nov. 28, 1967.



Owner of Reg. Nos. 195,504, 836,488, and others.  
For Canned Potatoes, Frozen French Fried Potatoes, Frozen Waffles, and Canned Citrus Fruit Juices (Int. Cls. 29, 30, and 32).  
First use not later than Jan. 31, 1967, on frozen French fried potatoes.

TM 850 O.G.—9

**WATER MAID**

Owner of Reg. Nos. 418,089, 762,421, and 790,084.  
For Rice Oil (Int. Cl. 29).  
First use Oct. 30, 1967.

SN 286,039. Sau-Sea Foods, Inc., Yonkers, N.Y. Filed Dec. 1, 1967.

**SAU-SEA**

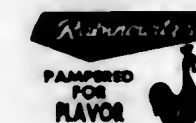
Owner of Reg. No. 591,752.  
For Shrimp, Crab Meat and Clam Cocktails, Cocktail Sauce, and Cooked Shrimp (Int. Cls. 29 and 30).  
First use Mar. 1, 1948.

SN 289,747. Exeter Fruit Association, Exeter, Calif. Filed Jan. 29, 1968.



Owner of Reg. No. 244,375.  
For Fresh Deciduous Fruits and Fresh Grapes (Int. Cl. 31).  
First use Oct. 13, 1927.

SN 290,695. Paramount Poultry, Inc., Harbeson, Del. Filed Feb. 9, 1968.



No claim is made to the words "Pampered for Flavor" apart from the mark as shown.  
For Freshly Killed and Dressed Chickens (Int. Cl. 29).  
First use Feb. 10, 1961.

SN 291,940. General Mills, Inc., Minneapolis, Minn. Filed Feb. 27, 1968.

**ON-THE-GO**

For Animal and Vegetable Protein Based Ready-To-Eat Food (Int. Cl. 30).  
First use on or prior to July 24, 1967.

SN 291,942. General Mills, Inc., Minneapolis, Minn. Filed Feb. 27, 1968.

**MR. CRISPS**

Owner of Reg. No. 842,964.  
For Cereal Derived Ready-To-Eat Snack (Int. Cl. 30).  
First use on or prior to Feb. 20, 1968.

SN 291,943. General Mills, Inc., Minneapolis, Minn. Filed Feb. 27, 1968.

**TIDE-ME-OVER**

For Animal and Vegetable Protein Based Ready-To-Eat Food (Int. Cl. 30).  
First use on or prior to July 24, 1967.



SN 291,944. General Mills, Inc., Minneapolis, Minn. Filed Feb. 27, 1968.

## DYNAMO

Owner of Reg. No. 359,548.  
For Animal and Vegetable Protein Based Ready-To-Eat Food and Ready-To-Eat Breakfast Cereal (Int. Cl. 30).  
First use on or prior to July 24, 1967.

SN 292,158. Kellogg Company, Battle Creek, Mich. Filed Feb. 29, 1968.

## COUNTRY FIXIN'S

For Seasoned Coating Product for Meat, Fish, and Fowl (Int. Cl. 30).  
First use Feb. 22, 1968.

SN 292,160. Sanna, Inc., Madison, Wis. Filed Feb. 29, 1968.  
Owner of Reg. Nos. 605,921 and 718,621.

## SWISS LAD

For Instant Cocoa Mix (Int. Cl. 30).  
First use Oct. 13, 1967.

SN 292,691. Frieda A. Harris, d.b.a. The Ketchard Kitchens, Southampton, N.Y. Filed Mar. 7, 1968.

## KETCHARD

For Food Condiment in the Nature of a Piquante Sauce Containing Tomatoes, Mustard, and Other Seasoning (Int. Cl. 30).  
First use Apr. 20, 1960.

## Class 47—Wines

SN 266,583. Prędsiebięstwo Handlu Zagranicznego "Agros," Warsaw, Poland. Filed Mar. 13, 1967.



The word "Staropolski" means "old Polish." Applicant disclaims the words "Staropolski" and "Delicious Polish Honey Drink" apart from the mark as shown. Owner of Polish Reg. No. 45,510, dated Dec. 15, 1965.  
For Mead (Honey Wine) (Int. Cl. 33).

SN 266,584. Prędsiebięstwo Handlu Zagranicznego "Agros," Warsaw, Poland. Filed Mar. 13, 1967.



Owner of Polish Reg. No. 45,507, dated Dec. 15, 1965.  
For Mead (Honey Wine) (Int. Cl. 33).

SN 266,585. Prędsiebięstwo Handlu Zagranicznego "Agros," Warsaw, Poland. Filed Mar. 13, 1967.



Owner of Polish Reg. No. 45,511, dated Dec. 15, 1965.  
For Mead (Honey Wine) (Int. Cl. 33).

SN 266,586. Prędsiebięstwo Handlu Zagranicznego "Agros," Warsaw, Poland. Filed Mar. 13, 1967.



The word "Staropolski" means "old Polish." Applicant disclaims the word "Staropolski" apart from the mark as shown. Owner of Polish Reg. No. 45,509, dated Dec. 15, 1965.  
For Mead (Honey Wine) (Int. Cl. 33).

SN 275,744. Chandon Champagne Corporation, New York, N.Y. Filed July 11, 1967.

## MOËT

Owner of Reg. Nos. 204,410, 660,631, and others.  
For Champagne Wines (Int. Cl. 33).  
First use at least as early as 1805.

SN 278,429. Società per Azioni Chianti Rufino Esportazione Vinicola Toscana, Brescia, Italy. Filed Aug. 16, 1967.



The applicant disclaims the straw covered bottle, separate and apart from its composite mark as shown on the accompanying drawing, reserving all common law rights which it may have in the disclaimed matter. Owner of U.S. Reg. Nos. 537,668, 729,287, and others.  
For Wines (Int. Cl. 33).  
First use at least as early as September 1958; in commerce at least as early as September 1958.

SN 289,943. E. & J. Gallo Winery, d.b.a. Gallo Vineyards, Modesto, Calif. Filed Jan. 31, 1968.

## GALLO

*Livingston Cream*

No claim is made to the word "Cream" apart from the mark as shown. Owner of Reg. Nos. 444,756, 640,139, and 640,782.  
For Wines (Int. Cl. 33).  
First use Jan. 18, 1967; 1969 as to "Gallo."

## Class 49—Distilled Alcoholic Liquors

SN 276,776. Utley Porcelains, Ltd., Trenton, N.J. Filed July 25, 1967.



SN 277,268. Cusenier (Société Anonyme de la Grande Distillerie E. Cusenier Fils Aîné et Compagnie), Paris, France. Filed Aug. 1, 1967.

## MAZARINE

For Liqueurs (Int. Cl. 33).  
First use June 1887; in commerce February 1938.

For Ceramic Figurines (Int. Cl. 21).  
First use Feb. 17, 1967.

SN 288,228. Palomino & Vergara, Jerez de la Frontera (Cádiz), Spain. Filed Jan. 5, 1968.

## FABULOSO

"Fabuloso" may be translated as "fabulous." Owner of Spanish Reg. No. 134,464, dated Jan. 21, 1944.  
For Brandy (Int. Cl. 33).

SN 277,311. Streton Industries, Incorporated, Millbrae, Calif. Filed Aug. 1, 1967.

## DRUMCEL

For Inflatable Liner, Used in Containers, Drums, Tanks, and the Like, To Prevent Contamination and Leakage of the Product Contained Therein (Int. Cl. 20).  
First use June 21, 1965.

## Class 50—Merchandise Not Otherwise Classified

SN 251,724. H. W. Hart Mfg. Co., Glendale, Calif. Filed Aug. 4, 1966.



For Poultry-Feeding Equipment and Poultry-Watering Equipment—Namely, Self-Cleaning Automatic Watering Systems (Int. Cl. 11).  
First use 1925.

SN 260,756. George E. Belcher Company, Stoughton, Mass. Filed Sept. 20, 1967.

## KWIK-PAK

For Shoe Trees (Int. Cl. 21).  
First use Sept. 6, 1967.

SN 283,960. Gilbert Lincoln, Hartford, Conn. Filed Nov. 2, 1967.

## DISKIT

For Container Covers of the Type Insertable Into the Container To Protect the Contents Thereof (Int. Cl. 20).  
First use Oct. 25, 1967.

SN 286,774. Pyramid Mills Co. Inc., Bessemer City, N.C. Filed Dec. 12, 1967.

## SATIN-SHEEN

Owner of Reg. No. 787,999.  
For Christmas Ornaments (Int. Cl. 28).  
First use March 1962.

SN 262,755. Ball Brothers Company Incorporated, Muncie, Ind. Filed Jan. 18, 1967.

## BALL

Owner of Reg. No. 221,780.  
For Metal Closures for Containers (Int. Cl. 6).  
First use at least as early as Mar. 2, 1939.

SN 267,138. Fairchild Camera and Instrument Corporation, Syosset, N.Y. Filed Mar. 20, 1967.

## ACTIN-A-PLATE

For Printing Plates (Int. Cl. 7).  
First use June 6, 1966.

SN 271,707. Joseph Dalton Huddleston, d.b.a. The Dec-A-Craft Company, Charlotte, N.C. Filed May 17, 1967.

## DEC-A-CRAFT

For Hobby-Handicraft Kits and Supplies for Making Decoupage Pictures (Int. Cl. 28).  
First use Mar. 8, 1967.

SN 272,520. Sioux Steel Company, Sioux Falls, S. Dak. Filed May 26, 1967.

## DURA-LIFE

For Hog Feeders (Int. Cl. 21).  
First use Aug. 18, 1966.

## Class 51—Cosmetics and Toilet Preparations

SN 264,859. Stiefel Laboratories, Inc., Oak Hill, N.Y. Filed Feb. 16, 1967.

## MAIZETTE

For Pressed Powder Used as Make-Up Base (Int. Cl. 3).  
First use Dec. 22, 1966.

SN 265,721. La Maur, Inc., Minneapolis, Minn. Filed Mar. 1, 1967.

## SOMETHING BRIGHT

For Hair Lusteriser (Int. Cl. 3).  
First use Dec. 14, 1966.

SN 269,446. Pethrine Products, Inc., West Hempstead, N.Y. Filed Apr. 18, 1967.

## ROPE

For After-Shave Lotion and Cologne (Int. Cl. 3).  
First use Mar. 31, 1967.



SN 271,054. L'Oreal, Paris, France. Filed May 9, 1967.

**GUARDESSE**

Owner of French Reg. No. 507,237, dated Aug. 9, 1962 (Seine); Natl. Inst. No. 192,728.  
For Roll-On Personal Deodorant (Int. Cl. 3).

SN 271,216. Ame Products, Inc., New Haven, Conn. Filed May 11, 1967.

**NATUROL**

For Hair Lotions, After-Shave Lotion, and Bay Rum (Int. Cl. 3).  
First use about 1928 on hair lotions.

SN 272,606. Bishop Industries Inc., Union, N.J., by change of name from Hazel Bishop Inc., Union, N.J. Filed May 29, 1967.

**SEVENTH GEISHA**

For Bath Oil (Int. Cl. 3).  
First use Apr. 30, 1967.

SN 273,421. S. Sampino &amp; Waverly Beauty Products Inc., d.b.a. Waverly Beauty Products, Brooklyn, N.Y. Filed June 8, 1967.

**MOD SET**

For Hair Conditioning Cream and Lotions, Hair Dressing Cream and Lotions, Hand Cream and Lotion, Permanent Wave Lotions, and Hair Spray, Hair Set and Conditioners and Cold Wave Lotions (Int. Cl. 3).  
First use May 1, 1967.

SN 273,442. The Borden Company, New York, N.Y. Filed June 9, 1967.

**BARE BEAUTY**

For Make-Up Cream (Int. Cl. 3).  
First use Apr. 14, 1966.

SN 273,646. William S. Jones, d.b.a. Wesjay Laboratories, Alexandria, Va. Filed June 12, 1967.

**TORKAY**

For Skin Moisturizing Lotion (Int. Cl. 3).  
First use on or about Oct. 4, 1966.

SN 274,934. Avon Products, Inc., New York, N.Y. Filed June 28, 1967.

**SPECIAL EFFECTS**

For Men's Toiletries—Namely, After Shave Lotion, After Shave Spray, Cologne, Talc, Personal Deodorant, and Cream Hair Dress (Int. Cls. 3 and 5).  
First use June 8, 1967.

SN 275,302. The Realistic Company, d.b.a. Shari Kay Products Company, Cincinnati, Ohio. Filed July 3, 1967.

**TOP FORM**

For Hair Waving and Setting Lotions (Int. Cl. 3).  
First use on or about June 29, 1966.

SN 275,334. Weeks &amp; Leo Co., Inc., Des Moines, Iowa. Filed July 3, 1967.

**CHAMBERLAIN**

Owner of Reg. No. 261,414.  
For Hand Lotion (Int. Cl. 3).  
First use Mar. 22, 1954; June 1925 in a different form.

SN 275,617. Block Drug Company, Inc., Jersey City, N.J. Filed July 10, 1967.

**UNFAIR ADVANTAGE**

For Toiletries—Namely, Shaving Cream, After-Shave Lotion, and Sun Tan Lotion (Int. Cl. 3).  
First use on or about June 26, 1967.

SN 275,859. The Mennen Company, Morristown, N.J. Filed July 12, 1967.

**ELEMENTS**

For After Shave Lotion (Int. Cl. 3).  
First use June 8, 1967.

SN 276,000. Bristol-Myers Company, New York, N.Y. Filed July 14, 1967.

**BRASH**

For Men's Cologne (Int. Cl. 3).  
First use May 25, 1967.

SN 276,036. The Realistic Company, Cincinnati, Ohio. Filed July 14, 1967.

**KER ESSENCE**

Applicant disclaims exclusive right to the term "Essence" apart from the mark as shown.  
For Hair Wave Setting Lotions (Int. Cl. 3).  
First use on or about Aug. 25, 1966.

SN 277,793. Avon Products, Inc., New York, N.Y. Filed Aug. 8, 1967.

**WISH UPON A STAR**

For Talcum Powder, Hand Cream, Cream Sachet, Dusting Powder, Cologne, Lip Pomade, and Bubble Bath (Int. Cl. 3).  
First use July 24, 1967.

SN 282,165. American Cyanamid Company, Wayne, N.J. Filed Oct. 10, 1967.

**PRE-OP**

Owner of Reg. No. 791,554.  
For Shave Foam (Int. Cl. 3).  
First use Oct. 2, 1967.

SN 283,226. Clairol Incorporated, New York, N.Y. Filed Oct. 24, 1967.

**EVERY MAN IS NUMERO UNO**

The English translation of the words "Numero Uno" is "number one."  
For Men's Cologne, Moisturizing Lotion, and Body Talc (Int. Cl. 3).  
First use Oct. 6, 1967.

SN 283,287. Swirl, Inc., Rocky Mount, N.C. Filed Oct. 24, 1967.



The drawing is lined for blue and green, however, no claim is made to the colors per se. The words "Mouth Cleaner" are disclaimed apart from the mark as a whole.  
For Non-Antiseptic Mouth Cleansing Preparation (Int. Cl. 3).  
First use Aug. 18, 1967; May 17, 1967 as to "Swirl."

SN 283,533. Manufacturers Marketing Co., U.S.A., Inc., New York, N.Y. Filed Oct. 27, 1967.

**ITALIAN MARBLE**

For Bath Oil and Talcum Powder (Int. Cl. 3).  
First use Dec. 15, 1966.

SN 286,567. Aloe Creme Laboratories, Inc., d.b.a. Alo-Cosmetics, Fort Lauderdale, Fla. Filed Dec. 6, 1967.

**TRUST THE FRENCH TO HAVE FINALLY BOTTLED LOVE ITSELF . . .**

For Perfume (Int. Cl. 3).  
First use July 28, 1967.

SN 289,442. Shiseido Company Ltd., Tokyo, Japan. Filed Jan. 24, 1968.

**SEER OF ZEN**

For Body Lotion (Int. Cl. 3).  
First use Sept. 25, 1967; in commerce Oct. 31, 1967.

SN 291,936. Gem, Incorporated, Byhalla, Miss. Filed Feb. 27, 1968.

**Quick Tips**

For Manicure Finishing Spray (Int. Cl. 3).  
First use Feb. 19, 1968.

**Class 52 — Detergents and Soaps**

SN 262,224. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 9, 1967.

**ALL-MET**

For Descaler (Int. Cl. 1).  
First use Oct. 25, 1963.

SN 266,388. S. C. Johnson &amp; Son, Inc., Racine, Wis. Filed Mar. 10, 1967.

**GLORY**

For Household Rug Cleaners in Pressurized Packages (Int. Cl. 3).  
First use on or about Feb. 2, 1967.

SN 273,027. Blue Ribbon Products Co., Inc., San Francisco, Calif. Filed June 5, 1967.

**BLU-BEADS**

For General Purpose Cleanser With Coloring Added, having Incidental Water-Softening Properties (Int. Cl. 3).  
First use Jan. 10, 1960.

SN 273,138. Van Buren Laboratories, Inc., Brooklyn, N.Y. Filed June 5, 1967.



For Liquid Cleaner for Household and Industrial Use (Int. Cl. 3).  
First use Dec. 1, 1966.

SN 275,427. Avon Products, Inc., New York, N.Y. Filed July 6, 1967.

**SPECIAL EFFECTS**

For Toilet Soap and Hair Shampoo (Int. Cl. 3).  
First use June 8, 1967.

SN 275,494. Klen Way, Inc., Columbia, S.C. Filed July 6, 1967.



For General Purpose Cleaners (Int. Cl. 3).  
First use Nov. 23, 1966.

SN 275,661. Helene Curtis Industries, Inc., Chicago, Ill. Filed July 10, 1967.

**SPARKLE 'N GLOW**

For Hair Shampoo (Int. Cl. 3).  
First use on or about June 9, 1967.

SN 280,329. Ranco Industrial Products Corporation, Cleveland, Ohio. Filed Sept. 14, 1967.

**SKOOT**

For Dry Powdered Sewer Cleaning Compound (Int. Cl. 1).  
First use on or about Mar. 30, 1967.  
Subj. to Intf. with SN 283,679.

SN 280,568. Continental Oil Company, Ponca City, Okla. Filed Sept. 18, 1967.

**CONOCO**

Owner of Reg. Nos. 270,389, 804,481, and others.  
For Automotive Chemical Specialties—Namely, Cooling System Cleaner and Radiator Quick Flush (Int. Cl. 3).  
First use Aug. 15, 1959.



SN 283,234. Dusharme Products, Inc., Minneapolis, Minn. Filed Oct. 24, 1967.

## SHAMPOO-DE-DOO

For Hair Preparations—Namely, Shampoo (Int. Cl. 3).  
First use Aug. 21, 1967.

SN 283,235. Dusharme Products, Inc., Minneapolis, Minn. Filed Oct. 24, 1967.

## BABY SOFT

For Hair Preparations—Namely, Shampoo (Int. Cl. 3).  
First use Aug. 21, 1967.

SN 283,624. Clairol Incorporated, New York, N.Y. Filed Oct. 30, 1967.

## HI-LIGHTNING

Owner of Reg. No. 837,643.  
For Color Brightening Shampoo (Int. Cl. 3).  
First use at least as early as Sept. 27, 1967.

SN 283,638. Crescent Chemical Company, Lynwood, Calif. Filed Oct. 30, 1967.

## KED

For General Purpose Acid Detergent (Int. Cl. 1).  
First use Jan. 15, 1967.

## SERVICE MARKS

### Class 100—Miscellaneous

SN 270,085. Rossmoor Corporation, Laguna Hills, Calif. Filed Apr. 26, 1967.



Owner of Reg. No. 810,551.  
For Planned Adult Community Development and Operation, including the Provision of Housing, Social, Medical, Recreational, Educational, and Religious Facilities (Int. Cl. 42).  
First use Mar. 24, 1967.

SN 270,473. Burger Barn Corporation, Kings Mountain, N.C. Filed May 2, 1967.



The words "Burger" and "Delicious Meal in a Bun" are disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use June 10, 1965.

SN 270,474. Burger Barn Corporation, Kings Mountain, N.C. Filed May 2, 1967.

## THE BULLY BURGER

The word "Burger" is disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use June 10, 1965.

SN 283,679. Madison Chemical Corporation, Maywood, Ill. Filed Oct. 30, 1967.

## SCOOP!

For All Purpose Hard Surface Detergent Cleaner (Int. Cl. 3).  
First use Mar. 23, 1963.  
Subj. to Intf. with SN 280,329.

SN 286,826. Jancya Manufacturing Corp., East Northport, N.Y. Filed Dec. 13, 1967.

## FLOWZ

For Cesspool and Septic Tank Cleaners (Int. Cl. 1).  
First use Dec. 4, 1967.

SN 288,054. Fields Point Manufacturing Corporation, Providence, R.I. Filed Jan. 4, 1968.



For Chemical Preparation for Cleaning and Protecting Metal Surfaces (Int. Cl. 1).  
First use Nov. 20, 1967.

SN 270,475. Burger Barn Corporation, Kings Mountain, N.C. Filed May 2, 1967.

## BURGER BARN

The word "Burger" is disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use June 10, 1965.

SN 270,476. Burger Barn Corporation, Kings Mountain, N.C. Filed May 2, 1967.



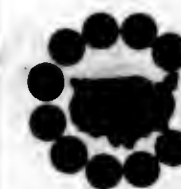
The word "Burger" is disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use June 10, 1965.

SN 270,477. Burger Barn Corporation, Kings Mountain, N.C. Filed May 2, 1967.



All wording except "Granny B's" is disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use June 10, 1965.

SN 271,178. Reservations/USA, Inc., Jackson, Miss. Filed May 10, 1967.



For Motel and Hotel Reservation Service (Int. Cl. 42).  
First use Apr. 24, 1967.

SN 271,930. The Evangelistic Campaign for Christ, Inc., Philadelphia, Pa. Filed May 10, 1967.



The words "Christians United Reaching Everyone" are disclaimed apart from the mark as shown.  
For Christian Evangelistic and Missionary Services (Int. Cl. 42).  
First use Nov. 1, 1965.

SN 280,674. Family Service Association of America, New York, N.Y. Filed Sept. 19, 1967.

## PROJECT ENABLE

For Educational Services Aiding Underprivileged Families To Avail Themselves of Community Services and Assistance (Int. Cl. 42).  
First use on or about May 6, 1965.

SN 281,484. Camden Norris, Columbus, Miss. Filed Sept. 29, 1967.

## CHIC'N TAKE

The term "Chic'n" is disclaimed apart from the mark as shown.  
For Drive-In and Take-Out Restaurant Services (Int. Cl. 42).  
First use November 1965.

SN 281,793. P. Steele Howard, d.b.a. The Granary, Fredericktown, Md. Filed Oct. 4, 1967.

## THE GRANARY

Oct. 4, 1967.  
For Restaurant Services (Int. Cl. 42).  
First use Feb. 15, 1953.

SN 281,914. National Tuberculosis Association, New York, N.Y. Filed Oct. 5, 1967.

## IT'S A MATTER OF LIFE AND BREATH

For Disseminating Information Concerning the Causes, Treatment and Prevention of Tuberculosis, Emphysema and Other Respiratory Diseases and Related Health Problems, and the Causes, Effects and Mitigation of Air Pollution, Encouraging the Prevention and Scientific Treatment Thereof, Fostering Scientific Research Into the Causes Thereof, Cooperating With Medical Societies and With Other Organizations Interested in Such Medical and Related Health Problems, Promoting International Study and Control of Respiratory and Other Diseases (Int. Cl. 42).  
First use November 1963.

## AGRIMETRICS

For Counseling Services for Farmers Whereby They Are Advised About Quantities and Types of Feed, Fertilizer, Chemicals, and Seed Needed To Gain Maximum Return From Their Farming Operations (Int. Cl. 42).  
First use October 1966.

SN 285,293. Goodwill Industries of America, Inc., Washington, D.C., assignee of Morgan Memorial, Inc., Boston, Mass. Filed Nov. 21, 1967.



For Eleemosynary Services—Namely, Training and Rehabilitating Handicapped People, Including Instruction in the Reconditioning of Furniture and Appliances (Int. Cl. 42).  
First use on or before Jan. 20, 1967.

SN 287,497. Trattoria, Inc., New York, N.Y. Filed Dec. 26, 1967.



The lining on the drawing is not for color, but such lining forms a part of the mark.  
For Restaurant Services (Int. Cl. 42).  
First use Nov. 1, 1964.

SN 287,498. Trattoria, Inc., New York, N.Y. Filed Dec. 26, 1967.



The lining on the drawing is not for color, but such lining forms a part of the mark. The words "Charlie Brown's" do not identify a particular living individual.  
For Restaurant Services (Int. Cl. 42).  
First use Nov. 1, 1964.

SN 287,705. Restaurant & Waldorf Associates, Inc., New York, N.Y. Filed Dec. 28, 1967.



Ale & Steak House

The drawing is lined for the colors red and blue. Applicant disclaims the exclusive right to the words "Ale & Steak House" apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use Apr. 25, 1967.



SN 291,239. United States Steel Corporation, Pittsburgh, Pa. Filed Feb. 16, 1968.

SN 270,072. Henrie L. Miller, d.b.a. Agri-Data Processing Service, Danville, Ill. Filed Apr. 26, 1967.



Owner of Reg. No. 358,443.

For Services to Farms and Farmers, Specifically, Assistance in Soil Analysis and Tissue Testing, Individualized Fertilizer Recommendations, Custom Blending of Fertilizers, Renting of Fertilizer Application Equipment, and On-Farm Fertilizer Application (Int. Cl. 42).  
First use March 1964.

SN 291,248. Chef's Orchid Airline Caterers, Inc., Jamaica, N.Y. Filed Feb. 16, 1968.



For Food Catering Services (Int. Cl. 42).  
First use during November 1966.

SN 292,240. Norman J. Kasser, Jenkintown, Pa. Filed Mar. 1, 1968.

## STEAK OUT

The word "Steak" is disclaimed apart from the mark as shown.  
For Restaurant Services (Int. Cl. 42).  
First use Feb. 8, 1966.

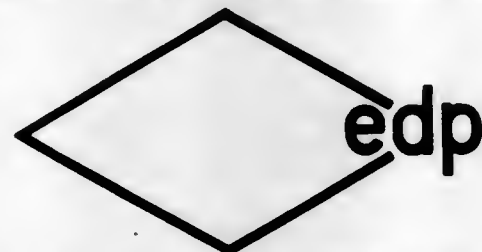
## Class 101—Advertising and Business

SN 210,966. S. S. Kresge Company, Detroit, Mich. Filed Jan. 29, 1965.

K  
MART  
PLAZA

Owner of Reg. Nos. 743,912 and 774,794.  
For Shopping Center Services Such as the Rental of Store Departments and the Operation and Maintenance of Facilities Adjacent Thereto (Int. Cl. 35).  
First use on or before Feb. 28, 1962.

SN 252,834. Source EDP, Inc., Chicago, Ill., assignee of EDP Personnel, Inc., Chicago, Ill. Filed Aug. 22, 1966.



For Providing Career Guidance and Placement Services for Data Processing Personnel (Int. Cl. 35).  
First use July 1, 1964.  
Subj. to Intf. with SN 278,095.

AGRI-DATA

The words "Processing Service" are disclaimed apart from the mark as shown.  
For Data Processing Service (Int. Cl. 35).  
First use September 1966.

SN 271,553. Universal Computer Systems, Inc., New York, N.Y. Filed May 15, 1967.

## UCOM

For Providing Computerized Payroll, Accounting and Other Management Information Services (Int. Cl. 35).  
First use Mar. 27, 1967.

SN 272,178. Executive Secretaries, Inc., Bridgeport, Conn. Filed May 23, 1967.

## MANDATA

For Providing Summaries of the Qualifications of Executives and Professionals Who Are Available for Employment (Int. Cl. 35).  
First use Mar. 12, 1967.

SN 275,391. Patent Reproduction Company, Washington, D.C. Filed July 5, 1967.



For Preparing Photo-Lithographic Reproductions of Patent and Trademark Drawings of Others (Int. Cl. 35).  
First use December 1937.

SN 275,995. American District Telegraph Company, New York, N.Y. Filed July 14, 1967.



The drawing is lined for red and gold. Applicant disclaims the words "Protected by" and "Burglar Alarm" apart from the mark as shown. Owner of Reg. Nos. 700,676, 826,555, and others.  
For Intruder and Burglar Alarm Service (Int. Cl. 35).  
First use on or about June 9, 1967.

SN 278,095. EDP Personnel Employment Agency, Inc., d.b.a. EDP Personnel, Philadelphia, Pa. Filed Aug. 11, 1967.

EDP

For Employment Agency Services (Int. Cl. 35).  
First use on or about Jan. 15, 1964.  
Subj. to Intf. with SN 252,834.

SN 281,173. Camalier & Buckley, Inc., Washington, D.C. Filed Sept. 26, 1967.

SN 275,428. Bank of America National Trust and Savings Association, San Francisco, Calif. Filed July 6, 1967.

## CUSTOM CREDIT

Camalier & Buckley

For Retailing Leather Goods and Gift Ware (Int. Cl. 35).  
First use Apr. 1, 1930.

SN 281,174. Camalier & Buckley, Inc., Washington, D.C. Filed Sept. 26, 1967.



For Retailing Leather Goods and Gift Ware (Int. Cl. 35).  
First use Apr. 1, 1930.

SN 290,230. Turistcheque, Inc., Miami, Fla. Filed Feb. 5, 1968.



For Promoting the Sale of Goods of Merchants by Issuance of Booklets Containing Coupons for Gifts and Discounts To Be Honored by the Said Merchants (Int. Cl. 35).  
First use on or about Oct. 23, 1967.

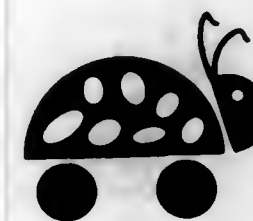
SN 290,231. Turistcheque, Inc., Miami, Fla. Filed Feb. 5, 1968.

## TURISTCHEQUE

For Promoting the Sale of Goods of Merchants by Issuance of Booklets Containing Coupons for Gifts and Discounts To Be Honored by the Said Merchants (Int. Cl. 35).  
First use on or about Oct. 23, 1967.

## Class 102—Insurance and Financial

SN 270,336. Allstate Enterprises, Inc., Skokie, Ill. Filed May 1, 1967.



For Making Loans, Including Automobile Loans (Int. Cl. 36).  
First use Feb. 4, 1966.

For Checking Account Services, Including Replenishing Accounts at Predetermined Levels To Preclude Rejection of Checks for Insufficient Funds (Int. Cl. 36).  
First use May 13, 1967.

SN 276,679. Nationwide Mutual Insurance Company, Columbus, Ohio. Filed July 24, 1967.

## NATIONWIDE

Owner of Reg. Nos. 618,001, 713,962, and 733,565.  
For Underwriting and Sale of All Lines of Insurance, Including Fire, Life, and Casualty (Int. Cl. 36).  
First use Sept. 5, 1955.

SN 278,677. The Ewing Bank and Trust Company, Ewing Township, West Trenton, N.J. Filed Aug. 21, 1967.

Chec-Mate

For Banking Service, in particular, Lending on a Revolving Credit Basis To Cover Overdrafts (Int. Cl. 36).  
First use June 7, 1967.  
Subj. to Intf. with SN 280,878.

SN 278,678. The Ewing Bank and Trust Company, Ewing Township, West Trenton, N.J. Filed Aug. 21, 1967.



For Banking Service, in Particular, Lending on a Revolving Credit Basis To Cover Overdrafts (Int. Cl. 36).  
First use June 7, 1967.  
Subj. to Intf. with SN 280,878.

SN 280,878. National Bank of Detroit, Detroit, Mich. Filed Sept. 21, 1967.

## CHECKMATE

For Credit Granting Service—Namely, Providing a Personal Line of Revolving Credit for Customers Who Meet Credit Standards and Guaranteeing Credit Up to a Specific Amount Upon Presentation of an Identification Card (Int. Cl. 36).  
First use Mar. 12, 1967.  
Subj. to Intf. with SN 278,677 and SN 278,678.

SN 288,742. Financial Programs, Inc., Denver, Colo. Filed Jan. 15, 1968.

## DYNAMICS

For Mutual Fund Investment and Administrative Services (Int. Cl. 36).  
First use in or about August 1967.



**Class 103 — Construction and Repair**

SN 269,435. M & W Iron Works Inc., Deerfield Beach, Fla. Filed Apr. 18, 1967.



For Service of Design and Manufacturing Various Forms of Machinery, Plate and Pipe Products to Consumer Requirements (Int. Cl. 37).  
First use July 26, 1966.

SN 272,111. Sinclair Refining Company, New York, N.Y. Filed May 22, 1967.



Owner of Reg. Nos. 146,362, 712,302, and others.  
For Gas Station Services (Int. Cl. 37).  
First use 1959.

SN 276,192. Truly Nolen, Inc., Miami, Fla. Filed July 17, 1967.

**TRULY NOLEN**

For Pest Control Services (Int. Cl. 37).  
First use Mar. 31, 1948.

SN 280,966. The Pissagalli Construction Company, Inc., South Burlington, Vt. Filed Sept. 22, 1967.



For Construction of Buildings, Bridges, Roads, Sewers, Sewerage Treatment Facilities, Water Works and Power Plants, and the Repair and Renovation Thereof (Int. Cl. 37).  
First use April 1960.

SN 281,081. Hodges Development Co., d.b.a. Hi-Lo Oil Co., Atlanta, Ga. Filed Sept. 25, 1967.

**HI-LO**

For Servicing Automobiles and Other Vehicles With Gas and Oil (Int. Cl. 37).  
First use May 1961.

**Class 105 — Transportation and Storage**

SN 271,372. Kilroy's World Travel Bureaus, Inc., Jersey City, N.J. Filed May 12, 1967.



For Travel Service Arrangements (Int. Cl. 39).  
First use Apr. 10, 1967.

SN 272,234. Cityrama Corp., New York, N.Y. Filed May 10, 1967.

**CITYRAMA**

Owner of Reg. No. 841,385.  
For Conducting Travel Tours (Int. Cl. 39).  
First use Feb. 5, 1964.

**Class 106 — Material Treatment**

SN 270,014. Temperature Processing Co., Inc., North Arlington, N.J. Filed Apr. 25, 1967.

**SNORKEL**

For Heat Treating Metallic Articles (Int. Cl. 40).  
First use July 1966.

SN 271,069. Professional Portrait Service, Inc., Minneapolis, Minn. Filed May 9, 1967.

**NORTH STAR COLOR SERVICE**

Applicant disclaims the phrase "Color Service" apart from the mark as shown, but does not waive any common law rights that it may have in the mark as a whole.  
For Photo Finishing Services (Int. Cl. 40).  
First use Apr. 7, 1967.

SN 274,866. National Sintered Alloys, Inc., Danbury, Conn. Filed June 27, 1967.



For Custom Fabrication of Powdered Metal Parts (Int. Cl. 40).  
First use Feb. 8, 1966.

SN 281,290. Harris Metals, Inc., Racine, Wis. Filed Sept. 27, 1967. SN 275,909. Eugene A. Blumenthal, San Francisco, Calif. Filed July 13, 1967.

**SURFBOARD**

The drawing is lined for green, but color is not a distinguishing characteristic of the mark.  
For Heat Treating Services on Metal Parts (Int. Cl. 40).  
First use Aug. 8, 1967.

**MONTGOMERY STREET REPORTER**

For Informational Radio Program (Int. Cl. 41).  
First use June 25, 1965.

**Class 107 — Education and Entertainment**

SN 273,604. Chicago Mustangs, Inc., Chicago, Ill. Filed June 12, 1967.

**CHICAGO MUSTANGS**

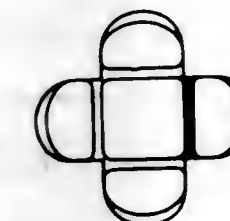
Applicant disclaims the word "Chicago" apart from the mark as shown.  
For Entertainment Services in the Nature of Professional Soccer Football Exhibitions, Some of Which Are Rendered Through the Medium of Radio and Television (Int. Cl. 41).  
First use October 1966.

SN 274,758. Learning Foundations International, Inc., Athens, Ga. Filed June 26, 1967.



Applicant disclaims the phrases "Automated Learning" and "Computer Training Centers," apart from the mark as shown.  
For Providing Automated Tutoring Services and Training Centers (Int. Cl. 41).  
First use Mar. 27, 1967.

SN 276,105. Dimension Productions, Ltd., New York, N.Y. Filed July 17, 1967.



For Production and Preparation of Films and Recordings for Entertainment, Commercial and Industrial Uses (Int. Cl. 41).  
First use Apr. 20, 1967.

SN 286,795. Montie Montana, Jr., Calabasas, Calif. Filed Dec. 13, 1967.

**INTERNATIONAL CONGRESS OF ROUGH RIDERS**

For Entertainment Services—Namely, Production and Presentation of Western Shows, Performances and Entertainment Events for Television, Motion Pictures, Theatre, Phonograph Records, and Other Amusement and Entertainment Media (Int. Cl. 41).  
First use on or before Jan. 6, 1964.

**COLLECTIVE MEMBERSHIP MARKS****Class 200**

SN 256,366. National Industrial Distributors' Association, Philadelphia, Pa. Filed Oct. 13, 1966.



Applicant claims use for the area comprising the States of Arizona, California, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York, North Dakota, South Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, Utah, Vermont, Washington, Wisconsin, Wyoming, that part of Kentucky west of the north-south line through Lexington (including Lexington), and that part of West Virginia north of the Chesapeake & Ohio Railway, which passes through Huntington (excluding Huntington). Applicant disclaims the words "Serving Industry Economically," "The Right Hand of Production," and "Member," apart from the mark as shown.  
For Indicating Membership in Applicant.  
First use May 23, 1966.  
Subj. to Concurrent Use Proceeding with SN 256,379.

SN 256,379. Southern Industrial Distributors' Association, Atlanta, Ga. Filed Oct. 13, 1966.



Applicant claims use for the area comprising the States of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Oklahoma, Tennessee, Texas, Virginia, that portion of Kentucky east of the north-south line through Lexington (excluding Lexington), and that portion of West Virginia south of the Chesapeake & Ohio Railway, which passes through Huntington (including Huntington). Applicant disclaims the words "Serving Industry Economically," "The Right Hand of Production," and "Member," apart from the mark as shown.  
For Indicating Membership in Applicant.  
First use May 23, 1966.  
Subj. to Concurrent Use Proceeding with SN 256,366.



SN 259,755. The Namco Association of Endorsed Businessmen, Wellesley, Mass. Filed Nov. 30, 1966.  
 SN 263,853. Steel Deck Institute, Westchester, Ill. Filed Feb. 2, 1967.



For Indicating Membership in the Applicant Association.  
 First use Dec. 10, 1965; 1954 as to "Namco."



For Indicating Membership in Applicant.  
 First use January 1965.

## CERTIFICATION MARKS

### Class B — Services

SN 283,405. Woodall Publishing Company, Highland Park, Ill. Filed Oct. 26, 1967.



The mark certifies that the services and service facilities offered by trailer parks and trailer campgrounds meet the standards and conditions prescribed by applicant.

For Services and Service Facilities Offered by Trailer Parks and Trailer Campgrounds.  
 First use February 1967.

## TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

### Class 1 — Raw or Partly Prepared Materials

- 849,637. SELL AND REPENT AND DESIGN. E. D. Wilkinson Grain Co. SN 189,826. Pub. 6-1-65. Filed 3-27-64.  
 849,638. CP. Celanese Corporation, by change of name from Celanese Corporation of America. SN 205,661. Pub. 10-17-67. Filed 11-6-64.  
 849,639. BRITESTRIPE. New York Limestone Corporation. SN 256,763. Pub. 3-12-68. Filed 10-19-66.  
 849,640. GORDON SUPERDENSE. Hammond Plastics, Inc. SN 257,486. Pub. 3-12-68. Filed 10-28-66.  
 849,641. PACIFIC. Barsen of Minneapolis, Inc. SN 265,034. Pub. 3-12-68. Filed 2-20-67.  
 849,642. INST-A-SORB. Gus Dettelbach, d.b.a. Georgia-Tennessee Mining & Chemical Co. SN 268,713. Pub. 3-12-68. Filed 4-10-67.  
 849,643. FIBER 410. FMC Corporation. SN 269,174. Pub. 3-12-68. Filed 4-14-67.  
 849,644. FITZ E AND DESIGN. Fitzgerald Enterprises, Inc. SN 269,178. Pub. 3-12-68. Filed 4-14-67.  
 849,645. R AND LINED BACKGROUND DESIGN. The Richardson Company. SN 269,564. Pub. 3-12-68. Filed 4-19-67.  
 849,646. VICTORIA. H. E. & C. D. Williams, Inc. SN 271,088. Pub. 3-12-68. Filed 5-9-67.  
 849,647. OLD GUARD. H. E. & C. D. Williams, Inc. SN 271,089. Pub. 3-12-68. Filed 5-9-67.

### Class 2 — Receptacles

- 849,648. SONITUBES. Kleer-Vu Industries, Inc. SN 221,280. Pub. 1-17-67. Filed 6-16-65.  
 849,649. GRIP/ALL. Jeffrey L. Fried, d.b.a. Walton-March. SN 255,081. Pub. 3-12-68. Filed 9-26-66.  
 849,650. RAVENS. Ravens-Metal Products, Inc. SN 264,964. Pub. 3-12-68. Filed 2-17-67.  
 849,651. C/C AND DESIGN. Clack Corporation. SN 287,480. Pub. 3-12-68. Filed 12-26-67.

### Class 4 — Abrasives and Polishing Materials

- 849,652. BENEFIT. Laco Corp. SN 283,488. Pub. 3-12-68. Filed 10-27-67.

### Class 6 — Chemicals and Chemical Compositions

- 849,653. AQUALANA. Aqualana Corporation of America. SN 205,911. Pub. 1-4-66. Filed 11-10-64.  
 849,654. GERMGARD. Servicemaster Industries Inc., by change of name from Wade, Wenger Servicemaster Co. SN 258,182. Pub. 3-12-68. Filed 11-7-66.  
 849,655. GEOMETRIC DESIGN. Atlantic Richfield Company. SN 265,259. Pub. 3-12-68. Filed 2-23-67.  
 849,656. GEOMETRIC DESIGN. Atlantic Richfield Company. SN 265,260. Pub. 3-12-68. Filed 2-23-67.  
 849,657. HOSTACHEM. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. SN 270,052. Pub. 3-12-68. Filed 4-26-67.  
 849,658. TAB. Regia Chemical Company. SN 272,309. Pub. 3-12-68. Filed 5-24-67.

- 849,659. ECONOCAL. Wyandotte Chemicals Corporation. SN 274,475. Pub. 3-12-68. Filed 6-21-67.  
 849,660. EVERBAN. McLaughlin Gormley King Company. SN 287,401. Pub. 3-12-68. Filed 12-22-67.

### Class 7 — Cordage

- 849,661. HOOK AND LADDER. West Products Corp. SN 267,208. Pub. 3-12-68. Filed 3-20-67.  
 849,662. CSY. Central Soya Company, Inc. SN 267,504. Pub. 3-12-68. Filed 3-24-67.

### Class 8 — Smokers' Articles, Not Including Tobacco Products

- 849,663. GOLDEN RIDGE. Lane Limited. SN 262,489. Pub. 3-12-68. Filed 1-13-67.  
 849,664. SPECIAL FEMME SILVER MATCH AND DESIGN. Societe Franco Hispano Americaine Francisjam. SN 263,784. Pub. 3-12-68. Filed 2-1-67.  
 849,665. DISPOZ-A-LITE. Paul Garrity. SN 279,728. Pub. 3-12-68. Filed 9-6-67.  
 849,666. THE LONDONER. Peterson's Ltd., Inc. SN 283,149. Pub. 3-12-68. Filed 10-23-67.

### Class 9 — Explosives, Firearms, Equipments, and Projectiles

- 849,667. ALCAN. Alcan Company, Incorporated. SN 114,907. Pub. 5-8-62. Filed 3-6-61.

### Class 10 — Fertilizers

- 849,668. MAGIC ENGLISH PELLETS. G & D Sales Co., Inc. SN 266,027. Pub. 3-12-68. Filed 3-6-67.  
 849,669. FOUR-PETAL DESIGN. Garden Products, Inc. SN 267,029. Pub. 3-12-68. Filed 3-17-67.

### Class 12 — Construction Materials

- 849,670. JEWELSTONE. Richard H. Higgins. SN 259,826. Pub. 3-12-68. Filed 12-1-66.  
 849,671. FIESTA. International Paper Company. SN 267,429. Pub. 3-5-68. Filed 3-23-67.

### Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

- 849,672. KEN-RAY. Ken-Ray Brass Products, Inc. SN 260,052. Pub. 3-12-68. Filed 12-5-66.  
 849,673. DUAL-SAFE. Speakman Company. SN 269,467. Pub. 3-12-68. Filed 4-18-67.



849,674. TEMPO. Club Aluminum Products Company. SN 271,598. Pub. 3-12-68. Filed 5-16-67.

### Class 14—Metals and Metal Castings and Forgings

849,675. EY-BAR. The Cleveland Electro Metals Company. SN 238,494. Pub. 3-12-68. Filed 2-10-66.  
849,676. SEBBEX. Stewarts and Lloyds Limited. SN 255,366. Pub. 3-12-68. Filed 9-28-66.

### Class 15—Oils and Greases

849,677. MAJOR. Major Petroleum Company. SN 253,062. Pub. 3-12-68. Filed 9-1-66.  
849,678. MAJOR. Major Petroleum Company. SN 253,663. Pub. 3-12-68. Filed 9-1-66.  
849,679. ARCOIL. Atlantic Richfield Company. SN 254,556. Pub. 3-12-68. Filed 9-21-66.  
849,680. HANGSTERFER'S 110 Q.D. Hangsterfer's Laboratories, Inc. SN 277,278. Pub. 3-12-68. Filed 8-1-67.  
849,681. HANGSTERFER'S 111 Q.D. Hangsterfer's Laboratories, Inc. SN 277,279. Pub. 3-12-68. Filed 8-1-67.  
849,682. HANGSTERFER'S HE-2. Hangsterfer's Laboratories, Inc. SN 277,281. Pub. 3-12-68. Filed 8-1-67.  
849,683. HANGSTERFER'S 112 Q.D. Hangsterfer's Laboratories, Inc. SN 277,282. Pub. 3-12-68. Filed 8-1-67.

### Class 16—Protective and Decorative Coatings

849,684. RUB-R-ROOF. National Paint & Oil Company. SN 244,724. Pub. 3-12-68. Filed 5-2-66.  
849,685. DURA PREME. Mary Carter Paint Co. SN 267,009. Pub. 3-12-68. Filed 3-17-67.

### Class 17—Tobacco Products

849,686. HANZA. John Chapman Limited. SN 271,052. Pub. 3-12-68. Filed 5-9-67.  
849,687. APRIL. R. J. Reynolds Tobacco Company. SN 280,263. Pub. 3-12-68. Filed 9-13-67.  
849,688. AUSTIN. R. J. Reynolds Tobacco Company. SN 280,264. Pub. 3-12-68. Filed 9-13-67.  
849,689. BAXTER. R. J. Reynolds Tobacco Company. SN 280,265. Pub. 3-12-68. Filed 9-13-67.  
849,690. BATON. R. J. Reynolds Tobacco Company. SN 280,266. Pub. 3-12-68. Filed 9-13-67.  
849,691. TING. R. J. Reynolds Tobacco Company. SN 280,267. Pub. 3-12-68. Filed 9-13-67.  
849,692. RING. R. J. Reynolds Tobacco Company. SN 280,268. Pub. 3-12-68. Filed 9-13-67.  
849,693. SOUTHGATE. R. J. Reynolds Tobacco Company. SN 280,269. Pub. 3-12-68. Filed 9-13-67.  
849,694. HAMPSHIRE. R. J. Reynolds Tobacco Company. SN 280,633. Pub. 3-12-68. Filed 9-18-67.  
849,695. FULTON. R. J. Reynolds Tobacco Company. SN 283,035. Pub. 3-12-68. Filed 10-20-67.

### Class 18—Medicines and Pharmaceutical Preparations

849,696. PURPLE RIBBON. Zip Feed Mills. SN 269,950. Pub. 3-12-68. Filed 4-24-67.

### Class 19—Vehicles

849,697. TITAN. Maremont Corporation. SN 253,538. Pub. 3-12-68. Filed 8-31-66.  
849,698. TURBOLINER. The Budd Company. SN 254,231. Pub. 3-12-68. Filed 9-12-66.  
849,699. DIAMOND LOCK AND DESIGN. Power Brake Parts Manufacturing Co. SN 254,799. Pub. 3-12-68. Filed 9-20-66.  
849,700. OMNI-WHEEL AND DESIGN. Atchison Products, Inc. SN 256,640. Pub. 3-12-68. Filed 10-18-66.  
849,701. STARCRAFT. Starcraft Corporation. SN 262,293. Pub. 3-12-68. Filed 1-10-67.  
849,702. SCREW-TORQ. McDowell-Wellman Engineering Company. SN 262,606. Pub. 3-12-68. Filed 1-16-67.  
849,703. KAROUSELL. Redman Industries, Inc. SN 263,846. Pub. 3-12-68. Filed 2-2-67.  
849,704. AVANTI. Avanti Motor Corporation. SN 264,791. Pub. 3-12-68. Filed 2-16-67.  
849,705. PIP. Pacific Interchange Parts, Inc. SN 280,173. Pub. 3-12-68. Filed 9-12-67.  
849,706. THERMO-PANEL. Winnebago Industries, Inc. SN 281,736. Pub. 3-12-68. Filed 10-3-67.

### Class 20—Linoleum and Oiled Cloth

849,707. CORINTHIAN. Congoleum-Nairn Inc. SN 275,238. Pub. 3-12-68. Filed 7-3-67.

### Class 21—Electrical Apparatus, Machines, and Supplies

849,708. ML MODERN-LITE AND DESIGN. Modern Light & Equipment Co. SN 225,490. Pub. 12-13-66. Filed 8-11-65.  
849,709. PB AND DESIGN. Packard-Bell Electronics Corporation. SN 236,632. Pub. 3-12-68. Filed 1-17-66.  
849,710. ELECTRO-LIFT. Perma-Power Company. SN 239,792. Pub. 3-12-68. Filed 2-28-66.  
849,711. LIFE AND DESIGN. Life Instrument Company, Inc. SN 245,368. Pub. 3-12-68. Filed 5-9-66.  
849,712. RELI-A-DYNE. Benjamin F. Brasch, d.b.a. Industrial Systems Company. SN 247,601. Pub. 3-12-68. Filed 6-8-66.  
849,713. C WITHIN A BLOCK. Century Electric Company. SN 248,675. Pub. 3-12-68. Filed 6-22-66.  
849,714. ISC TELEPHONICS AND DESIGN. Instrument Systems Corporation. SN 251,137. Pub. 3-12-68. Filed 7-27-66.  
849,715. CLOVERLEAF (DESIGN). Westinghouse Electric Corporation. SN 251,488. Pub. 3-12-68. Filed 8-1-66.  
849,716. COLORNETRON. Yaou Denki Kabushiki Kaisha. SN 251,490. Pub. 3-12-68. Filed 8-1-66.  
849,717. PORTA-STEREO. Matsushita Electric Industrial Co., Ltd. SN 252,394. Pub. 3-12-68. Filed 8-15-66.  
849,718. LITE-TRAC. U.S. Industries, Inc., assignee of Prescolite Manufacturing Corporation. SN 254,182. Pub. 3-12-68. Filed 9-9-66.  
849,719. FOSTERITE. Westinghouse Electric Corporation. SN 254,897. Pub. 3-12-68. Filed 9-21-66.  
849,720. VIDISSECTOR. International Telephone and Telegraph Corporation. SN 255,004. Pub. 3-12-68. Filed 9-23-66.  
849,721. ELECTRIX. Electrix, Inc. SN 259,720. Pub. 3-12-68. Filed 11-30-66.  
849,722. ELECTROLOGIC. Karl Steiner. SN 266,178. Pub. 3-12-68. Filed 3-7-67.  
849,723. EXTERMINATOR. D. H. Baldwin Company. SN 271,133. Pub. 3-12-68. Filed 5-10-67.

849,724. GDO AND DESIGN. GDO Company, Inc. SN 287,698. Pub. 3-12-68. Filed 12-28-67.

### Class 22—Games, Toys, and Sporting Goods

849,725. MISCELLANEOUS DESIGN. Kilpspringer Investments Proprietary Limited. SN 243,458. Pub. 3-12-68. Filed 4-14-66.  
849,726. HARVU. Harvey W. Hempel, Jr. SN 245,588. Pub. 3-12-68. Filed 5-13-66.  
849,727. TRAIL-RITE. Stafco Corp. SN 251,162. Pub. 3-12-68. Filed 7-27-66.  
849,728. YANKEE TRADER. Robert F. Magness. SN 254,700. Pub. 3-12-68. Filed 9-19-66.  
849,729. MENDY. American Character, Inc. SN 263,516. Pub. 3-12-68. Filed 1-30-67.  
849,730. JAGUAR. Woodstream Corporation. SN 265,002. Pub. 3-12-68. Filed 2-17-67.  
849,731. CHEETAH. Woodstream Corporation. SN 265,004. Pub. 3-12-68. Filed 2-17-67.  
849,732. ROTO CYCLE AND DESIGN. T. J. Thomas Co., Inc. SN 265,933. Pub. 3-12-68. Filed 3-3-67.  
849,733. MONSTER. Eyerly Aircraft Company. SN 268,173. Pub. 3-12-68. Filed 4-3-67.  
849,734. OH NO. Milton Bradley Company. SN 273,175. Pub. 3-12-68. Filed 6-6-67.  
849,735. AUTO ACTION AND DESIGN. Buddy L Corporation. SN 275,912. Pub. 3-12-68. Filed 7-13-67.  
849,736. GOLDCREST. Whitman Publishing Company. SN 287,201. Pub. 3-12-68. Filed 12-18-67.  
849,737. MAN FROM LASER. Mattel, Inc. SN 287,256. Pub. 3-12-68. Filed 12-20-67.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

849,738. MULTICUT. The Wapakoneta Machine Company. SN 193,830. Pub. 3-12-68. Filed 5-19-64.  
849,739. DYNAGUIDER. GPE Controls, Inc. SN 239,406. Pub. 3-12-68. Filed 2-23-66.  
849,740. TANKER. The Pandjiris Weldment Co. SN 246,353. Pub. 3-12-68. Filed 5-23-66.  
849,741. LAYTON. Layton Manufacturing Co. SN 247,514. Pub. 3-12-68. Filed 6-7-66.  
849,742. RESPONSYN. United Shoe Machinery Corporation. SN 247,848. Pub. 3-12-68. Filed 6-10-66.  
849,743. HOOPER-SWIFT. Koppers Company, Inc. SN 250,001. Pub. 3-12-68. Filed 7-11-66.  
849,744. ROTO-SEMBLY. G. B. Lewis Company. SN 250,495. Pub. 3-12-68. Filed 7-18-66.  
849,745. BERG STEWART. The Concrete Surfacing Machinery Company. SN 250,642. Pub. 3-12-68. Filed 7-20-66.  
849,746. TIPPER-MATIC. Rheem Manufacturing Company. SN 252,133. Pub. 3-12-68. Filed 8-10-66.  
849,747. PACE SETTER. Anderson Electric Corporation. SN 252,155. Pub. 3-12-68. Filed 8-11-66.  
849,748. N AND DESIGN. Kabushiki Kaisha Nakajima Selsakusho. SN 252,390. Pub. 3-12-68. Filed 8-15-66.  
849,749. MARKETEER. Union Camp Corporation. SN 252,974. Pub. 3-12-68. Filed 8-23-66.  
849,750. SACHS MOTORS AND DESIGN. Fichtel & Sachs Aktiengesellschaft. SN 253,514. Pub. 3-12-68. Filed 8-31-66.  
849,751. TEMPO-TROLL. Alco Standard Corporation, assignee of Tempo Products Company. SN 253,925. Pub. 3-12-68. Filed 9-6-66.  
849,752. DURA-ROLL. Westinghouse Air Brake Company. SN 254,750. Pub. 3-12-68. Filed 9-19-66.  
849,753. BIRD (DESIGN). Walker Manufacturing Company. SN 254,826. Pub. 3-12-68. Filed 9-20-66.  
849,754. PRIME-LINE. International Telephone and Telegraph Corporation. SN 255,211. Pub. 3-12-68. Filed 9-27-66.  
849,755. TRANSBLOWER. Aktiebolaget C. J. Wennbergs Mekaniska Verkstad. SN 255,506. Pub. 3-12-68. Filed 9-30-66.  
849,756. POWRGLIDER. Clark Equipment Company. SN 256,069. Pub. 3-12-68. Filed 10-10-66.  
849,757. CLARK EQUIPMENT AND DESIGN. Clark Equipment Company. SN 256,198. Pub. 3-12-68. Filed 10-11-66.  
849,758. SELEKTRONIC. Sperry Rand Corporation. SN 256,605. Pub. 3-12-68. Filed 10-17-66.  
849,759. TMW. Textile Machine Works. SN 258,003. Pub. 3-12-68. Filed 11-4-66.  
849,760. VALLEY FORGE. Valley Forge Conveyors Incorporated. SN 258,007. Pub. 3-12-68. Filed 11-4-66.  
849,761. BULLFROG. Flexible Drive & Tool Co. Ltd. SN 259,416. Pub. 3-12-68. Filed 11-25-66.  
849,762. SCHRIBERFLEX. The Schriber Company. SN 259,856. Pub. 3-12-68. Filed 12-1-66.  
849,763. MONSTER. Mosley Machinery Co., Inc. SN 260,566. Pub. 3-12-68. Filed 12-12-66.  
849,764. OT. Oxwall Tool Co., Ltd. SN 264,091. Pub. 3-12-68. Filed 2-6-67.  
849,765. VILLAGE GREEN. Imperial Knife Associated Companies, Inc. SN 264,830. Pub. 1-23-68. Filed 2-16-67.  
849,766. "X." Messinger Bearings, Inc. SN 267,534. Pub. 3-12-68. Filed 3-24-67.  
849,767. DYNA-ROL. Rollway Bearing Company, Inc. SN 269,792. Pub. 3-12-68. Filed 4-21-67.  
849,768. MAX-ROL. Rollway Bearing Company, Inc. SN 269,793. Pub. 3-12-68. Filed 4-21-67.  
849,769. HOMESTEAD. Onelda Ltd. SN 271,273. Pub. 3-12-68. Filed 5-11-67.  
849,770. MAYWOOD. Onelda Ltd. SN 271,274. Pub. 3-12-68. Filed 5-11-67.  
849,771. BRIARWOOD. Onelda Ltd. SN 271,275. Pub. 3-12-68. Filed 5-11-67.  
849,772. MONTINA. Onelda Ltd. SN 271,276. Pub. 3-12-68. Filed 5-11-67.  
849,773. LEXINGTON. Onelda Ltd. SN 271,281. Pub. 3-12-68. Filed 5-11-67.  
849,774. ROYAL BOUQUET. The International Silver Company. SN 271,625. Pub. 3-12-68. Filed 5-16-67.  
849,775. MULTIVISC. Industrial Grain Products, Limited. SN 273,071. Pub. 3-12-68. Filed 6-5-67.  
849,776. GIBALTAR. Jewel Box Stores Corporation. SN 274,163. Pub. 3-12-68. Filed 6-19-67.

### Class 26—Measuring and Scientific Appliances

849,777. SKATE O METER AND DESIGN. Dual Gebruder Steldinger, by change of name from Gebruder Steldinger. SN 233,178. Pub. 3-12-68. Filed 11-23-65.  
849,778. CHROMATO-GASOMETER. Scientific Industries, Inc. SN 242,291. Pub. 3-12-68. Filed 3-30-66.  
849,779. SASI. Machine-O-Matic, Inc. SN 251,937. Pub. 3-12-68. Filed 8-8-66.  
849,780. SAHLI A/1. Clay-Adams, Inc. SN 253,280. Pub. 3-12-68. Filed 8-29-66.  
849,781. STEREOSCAN. Cambridge Instrument Company Limited. SN 253,420. Pub. 3-12-68. Filed 8-30-66.  
849,782. MEMOMARK. Leupold & Stevens Instruments, Inc. SN 253,890. Pub. 3-12-68. Filed 9-6-66.  
849,783. NOCTA. Asahi Optical Company, Ltd. SN 254,366. Pub. 3-12-68. Filed 9-13-66.



- 849,784. COORDICON. Itek Corporation, assignee of Wayne-George Corporation. SN 257,677. Pub. 3-12-68. Filed 10-31-66.
- 849,785. GARDSTART. Gulton Industries, Inc., d.b.a. West Instrument Corporation. SN 258,227. Pub. 3-12-68. Filed 11-8-66.
- 849,786. DIGIMATIC. Stromberg-Carlson Corporation. SN 258,425. Pub. 3-12-68. Filed 11-10-66.
- 849,787. TLI (DESIGN). Bio-Science Laboratories. SN 260,402. Pub. 3-12-68. Filed 12-9-66.
- 849,788. VISTRON. The Standard Oil Company. SN 260,781. Pub. 3-12-68. Filed 12-14-66.
- 849,789. LINE SENTRY. API Instruments Company. SN 261,438. Pub. 3-12-68. Filed 12-27-66.
- 849,790. DPI AND DESIGN. Data Pathing Incorporated. SN 262,403. Pub. 3-12-68. Filed 1-12-67.
- 849,791. AVIDESK AND DESIGN. PM & E Electronics, Inc. SN 262,501. Pub. 3-12-68. Filed 1-13-67.
- 849,792. DIAMOND DESIGN. Electric Thermometers, Inc. SN 264,290. Pub. 3-12-68. Filed 2-9-67.
- 849,793. HELICOID AND DESIGN. American Chain & Cable Company, Inc. SN 265,684. Pub. 3-12-68. Filed 3-1-67.
- 849,794. METTLER. Mettler Instrument Corporation. SN 266,059. Pub. 3-12-68. Filed 3-6-67.
- 849,795. CONVERSATIONAL TERMINAL. Friden, Inc. SN 267,028. Pub. 3-12-68. Filed 3-17-67.
- 849,796. SRT. Santa Rita Technology, Inc. SN 268,432. Pub. 3-12-68. Filed 4-5-67.
- 849,797. MOTORAMA. Kürbi & Niggeloh. SN 270,395. Pub. 3-12-68. Filed 5-1-67.
- 849,798. SIGNATURE RATIO. Spectral Dynamics Corporation. SN 270,427. Pub. 3-12-68. Filed 5-1-67.
- 849,799. TVO. Triplett Electrical Instrument Company. SN 274,006. Pub. 3-12-68. Filed 6-15-67.
- 849,800. MITRONIC. The Rank Organisation Limited. SN 275,783. Pub. 3-12-68. Filed 7-11-67.
- 849,801. NANOLOK. Raytheon Company. SN 281,946. Pub. 3-12-68. Filed 10-6-67.

### Class 27 — Horological Instruments

- 849,802. SIFAR AND DESIGN. Sifar S.A. SN 244,036. Pub. 3-12-68. Filed 4-21-66.
- 849,803. ZETA. Societe Anonyme des Etablissements Léon Hatot. SN 255,550. Pub. 3-12-68. Filed 9-30-66.
- 849,804. UNISONIC. Manufacture des Montres Universal Perret Freres S.A. SN 277,681. Pub. 3-12-68. Filed 8-7-67.

### Class 28 — Jewelry and Precious-Metal Ware

- 849,805. PARMA. Buccellati Silver, Ltd. SN 271,011. Pub. 3-12-68. Filed 5-9-67.

### Class 29 — Brooms, Brushes, and Dusters

- 849,806. PRECISION HI-LO. Pro-Stim Products, Inc. SN 272,405. Pub. 3-12-68. Filed 5-25-67.
- 849,807. MISS RITZ. Lanvin-Charles of the Ritz, Inc. MULTIPLE CLASS (Classes 29 and 51). SN 278,305. Pub. 3-12-68. Filed 8-15-67.

### Class 30 — Crockery, Earthenware, and Porcelain

- 849,808. BONELAIN CHINA ETC. AND DESIGN. Arien China Company. SN 253,717. Pub. 3-12-68. Filed 9-2-66.

### Class 32 — Furniture and Upholstery

- 849,809. BROADSIDES. Steelcase, Inc. SN 265,350. Pub. 3-12-68. Filed 2-23-67.
- 849,810. SD. Stow/Davis Furniture Company. SN 272,112. Pub. 3-12-68. Filed 5-22-67.
- 849,811. MBCENTURY. Metal Box & Cabinet Corporation. SN 276,848. Pub. 3-12-68. Filed 7-26-67.
- 849,812. NIGHT WATCH. Southern Cross Industries, Inc. SN 277,307. Pub. 3-12-68. Filed 8-1-67.
- 849,813. COUNTRY IV. Sears, Roebuck and Co. SN 278,425. Pub. 3-12-68. Filed 8-16-67.

### Class 33 — Glassware

- 849,814. SHEER RIM AND DESIGN. Federal Paper Board Company, Inc. SN 257,264. Pub. 3-12-68. Filed 10-26-66.

### Class 34 — Heating, Lighting, and Ventilating Apparatus

- 849,815. VISTARAMA. H. Frost & Company Limited. SN 254,998. Pub. 3-12-68. Filed 9-23-66.
- 849,816. ORBIT ARC AND DESIGN. Navan Incorporated. SN 256,303. Pub. 3-12-68. Filed 10-12-66.
- 849,817. TITAN. Titan Sales Corporation. SN 261,411. Pub. 3-12-68. Filed 12-23-66.
- 849,818. COMPACT. Sola Basic Industries, Inc. SN 279,706. Pub. 3-12-68. Filed 9-6-67.

### Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 849,819. KLINGERFLEX. Istag AG. SN 237,353. Pub. 3-12-68. Filed 1-26-66.
- 849,820. MISCELLANEOUS DESIGN. Dayco Corporation. SN 248,441. Pub. 3-12-68. Filed 6-20-66.
- 849,821. FLEETMASTER TRIPLE TREAD. United States Rubber Company. SN 253,370. Pub. 3-12-68. Filed 8-29-66.
- 849,822. FOOTBALL SHOE (DESIGN). Coors Porcelain Company. SN 258,361. Pub. 3-12-68. Filed 11-10-66.
- 849,823. GARFITE. Garlock Inc. SN 267,380. Pub. 3-12-68. Filed 3-23-67.
- 849,824. SS SEVERE SERVICE. Maremont Corporation. SN 267,639. Pub. 3-12-68. Filed 3-27-67.

### Class 36 — Musical Instruments and Supplies

- 849,825. LISTENER'S DIGEST. Palsano Productions. SN 255,344. Pub. 3-12-68. Filed 9-28-66.
- 849,826. C/C. Mario Jacob Bobadilla, d.b.a. Bob Mario. SN 259,082. Pub. 3-12-68. Filed 11-21-66.
- 849,827. CALIFORNIAN. Maurice Lipky Music Co., Inc. SN 261,381. Pub. 3-12-68. Filed 12-23-66.
- 849,828. MUSART. Discos Musart, S.A. SN 275,414. Pub. 10-31-67. Filed 7-6-67.
- 849,829. DUST BOWL RECORDS AND DESIGN. Sounds Unlimited Recording Company, Inc. SN 282,631. Pub. 3-12-68. Filed 10-16-67.

### Class 37 — Paper and Stationery

- 849,830. BARBIE. Mattel, Inc. SN 215,245. Pub. 5-31-66. Filed 3-29-65.
- 849,831. APPCO AND DESIGN. The American Paper Products Company. SN 257,449. Pub. 3-12-68. Filed 10-28-66.
- 849,832. TOMAC. American Hospital Supply Corporation. SN 260,392. Pub. 3-12-68. Filed 12-9-66.
- 849,833. GRAPHI-CORR AND DESIGN. Hans L. Levi. SN 261,090. Pub. 10-24-67. Filed 12-19-66.
- 849,843. ZIPAMATIC. Zip-Mark Corporation. SN 273,221. Pub. 3-12-68. Filed 6-6-67.
- 849,835. NUTSHELL. Silver Bear, Inc. SN 273,424. Pub. 3-12-68. Filed 6-8-67.
- 849,836. MARENGO. Engravers Paper Company. SN 273,625. Pub. 3-12-68. Filed 6-12-67.

### Class 38 — Prints and Publications

- 849,837. RILEY'S. Riley Electric Log, Inc. SN 254,891. Pub. 3-12-68. Filed 9-21-66.
- 849,838. PM. Professional Communications, Inc. SN 255,228. Pub. 3-12-68. Filed 9-27-66.
- 849,839. WHALE'S TALE. Whale's Tale, Inc. SN 259,495. Pub. 3-12-68. Filed 11-25-66.
- 849,840. MISCELLANEOUS DESIGN. James Dines & Co., Inc. SN 260,533. Pub. 3-12-68. Filed 12-12-66.
- 849,841. STEVE DAVIS. The Stevens-Davis Company. SN 260,783. Pub. 3-12-68. Filed 12-14-66.
- 849,842. NIBBLES. Hallmark Cards, Incorporated. SN 260,855. Pub. 3-12-68. Filed 12-15-66.
- 849,843. PEOPLE ARE IMPORTANT! The Stevens-Davis Company. SN 261,111. Pub. 3-12-68. Filed 12-19-66.
- 849,844. SD AND DESIGN. The Stevens-Davis Company. SN 261,112. Pub. 3-12-68. Filed 12-19-66.
- 849,845. PRESCRIPTION FOR EXTRA PROFIT. Terra Chemicals International, Inc. SN 264,613. Pub. 3-12-68. Filed 2-13-67.
- 849,846. PSP. Ulf Hansell. SN 265,018. Pub. 3-12-68. Filed 2-20-67.
- 849,847. MEMO MAID. Zip Code Publishing Company, Inc. SN 265,133. Pub. 3-12-68. Filed 2-20-67.

### Class 39 — Clothing

- 849,848. JIM WELLS AND DESIGN. J. C. Penney Company. SN 231,478. Pub. 3-12-68. Filed 10-23-65.
- 849,849. T.S. BRITCHES AND DESIGN. Elder Manufacturing Company. SN 256,832. Pub. 3-12-68. Filed 10-20-66.
- 849,850. BLOWING SKIRT (DESIGN). The Kendall Company. SN 261,220. Pub. 3-12-68. Filed 12-21-66.
- 849,851. WHEN THE 'INS' GO OUT. Misty Harbor, Ltd. SN 261,297. Pub. 3-12-68. Filed 12-22-66.
- 849,852. HAIG "LEERS." Sarah Haig. SN 264,209. Pub. 3-12-68. Filed 2-8-67.
- 849,853. HARDY AMIES. Hardy Amies Limited. SN 264,411. Pub. 3-12-68. Filed 2-10-67.
- 849,854. HARDY AMIES AND DESIGN. Hardy Amies Limited. SN 264,412. Pub. 3-12-68. Filed 2-10-67.
- 849,855. NATURANA. Naturana-Miederfabriken Carl Dolker KG. SN 265,647. Pub. 3-12-68. Filed 2-28-67.
- 849,856. SEA WIND. Mamiye Brothers Inc. SN 266,343. Pub. 3-12-68. Filed 3-9-67.
- 849,857. LADY WINSLOW. Arkwright Incorporated. SN 266,993. Pub. 3-12-68. Filed 3-17-67.
- 849,858. SALTYS. Mary Epps Perkins, d.b.a. Saltys Caps & Apparel. SN 267,657. Pub. 3-12-68. Filed 3-27-67.

- 849,859. KNAPP CRADLE INSOLE AND DESIGN. Knapp Brothers Shoe Manufacturing Corporation. SN 269,080. Pub. 3-12-68. Filed S.R. 4-13-67; Am. P.R. 12-19-67.
- 849,860. THE HOPPY SHOP. Spartans Industries, Inc. SN 269,120. Pub. 3-12-68. Filed 4-13-67.

- 849,861. GUESS WHO AND DESIGN. Armored Hosiery Corp. SN 269,159. Pub. 3-12-68. Filed 4-14-67.
- 849,862. IT KNIT. Sportwear Hosiery Mills, Inc. SN 269,224. Pub. 3-12-68. Filed 4-14-67.
- 849,863. RED GOOSE ETC. AND DESIGN. Interco Incorporated. SN 269,898. Pub. 3-12-68. Filed 4-24-67.
- 849,864. CITY SCENE AND DESIGN. Pollak Bros. Inc. SN 270,269. Pub. 3-12-68. Filed 4-28-67.
- 849,865. BLAIR HOUSE. Foont-Freedensfeld Corp., d.b.a. Blair House Fashions. SN 272,041. Pub. 3-12-68. Filed 5-22-67.

- 849,866. DI CIANO. M. Hyman & Son Inc. SN 275,376. Pub. 3-12-68. Filed 7-5-67.

- 849,867. BLUE BELL. Blue Bell, Inc. SN 282,314. Pub. 3-12-68. Filed 10-12-67.

- 849,868. CORRAL. Blue Bell, Inc. SN 282,316. Pub. 3-12-68. Filed 10-12-67.

- 849,869. DECK SAV'RS. Bowman-Winter, Inc. SN 284,275. Pub. 3-12-68. Filed 11-7-67.

- 849,870. CHARO ORIGINAL AND DESIGN. Kelton Hats. SN 284,875. Pub. 3-12-68. Filed 11-15-67.

- 849,871. THE CHARLIE BOOT. Melville Shoe Corporation. SN 287,488. Pub. 3-12-68. Filed 12-26-67.

### Class 40 — Fancy Goods, Furnishings, and Notions

- 849,872. ITALHAIR. Italhair, Inc. SN 264,323. Pub. 3-12-68. Filed 2-9-67.
- 849,873. SOPHISTI-KITS. Fulton & Ketchum. SN 271,361. Pub. 3-12-68. Filed 5-12-67.
- 849,874. PIV-IT. Piv-It Products Inc. SN 271,638. Pub. 3-12-68. Filed 5-16-67.
- 849,875. LACEYS. Yardley of London, Inc. SN 271,876. Pub. 3-12-68. Filed 5-18-67.
- 849,876. SINCERES. Yardley of London, Inc. SN 271,879. Pub. 3-12-68. Filed 5-18-67.
- 849,877. RUBEDA. Fred Eskenasy, d.b.a. Rubeda Imports, Ltd. SN 272,035. Pub. 3-12-68. Filed 5-22-67.
- 849,878. GLOREL. Gloria Wig Co. Inc. SN 273,064. Pub. 3-12-68. Filed 6-5-67.

### Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 849,879. GLO-VEL. Crompton Company. SN 274,415. Pub. 3-12-68. Filed 6-21-67.
- 849,880. FASHION-THERM. Sanford Finishing Corporation. SN 275,693. Pub. 3-12-68. Filed 7-10-67.

### Class 43 — Thread and Yarn

- 849,881. MENESTREL. Filatures Prouvost Masurel & Cie—La Lainiere de Roubaix, by change of name from Filatures Prouvost & Cie, La Lainiere de Roubaix. SN 261,209. Pub. 2-6-68. Filed 12-21-66.
- 849,882. RAV-ON. Illinois Yarn Company. SN 262,791. Pub. 3-12-68. Filed 1-18-67.



## Class 44—Dental, Medical, and Surgical Appliances

- 849,883. RESUSIVENTOR. Globe Safety Products, Inc. SN 259,241. Pub. 3-12-68. Filed 11-22-66.  
 849,884. MISCELLANEOUS DESIGN. A. J. Hosmer Corp. SN 261,492. Pub. 3-12-68. Filed 12-27-66.  
 849,885. ROLLAXER. The Songrand Corporation. SN 271,849. Pub. 3-12-68. Filed 5-18-67.  
 849,886. BIRTHEEZ. J. H. Emerson Company. SN 273,271. Pub. 3-12-68. Filed 6-7-67.  
 849,887. MCIVOR. Robert J. McIvor, d.b.a. Robert and Williams Company. SN 275,450. Pub. 3-12-68. Filed 7-6-67.  
 849,888. PARWIPIES. Parke, Davis & Company. SN 282,752. Pub. 3-12-68. Filed 10-18-67.  
 849,889. HOME SPA. Boulevard Electronics, Inc. SN 282,952. Pub. 3-12-68. Filed 10-20-67.  
 849,890. DYMON-HUE. Major-Prodotti Dentari-Societa in Nome Collettivo di Renaldo Giovanni & Figli. SN 283,752. Pub. 3-12-68. Filed 10-31-67.  
 849,891. VETASPIRATOR. Joseph M. Magrath, d.b.a. The Great Plains Co. SN 287,856. Pub. 3-12-68. Filed 1-2-68.

## Class 45—Soft Drinks and Carbonated Waters

- 849,892. SANDARU. Santiago Daurella de Rull. SN 247,732. Pub. 3-12-68. Filed 6-7-66.  
 849,893. OMAR. Omar Bakeries, Inc. SN 256,962. Pub. 3-12-68. Filed 10-21-66.

## Class 46—Foods and Ingredients of Foods

- 849,894. NATIONAL. National Tea Co., d.b.a. National Food Stores. SN 198,069. Pub. 9-5-67. Filed 7-17-64.  
 849,895. QUAKER MONSTER MUNCH. The Quaker Oats Company. SN 221,297. Pub. 3-12-68. Filed 6-16-65.  
 849,896. CLARNICO AND DESIGN. Clarnico Limited. SN 241,431. Pub. 3-12-68. Filed 3-21-66.  
 849,897. FANCIFUL CARICATURE OF A PIG (DESIGN). Kern Valley Packing Co. SN 250,161. Pub. 3-12-68. Filed 7-13-66.  
 849,898. ANNIE LAURIE. Annie Laurie Confectioners, Inc., d.b.a. Annie Laurie Confections. SN 251,267. Pub. 3-12-68. Filed 7-29-66.  
 849,899. DENTICATOR. The Denticator Company, Inc. SN 256,726. Pub. 3-12-68. Filed 10-19-66.  
 849,900. EXCELSIOR. Excelsior Food Products, Inc. SN 258,369. Pub. 3-12-68. Filed 11-10-66.  
 849,901. GIBALTAR. Nebraska Consolidated Mills Company, d.b.a. Mauser Mill Company. SN 259,012. Pub. 6-6-67. Filed 11-18-66.  
 849,902. LEON'S. Herman Brothers Seed Merchants, Inc. SN 261,373. Pub. 3-12-68. Filed 12-23-66.  
 849,903. LYSSELL. Lysell Gesellschaft mit beschrankter Haftung. SN 262,183. Pub. 3-12-68. Filed 1-9-67.  
 849,904. GADGETS. Clover Club Foods Company. SN 265,797. Pub. 3-12-68. Filed 3-2-67.  
 849,905. DEMING'S. Pacific Alaska Fisheries, Inc. SN 266,572. Pub. 3-12-68. Filed 3-13-67.  
 849,906. ROYAL FARE. R. Michael Morrissey, d.b.a. Morrissey Food Sales and MFS Co. SN 268,513. Pub. 3-12-68. Filed 4-6-67.  
 849,907. MISCELLANEOUS DESIGN. Naas Foods Inc. SN 271,063. Pub. 3-12-68. Filed 5-9-67.

- 849,908. HI-POLY. Sunkist Growers, Inc. SN 274,253. Pub. 3-12-68. Filed 6-19-67.  
 849,909. SENTRY. Union Carbide Corporation. SN 275,186. Pub. 3-12-68. Filed 6-30-67.  
 849,910. N AND DESIGN. Nunes Bros. of California, Inc. SN 275,351. Pub. 3-12-68. Filed 7-5-67.  
 849,911. YAMKINS. Tabor City Foods, Inc. SN 275,397. Pub. 3-12-68. Filed 6-30-67.  
 849,912. RICH'S. Louis Rich Foods, Inc. SN 275,470. Pub. 3-12-68. Filed 7-6-67.  
 849,913. EAST POINT. East Point Seafood Company. SN 276,633. Pub. 3-12-68. Filed 7-24-67.  
 849,914. NIFTY FIFTY. C. J. Vignolo, d.b.a. Vignolo Farms. SN 276,896. Pub. 3-12-68. Filed 7-26-67.  
 849,915. MONEY BAGS. Phillip Morris Incorporated, d.b.a. Flavor Tree Foods Co. SN 277,116. Pub. 3-12-68. Filed 7-31-67.  
 849,916. SOL STAR. Morton International, Inc. SN 283,604. Pub. 3-12-68. Filed 10-30-67.  
 849,917. DOLE AND DESIGN. Castle & Cooke, Inc., d.b.a. Dole Company. SN 285,370. Pub. 3-12-68. Filed 11-22-67.  
 849,918. PIG TAILS. Kellogg Company. SN 286,466. Pub. 3-12-68. Filed 12-8-67.  
 849,919. PRO-BOWL. Kellogg Company. SN 286,469. Pub. 3-12-68. Filed 12-8-67.  
 849,920. MR. STRONG. The Quaker Oats Company. SN 286,745. Pub. 3-12-68. Filed 12-12-67.  
 849,921. DESIGN OF CAVEMAN. Kellogg Company. SN 286,970. Pub. 3-12-68. Filed 12-15-67.  
 849,922. GOURMET. The Quaker Oats Company. SN 286,975. Pub. 3-12-68. Filed 12-15-67.  
 849,923. S AND DESIGN. Safeway Stores, Incorporated. SN 287,339. Pub. 3-12-68. Filed 12-21-67.  
 849,924. FTF. Phillip Morris Incorporated, d.b.a. Flavor Tree Foods Co. SN 287,491. Pub. 3-12-68. Filed 12-26-67.  
 849,925. DEMITASSE. Phillip Morris Incorporated, d.b.a. Flavor Tree Foods Co. SN 287,492. Pub. 3-12-68. Filed 12-26-67.  
 849,926. BUCKHORN AND DESIGN. Dynamic Management Company, d.b.a. Buckhorn Ranch and Buckhorn Trout Hatchery. SN 287,696. Pub. 3-12-68. Filed 12-28-67.  
 849,927. SEA WAVE. Monterey Fish Company. SN 287,786. Pub. 3-12-68. Filed 12-29-67.

## Class 47—Wines

- 849,928. MAXIMILIAN. Herbert Michaelis Kallman, d.b.a. H. Michaelis Kallmann. SN 287,395. Pub. 3-12-68. Filed 10-27-66.

## Class 48—Malt Beverages and Liquors

- 849,929. LA CRIOLLA. Avelino Maldonado, d.b.a. Lacriolla Food Products Co. SN 271,492. Pub. 3-12-68. Filed 5-15-67.

## Class 50—Merchandise Not Otherwise Classified

- 849,930. FLOWER (DESIGN). Alart Associates Inc. SN 256,632. Pub. 3-12-68. Filed 10-18-66.  
 849,931. MR. WELCOMAT. The Buxbaum Company. SN 265,688. Pub. 3-12-68. Filed 3-1-67.  
 849,932. FLOORCARE. Callaway Mills Company. SN 273,460. Pub. 3-12-68. Filed 6-9-67.

## Class 51—Cosmetics and Toilet Preparations

- 849,907. (See Class 29 for this trademark.)  
 849,933. COME TRUE. John H. Breck, Inc., assignee of American Cyanamid Company. SN 188,175. Pub. 11-3-64. Filed 3-9-64.  
 849,934. COLOR SUDS. John H. Breck, Inc. SN 236,047. Pub. 3-12-68. Filed 1-10-66.  
 849,935. SUDS 'N COLOR. John H. Breck, Inc. SN 236,050. Pub. 3-12-68. Filed 1-10-66.  
 849,936. ENGLISH LEATHER LIME AND DESIGN. Mem Company, Inc. SN 252,116. Pub. 3-12-68. Filed 8-10-66.  
 849,937. EZ. EZ Beauty Products Company. SN 261,467. Pub. 3-12-68. Filed 12-27-66.  
 849,938. YOUNG WORLD. Federated Department Stores, Inc., d.b.a. Bloomingdale's. SN 262,575. Pub. 3-12-68. Filed 1-16-67.  
 849,939. NUIT DE VERSAILLES. Daggett & Ramadell International Corp., assignee of World Wide Fragrances, Inc. SN 263,637. Pub. 4-18-67. Filed 1-30-67.  
 849,940. BRIGITTE. Perfumes by Brigitte. SN 264,474. Pub. 7-4-67. Filed 2-13-67.  
 849,941. ENDWELL. Endicott Johnson Corporation. SN 271,037. Pub. 3-12-68. Filed 5-9-67.  
 849,942. OPTION. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 271,306. Pub. 3-12-68. Filed 5-12-67.  
 849,943. DIABOLISH. Seafoam Corporation. SN 271,729. Pub. 3-12-68. Filed 5-17-67.  
 849,944. COUNTRY FRESH. Nozell Corporation. SN 276,853. Pub. 3-12-68. Filed 7-26-67.

## Class 52—Detergents and Soaps

- 849,942. (See Class 51 for this trademark.)  
 849,945. PRO. Daubert Chemical Company. SN 259,646. Pub. 3-12-68. Filed 11-29-66.  
 849,946. R AND LINED BACKGROUND DESIGN. The Richardson Company. SN 269,566. Pub. 3-12-68. Filed 4-19-67.  
 849,947. R AND DESIGN. The Richardson Company. SN 269,569. Pub. 3-12-68. Filed 4-19-67.  
 849,948. SANFAX XL-222. Consolidated Foods Corporation, d.b.a. Oxford Chemicals. SN 270,047. Pub. 3-12-68. Filed 4-26-67.  
 849,949. ADEPT. Wyandotte Chemicals Corporation. SN 270,999. Pub. 3-12-68. Filed 5-6-67.  
 849,950. MOD. C. P. Baker & Company. SN 271,026. Pub. 3-12-68. Filed 5-9-67.  
 849,951. ENDWELL. Endicott Johnson Corporation. SN 271,036. Pub. 3-12-68. Filed 5-9-67.  
 849,952. CITY LIGHTS. Yardley of London, Inc. SN 271,869. Pub. 3-12-68. Filed 5-16-67.  
 849,953. ACRYLIFT. W. R. Grace & Co. SN 275,655. Pub. 3-12-68. Filed 7-10-67.

## Service Marks

## Class 100—Miscellaneous

- 849,954. RANCH HOUSE. The Ranch House Restaurants, Inc. #1. SN 203,202. Pub. 3-12-68. Filed 10-2-64.  
 849,955. THE RUSTLER. The Rustler, Inc. SN 210,366. Pub. 3-12-68. Filed 1-21-65.  
 849,956. PRESTOLIZED. The Bishop and Babcock Corporation. SN 248,108. Pub. 3-12-68. Filed 6-15-66.  
 849,957. MISCELLANEOUS DESIGN. D. H. Overmyer Leasing Company. SN 249,707. Pub. 3-12-68. Filed 7-7-66.  
 849,958. P AND DESIGN. Parents Without Partners, Inc. SN 251,460. Pub. 3-12-68. Filed 8-1-66.

- 849,959. POLE CATS. Pole Control, Inc. SN 253,242. Pub. 3-12-68. Filed 8-26-66.  
 849,960. WATCH DOG SERVICE AND DESIGN. Watch Dog Service, Inc. SN 256,251. Pub. 3-12-68. Filed 10-11-66.  
 849,961. GROSSINGER'S HAS EVERYTHING. S. & H. Grossinger, Inc. SN 258,226. Pub. 3-12-68. Filed 11-8-66.  
 849,962. NAMS ETC. AND DESIGN. National Association of Mutual Savings Banks. SN 262,186. Pub. 3-12-68. Filed 1-9-67.  
 849,963. S-H AND DESIGN. Hilton Hotels Corporation. SN 279,737. Pub. 3-12-68. Filed 9-6-67.  
 849,964. DOLLY MADISON HOUSE. Dolly Madison Industries, Inc. SN 284,424. Pub. 3-12-68. Filed 11-9-67.

## Class 101—Advertising and Business

- 849,965. KTA. Kepner-Tregoe and Associates, Inc. SN 245,276. Pub. 3-12-68. Filed 5-10-66.  
 849,966. PAYSO. Premiumwares Limited. SN 250,684. Pub. 3-12-68. Filed 7-20-66.  
 849,967. GOODYEAR. The Goodyear Tire & Rubber Company. SN 251,623. Pub. 3-12-68. Filed 8-3-66.  
 849,968. CUMMINGS & CO. AND DESIGN. Cummings & Co., Inc. SN 251,711. Pub. 3-12-68. Filed 8-4-66.  
 849,969. LADY. Lady Baltimore Office Services, Inc. SN 251,932. Pub. 3-12-68. Filed 8-8-66.  
 849,970. PREMIER GRAPHICS AND DESIGN. Premier Letter Service, Inc. SN 251,949. Pub. 3-12-68. Filed 8-8-66.  
 849,971. ALL AMERICAN GLAMOUR KITTY CONTEST AND DESIGN. Johnson-March Corp., d.b.a. Triple E Company. SN 253,653. Pub. 3-12-68. Filed 9-1-66.  
 849,972. SOCIAL EXPRESSION SHOP. Hallmark Cards, Incorporated. SN 257,483. Pub. 3-12-68. Filed 10-28-66.  
 849,973. SOURCE EDP. Source EDP, Inc. SN 258,599. Pub. 3-12-68. Filed 11-14-66.  
 849,974. SOURCE EDP AND DESIGN. Source EDP, Inc. SN 258,600. Pub. 3-12-68. Filed 11-14-66.  
 849,975. YOUR GIRL FROM BROWN'S AND DESIGN. Brown's Temporary Personnel of America, Inc. SN 265,264. Pub. 3-12-68. Filed 2-23-67.  
 849,976. BROWN'S AND DESIGN. Brown's Temporary Personnel of America, Inc. SN 265,265. Pub. 3-12-68. Filed 2-23-67.  
 849,977. BROWN'S AND CREST (DESIGN). Brown's Temporary Personnel of America, Inc. SN 265,266. Pub. 3-12-68. Filed 2-23-67.  
 849,978. NP. The Oklahoma Publishing Company. SN 268,325. Pub. 3-12-68. Filed 4-4-67.  
 849,979. NP NATIONAL PACKAGING COMPANY. The Oklahoma Publishing Company. SN 268,326. Pub. 3-12-68. Filed 4-4-67.  
 849,980. MISCELLANEOUS DESIGN. Computer Services Corporation. SN 268,383. Pub. 3-12-68. Filed 4-5-67.  
 849,981. EXECUPOWER. Execupower, Inc. SN 268,588. Pub. 3-12-68. Filed 4-7-67.  
 849,982. TRAC. National Family Opinion, Inc. SN 270,940. Pub. 3-12-68. Filed 5-8-67.  
 849,983. NICEM. McGraw-Hill, Inc. SN 283,393. Pub. 3-12-68. Filed 10-26-67.

## Class 102—Insurance and Financial

- 849,984. YOUR FINANCIAL SECURITY IS OUR BUSINESS. Frank S. Sottile. SN 194,837. Pub. 3-12-68. Filed 6-3-64.  
 849,985. PORTA CREDIT. Dearborn Federal Credit Union. SN 258,293. Pub. 3-12-68. Filed 11-9-66.  
 849,986. BANKERS UNION LIFE INSURANCE COMPANY. Bankers Union Life Insurance Company. SN 259,897. Pub. 3-12-68. Filed 12-2-66.



849,987. NN AND DESIGN. Northwestern National Insurance Company of Milwaukee, Wisconsin. SN 274,981. Pub. 3-12-68. Filed 6-28-67.

849,988. NN. Northwestern National Insurance Company of Milwaukee, Wisconsin. SN 274,982. Pub. 3-12-68. Filed 6-28-67.

### Class 103—Construction and Repair

849,989. STEBBINS. The Stebbins Engineering and Manufacturing Company. SN 261,268. Pub. 3-12-68. Filed 12-22-66.

849,990. ALLPEST SERVICES AND DESIGN. Allpest Chemical Company, Inc. SN 267,591. Pub. 3-12-68. Filed 3-27-67.

849,991. MISCELLANEOUS DESIGN. Gordon-Davis Linen Supply Company. SN 267,627. Pub. 3-12-68. Filed 3-27-67.

849,992. INSTA-SERVICE BY EDWARD HYMAN COMPANY AND DESIGN. Edward Hyman Company. SN 268,046. Pub. 3-12-68. Filed 3-31-67.

849,993. HPC. Household Pest Control. SN 268,691. Pub. 3-12-68. Filed 4-10-67.

### Class 105—Transportation and Storage

849,994. OTO. Fernand Dumaine, d.b.a. F. Dumaine. SN 251,905. Pub. 3-12-68. Filed 8-8-66.

849,995. NAVAJO LOOK FOR THE BLUE-EYED INDIAN ETC. AND DESIGN. Navajo Freight Lines, Inc. SN 252,746. Pub. 3-12-68. Filed 8-19-66.

849,996. 4 SEASONS TOURS. John J. Parker & Associates, Inc., d.b.a. John Parker & Associates, Inc. and 4 Seasons Tours. SN 261,512. Pub. 3-12-68. Filed 12-27-66.

849,997. ARISTA. Arista Student Travel Association, Inc. SN 265,479. Pub. 3-12-68. Filed 2-27-67.

849,998. ORIENTAL CARNIVAL. AITS, Inc., by change of name from American International Travel Service, Inc. SN 266,716. Pub. 3-12-68. Filed 3-15-67.

849,999. AAA AND DESIGN. The American Automobile Association (Incorporated). SN 287,117. Pub. 3-12-68. Filed 12-18-67.

### Class 106—Material Treatment

850,000. MUTH AND DESIGN. K. W. Muth Company. SN 254,705. Pub. 3-12-68. Filed 9-19-66.

### Class 107—Education and Entertainment

850,001. TULIP TIME. Holland Tulip Time Festival, Inc. SN 250,272. Pub. 3-12-68. Filed 7-14-66.

850,002. SIG SAKOWICZ SHOW. Sig Sakowicz. SN 251,242. Pub. 3-12-68. Filed 7-29-66.

850,003. CAROUSEL CLASSROOM. Barbara Hodgdon. SN 256,838. Pub. 3-12-68. Filed 10-20-66.

850,004. DATAMERICA INSTITUTE AND DESIGN. Avelino Rodriguez Palensuela. SN 259,758. Pub. 3-12-68. Filed 11-30-66.

850,005. FP AND DESIGN. Famous Photographers School, Inc. SN 264,811. Pub. 3-12-68. Filed 2-16-67.

850,006. SAINTS AND DESIGN. New Orleans Saints. SN 267,971. Pub. 3-12-68. Filed 3-30-67.

850,007. SAINTS AND DESIGN. New Orleans Saints. SN 270,255. Pub. 3-12-68. Filed 4-28-67.

## SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

### SECTION 1

(Combined Certificates.)

850,009. General Foods Corporation, White Plains, N.Y. SN 253,140. Filed P.R. 8-25-66; Am. S.R. 3-21-68.

850,029. Myrurgia, S.A., Barcelona, Spain. SN 260,492. Filed P.R. 12-12-66; Am. S.R. 3-21-68.

## SOFT'N WHITE

Owner of Reg. No. 829,953.

### Class 6—Chemicals and Chemical Compositions

For Fabric Softener (Int. Cl. 3).

### Class 52—Detergents and Soaps

For Laundry Detergent (Int. Cl. 3).

First use Jan. 27, 1964.



The words "Clavel de Espana" are Spanish and mean "carnation of Spain." Owner of Spanish Reg. Nos. 125,823, dated July 1, 1943 and 125,824, dated Jan. 10, 1944.

### Class 51—Cosmetics and Toilet Preparations

For Perfumes, Toilet Creams, Eau de Cologne, Face Lotions, Face Powder, Rouges, Nail Polishes, and Dentifrices (Int. Cl. 3).

### Class 52—Detergents and Soaps

For Toilet Soaps (Int. Cl. 3).

## SECTION 2

### Class 2—Receptacles

850,008. Record Service Center, Houston, Tex. SN 247,968. Filed P.R. 6-13-66; Am. S.R. 12-15-67.

## TILTSHELF

For Shipping and Storage Cartons for Tape Reels (Int. Cl. 20).  
First use May 3, 1966.

### Class 6—Chemicals and Chemical Compositions

850,009. See Section 1 (Combined Certificate).

850,010. Universal Oil Products Company, Des Plaines, Ill. SN 262,221. Filed P.R. 1-9-67; Am. S.R. 3-22-68.

## E-Z-PRESS

For Chemical Spray for Use as an Ironing Aid (Int. Cl. 3).  
First use Sept. 10, 1959.

### Class 12—Construction Materials

850,011. The Freeman Supply Co., Toledo, Ohio. SN 267,328. Filed P.R. 3-22-67; Am. S.R. 3-28-68.

## FIL-FIX

For Fillers for Voids in Wood and Other Objects (Int. Cl. 17).  
First use on or before Feb. 1, 1967.

### Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

850,012. Applied Power Industries, Inc., Milwaukee, Wis. SN 248,203. Filed P.R. 6-16-66; Am. S.R. 3-6-68.

## HOLL-O-CYLINDER

Owner of Reg. No. 692,769.  
For Hydraulically Actuated Pressure Applying Devices (Int. Cl. 7).  
First use on or about Mar. 23, 1966.

### Class 34—Heating, Lighting, and Ventilating Apparatus

850,013. Integrated Ceilings Inc., Los Angeles, Calif. SN 261,497. Filed P.R. 12-27-66; Am. S.R. 3-11-68.

## LIGHTFRAME

For Light Diffuser Sub Ceilings (Int. Cl. 11).  
First use June 23, 1964.

850,014. Fasco Industries, Inc., Rochester, N.Y. SN 263,258. Filed P.R. 1-25-67; Am. S.R. 3-15-68.

## FAS-GLO

For Built-In and Portable Electric Fireplaces (Int. Cl. 11).  
First use Jan. 10, 1967.

### Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

850,015. Moore Manufacturing Inc., San Francisco, Calif. SN 240,762. Filed P.R. 3-11-66; Am. S.R. 3-25-68.

## WORLD'S FINEST

For Garden Hose (Int. Cl. 17).  
First use Nov. 18, 1964.

850,016. Moore Manufacturing Inc., San Francisco, Calif. SN 240,769. Filed P.R. 3-11-66; Am. S.R. 3-25-68.



For Garden Hose (Int. Cl. 17).  
First use Jan. 1, 1962.

### Class 37—Paper and Stationery

850,017. Micropoint, Inc., Sunnyvale, Calif. SN 265,541. Filed P.R. 2-24-67; Am. S.R. 3-28-68.

## FINE-WIK

Owner of Reg. No. 818,288.  
For Marking Pens (Int. Cl. 16).  
First use Jan. 11, 1967.

### Class 38—Prints and Publications

850,018. Hallmark Cards, Incorporated, Kansas City, Mo. SN 260,850. Filed P.R. 12-15-66; Am. S.R. 3-28-68.

## CALENDAR OF ROSES

For Daily Memorandum Calendars (Int. Cl. 16).  
First use June 1, 1966.

850,019. Instrument Society of America, Pittsburgh, Pa. SN 262,487. Filed P.R. 1-13-67; Am. S.R. 3-12-68.

## INSTRUMENTATION TECHNOLOGY

For Magazine (Int. Cl. 16).  
First use Jan. 5, 1967.



850,020. Feminine Forecast, Inc., New York, N.Y. SN 265,710. Filed P.R. 3-1-67; Am. S.R. 4-2-68.

## FEMININE FORECAST

For Newsletter Distributed to Marketing Executives and Dealing Primarily With the Women's Market (Int. Cl. 16).  
First use Jan. 3, 1967.

850,021. Rodale Press, Inc., Emmaus, Pa. SN 268,337. Filed P.R. 4-4-67; Am. S.R. 3-29-68.

## THEATRE CRAFTS

For Magazine (Int. Cl. 16).  
First use Mar. 13, 1967.

850,022. McGraw-Hill, Inc., New York, N.Y. SN 272,939. Filed P.R. 6-2-67; Am. S.R. 3-21-68.

## METALS WEEK

For Weekly Trade Magazine (Int. Cl. 16).  
First use Jan. 2, 1967.

## Class 46—Foods and Ingredients of Foods

850,023. Shenandoah Candy Co., Inc., Winchester, Va. SN 253,344. Filed P.R. 8-29-66; Am. S.R. 3-14-68.



The drawing is lined for green and red.  
For Apple Candy (Int. Cl. 30).  
First use Feb. 2, 1945.

850,024. Chas. Pfiser & Co., Inc., New York, N.Y. SN 264,375. Filed P.R. 2-10-67; Am. S.R. 3-13-68.

## SURE-CURD

For Milk Clotting Enzyme (Int. Cl. 1).  
First use Jan. 19, 1967.

850,025. Bunte Candles, Inc., Oklahoma City, Okla. SN 278,086. Filed P.R. 8-11-67; Am. S.R. 3-7-68.

## OLD NEW ORLEANS

Owner of Reg. No. 432,007.  
For Candy (Int. Cl. 30).  
First use Mar. 13, 1943.

## Class 47—Wines

850,026. Schenley Distillers, Inc., d.b.a. Roma Wine Company and J. Pierrot Champagne Cellars. SN 275,534. Filed P.R. 7-7-67; Am. S.R. 3-19-68.

## J. PIERROT

For Wines (Int. Cl. 33).  
First use June 20, 1966.

## Class 49—Distilled Alcoholic Liquors

850,027. F. X. de Beukelaer, Antwerp, Belgium. SN 262,855. Filed P.R. 1-19-67; Am. S.R. 2-6-68.



The signature is that of "Schaltin Pierry," deceased. "Elixir de Spa" may be translated as "elixir of spa," and "Liqueur a base de la flore de Spa" may be translated as "Liqueur made of the flora of spa." "Marque de fabrique" may be translated as "trademark." Owner of Belgian Reg. No. 19,292, dated July 9, 1965.  
For Liqueur (Int. Cl. 33).

850,028. G. B. Gambarotta di Inga & C. Societa per Azioni, Serravalle Scrivia, Alessandria, Italy. SN 266,651. Filed 3-14-67.



Priority claimed under Sec. 44(d) on Italian application filed Nov. 18, 1966; Reg. No. 196,242, dated Jan. 31, 1967.  
For Liqueurs (Int. Cl. 33).

## Class 51—Cosmetics and Toilet Preparations

850,029. See Section 1 (Combined Certificate).

850,030. Faberge, Inc., New York, N.Y. SN 267,026. Filed P.R. 3-17-67; Am. S.R. 3-12-68.

## BODY SOFT

For Skin Lotion (Int. Cl. 3).  
First use Feb. 24, 1967.

850,031. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. SN 287,129. Filed P.R. 12-18-67; Am. S.R. 3-18-68.

## ALO-BODY

Owner of Reg. Nos. 775,943, 842,661, and others.  
For Body Lotion (Int. Cl. 3).  
First use Feb. 6, 1963.

## Class 52—Detergents and Soaps

850,009. See Section 1 (Combined Certificate).

850,029. See Section 1 (Combined Certificate).

850,032. Westman Commission Company, Denver, Colo. SN 259,615. Filed P.R. 11-28-66; Am. S.R. 3-12-68.

## WESTMAN

For Soaps and Detergents for Commercial Use—Namely, Cleaners for Food Service Equipment, Cleaners for General Maintenance Use, and Recirculation Cleaners (Int. Cls. 1 and 3).  
First use on or about Nov. 10, 1966.

850,033. Universal Oil Products Company, Des Plaines, Ill. SN 262,225. Filed P.R. 1-9-67; Am. S.R. 3-22-68.

## 140

For Descaler (Int. Cl. 1).  
First use Feb. 3, 1961.

## TRADEMARK REGISTRATIONS RENEWED

- 31,433. "C. BRANDAUER & CO." ETC. AND DESIGN. Cl. 37 (Int. Cl. 16). 3-22-1998.  
68,291. NATIONAL. Cl. 37 (Int. Cl. 16). 3-24-08.  
68,727. K & E. Cl. 37 (Int. Cl. 16). 4-28-08.  
68,867. BAILEY. Cl. 23 (Int. Cl. 8). 5-5-08.  
69,191. ZIG ZAG. Cl. 26 (Int. Cl. 9). 5-26-08.  
69,512. BAYER. Cl. 18 (Int. Cl. 5). 6-16-08.  
69,883. "LUBROLEINE" AND DESIGN. Cl. 15 (Int. Cl. 4). 7-14-08.  
70,450. RENEWO. Cl. 13 (Int. Cl. 6). 9-1-08.  
70,690. JELL-O. Cl. 46 (Int. Cl. 30). 9-22-08.  
240,287. SNUG-EASE. Cl. 39 (Int. Cl. 25). 3-20-28.  
240,349. EUPHRODIN. Cl. 18 (Int. Cl. 5). 3-27-28.  
240,590. ATLASITE. Cl. 13 (Int. Cl. 6). 4-3-28.  
240,781. KLEEN-WINK. Cl. 42 (Int. Cl. 24). 4-10-28.  
240,981. "ASBESTILE" ETC. AND DESIGN. Cl. 12 (Int. Cl. 19). 4-10-28.  
241,132. BALLOID. Cl. 40 (Int. Cls. 21 and 26). 4-17-28.  
241,362. BUE. Cl. 46 (Int. Cl. 29). 4-24-28.  
241,417. SUPERIOR. Cl. 37 (Int. Cl. 16). 4-24-28.  
241,782. DUMORE. Cl. 15 (Int. Cl. 4). 5-6-28.  
242,011. CREMA DE TRIGO. Cl. 46 (Int. Cl. 30). 5-8-28.  
242,157. ORANGE COLORED ENDS OF A FOLDING RULE. Cl. 26 (Int. Cl. 9). 5-15-28.  
242,167. SUPERCORE. Cl. 7 (Int. Cl. 22). 5-15-28.  
243,109. "WHITE RING" AND DESIGN. Cl. 46 (Int. Cl. 30). 6-12-28.  
243,139. "MARQUETTE PETROLEUM PRODUCTS MPP" WITHIN INVERTED TRIANGLE DESIGN. Cl. 15 (Int. Cl. 4). 6-12-28.  
243,720. ZANDOLINE. Cl. 18 (Int. Cl. 5). 6-26-28.  
243,765. SIDE GLANCES. Cl. 38 (Int. Cl. 16). 6-26-28.  
244,189. PAULA. Cl. 46 (Int. Cl. 31). 7-17-28.  
245,818. BOND. Cl. 23 (Int. Cl. 7). 8-21-28.  
245,860. CARBORUNDUM. Cl. 4 (Int. Cls. 3 and 7). 8-21-28.  
245,891. DAWN. Cl. 42 (Int. Cl. 24). 8-28-28.  
246,182. ELECTRO-MATIC. Cl. 23 (Int. Cl. 11). 9-4-28.  
246,553. "BROLITE" AND DESIGN. Cl. 16 (Int. Cl. 2). 9-11-28.  
246,879. CORHART. Cl. 12 (Int. Cl. 11). 9-18-28.  
246,934. "ECHO" AND DESIGN. Cl. 39 (Int. Cl. 25). 9-18-28.  
246,955. MENTHOLATUM. Cl. 51 (Int. Cl. 3). 9-18-28.  
247,045. "PIPE MAJOR" AND DESIGN. Cl. 17 (Int. Cl. 34). 9-18-28.  
436,554. ARDENA FLUFFY MILK BATH PETALS. Cl. 51 (Int. Cl. 3). 2-10-48.  
436,653. LANABEX. Cl. 18 (Int. Cl. 5). 2-17-48.  
437,081. B & A ETC. AND DESIGN. Cl. 6 (Int. Cl. 1). 3-9-48.  
437,104. LITTLE INCH. Cl. 2 (Int. Cl. 21). 3-9-48.  
437,502. NICHILLITE. Cl. 23 (Int. Cl. 7). 3-23-48.  
437,522. WINOBACK. Cl. 28 (Int. Cl. 14). 3-30-48.  
437,625. LANAVITE. Cl. 18 (Int. Cl. 5). 3-30-48.  
437,664. CAPITIN. Cl. 6 (Int. Cl. 5). 3-30-48.  
437,679. JACOMAR. Cl. 42 (Int. Cl. 24). 3-30-48.  
437,803. FORMULA NO. 12 AND DESIGN. Cl. 17 (Int. Cl. 34). 3-30-48.  
437,818. FORMOLD. Cl. 14 (Int. Cl. 6). 3-30-48.  
437,833. SCHIEFFELIN. Cl. 51 (Int. Cl. 3). 3-30-48.  
437,863. ZEPTRON. Cl. 52 (Int. Cl. 1). 3-30-48.  
438,027. STEARNS MAGNETIC AND DESIGN. Cl. 21 (Int. Cl. 9). 4-6-48.  
438,300. MOGUM. Cl. 35 (Int. Cl. 17). 4-13-48.  
438,384. MUSTANG. Cl. 19 (Int. Cl. 12). 4-20-48.  
438,427. SOLTROL. Cl. 16 (Int. Cl. 2). 4-20-48.  
438,521. KRAYLETS. Cl. 46 (Int. Cl. 5). 4-27-48.  
438,980. INSO-BAK. Cl. 12 (Int. Cl. 17). 6-1-48.  
439,128. STANOLEX. Cl. 15 (Int. Cl. 4). 6-1-48.  
439,275. LOVELIGHT. Cl. 51 (Int. Cl. 3). 6-15-48.  
439,313. SULFAN. Cl. 6 (Int. Cl. 1). 6-15-48.  
439,373. WOODLETS. Cl. 23 (Int. Cl. 7). 6-22-48.  
439,535. SKYMATE. Cl. 3 (Int. Cl. 18). 7-6-48.  
439,582. BEST & CO. Cl. 52 (Int. Cl. 3). 7-6-48.  
439,637. RCA AND DESIGN. Cl. 21 (Int. Cls. 9 and 17). 7-6-48.  
439,965. CASINO. Cl. 28 (Int. Cl. 14). 8-3-48.  
439,990. DUPONT IN AN OVAL. Cl. 6 (Int. Cl. 5). 8-3-48.  
440,197. TWIN-TILT. Cl. 19 (Int. Cl. 12). 8-17-48.  
440,390. NIKROTHAL. Cl. 14 (Int. Cl. 6). 8-31-48.  
440,409. FILCOAT. Cl. 1 (Int. Cl. 31). 8-31-48.  
440,694. DUTCH MILL. Cl. 46 (Int. Cl. 30). 9-21-48.  
440,731. STEPTOE. Cl. 23 (Int. Cl. 7). 9-21-48.  
500,012. BALANCE BLOCKED ETC. AND DESIGN. Cl. 39 (Int. Cl. 25). 3-23-48.  
500,203. P & H. Cl. 12 (Int. Cl. 19). 5-11-48.  
500,367. SUPERCHROME. Cl. 11 (Int. Cl. 16). 5-18-48.  
500,467. RONSON. Cl. 8 (Int. Cl. 34). 6-1-48.  
500,541. RUBICO. Cl. 29 (Int. Cls. 16 and 21). 6-1-48.  
500,860. SECRETS. Cl. 40 (Int. Cl. 25). 7-6-48.  
500,894. RED HAND. Cl. 43 (Int. Cl. 23). 7-6-48.  
500,895. SHURSEAM. Cl. 43 (Int. Cl. 23). 7-6-48.  
500,957. CORN COUNTRY. Cl. 46 (Int. Cl. 29). 7-13-48.  
501,075. SQUARE DEAL. Cl. 37 (Int. Cl. 16). 7-20-48.  
501,132. IDEAL. Cl. 24 (Int. Cl. 20). 7-27-48.  
501,257. LIQUI-MIST. Cl. 6 (Int. Cl. 5). 7-27-48.  
729,660. WIDE SLIDE. Cl. 19.  
729,667. AURORA. Cl. 20.  
729,668. ELMAGCO. Cl. 21.  
729,670. MAGACYCLER. Cl. 21.  
729,671. PMI AND DESIGN. Cl. 21.  
729,672. MAGAVERTER. Cl. 21.  
729,676. CARBIDON. Cl. 21.  
729,679. PONY FEET AND DESIGN. Cl. 22.  
729,684. PRO STARS. Cl. 2.  
729,685. FUN-TOTE. Cl. 22.  
729,694. PACER. Cl. 22.  
729,697. SIGNALINE. Cl. 23.  
729,703. MERLIN. Cl. 23.  
729,707. DYNA-GLAS. Cl. 28.  
729,708. CAN RAM. Cl. 23.  
729,709. POWER-DOZER. Cl. 23.  
729,712. FRANTZ FOLDRIER. Cl. 24.  
729,714. VAULT METER. Cl. 26.  
729,715. ANCHOR-LOC AND DESIGN. Cl. 26.  
729,718. MIT. Cl. 26.  
729,720. SERV U CENTER. Cl. 26.  
729,721. THERMO-FAX. Cl. 26.  
729,723. TDI. Cl. 29.  
729,725. KINGBIRD. Cl. 31.  
729,726. CRIBDRAWER. Cl. 32.

## TRADEMARK REGISTRATIONS CANCELED

### Section 8

The following registrations issued Apr. 10, 1962

- 729,571. CALAPOOYA. Cl. 1.  
729,572. SNOSHOE. Cl. 1.  
729,578. SLIDE-PAK AND DESIGN. Cl. 2.  
729,579. SAF-T-CELL. Cl. 2.  
729,587. ALLOLYTE. Cl. 6.  
729,596. HI-CON. Cl. 6.  
729,598. LC AND DESIGN. Cl. 12.  
729,610. ULTRA-MATIC. Cl. 12.  
729,609. CONSTELLATION. Cl. 12.  
729,618. CLIPITIE. Cl. 13.  
729,622. EL PASO ELTON AND DESIGN. Cl. 15.  
729,623. EL PASO PASOCHAS AND DESIGN. Cl. 15.  
729,624. EL PASO PASODA AND DESIGN. Cl. 15.  
729,631. SUPER SOLAREX. Cl. 16.  
729,641. COVEXIN. Cl. 18.  
729,642. SUBOVAX. Cl. 18.  
729,646. DRB. CHOICE. Cl. 18.  
729,649. UTOCIN. Cl. 18.  
729,650. PERIFENIL. Cl. 18.  
729,653. PERMIQUEL. Cl. 18.  
729,656. LAXSATIN. Cl. 18.  
729,658. BILAX. Cl. 18.  
729,660. WIDE SLIDE. Cl. 19.  
729,667. AURORA. Cl. 20.  
729,668. ELMAGCO. Cl. 21.  
729,670. MAGACYCLER. Cl. 21.  
729,671. PMI AND DESIGN. Cl. 21.  
729,672. MAGAVERTER. Cl. 21.  
729,676. CARBIDON. Cl. 21.  
729,679. PONY FEET AND DESIGN. Cl. 22.  
729,684. PRO STARS. Cl. 2.  
729,685. FUN-TOTE. Cl. 22.  
729,694. PACER. Cl. 22.  
729,697. SIGNALINE. Cl. 23.  
729,703. MERLIN. Cl. 23.  
729,707. DYNA-GLAS. Cl. 28.  
729,708. CAN RAM. Cl. 23.  
729,709. POWER-DOZER. Cl. 23.  
729,712. FRANTZ FOLDRIER. Cl. 24.  
729,714. VAULT METER. Cl. 26.  
729,715. ANCHOR-LOC AND DESIGN. Cl. 26.  
729,718. MIT. Cl. 26.  
729,720. SERV U CENTER. Cl. 26.  
729,721. THERMO-FAX. Cl. 26.  
729,723. TDI. Cl. 29.  
729,725. KINGBIRD. Cl. 31.  
729,726. CRIBDRAWER. Cl. 32.



729,727. JH JET-HEET AND DESIGN. Cl. 34.  
 729,730. CARMAC. Cl. 35.  
 729,731. ORION. Cl. 36.  
 729,735. INSTANT-BRIK. Cl. 37.  
 729,736. FLASHDRY. Cl. 37.  
 729,740. PROTO WRAP. Cl. 37.  
 729,744. BOUDOIR. Cl. 37.  
 729,746. PENN/BRITE. Cl. 37.  
 729,750. CELLO-SHEEN. Cl. 37.  
 729,751. TOP TIPS. Cl. 38.  
 729,752. THE BIG IDEA. Cl. 38.  
 729,753. 50+ AND DESIGN. Cl. 38.  
 729,756. THE TENNESSEE FARMER & HOMEMAKER. Cl. 38.  
 729,757. CONFACTS. Cl. 38.  
 729,765. SWEETHEART. Cl. 39.  
 729,766. DESIGNED BY BONCHI. Cl. 39.  
 729,771. CHECKERETTE. Cl. 39.  
 729,772. BRI-NYLON. Cl. 39.  
 729,782. ROYAL OAK. Cl. 39.  
 729,787. BRI-NYLON. Cl. 42.  
 729,793. BRI-NYLON. Cl. 43.  
 729,800. PAT'S. Cl. 46.  
 729,803. STEWART SERVE E-Z. Cl. 46.  
 729,804. CAL-CUTTA. Cl. 46.  
 729,805. SUGAR-HEART. Cl. 46.  
 729,806. DESERT RANCH. Cl. 46.  
 729,808. HILTON'S AND DESIGN. Cl. 46.  
 729,817. THE BRATS. Cl. 46.  
 729,822. GRAND NATIONAL. Cl. 46.  
 729,824. VER-RAY AND DESIGN. Cl. 46.  
 729,827. AR AND CREST DESIGN. Cl. 47.

729,830. ABRAC. Cl. 49.  
 729,833. E-Z PLATE AND DESIGN. Cl. 50.  
 729,834. PARTY-TOTE. Cl. 50.  
 729,837. BIO MASQUE. Cl. 51.  
 729,840. TRI CLEAN AND DESIGN. Cl. 51.  
 729,846. SLIMORAMA. Cl. 100.  
 729,850. PETER PLENTY. Cl. 100.  
 729,857. AUCTION JUBILEE. Cl. 101.  
 729,860. VER-RAY AND DESIGN. Cl. 101.  
 729,861. IT AND DESIGN. Cl. 102.  
 729,865. SUPERMARKET TRAVEL. Cl. 105.  
 729,869. N & W Ry. Cl. 105.  
 729,872. THE HOME CHURCH. Cl. 107.  
 729,873. JUMPIN' GYMNY. Cl. 107.  
 729,874. TOP CASH QUIZ. Cl. 107.  
 729,877. KENTUCKY HICKORY. Cl. 1.  
 729,878. FUR-FLOC. Cl. 1.  
 729,879. APPAREL FOAM. Cl. 1.  
 729,880. FORMULA 5. Cl. 1.  
 729,886. PACKAGE DESIGN. Cl. 18.  
 729,887. BEST BUY. Cl. 18.  
 729,892. PRAYER-POEMS AND DESIGN. Cl. 38.  
 729,894. BUTTER-KAESE AND DESIGN. Cl. 46.  
 729,899. CONTAINER DESIGN. Cl. 49.  
 729,900. MARTELL V.S.E.P. AND DESIGN. Cl. 49.  
 729,904. "SELF TAN." Cl. 51.  
 729,905. LLOYD'S. Cl. 52.  
 729,907. THE PEABODY COLLECTION. Cl. 100.

## Section 18

352,190. TOMMIE TUCKINS. Cl. 39. 11-23-37.

## TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

118,351. CHESTERFIELD AND DESIGN. Cl. 17. 8-28-17. United Cigar Manufacturers Company, General Cigar Co., Inc., New York, N.Y. Amended: In the statement, column 1, lines 13 and 14 are deleted, and the drawing is amended to appear as follows:



236,895. S. S. PIERCE PURITAS ET CURA AND DESIGN. Cl. 46. 12-27-27. S. S. Pierce Co., Boston, Mass. Amended to appear:



327,994. TELEMATIC. Cl. 21. 9-10-35. Dictograph Products Company, Inc. Dictograph Products, Inc., Danbury, Conn. Corrected: In the Statement, column 1, line 8, "dictographs or" should be deleted.

671,690. ESSE QUAM VIDERI AND DESIGN. Cl. 9. 12-30-58. Interarmco Limited, Alexandria, Va. Amended to appear:



727,870. FERTILIZER FOR A GROWING AMERICA ETC. AND DESIGN. Cl. 10. 2-27-62. The American Agricultural Chemical Company, New York, N.Y. Amended to appear:



752,794. MAYFLOWER. Cl. 17. 7-16-63. Kristinus Kommanditgesellschaft, Munich, Germany. Corrected: In the statement, column 2, lines 1 through 3, the description of goods should be deleted and *cigarettes and cigarette papers* should be inserted.

795,373. ROLLING GREEN. Cl. 1. 9-7-65. Berger & Plate Company of San Francisco, doing business as Berger & Plate Company, San Francisco, Calif. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States comprising the States of California, Arizona, Colorado, Nebraska, New Mexico, Oklahoma, and Texas by order of the Commissioner dated April 17, 1968, following decision on Cancellation Proceeding No. 8832, *Seaboard Seed Company v. Berger & Plate Company of San Francisco, doing business as Berger & Plate Company*.

839,866. LOREMED. Cl. 18. 12-5-67. The William A. Webster Co., Memphis, Tenn. Amended: In the statement, column 2, line 3, "and for fever reduction" is deleted.

846,665. CONEX. Cl. 23. 3-26-68. Illinois Tool Works Inc., Chicago, Ill. Corrected: In the statement, column 1, line 4, "packing" should be deleted and *packaging* should be inserted.

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MAY 28, 1968

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 Cambridge Instrument Co. Ltd., London, England. 849,781, pub. 3-12-68. Cl. 26.  
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 Carter, Mary, Paint Co., Tampa, Fla. 849,685, pub. 3-12-68. Cl. 16.



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 Clay-Adams, Inc., New York, N.Y. 849,780, pub. 3-12-68. Cl. 26.  
 Cleveland Electro Metals Co., The, Cleveland, Ohio. 849,675, pub. 3-12-68. Cl. 14.  
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 Clinton Nursery Products, Inc., Clinton, Conn. 729,880, can. Cl. 1.  
 Clover Club Foods Co., Kaysville, Utah. 849,904, pub. 3-12-68. Cl. 46.  
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 Congoleum-Nairn Inc., Kearny, N.J. 849,707, pub. 3-12-68. Cl. 20.  
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 Coors Porcelain Co., Golden, Colo. 849,822, pub. 3-12-68. Cl. 35.  
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 Daggett & Ramsdell International Corp., from World Wide Fragrances, Inc., New York, N.Y. 849,939, pub. 4-18-67. Cl. 51.  
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 Haig, Sarah, Bronx, N.Y. 849,852, pub. 3-12-68. Cl. 39.  
 Hallmark Cards, Inc., Kansas City, Mo. 729,750, can. Cl. 37.  
 Hallmark Cards, Inc., Kansas City, Mo. 849,842, pub. 3-12-68. Cl. 38.  
 Hallmark Cards, Inc., Kansas City, Mo. 849,972, pub. 3-12-68. Cl. 101.  
 Hallmark Cards, Inc., Kansas City, Mo. 850,018, Cl. 38.  
 Hammond Plastics, Inc., Worcester, Mass. 849,640, pub. 3-12-68. Cl. 1.  
 Hangsterfer's Laboratories, Inc., Mantua, N.J. 849,680-3, pub. 3-12-68. Cl. 15.  
 Hansell, Ulf, St. Paul, Minn. 849,846, pub. 3-12-68. Cl. 38.  
 Hart Schaffner & Marx: See—  
 Decker, Alfred, & Cohn, Inc.  
 Hartford Sugar Co., The, Hartford, Conn. 729,805, can. Cl. 46.  
 Hartmann Co., Racine, Wis., to Hartmann Luggage Co., Lebanon, Tenn. 439,535, ren. 5-28-68. Cl. 3.  
 Hartmann Luggage Co.: See—  
 Hartmann Co.  
 Hecksher, Robert, d.b.a. Public Services Broadcasting, West Palm Beach, Fla. 729,874, can. Cl. 107.  
 Hempel, Harvey W., Jr., Milwaukee, Wis. 849,726, pub. 3-12-68. Cl. 22.  
 Herman Brothers Seed Merchants, Inc., Detroit, Mich. 849,902, pub. 3-12-68. Cl. 46.  
 Higgins, Richard H., Hialeah, Fla. 849,670, pub. 3-12-68. Cl. 12.  
 Hilton Hotels Corp., Chicago, Ill. 849,963, pub. 3-12-68. Cl. 100.  
 Hilton Products, Inc., Beverly Hills, Calif. 729,808, can. Cl. 46.  
 Hodgdon, Barbara, Washington, D.C. 850,003, pub. 3-12-68. Cl. 107.  
 Holland Tulip Time Festival, Inc., Holland, Mich. 850,001, pub. 3-12-68. Cl. 107.  
 Home State Farm Publications, Inc., Cleveland, Ohio. 729,756, can. Cl. 38.  
 Hosmer, A. J., Corp., Campbell, Calif. 849,884, pub. 3-12-68. Cl. 45.  
 Household Pest Control, Chicago, Ill. 849,993, pub. 3-12-68. Cl. 103.  
 Hunt, Thomas R., d.b.a. Cribdrawer Co., Ambler, Pa. 729,726, can. Cl. 32.  
 Hyman, Edgar C. Co., to Edgar C. Hyman Co., Inc., New York, N.Y. 246,934, ren. 5-28-68. Cl. 39.  
 Hyman, Edgar C. Co., Inc.: See—  
 Hyman, Edgar C. Co.  
 Hyman, Edward, Co., Culver City, Calif. 849,992, pub. 3-12-68. Cl. 103.  
 Hyman, M., & Son Inc., Chicago, Ill. 849,866, pub. 3-12-68. Cl. 39.  
 Illinois Tool Works Inc., Chicago, Ill. 846,665, cor. Cl. 23.  
 Illinois Yarn Co., Rochelle, Ill. 849,882, pub. 3-12-68. Cl. 43.  
 Imperial Knife Associated Companies, Inc., Providence, R.I. 849,765, pub. 1-23-68. Cl. 23.  
 Indian Head Inc.: See—  
 Linen Thread Co., Inc., The.  
 Indiana General Corp.: See—  
 Stearns Magnetic Mfg. Co.  
 Industrial Grain Products, Ltd., Montreal, Quebec, Canada. 849,775, pub. 3-12-68. Cl. 23.  
 Industrial Heater Co., San Jacinto, Calif. 729,718, can. Cl. 26.  
 Industrial Systems Co.: See—  
 Brasch, Benjamin F.  
 Instrument Society of America, Pittsburgh, Pa. 850,019, Cl. 38.  
 Instrument Systems Corp., Huntington, N.Y. 849,714, pub. 3-12-68. Cl. 21.  
 Insur-A-Trip, Inc., Charlotte, N.C. 729,861, can. Cl. 102.  
 Integrated Ceilings Inc., Los Angeles, Calif. 850,013, Cl. 34.

Intereo Inc., St. Louis, Mo. 849,863, pub. 3-12-68. Cl. 39.  
 International Paper Co., New York, N.Y. 849,671, pub. 3-12-68. Cl. 12.  
 International Silver Co., The, Meriden, Conn. 849,774, pub. 3-12-68. Cl. 23.  
 International Telephone and Telegraph Corp., New York, N.Y. 849,720, pub. 3-12-68. Cl. 21.  
 International Telephone and Telegraph Corp., New York, N.Y. 849,754, pub. 3-12-68. Cl. 28.  
 Istag AG, Suhr, Aargau, Switzerland. 849,819, pub. 3-12-68. Cl. 35.  
 Itzhalf, Inc., New York, N.Y. 849,872, pub. 3-12-68. Cl. 40.  
 Itek Corp., Lexington, from Wayne-George Corp., Newton, Mass. 849,784, pub. 3-12-68. Cl. 26.  
 Jacmar Ltd., London, England. 437,679, ren. 5-28-68. Cl. 42.  
 Jet-Heat, Inc., Englewood, N.J. 729,727, can. Cl. 34.  
 Jewel Box Stores Corp., Greensboro, N.C. 849,776, pub. 3-12-68. Cl. 23.  
 Johns-Manville Corp., New York, N.Y. 729,610, can. Cl. 12.  
 Johnson-March Corp., d.b.a. Triple E Co., Philadelphia, Pa. 849,971, pub. 3-12-68. Cl. 101.  
 Kabushiki Kaisha Nakajima Seisakusho, Matsue-Shi, Shimane-Ken, Japan. 849,748, pub. 3-12-68. Cl. 23.  
 Kallman, Herbert M., d.b.a. H. Michaelis Kallmann, Bingen (Rhine), Germany. 849,928, pub. 3-12-68. Cl. 47.  
 Kallmann, H. Michaelis: See—  
 Kallman, Herbert M.  
 Kaylon, Inc., New York, N.Y. 352,190, can. Cl. 39.  
 Kehr Products Co., Willow Grove, Pa. 729,740, can. Cl. 37.  
 Kellogg Co., Battle Creek, Mich. 849,918-19, pub. 3-12-68. Cl. 46.  
 Kellogg Co., Battle Creek, Mich. 849,921, pub. 3-12-68. Cl. 46.  
 Kelton Hats, New York, N.Y. 849,870, pub. 3-12-68. Cl. 39.  
 Kendall Co., The, Walpole, Mass. 849,850, pub. 3-12-68. Cl. 39.  
 Ken-Ray Brass Products, Inc., Vermont, Ill. 849,672, pub. 3-12-68. Cl. 13.  
 Kepner-Tregoe & Associates, Inc., Princeton, N.J. 849,965, pub. 3-12-68. Cl. 101.  
 Kern Valley Packing Co., Bakersfield, Calif. 849,897, pub. 3-12-68. Cl. 46.  
 Keuffel & Esser Co., Hoboken, N.J. 68,727, ren. 5-28-68. Cl. 37.  
 Kingbird Products, Inc., El Monte, Calif. 729,725, can. Cl. 31.  
 Kingway Products Co.: See—  
 Rexall Drug & Chemical Co.  
 Kleer-Vu Industries, Inc., New York, N.Y. 849,048, pub. 1-17-67. Cl. 2.  
 Klipspringer Investments Proprietary Ltd., Braybrook, Victoria, Australia. 849,725, pub. 3-12-68. Cl. 22.  
 Knapp Bros. Shoe Mfg. Corp., Brockton, Mass. 849,859, pub. 3-12-68. Cl. 39.  
 Koppers Co., Inc., Pittsburgh, Pa. 849,743, pub. 3-12-68. Cl. 23.  
 Kraft Foods Co., to National Dairy Products Corp., Chicago, Ill. 438,521, ren. 5-28-68. Cl. 46.  
 Kristinus Kommanditgesellschaft, Munich, Germany. 752,794, cor. Cl. 17.  
 Krone, Burt, Co., Springfield, Mo. 729,656, can. Cl. 18.  
 Krone, Burt, Co., Springfield, Mo. 729,658, can. Cl. 18.  
 Kurbi & Niggeloh, Kaiserstrasse, Radevormwald, Germany. 849,797, pub. 3-12-68. Cl. 28.  
 Laco Corp., Baltimore, Md. 849,652, pub. 3-12-68. Cl. 4.  
 Laciolla Food Products Co.: See—  
 Maldonado, Avelino.  
 Lady Baltimore Office Services, Inc., Baltimore, Md. 849,969, pub. 3-12-68. Cl. 101.  
 La Monte, George, & Son, New York, N.Y., and Nutley, N.J., to Georgia-Pacific Corp., Portland, Oreg. 68,291, ren. 5-28-68. Cl. 37.  
 Lane Ltd., New York, N.Y. 849,663, pub. 3-12-68. Cl. 8.  
 Lantien Medical Laboratories, Inc., Chicago, Ill., to Esta Medical Laboratories, Inc., New York, N.Y. 436,653, ren. 5-28-68. Cl. 18.  
 Lantien Medical Laboratories, Inc., Chicago, Ill., to Esta Medical Laboratories, Inc., New York, N.Y. 437,625, ren. 5-28-68. Cl. 18.  
 Lanvin-Charles of the Ritz, Inc., New York, N.Y. 849,807, pub. 3-12-68. Multiple Class (Classes 29 and 51).  
 Laurie, Annie, Confectioners: See—  
 Laurie, Annie, Confectioners, Inc.  
 Laurie, Anne, Confectioners, Inc., d.b.a. Annie Laurie Confectioners, Fresno, Calif. 849,898, pub. 3-12-68. Cl. 46.  
 Layton Mfg. Co., Salem, Oreg. 849,741, pub. 3-12-68. Cl. 23.  
 Leopold & Stevens Instruments, Inc., Portland, Oreg. 849,782, pub. 3-12-68. Cl. 26.  
 Levi, Hans L., New York, N.Y. 849,833, pub. 10-24-67. Cl. 37.  
 Lewis, G. B., Co., Watertown, Wis. 849,744, pub. 3-12-68. Cl. 23.  
 Liebman, Theodore, Rye, N.Y. 729,735, can. Cl. 37.  
 Life Instrument Co., Inc., Franklin, Mass. 849,711, pub. 3-21-68. Cl. 21.  
 Limoneira Co., Santa Paula, Calif. 244,189, ren. 5-28-68. Cl. 46.  
 Linen Thread Co., Inc., The, to Indian Head Inc., New York, N.Y. 500,894-5, ren. 5-28-68. Cl. 43.  
 Lipsky, Maurice, Music Co., Inc., New York, N.Y. 849,827, pub. 3-12-68. Cl. 30.  
 Lloyd's Shampoo: See—  
 Wenner, Lloyd J.  
 Lunkenheimer Co., The, to The Lunkenheimer Co., Cincinnati, Ohio. 70,450, ren. 5-28-68. Cl. 13.  
 Lysall Gesellschaft mit beschränkter Haftung, Hamburg-Stellingen, Germany. 849,903, pub. 3-12-68. Cl. 46.



MFS Co.: See—  
 Morrissey, R. Michael.  
 Machine-O-Matic, Inc., Evanston, Ill. 849,779, pub. 3-12-68. Cl. 26.  
 Mackintosh-Hemphill Co., to E. W. Bliss Co., Pittsburgh, Pa. 437,502, ren. 5-28-68. Cl. 23.  
 Madison, Dolly, Industries, Inc., Philadelphia, Pa. 849,964, pub. 3-12-68. Cl. 100.  
 Magla Products: See—  
 Clatt, Herbert.  
 Magness, Robert F., Michigan City, Ind. 849,728, pub. 3-12-68. Cl. 22.  
 Magrath, Joseph M., d.b.a. The Great Plains Co., McCook, Nebr. 849,891, pub. 3-12-68. Cl. 44.  
 Major Petroleum Co., Philadelphia, Pa. 849,677-8, pub. 3-12-68. Cl. 15.  
 Major-Prodotti Dentari-Società in Nome Collettivo di Renaldo Giovanni & Figli, Turin, Italy. 849,890, pub. 3-12-68. Cl. 44.  
 Maldonado, Avelino, d.b.a. Laerlolla Food Products Co., Chicago, Ill. 849,929, pub. 3-12-68. Cl. 48.  
 Maltine Co., The, New York, N.Y., to Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 437,664, ren. 5-28-68. Cl. 6.  
 Mamiye Bros. Inc., New York, N.Y. 849,856, pub. 3-12-68. Cl. 39.  
 Manufacture des Montres Universal Perret Freres S.A., Geneva, Switzerland. 849,804, pub. 3-12-68. Cl. 27.  
 Maremont Corp., Chicago, Ill. 849,697, pub. 3-12-68. Cl. 19.  
 Maremont Corp., Chicago, Ill. 849,824, pub. 3-12-68. Cl. 35.  
 Mario, Bob: See—  
 Bobadilla, Mario J.  
 Marquette Petroleum Products, Inc., Chicago, Ill. 243,139, ren. 5-28-68. Cl. 15.  
 Martell, J. & F. Inc., New York, N.Y. 729,900, can. Cl. 49.  
 Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 849,717, pub. 3-12-68. Cl. 21.  
 Mattel, Inc., Hawthorne, Calif. 849,737, pub. 3-12-68. Cl. 22.  
 Mattel, Inc., Hawthorne, Calif. 849,830, pub. 5-31-66. Cl. 37.  
 Mattson, Bradford: See—  
 Wilbur-Ellis Co.  
 Mauser Mill Co.: See—  
 Nebraska Consolidated Mills Co.  
 Mem Co., Inc., Northvale, N.J. 849,936, pub. 3-12-68. Cl. 51.  
 McCann, Judith, d.b.a. Wingback Co., to Wingback, Inc., New York, N.Y. 437,522, ren. 5-28-68. Cl. 28.  
 McCrory Corp.: See—  
 Best & Co. Inc.  
 McDowell-Wellman Engineering Co., Cleveland, Ohio. 849,702, pub. 3-12-68. Cl. 19.  
 McGraw-Hill, Inc., New York, N.Y. 849,983, pub. 3-12-68. Cl. 101.  
 McGraw-Hill, Inc., New York, N.Y. 850,022. Cl. 38.  
 McIvor, Robert J., d.b.a. Robert & Williams Co., Oakland, Calif. 849,887, pub. 3-12-68. Cl. 44.  
 McLaughlin Gormley King Co., Minneapolis, Minn. 849,660, pub. 3-12-68. Cl. 6.  
 Meat Operations Advisory Service: See—  
 Stimpson, Jim.  
 Melville Shoe Corp., New York, N.Y. 849,871, pub. 3-12-68. Cl. 39.  
 Mentholatum Co., The, Buffalo, N.Y. 246,955, ren. 5-28-68. Cl. 51.  
 Messinger Bearings, Inc., Philadelphia, Pa. 849,766, pub. 3-12-68. Cl. 23.  
 Metal Box & Cabinet Corp., Chicago, Ill. 849,811, pub. 3-12-68. Cl. 32.  
 Mettler Instrument Corp., Hightstown, N.J. 849,794, pub. 3-12-68. Cl. 26.  
 Meyer, Joseph H., Bros., Brooklyn, to The Richelleu Corp., Holbrook, N.Y. 439,965, ren. 5-28-68. Cl. 28.  
 Meyers, Frank, Redondo Beach, Calif. 729,873, can. Cl. 107.  
 Micropoint, Inc., Sunnyvale, Calif. 850,017, Cl. 37.  
 Milwaukee Metal Products Co., Milwaukee, Wis. 729,708, can. Cl. 23.  
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 729,721, can. Cl. 26.  
 Misty Harbor, Ltd., New York, N.Y. 849,851, pub. 3-12-68. Cl. 39.  
 Modern Light & Equipment Co., Chicago, Ill. 849,708, pub. 12-13-66. Cl. 21.  
 Mohawk Rubber Co., The, Akron, Ohio. 438,300, ren. 5-28-68. Cl. 35.  
 Monopoles Alfred Rothchild: See—  
 Myers, Roger L.  
 Monterey Fish Co., Monterey, Calif. 849,927, pub. 3-12-68. Cl. 46.  
 Montgomery Ward & Co., Inc., Chicago, Ill. 729,782, can. Cl. 39.  
 Moore Mfg. Inc., San Francisco, Calif. 850,015-16. Cl. 35.  
 Morris, Philip, Inc.: See—  
 Benson & Hedges.  
 Morris, Philip, Inc., d.b.a. Flavor Tree Foods Co., New York, N.Y. 849,915, pub. 3-12-68. Cl. 46.  
 Morris, Philip, Inc., d.b.a. Flavor Tree Foods Co., New York, N.Y. 849,924-5, pub. 3-12-68. Cl. 46.  
 Morrissey Food Sales: See—  
 Morrissey, R. Michael.  
 Morrissey, R. Michael, d.b.a. Morrissey Food Sales, and MFS Co., Bethesda, Md. 849,906, pub. 3-12-68. Cl. 46.  
 Morton International, Inc., Chicago, Ill. 849,916, pub. 3-12-68. Cl. 46.  
 Mosley Machinery Co., Inc., Waco, Tex. 849,763, pub. 3-12-68. Cl. 23.  
 Mustang Motor Products Corp.: See—  
 Gladden, John N.  
 Muth, K. W., Co., Sheboygan, Wis. 850,000, pub. 3-12-68. Cl. 106.  
 Myers, Roger L., d.b.a. Monopoles Alfred Rothchild, Beaune, France. 729,827, can. Cl. 47.  
 Myrurgia, S.A., Barcelona, Spain. 850,029. Multiple Class (Classes 51 and 52).  
 NEA Service, Inc., to Newspaper Enterprise Assn., Inc., Cleveland, Ohio. 243,765, ren. 5-28-68. Cl. 38.  
 Naas Foods Inc., Portland, Ind. 849,907, pub. 3-12-68. Cl. 46.  
 National Assn. of Mutual Savings Banks, New York, N.Y. 849,962, pub. 3-12-68. Cl. 100.  
 National Biscuit Co.: See—  
 Cream of Wheat Co.  
 National Dairy Products Corp.: See—  
 Kraft Foods Co.  
 National Family Opinion, Inc., Toledo, Ohio. 849,982, pub. 3-12-68. Cl. 101.  
 National Food Stores: See—  
 National Tea Co.  
 National Paint & Oil Co., Nashville, Tenn. 849,684, pub. 3-12-68. Cl. 16.  
 National Tea Co., d.b.a. National Food Stores, Chicago, Ill. 849,894, pub. 9-5-67. Cl. 46.  
 Naturana-Miederfabriken Carl Kolker KG, Gomarlingen Uber, Reutlingen, Germany. 849,855, pub. 3-12-68. Cl. 39.  
 Navajo Freight Lines, Inc., Denver, Colo. 849,995, pub. 3-12-68. Cl. 105.  
 Navan Inc., El Segundo, Calif. 849,816, pub. 3-12-68. Cl. 34.  
 Nebraska Consolidated Mills Co., d.b.a. Mauser Mill Co., Omaha, Nebr. 849,901, pub. 6-6-67. Cl. 46.  
 New Orleans Saints, New Orleans, La. 850,006-7, pub. 3-12-68. Cl. 107.  
 New York Limestone Corp., White Plains, N.Y. 849,639, pub. 3-12-68. Cl. 1.  
 New York & Pennsylvania Co., Inc., New York, N.Y. 729,746, can. Cl. 37.  
 Newspaper Enterprise Assn., Inc.: See—  
 NEA Service, Inc.  
 Norfolk & Western Railway Co., Roanoke, Va. 729,869, can. Cl. 105.  
 Northrup, King & Co., Minneapolis, Minn. 729,571, can. Cl. 1.  
 Northwestern National Insurance Co. of Milwaukee, Wis., Milwaukee, Wis. 849,987-8, pub. 3-12-68. Cl. 102.  
 Nozell Corp., Baltimore, Md. 849,944, pub. 3-12-68. Cl. 51.  
 Nunes Bros. of California, Inc., Salinas, Calif. 849,910, pub. 3-12-68. Cl. 46.  
 Oklahoma Publishing Co., The, Oklahoma City, Okla. 849,878-9, pub. 3-12-68. Cl. 101.  
 Omr Bakeries, Inc., Columbus, Ohio. 849,893, pub. 3-12-68. Cl. 45.  
 Onida Ltd., Onida, N.Y. 849,769-73, pub. 3-12-68. Cl. 23.  
 Orion Records, Inc., Evanston, Ill. 729,731, can. Cl. 36.  
 Osborn Mfg. Co., The: See—  
 Rubico Brush Manufacturers, Inc.  
 Overmyer, D. H., Leasing Co., New York, N.Y. 849,957, pub. 3-12-68. Cl. 100.  
 Oxford Chemicals: See—  
 Consolidated Foods Corp.  
 Oxwall Tool Co., Ltd., Flushing, N.Y. 849,764, pub. 3-12-68. Cl. 23.  
 P & E Electronics, Inc., East Providence, R.I. 849,791, pub. 3-12-68. Cl. 26.  
 Pacific Alaska Fisheries, Inc., Seattle, Wash. 849,905, pub. 3-12-68. Cl. 46.  
 Pacific Interchange Parts, Inc., Los Angeles, Calif. 849,705, pub. 3-12-68. Cl. 19.  
 Packard-Bell Electronics Corp., Los Angeles, Calif. 849,709, pub. 3-12-68. Cl. 21.  
 Page & Hill Co., to Page & Hill Forest Products, Inc., Minneapolis, Minn. 500,203, ren. 5-28-68. Cl. 12.  
 Page & Hill Forest Products, Inc.: See—  
 Page & Hill Co.  
 Palano Productions, Los Angeles, Calif. 849,825, pub. 3-12-68. Cl. 36.  
 Palensuela, Avelino R., New York, N.Y. 850,004, pub. 3-12-68. Cl. 107.  
 Pandjiris Weldment Co., The, St. Louis, Mo. 849,740, pub. 3-12-68. Cl. 23.  
 Parents Without Partners, Inc., New York, N.Y. 849,958, pub. 3-12-68. Cl. 100.  
 Parke, Davis & Co., Detroit, Mich. 849,888, pub. 3-12-68. Cl. 44.  
 Parker, John & Associates, Inc.: See—  
 Parker, John J., & Associates, Inc.  
 Parker, John J., & Associates, Inc., d.b.a. John Parker & Associates, Inc., and 4 Seasons Tours, Seattle, Wash. 849,996, pub. 3-12-68. Cl. 105.  
 Parker Pen Co., The, Janesville, Wis. 500,367, ren. 5-28-68. Cl. 11.  
 Party-Tote Co.: See—  
 Wilbur-Ellis Co.  
 Pastene & Co., Inc.: See—  
 Pastene, P., & Co. Inc.  
 Pastene, P., & Co. Inc., Boston, Mass., to Pastene & Co., Inc., d.b.a. Splendor Products Co., New York, N.Y. 241,362, ren. 5-28-68. Cl. 46.  
 Patch, E. L., Co., The, Stoneham, Mass., to Smith, Miller & Patch, Inc., New York, N.Y. 240,349, ren. 5-28-68. Cl. 18.  
 Pat's Pie Co.: See—  
 Bell, Burt.  
 Peabody, Lawrence, d.b.a. Lawrence Peabody Associates, Boston, Mass. 729,907, can. Cl. 100.  
 Peabody, Lawrence, Associates: See—  
 Peabody, Lawrence.

Penney, J. C., Co., New York, N.Y. 849,848, pub. 3-12-68. Cl. 39.  
 Perfumes by Brigitte, Beverly Hills, Calif. 849,940, pub. 7-4-67. Cl. 51.  
 Perkins, Mary E., d.b.a. Salty Caps & Apparel, Fort Worth, Tex. 849,858, pub. 3-12-68. Cl. 39.  
 Perma-Power Co., Chicago, Ill. 849,710, pub. 3-21-68. Cl. 21.  
 Peterson's Ltd., Inc., New York, N.Y. 849,006, pub. 3-12-68. Cl. 8.  
 Pfizer, Chas. & Co., Inc., New York, N.Y. 850,024. Cl. 40.  
 Phar-Med, Inc., East Detroit, Mich. 729,886, can. Cl. 18.  
 Phillips Petroleum Co., Bartlesville, Okla. 438,427, ren. 5-28-68. Cl. 16.  
 Pierce, S. S., Co., Boston, Mass. 236,895. Am. 7(d). Cl. 46.  
 Pierrot, J., Champagne Cellars: See—  
 Schenley Distillers, Inc.  
 Pillsbury Co., The, Minneapolis, Minn. 729,822, can. Cl. 46.  
 Pioneer Magnetics Inc., Santa Monica, Calif. 729,670-2, can. Cl. 21.  
 Piv-it Products Inc., San Jose, Calif. 849,874, pub. 3-12-68. Cl. 40.  
 Plus Publications, Inc., Washington, D.C. 729,753, can. Cl. 38.  
 Pole Control, Inc., Minneapolis, Minn. 849,959, pub. 3-12-68. Cl. 100.  
 Pollak Bros. Inc., Fort Wayne, Ind. 849,864, pub. 3-12-68. Cl. 39.  
 Power Brake Parts Mfg. Co., Chicago, Ill. 849,699, pub. 3-12-68. Cl. 19.  
 Powers, John Robert, Products Co., Inc., New York, N.Y. 729,837, can. Cl. 51.  
 Prayer-Poems Publishing Co.: See—  
 Sortiri, Samuel V.  
 Premier Letter Service, Inc., Chicago, Ill. 849,970, pub. 3-12-68. Cl. 101.  
 Premilumwares Ltd., Rexdale, Ontario, Canada. 849,906, pub. 3-12-68. Cl. 101.  
 Prescolite Mfg. Corp.: See—  
 U.S. Industries, Inc.  
 Professional Communications, Inc., Chicago, Ill. 849,838, pub. 3-12-68. Cl. 38.  
 Pro-Stim Products, Inc., Akron, Ohio. 849,806, pub. 3-12-68. Cl. 29.  
 Public Services Broadcasting: See—  
 Hecksher, Robert.  
 Quaker Oats Co., The, Chicago, Ill. 849,895, pub. 3-12-68. Cl. 46.  
 Quaker Oats Co., The, Chicago, Ill. 849,920, pub. 3-12-68. Cl. 46.  
 Quaker Oats Co., The, Chicago, Ill. 849,922, pub. 3-12-68. Cl. 46.  
 Radio Corp. of America, New York, N.Y. 439,037, ren. 5-28-68. Cl. 21.  
 Ranch House Restaurants, Inc., The, Fort Lauderdale, Fla. 849,954, pub. 3-12-68. Cl. 100.  
 Rank Organisation Ltd., The, London, England. 849,800, pub. 3-12-68. Cl. 26.  
 Ravens-Metal Products, Inc., Parkersburg, W. Va. 849,050, pub. 3-12-68. Cl. 2.  
 Raytheon Co., Lexington, Mass. 849,801, pub. 3-12-68. Cl. 26.  
 Record Service Center, Houston, Tex. 850,008. Cl. 2.  
 Redman Industries, Inc., Dallas, Tex. 849,703, pub. 3-12-68. Cl. 19.  
 Regis Chemical Co., Chicago, Ill. 849,658, pub. 3-12-68. Cl. 6.  
 Remedy Co.: See—  
 Bergeron, Alfred.  
 Rexall Drug & Chemical Co., d.b.a. Kingsway Products Co., St. Louis, Mo. 729,887, can. Cl. 18.  
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 849,687-95, pub. 3-12-68. Cl. 17.  
 Rheem Mfg. Co., New York, N.Y. 849,746, pub. 3-12-68. Cl. 23.  
 Rich, Louis, Foods, Inc., West Liberty, Iowa. 849,912, pub. 3-12-68. Cl. 46.  
 Richardson Co., The, Melrose Park, Ill. 849,645-6, pub. 3-12-68. Cl. 1.  
 Richelleu Corp., The: See—  
 Meyer, Joseph H., Bros.  
 Riegel Textile Corp.: See—  
 Ware Shoals Mfg. Co.  
 Riley Electric Log, Inc., Oklahoma City, Okla. 849,837, pub. 3-12-68. Cl. 38.  
 Ritter Pfaudler Corp.: See—  
 Ward-Love Pump Corp.  
 Robert & Williams Co.: See—  
 McIvor, Robert J.  
 Rodale Press, Inc., Emmaus, Pa. 850,021. Cl. 38.  
 Rollway Bearing Co., Inc., Liverpool, N.Y. 849,767-8, pub. 3-12-68. Cl. 23.  
 Roma Wine Co.: See—  
 Schenley Distillers, Inc.  
 Ronson Art Metal Works, Inc., Newark, to Ronson Corp., Woodbridge, N.J. 500,467, ren. 5-28-68. Cl. 8.  
 Ronson Corp.: See—  
 Ronson Art Metal Works, Inc.  
 Rubeda Imports, Ltd.: See—  
 Ekenasy, Fred.  
 Rubico Brush Manufacturers, Inc., New York, N.Y., to The Osborn Mfg. Co., Cleveland, Ohio. 500,541, ren. 5-28-68. Cl. 29.  
 Rustler, Inc., The, Glen Burnie, Md. 849,955, pub. 3-12-68. Cl. 100.  
 Safeway Stores, Inc., Oakland, Calif. 849,923, pub. 3-12-68. Cl. 46.  
 Sakowicz, Sig., Chicago, Ill. 850,002, pub. 3-12-68. Cl. 107.  
 Salty Caps & Apparel: See—  
 Perkins, Mary E.  
 Sanford Finishing Corp., Sanford, N.C. 849,880, pub. 3-12-68. Cl. 42.  
 Santa Rita Technology, Inc., Menlo Park, Calif. 849,796, pub. 3-12-68. Cl. 26.  
 Santiago Daurella De Kull, Barcelona, Spain. 849,892, pub. 3-12-68. Cl. 45.  
 Schenley Distillers, Inc., d.b.a. Roma Wine Co., and J. Pierrot Champagne Cellars, New York, N.Y. 850,026. Cl. 47.  
 Schering Corp., Bloomfield, N.J. 729,649, can. Cl. 18.  
 Schleffelin & Co., New York, N.Y. 437,833, ren. 5-28-68. Cl. 51.  
 Schlesinger, Maurice F., d.b.a. Bendiner & Schlesinger, to Bendiner & Schlesinger, Inc., New York, N.Y. 248,720, ren. 5-28-68. Cl. 18.  
 Scriber Co., The, Dayton, Ohio. 849,762, pub. 3-12-68. Cl. 23.  
 Scientific Industries, Inc., Hempstead, N.Y. 849,778, pub. 3-12-68. Cl. 26.  
 Scott Paper Co., Chester, Pa. 729,879, can. Cl. 1.  
 Seafame Corp., McLean, Va. 849,948, pub. 3-12-68. Cl. 51.  
 Sears, Roebuck & Co., Chicago, Ill. 849,813, pub. 3-12-68. Cl. 32.  
 Servicemaster Industries Inc., from Wade, Wenger Service-master Co., Downers Grove, Ill. 849,654, pub. 3-12-68. Cl. 6.  
 Shenandoah Candy Co., Inc., Winchester, Va. 850,023. Cl. 46.  
 Sifar S.A., Neuchatel, Switzerland. 849,802, pub. 3-12-68. Cl. 27.  
 Silver Bear, Inc., Atlanta, Ga. 849,835, pub. 3-12-68. Cl. 37.  
 Slimmette Salons, Inc., New York, N.Y. 729,846, can. Cl. 100.  
 Smith, Miller & Patch, Inc.: See—  
 Patch, E. L., Co., The.  
 Societe Anonyme des Etablissements Leon Hatot, Paris, France. 849,803, pub. 3-12-68. Cl. 27.  
 Societe Anonyme Fabriques Reunies de Fibro-Ciment: See—  
 Asbestine (Societe Anonyme).  
 Societe Franco Hispano Americaine Franciscam, Paris, France. 849,664, pub. 3-12-68. Cl. 8.  
 Soft Ice Cream Corp. of America, The, Atlanta, Ga. 729,850, can. Cl. 100.  
 Sola Basic Industries, Inc., Milwaukee, Wis. 849,818, pub. 3-12-68. Cl. 34.  
 Songrand Corp., The, Kansas City, Mo. 849,885, pub. 3-12-68. Cl. 44.  
 Sortiri, Samuel Venechanos, d.b.a. Prayer-Poems Publishing Co., Wanaque, N.J. 729,892, can. Cl. 38.  
 Sounds Unlimited Recording Co., Inc., Lubbock, Tex. 849,829, pub. 3-12-68. Cl. 36.  
 Source EDP, Inc., Chicago, Ill. 849,973-4, pub. 3-12-68. Cl. 101.  
 Southern Cross Industries, Inc., Atlanta, Ga. 849,812, pub. 3-12-68. Cl. 32.  
 Sottile, Frank S., West Hartford, Conn. 649,984, pub. 3-12-68. Cl. 102.  
 Spartana Industries, Inc., New York, N.Y. 849,860, pub. 3-12-68. Cl. 39.  
 Speakman Co., Wilmington, Del. 849,673, pub. 3-12-68. Cl. 13.  
 Spectral Dynamics Corp., San Diego, Calif. 849,798, pub. 3-12-68. Cl. 26.  
 Sperry Rand Corp., New York, N.Y. 849,758, pub. 3-12-68. Cl. 23.  
 Splendor Products Co.: See—  
 Pastene, P., & Co. Inc.  
 Sportwear Hosiery Mills, Inc., Etowah, Tenn. 849,862, pub. 3-12-68. Cl. 39.  
 Stafo Corp., Mancelona, Mich. 849,727, pub. 3-12-68. Cl. 22.  
 Standard Oil Co., Chicago, Ill. 439,128, ren. 5-28-68. Cl. 15.  
 Standard Oil Co., The, Cleveland, Ohio. 849,788, pub. 3-12-68. Cl. 26.  
 Stanforth, E. G., d.b.a. Stanforth Enterprises, Jefferson City, Mo. 729,751, can. Cl. 38.  
 Stanforth Enterprises: See—  
 Stanforth, E. G.  
 Stanley Rule & Level Co., The, to The Stanley Works, New Britain, Conn. 68,867, ren. 5-28-68. Cl. 23.  
 Stanley Rule & Level Co., to The Stanley Works, New Britain, Conn. 69,191, ren. 5-28-68. Cl. 26.  
 Stanley Works, The, New Britain, Conn. 242,157, ren. 5-28-68. Cl. 26.  
 Stanley Works, The: See—  
 Stanley Rule & Level Co., The.  
 Starcraft Corp., Goshen, Ind. 849,701, pub. 3-21-68. Cl. 19.  
 State Brand Creameries, Inc., Mason City, Iowa. 500,957, ren. 5-28-68. Cl. 46.  
 Stauffer & Sons Inc., Blue Mounds, Wis. 729,894, can. Cl. 46.  
 Stearns Magnetic Mfg. Co., Milwaukee, Wis., to Indiana General Corp., Valparaiso, Ind. 438,027, ren. 5-28-68. Cl. 21.  
 Stebbins Engineering & Mfg. Co., The, Watertown, N.Y. 849,989, pub. 3-12-68. Cl. 103.  
 Steelcase, Inc., Grand Rapids, Mich. 849,809, pub. 3-12-68. Cl. 32.  
 Steldinger, Gebruder: See—  
 Dual Gebruder Steldinger.  
 Steiner, Karl, Hammond, Ind. 849,722, pub. 3-12-68. Cl. 21.  
 Sterling Drug Inc.: See—  
 Farbenfabriken of Elberfeld Co.  
 Sterling Pulp & Paper Co., Eau Claire, Wis. 729,744, can. Cl. 37.  
 Stevens-Davis Co., The, Chicago, Ill. 849,841, pub. 3-12-68. Cl. 38.  
 Stevens-Davis Co., The, Chicago, Ill. 849,843-4, pub. 3-12-68. Cl. 38.  
 Stewart In-Fra-Red Commissary: See—  
 Stewart In-Fra-Red, Inc.



- Stewart In-Fra-Red, Inc., d.b.a. Stewart In-Fra-Red Commissary, Harvard, Ill. 729,803, canc. Cl. 46.  
**Stewart-Warner Corp.: See—**  
 Bassick Co., The.  
 Stewarts and Lloyds Ltd., Glasgow, Scotland. 849,076, pub. 3-12-68. Cl. 14.  
 Stimpson, Jim, d.b.a. Meat Operations Advisory Service, Chicago, Ill. 729,824, canc. Cl. 46.  
 Stimpson, Jim, d.b.a. Meat Operations Advisory Service, Chicago, Ill. 729,860, canc. Cl. 101.  
 Stow/Davis Furniture Co., Grand Rapids, Mich. 849,810, pub. 3-12-68. Cl. 32.  
 Strick Trailers: **See—**  
 Fruehauf Trailer Co.  
 Strick Trailers Division: **See—**  
 Fruehauf Trailer Co.  
 Stromberg-Carlson Corp., Rochester, N.Y. 849,786, pub. 3-12-68. Cl. 26.  
 Sullivan, Earl L., Bellevue, Wash. 729,679, canc. Cl. 22.  
 Sunkist Growers, Inc., Los Angeles, Calif. 849,908, pub. 3-12-68. Cl. 46.  
 Sunrise Packing Co.: **See—**  
 Adamek, Ben F.  
 Superior Marking Equipment Co.: **See—**  
 Superior Type Co., The.  
 Superior Type Co., The, to Superior Marking Equipment Co., Chicago, Ill. 241,417, ren. 5-28-68. Cl. 37.  
 Supermarket Travel, Pittsburgh, Pa. 729,865, canc. Cl. 105.  
 Tabor City Foods, Inc., Tabor City, N.C. 849,911, pub. 3-12-68. Cl. 46.  
 Tary Products, Inc., Elmhurst, N.Y. 729,765, canc. Cl. 39.  
 Tempo Products Co.: **See—**  
 Alco Standard Corp.  
 Terra Chemicals International, Inc., Sioux City, Iowa. 849,845, pub. 3-12-68. Cl. 38.  
 Textile Machine Works, Reading, Pa. 849,759, pub. 3-12-68. Cl. 23.  
 Thermotank, Inc., St. Clair Shores, Mich. 729,598, canc. Cl. 12.  
 Thomas, T. J., Co., Inc., Brooklyn, N.Y. 849,732, pub. 3-12-68. Cl. 22.  
 Titan Sales Corp., Kansas City, Mo. 849,817, pub. 3-12-68. Cl. 3.  
 Tri Clean Laboratories: **See—**  
 Clinton, John M.  
 Triple E Co.: **See—**  
 Johnson-March Corp.  
 Triplett Electrical Instrument Co., Bluffton, Ohio. 849,799, pub. 3-12-68. Cl. 26.  
 Tubbs Cordage Co., San Francisco, Calif. 242,167, ren. 5-28-68. Cl. 7.  
 Twin Tilt Truck Co.: **See—**  
 Avril, Arthur C.  
 Tykor Products Inc., to The Borden Co., New York, N.Y. 437,863, ren. 5-28-68. Cl. 52.  
 Union Camp Corp., New York, N.Y. 849,749, pub. 3-12-68. Cl. 23.  
 Union Carbide Corp., New York, N.Y. 849,909, pub. 3-12-68. Cl. 46.  
 United Cigar Mfg. Co. General Cigar Co., Inc., New York, N.Y. 118,351, Am. 7(d). Cl. 17.  
 United Shoe Machinery Corp., Boston, Mass. 849,742, pub. 3-12-68. Cl. 23.  
 United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 438,980, ren. 5-28-68. Cl. 12.  
 U.S. Industries, Inc., New York, N.Y., from Prescolite Mfg. Corp., San Leandro, Calif. 849,718, pub. 3-12-68. Cl. 21.  
 United States Rubber Co., New York, N.Y. 849,821, pub. 3-12-68. Cl. 35.  
 Universal Mfg. Co., Inc., Bossier City, La. 729,694, canc. Cl. 22.  
 Universal Oil Products Co., Des Plaines, Ill. 850,010. Cl. 6.  
 Universal Oil Products Co., Des Plaines, Ill. 850,033. Cl. 52.  
 Valley Forge Conveyors Inc., Norristown, Pa. 849,760, pub. 3-12-68. Cl. 23.  
 Van Dyke, Leroy, Springfield, Mo. 729,857, canc. Cl. 101.  
 Van Raalte Co., Inc., New York, N.Y. 729,771, canc. Cl. 39.  
 Vault Meter Corp. of America, Newark, N.J. 729,714, canc. Cl. 26.  
 Vignolo, C. J., d.b.a. Vignolo Farms, Shafter, Calif. 849,914, pub. 3-12-68. Cl. 46.  
 Vignolo Farms: **See—**  
 Vignolo, C. J.  
 Vitamins for Industry, Inc., Los Angeles, Calif. 729,804, canc. Cl. 46.  
 Wade, Wenger Servicemaster Co.: **See—**  
 Servicemaster Industries Inc.  
 Walker Mfg. Co., Racine, Wis. 849,753, pub. 3-12-68. Cl. 23.  
 Wall, James F., Inc., Wethersfield, Conn. 729,833, canc. Cl. 50.  
 Walton-March: **See—**  
 Fried, Jeffrey L.  
 Wapakoneta Machine Co., The, Wapakoneta, Ohio. 849,738, pub. 3-12-68. Cl. 23.  
 Ward-Love Pump Corp., Rockford, Ill., to Ritter Pfandler Corp., Rochester, N.Y. 246,182, ren. 5-28-68. Cl. 23.  
 Ware Shoals Mfg. Co., Ware Shoals, S.C., to Riegel Textile Corp., New York, N.Y. 240,781, ren. 5-28-68. Cl. 42.  
 Ware Shoals Mfg. Co., Ware Shoals, S.C., to Riegel Textile Corp., New York, N.Y. 245,891, ren. 5-28-68. Cl. 42.  
 Warner-Lambert Pharmaceutical Co.: **See—**  
 Maltine Co., The.  
 Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 729,650, canc. Cl. 18.  
 Watch Dog Service, Inc., Paoli, Pa. 849,960, pub. 3-12-68. Cl. 100.  
 Wayne-George Corp.: **See—**  
 Ittek Corp.  
 Weaver, Lloyd J., d.b.a. Lloyd's Shampoo, Rapid City, S. Dak. 729,905, canc. Cl. 52.  
 Webster, William A., Co., The, Memphis, Tenn. 839,886, Am. 7(d). Cl. 18.  
 Wellcome Foundation, Ltd., The, London, England. 729,641-2, canc. Cl. 18.  
 West Instrument Corp.: **See—**  
 Gulton Industries, Inc.  
 West Products Corp., Newark, N.J. 849,661, pub. 3-12-68. Cl. 7.  
 Westab, Inc.: **See—**  
 Western Tablet & Stationery Corp.  
 Western Machine Tool Works, Holland, Mich. 440,731, ren. 5-28-68. Cl. 23.  
 Western Tablet & Stationery Corp., to Westab, Inc., Dayton, Ohio. 501,075, ren. 5-28-68. Cl. 37.  
 Westinghouse Air Brake Co., Chicago, Ill. 849,752, pub. 3-12-68. Cl. 23.  
 Westinghouse Electric Corp., Pittsburgh, Pa. 849,715, pub. 3-12-68. Cl. 21.  
 Westinghouse Electric Corp., Pittsburgh, Pa. 849,719, pub. 3-12-68. Cl. 21.  
 Westman Commission Co., Denver, Colo. 850,032. Cl. 52.  
 Whale's Table, Inc., Cleveland, Ohio. 849,839, pub. 3-12-68. Cl. 38.  
 Williams, H. E. & C. D., Inc., Newark, N.J. 849,646, pub. 3-12-68. Cl. 1.  
 White Laboratories, Inc., Kenilworth, N.J. 729,653, canc. Cl. 18.  
 White, Martha, Foods, Inc.: **See—**  
 Cole, H. C., Milling Co.  
 Whitman Publishing Co., Racine, Wis. 849,736, pub. 3-12-68. Cl. 22.  
 Wiesmann, Otto F., New York, N.Y. 729,872, canc. Cl. 107.  
 Wilbur-Ellis Co., Fresno, Calif., from Bradford Mattson, d.b.a. Party-Tote Co., Madison, N.J. 729,685, canc. Cl. 22.  
 Wilbur-Ellis Co., Fresno, Calif., from Bradford Mattson, d.b.a. Party-Tote Co., Madison, N.J. 729,834, canc. Cl. 50.  
 Wilkinson, E. D., Grain Co., Stockton, Calif. 849,637, pub. 6-1-65. Cl. 1.  
 Williams, H. E. & C. D., Inc., Newark, N.J. 849,647, pub. 3-12-68. Cl. 1.  
 Wingback Co.: **See—**  
 McCann, Judith.  
 Wingback, Inc.: **See—**  
 McCann, Judith.  
 Winnebago Industries, Inc., Forest City, Iowa. 849,706, pub. 3-12-68. Cl. 19.  
 Wisconsin Electric Co., to The Dumore Co., Racine, Wis. 241,792, ren. 5-28-68. Cl. 15.  
 Wolgast, Raymond Persch, Berkley, Mich. 729,676, canc. Cl. 21.  
 Wood, G. H., & Co. Ltd., Toronto, Ontario, Canada. 439,373, ren. 5-28-68. Cl. 23.  
 Woodstream Corp., Little, Pa. 849,730-1, pub. 3-12-68. Cl. 22.  
 Workman, Ernest R., Chicago, Ill. 729,618, canc. Cl. 13.  
 World Wide Fragrances, Inc.: **See—**  
 Daggett & Ramsdell International Corp.  
 Wyandotte Chemicals Corp., Wyandotte, Mich. 849,659, pub. 3-12-68. Cl. 6.  
 Wyandotte Chemicals Corp., Wyandotte, Mich. 849,949, pub. 3-12-68. Cl. 52.  
 Yaou Denki Kabushiki Kaisha, Kanagawa-Ken, Japan. 849,716, pub. 3-12-68. Cl. 21.  
 Yardley of London, Inc., Totowa, N.J. 849,875-6, pub. 3-12-68. Cl. 40.  
 Yardley of London, Inc., Totowa, N.J. 849,952, pub. 3-12-68. Cl. 52.  
 Young Development Corp., Philadelphia, Pa. 729,752, canc. Cl. 38.  
 Zip Code Publishing Co., Inc., Milwaukee, Wis. 849,847, pub. 3-12-68. Cl. 38.  
 Zip Feed Mills, Sioux Falls, S. Dak. 849,696, pub. 3-12-68. Cl. 18.  
 Zip-Mark Corp., Bordentown, N.J. 849,834, pub. 3-12-68. Cl. 37.  
 Zwicker-Graf Mfg. Co., Inc.: **See—**  
 Ballold Basler Celluloidwarenfabrik A.-G. Therwil (Ballold Fabrique Baloise d'Articles en Celluloid S.A. Therwil) (Ballold Basle Celluloid Manufacturers Ltd. Therwil).



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